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

August 6, 2018

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

RE: Closure Request
Remuda Basin 32-23-30 State #1H Tank Battery
Remediation Permit Number 2RP-4420
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following letter report detailing excavation and confirmation soil sampling activities at a crude oil and produced water release at the Remuda Basin 32-23-30 State #1H Tank Battery (Site) in Unit Letter M, Section 32, Township 23 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the excavation activities was to address impacts to soil after approximately 1.54 barrels (bbls) of crude oil and 29.17 bbls of produced water were released when a heater treater gasket developed a leak.

The release was discovered on September 10, 2017. The release impacted approximately 893 square feet of the caliche well pad and sprayed an additional 1,430 square feet of pasture. Approximately 1.2 bbls of crude oil and 22.8 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on September 28, 2017, and was assigned Remediation Permit Number (RP) 2RP-4420 (Attachment 1). Initial sampling was conducted to characterize the release, followed by excavation of impacted soil and confirmation soil sampling. Based on the results of excavation confirmation soil sampling as described herein, XTO is requesting no further action for this release.

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 02108, located approximately 1.66 miles south of the Site, with a depth to groundwater of 186 feet bgs and a total depth of 200 feet bgs. The closest surface water to the Site is an unnamed arroyo located approximately 500 feet north of the Site. The Site is greater than 200 feet from any private domestic water source and greater than 1,000 feet from a water source. Based on these criteria, the NMOCD site ranking for remediation

action levels is 10, and the following remediation action levels apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg benzene, toluene, ethylbenzene, and total xylenes (BTEX); and 1,000 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.

INVESTIGATIVE SOIL SAMPLING

On December 4 to December 5, 2018, Envirodrill, Inc. advanced six soil borings with a split spoon. An LTE scientist collected surface and bottom hole soil samples from the boreholes and four additional surface soil samples to determine the extent of soil impact (Figure 2). 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. Surficial soil staining was observed in the spill area. A strong hydrocarbon odor was observed in soil borings SB1, SB4, SB5, and SB6 (Figure 2). 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, 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 indicated all four surface soil samples (SS-1 to SS-4) exceeded the site-specific remediation action level for TPH. Surface soil samples SS-1 and SS-2 exceeded the remediation action level for chloride.

Laboratory analytical results indicated that four soil borings SB-1, SB-4, SB-5, and SB-6 at the surface exceeded the site-specific action level for TPH, but were in compliance at the total borehole depth. SB-1 and SB-5 exceeded the remediation action level for BTEX. Analytical results are depicted on Figure 2 and summarized in Table 1, and the laboratory reports are attached.

EXCAVATION ACTIVITIES

Based on results of the initial sampling, XTO excavated the impacted subsurface in the areas around surface samples SS1, SS2, SS3, and SS4 and soil borings SB1, SB4, SB5, and SB6 on February 12 through February 16, 2018, and on June 20, 2018 (Figure 3). An LTE scientist field-screened soil using a PID and chloride test strips to direct the excavation and delineate impacted soil laterally and vertically.

On February 12 through February 16, 2018, XTO excavated impacted soil. LTE collected floor and sidewall soil samples. The soil samples were collected and handled as previously described and submitted for laboratory analysis of BTEX, TPH, and chloride to Xenco Laboratories in Midland, Texas. The excavation footprint, preliminary soil samples, and confirmation soil samples are depicted on Figure 3.

Based on the results of the initial excavation, LTE returned to the Site on May 8 and June 20, 2018, to continue excavation activities and collect additional confirmation samples. Although soil samples were collected for laboratory analysis to monitor excavation progress, LTE ultimately collected a total 33 confirmation soil samples over the sampling events. Confirmation soil samples are in red on Figure 3, and the analytical results are summarized in Table 2. The soil samples were collected and handled as previously described and submitted for laboratory analysis of BTEX, TPH, and chloride to Xenco Laboratories in Midland, Texas.

The final excavation was approximately 13,168 square feet in area and extended to a depth of approximately 4 feet bgs in the southern portion and 4.5 feet bgs in the northern trench. All impacted soil was transported and properly disposed of at the Halfway Landfarm in Hobbs, New Mexico.

ANALYTICAL RESULTS

As detailed in Table 2, laboratory analytical results indicated three floor soil samples (BH10, BH11, and BH12) exceeded the site-specific remediation action level for TPH, and floor sample BH10 exceeded the site-specific remediation action level for chloride. Three wall samples (SW6, W1, and W4) exceeded the site-specific remediation action level for chloride. The excavation was extended laterally and vertically in those areas until subsequent laboratory analytical results indicated TPH and chloride concentrations were compliant with the site-specific remediation action levels. Laboratory analytical results indicated benzene, total BTEX, TPH, and chloride concentrations were compliant with the NMOCD remediation action levels in 33 confirmation sidewall and floor soil samples. The laboratory analytical reports are included as Attachment 2.

CONCLUSIONS

Laboratory analytical results for all final confirmation soil samples collected from the sidewalls and the bottom of the excavation indicated that concentrations of BTEX, TPH, and chloride do not exceed NMOCD site-specific remediation action levels. XTO has successfully removed 488 cubic yards of impacted soil at the Site. XTO requests no further action for this release. Upon approval of this request, XTO will backfill the excavation with caliche well pad material and recontour the Site. An updated NMOCD Form C-141 is included with 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
Shelly Tucker, BLM
Jim Amos, BLM
Ryan Mann, SLO
Mark Naranjo, SLO

Attachments:

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

FIGURES

LEGEND

SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-4420

FIGURE 1
SITE LOCATION MAP
REMUDA BASIN 32-23-30 STATE #1H TANK BATTERY
SWSW SEC 32 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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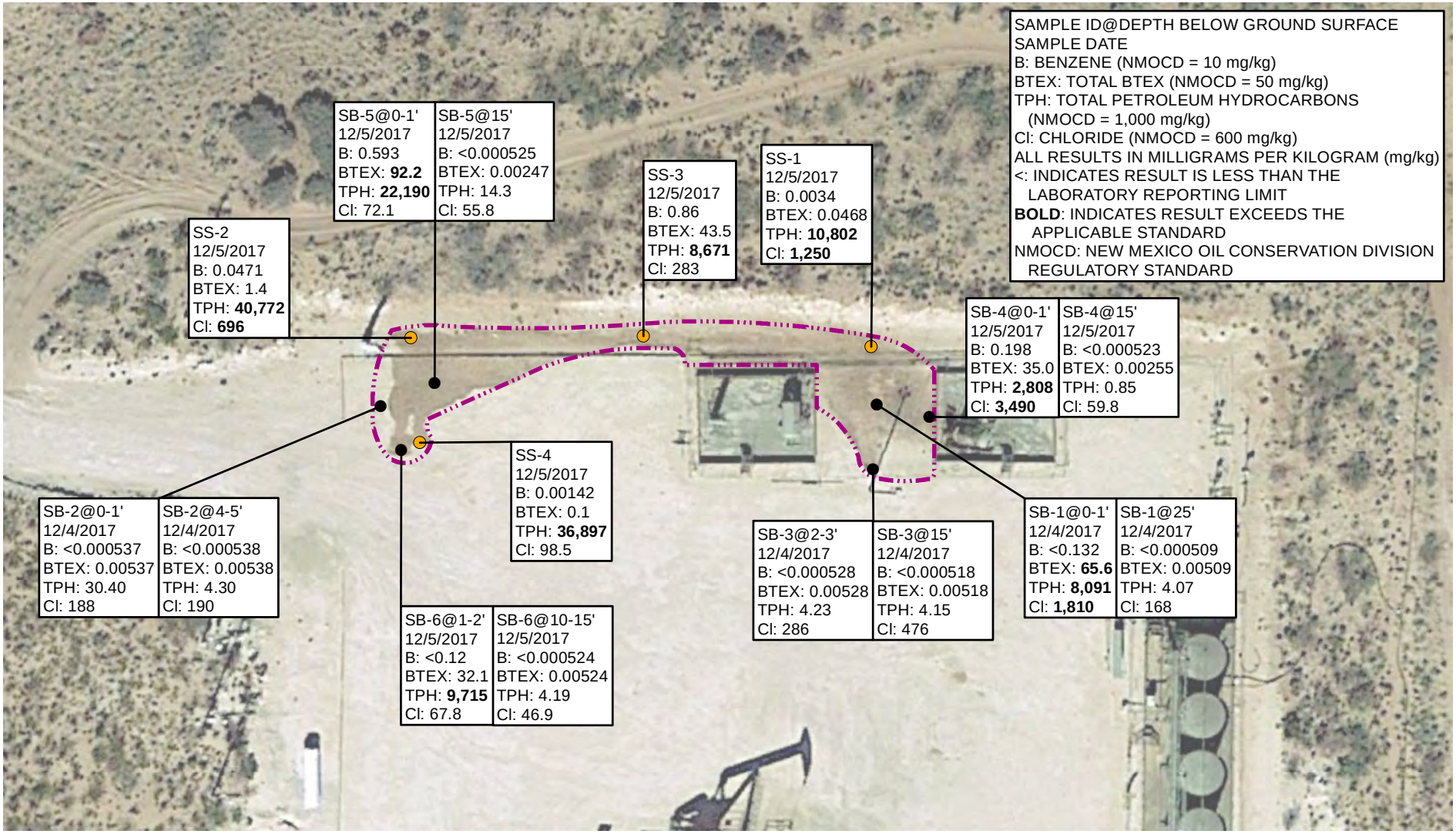


IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

- SOIL SAMPLE
- SOIL BORING
- SPILL EXTENT

0 50 100
Feet

N

NOTE: REMEDIATION PERMIT NUMBER 2RP-4420

FIGURE 2
SOIL SAMPLE LOCATIONS - DELINEATION REMUDA BASIN 32-23-30 STATE #1H TANK BATTERY
UNIT M SEC 32 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012917030_REMUDA BASIN\012917030_FIG02_SITE_4420_DEL_071118.mxd

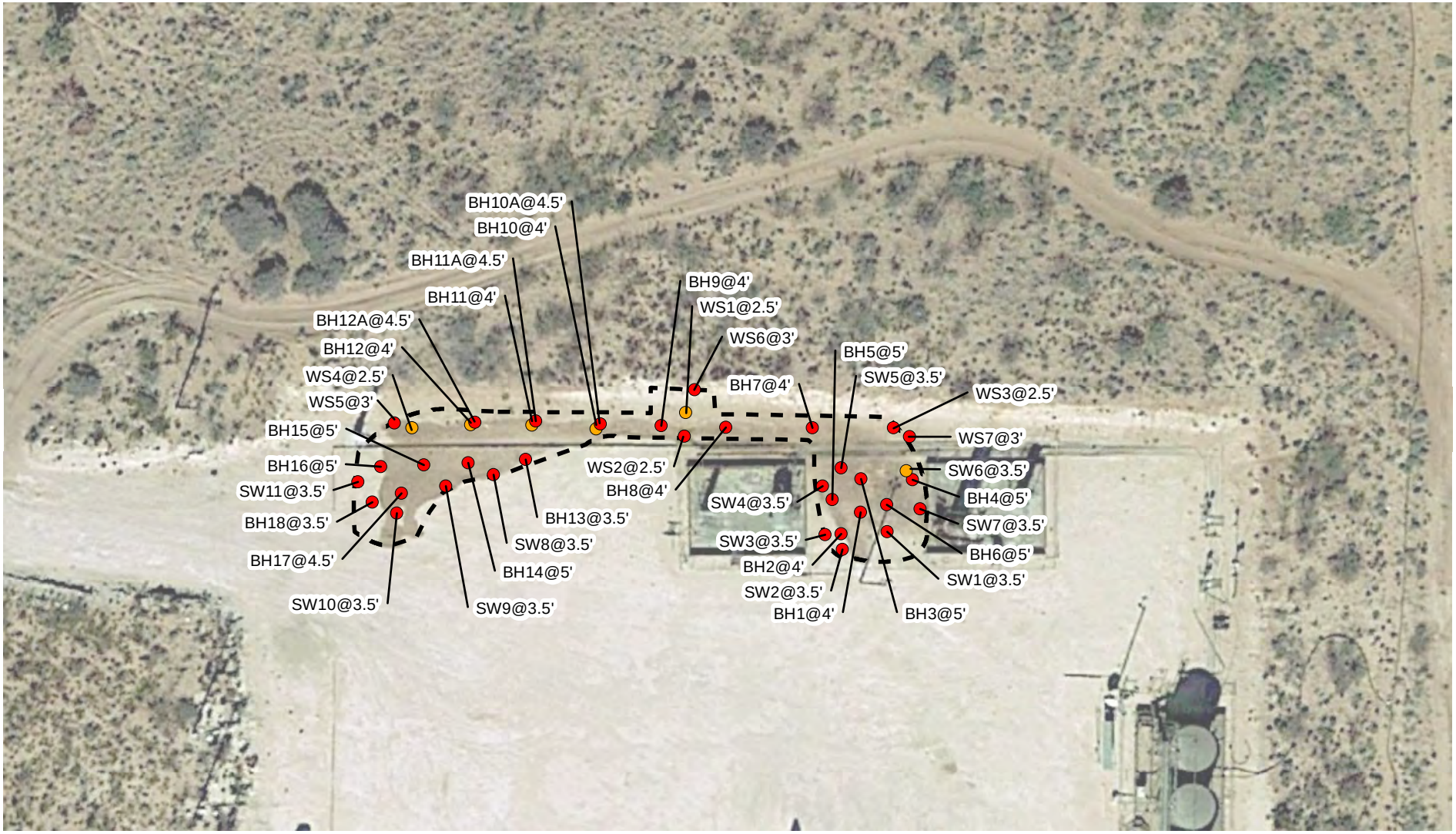


IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

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

SAMPLE ID@DEPTH BELOW GROUND SURFACE

NOTE: REMEDIATION PERMIT NUMBER 2RP-4420

0 50 100
Feet

N

FIGURE 3
SOIL SAMPLE LOCATIONS - EXCAVATION REMUDA BASIN 32-23-30 STATE #1H TANK BATTERY
SWSW SEC 32 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012917030_REMUDA BASIN\012917030_FIG03_SITE_EXC_4420_072618.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS (DELINEATION)
REMUDA BASIN 32-23-30 STATE #1H TANK BATTERY
REMEDIATION PERMIT NUMBER 2RP-4420
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 Motor Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SB-1 0-1'	1	12/4/2017	<0.132	5.26	9.42	50.9	**65.6**	951	5,770	1,370	**8,091**	**1,810**
SB-1 25'	25	12/4/2017	<0.000509	<0.00509	<0.000509	<0.00153	0.00509	<0.102	<4.07	<4.07	4.07	168
SB-2 0-1'	1	12/4/2017	<0.000537	<0.00537	<0.000537	<0.00161	0.00537	<0.107	18	12.4	30.40	188
SB-2 4-5'	5	12/4/2017	<0.000538	<0.00538	<0.000538	<0.00161	0.00538	<0.108	<4.30	<4.30	4.30	190
SB-3 2-3'	3	12/4/2017	<0.000528	<0.00528	<0.000528	<0.00159	0.00528	<0.106	<4.23	<4.23	4.23	286
SB-3 15'	15	12/4/2017	<0.000518	<0.00518	<0.000518	<0.00155	0.00518	<0.104	<4.15	<4.15	4.15	476
SB-4 0-1'	1	12/5/2017	0.198	4.73	4.54	25.5	35.0	649	1,730	429	**2,808**	**3,490**
SB-4 15'	15	12/5/2017	<0.000523	<0.00523	<0.000523	0.00255	0.00255	0.853	<4.19	<4.19	0.85	59.8
SB-5 0-1'	1	12/5/2017	0.593	18.8	12.2	60.6	**92.2**	1,080	16,700	4,410	**22,190**	72.1
SB-5 15'	15	12/5/2017	<0.000525	<0.00525	0.000537	0.00193	0.00247	<0.105	9.67	4.58	14.3	55.8
SB-6 1-2'	2	12/5/2017	<0.12	<1.20	4.49	27.6	32.1	805	7,170	1,740	**9,715**	67.8
SB-6 10-15'	15	12/5/2017	<0.000524	<0.00524	<0.000524	<0.00157	0.00524	<0.105	<4.19	<4.19	4.19	46.9
SS-1	0.5	12/5/2017	0.0034	0.0275	0.0023	0.0136	0.0468	2.49	8,000	2,800	**10,802**	**1,250**
SS-2	0.5	12/5/2017	0.0471	0.337	0.264	0.788	1.4	72.4	30,700	10,000	**40,772**	**696**
SS-3	0.5	12/5/2017	0.86	11.7	5.2	25.7	43.5	521	6,130	2,020	**8,671**	283
SS-4	0.5	12/5/2017	0.00142	0.0173	0.0223	0.0538	0.1	6.92	27,300	9,590	**36,897**	98.5
NMOCD Remediation Action Levels			10	NE	NE	NE	50	NE	NE	NE	1,000	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 2
SOIL ANALYTICAL RESULTS (EXCAVATION)
REMUDA BASIN 32-23-30 STATE #1H TANK BATTERY
REMEDIATION PERMIT NUMBER 2RP-4420
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 Motor Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
BH1	4	2/13/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	373
BH2	4	2/13/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	354
BH3	5	2/13/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	20.3	<15.0	20.3	11.3
BH4	5	2/13/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	21.9	<14.9	21.9	7.58
BH5	5	2/13/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	223
BH6	5	2/13/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	16.5	<15.0	16.5	167
BH7	4	2/15/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	8.22
BH8	4	2/15/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	28.4	<15.0	28.4	368
BH9	4	2/15/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	106	<15.0	106	44.3
BH10	4	2/15/2018	0.00261	0.0651	0.0436	0.463	0.574	775	4900	60.4	**5,740**	**677**
BH11	4	2/15/2018	<0.00200	0.0288	0.0875	0.514	0.630	258	1710	26.1	**1,990**	343
BH12	4	2/15/2018	<0.00198	0.00312	<0.00198	0.111	0.114	98.3	1270	23.3	**1,390**	369
BH13	3.5	2/15/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	13.2
BH14	5	2/15/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	41.6	<15.0	41.6	9.81
BH15	5	2/15/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	14.9
BH16	5	2/15/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	15.0
BH17	4.5	2/15/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	27.4	<15.0	27.4	19.5
BH18	3.5	2/15/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	175
SW1	3.5	2/13/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	128
SW2	3.5	2/13/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	205
SW3	3.5	2/13/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	126
SW4	3.5	2/13/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	15.8	<15.0	112	<5.02
SW5	3.5	2/13/2018	<0.00199	0.0113	0.0135	0.109	0.134	30.6	341	<15.0	372	289
SW6	3.5	2/13/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	15.5	<15.0	15.5	**4,150**
SW7	3.5	2/13/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	21.7	<14.9	21.7	17.3

TABLE 2
SOIL ANALYTICAL RESULTS (EXCAVATION)
REMUDA BASIN 32-23-30 STATE #1H TANK BATTERY
REMEDIATION PERMIT NUMBER 2RP-4420
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 Motor Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
BH12A	4	5/8/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	185	<15.0	185	254
WS1	2.5	5/8/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	2,200	68.5	**2,270**	**772**
WS2	2.5	5/8/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	22.3	<15.0	22.3	<4.96
WS3	2.5	5/8/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	48.7	<14.9	48.7	<4.99
WS4	2.5	5/8/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	75.0	<14.9	75.0	**731**
WS5	3	6/20/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	6.45
WS6	3	6/20/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<4.97
WS7	3	6/20/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	6.26
NMOCD Remediation Action Levels			10	NE	NE	NE	50	NE	NE	NE	1,000	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

NM OIL CONSERVATION
ARTESIA DISTRICT
SEP 28 2017
RECEIVED

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

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

nAB1727253476 XTO Energy, L.P. 260737 **OPERATOR** ☒ Initial Report ☐ Final Report

Name of Company: XTO Energy	Contact: Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: Remuda Basin 32-23-30 State #1H Tank Battery (API for Poker Lake Unit CVX JV RB #002H)	Facility Type: Exploration and Production

Surface Owner: State of New Mexico	Mineral Owner: Unknown	API No. 30-015-40341

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	32	23S	30E	290	South	715	West	Eddy

Latitude 32.254775° **Longitude** -103.909827°

NATURE OF RELEASE

Type of Release: Produced Water and Crude Oil	Volume of Release: 29.17 BPW, 1.54 BO	Volume Recovered: 22.8 BPW, 1.2 BO
Source of Release: Heater treater gasket	Date and Hour of Occurrence: 9/10/2017 time unknown	Date and Hour of Discovery: 9/10/2017 3 pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher/Crystal Weaver (NMOCD), Jim Amos/Shelly Tucker (BLM), Amber Groves (SLO)	
By Whom? Jacob Foust	Date and Hour 9/11/2017 3:32 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.*
The heater treater developed a leak in the gasket of the manway due to age. The vessel was isolated and the manway gasket was replaced.

Describe Area Affected and Cleanup Action Taken.*
The leak affected 893 square feet of caliche well pad and over-sprayed 1,430 square feet of pasture north of the well pad. Free standing fluids were recovered.

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

Signature:
Printed Name: Amy C. Ruth
Title: Environmental Coordinator
E-mail Address: Amy_Ruth@xtoenergy.com
Date: 9/28/2017 Phone: 432-661-0571

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Signed By
Approval Date: 9/29/17 Expiration Date: N/A
Conditions of Approval: See attached Attached ☐ ARP 4430

* Attach Additional Sheets If Necessary

Please refer to the New Mexico Oil Conservation Division Website for updated form(s) at: http://www.emnrd.state.nm.us/OCD/forms.html Thank you

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 9/28/2017 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4420 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in ARTESIA on or before 10/28/2017. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

- Nominal detection limits for field and laboratory analyses must be provided.

- Composite sampling is not generally allowed.

- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

•Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

• If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

• Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

Bratcher, Mike, EMNRD

From: Ruth, Amy <Amy_Ruth@xtoenergy.com>
Sent: Thursday, September 28, 2017 2:47 PM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Groves, Amber
Cc: Foust, Bryan
Subject: Initial C-141 PLU Remuda Basin 32-23-30 TB 9-10-17
Attachments: Initial C-141 - PLU RB 32-23-30 TB 9-10-17.pdf

All,

I'm back from a week out of the office, and am submitting the initial C-141 for the leak referenced in the notification below. Please call me with any questions or concerns! Thank you.

Amy C. Ruth
Delaware Basin Division
Environmental Coordinator
3104 E. Greene Street | Carlsbad, NM 88220 | M: 432.661.0571 | O: 575.887.7329

From: Foust, Bryan
Sent: Monday, September 11, 2017 3:32 PM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD
Cc: jamos@blm.gov; stucker@blm.gov; Ruth, Amy; agroves@slo.state.nm.us
Subject: Initial notification for release at XTO Remuda Basin 32-23-30 battery

Good afternoon. I'm sending notification of a release that occurred yesterday evening at our Remuda Basin 32-23-30 battery. The volume of the release will be in excess of 25 barrels. We will send in an initial C141 once we have finished our investigation.
Thank you, please don't hesitate to contact me with any questions

Thanks,
Jacob Foust
XTO Energy
432-266-2663

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

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

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company XTO Energy	Contact: Kyle Littrell
Address 3104 E Greene Street, Carlsbad, NM 88220	Telephone No: 432-221-7331
Facility Name: Remuda Basin 32-23-30 State #1H Tank Battery (API for Poker Lake Unit CVX JV RB #002H)	Facility Type: Exploration and Production

Surface Owner State of New Mexico	Mineral Owner: Unknown	API No. 30-015-40341

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	32	23S	30E	290	South	715	West	Eddy

Latitude___32.254775_____ **Longitude**____-103.909827__ _____ NAD83

NATURE OF RELEASE

Type of Release Produced Water and Crude Oil	Volume of Release 29.17 BPW 1.54 BO	Volume Recovered 22.8 BPW 1.2 BO
Source of Release: Heater Treater Gasket	Date and Hour of Occurrence 9/10/2017 time unknown	Date and Hour of Discovery 9/10/2017 3:00 pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher (NMOCD), Jim Amos/ Shelly Tucker (BLM), Amber Groves (SLO)	
By Whom? Jacob Foust	Date and Hour: 9/11/2017 3:32pm	
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.*
The heater treater developed a leak in the gasket of the manway due to age. The vessel was isolated and the manway gasket was replaced.

Describe Area Affected and Cleanup Action Taken.*
The leak affected 893 square feet of caliche well pad and over-sprayed 1,430 square feet of pasture north of the well pad. Free standing fluids were recovered.
LTE conducted sampling and excavation activities within the release footprint between February 15, 2018 and June 20, 2018. Approximately 650 cubic yards of impacted soil was removed via backhoe and skid loader or by hand digging/hydro excavation. LTE collected a total of 33 confirmation soil samples. Laboratory analytical results from the 33 final confirmation soil samples indicate concentrations of BTEX, TPH, and chloride are in compliance with the NMOCD site-specific remediation action levels. XTO has removed the impacted soil and requests no further action at this Site. Upon approval of this request, XTO will backfill the excavation and re-grade the well pad.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Kyle Littrell	Approved by Environmental Specialist:	
Title: SH&E Coordinator	Approval Date:	Expiration Date:
E-mail Address: Kyle_Littrell@xtoenergy.com	Conditions of Approval:	Attached ☐
Date: 7/30/2018 Phone: 432-221-7331		

* Attach Additional Sheets If Necessary

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

ANALYTICAL REPORT

December 19, 2017

XTO Energy - San Juan Division

Sample Delivery Group:	L956015
Samples Received:	12/07/2017
Project Number:	30-015-40341
Description:	Remuda Basin 32-23-30 state 1h

Report To: Kyle Littrell and Adrian Baker
382 County Road 3100
Aztec, NM 87410

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Technical Service Representative

PERAW-120417-1547 L956015-01 Solid

Collected by: AW / AB | Collected date/time: 12/04/17 15:47 | Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052378	1	12/12/17 10:35	12/12/17 10:44	KDW
Wet Chemistry by Method 300.0	WG1051166	5	12/08/17 14:38	12/09/17 14:51	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	250	12/09/17 10:08	12/13/17 00:58	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	20	12/15/17 14:22	12/19/17 00:26	ACM

PERAW-120417-1625 L956015-02 Solid

Collected by: AW / AB | Collected date/time: 12/04/17 16:25 | Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052378	1	12/12/17 10:35	12/12/17 10:44	KDW
Wet Chemistry by Method 300.0	WG1051166	1	12/08/17 14:38	12/09/17 15:00	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	1	12/09/17 10:08	12/11/17 14:43	BMB
Volatile Organic Compounds (GC) by Method 8021	WG1052083	1	12/09/17 10:08	12/13/17 01:20	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	1	12/15/17 14:22	12/18/17 21:50	ACM

PERAW-120417-1515 L956015-03 Solid

Collected by: AW / AB | Collected date/time: 12/04/17 15:15 | Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052380	1	12/12/17 10:17	12/12/17 10:30	KDW
Wet Chemistry by Method 300.0	WG1051166	1	12/08/17 14:38	12/09/17 15:08	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	1	12/09/17 10:08	12/11/17 15:07	BMB
Volatile Organic Compounds (GC) by Method 8021	WG1052083	1	12/09/17 10:08	12/13/17 01:42	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	1	12/15/17 14:22	12/18/17 22:02	ACM

PERAW-120417-1525 L956015-04 Solid

Collected by: AW / AB | Collected date/time: 12/04/17 15:25 | Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052378	1	12/12/17 10:35	12/12/17 10:44	KDW
Wet Chemistry by Method 300.0	WG1051166	1	12/08/17 14:38	12/09/17 15:17	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	1	12/09/17 10:08	12/11/17 15:31	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	1	12/15/17 14:22	12/18/17 22:15	ACM

PERAW-120417-1712 L956015-05 Solid

Collected by: AW / AB | Collected date/time: 12/04/17 17:12 | Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052378	1	12/12/17 10:35	12/12/17 10:44	KDW
Wet Chemistry by Method 300.0	WG1051166	1	12/08/17 14:38	12/09/17 15:25	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	1	12/09/17 10:08	12/11/17 15:55	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	1	12/15/17 14:22	12/18/17 22:28	ACM

PERAW-120417-1714 L956015-06 Solid

Collected by: AW / AB | Collected date/time: 12/04/17 17:14 | Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052383	1	12/12/17 10:01	12/12/17 10:14	KDW
Wet Chemistry by Method 300.0	WG1051166	1	12/08/17 14:38	12/09/17 15:34	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	1	12/09/17 10:08	12/11/17 16:19	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	1	12/15/17 14:22	12/18/17 22:42	ACM

PERAW-120517-0935 L956015-07 Solid

Collected by: AW / AB | Collected date/time: 12/05/17 09:35 | Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052380	1	12/12/17 10:17	12/12/17 10:30	KDW
Wet Chemistry by Method 300.0	WG1051166	10	12/08/17 14:38	12/09/17 16:16	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	100	12/09/17 10:08	12/11/17 16:43	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	10	12/15/17 14:22	12/19/17 00:40	ACM

PERAW-120517-0939 L956015-08 Solid

Collected by: AW / AB | Collected date/time: 12/05/17 09:39 | Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052383	1	12/12/17 10:01	12/12/17 10:14	KDW
Wet Chemistry by Method 300.0	WG1051166	1	12/08/17 14:38	12/09/17 16:25	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	1	12/09/17 10:08	12/11/17 17:06	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	1	12/15/17 14:22	12/18/17 22:55	ACM

PERAW-120517-1025 L956015-09 Solid

Collected by: AW / AB | Collected date/time: 12/05/17 10:25 | Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052380	1	12/12/17 10:17	12/12/17 10:30	KDW
Wet Chemistry by Method 300.0	WG1051166	1	12/08/17 14:38	12/09/17 16:33	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	100	12/09/17 10:08	12/11/17 17:30	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	50	12/15/17 14:22	12/19/17 01:06	ACM

PERAW-120517-1028 L956015-10 Solid

Collected by: AW / AB | Collected date/time: 12/05/17 10:28 | Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052380	1	12/12/17 10:17	12/12/17 10:30	KDW
Wet Chemistry by Method 300.0	WG1051166	1	12/08/17 14:38	12/09/17 16:42	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	1	12/09/17 10:08	12/11/17 17:54	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	1	12/15/17 14:22	12/18/17 23:08	ACM

PERAW-120517-1101 L956015-11 Solid

Collected by: AW / AB | Collected date/time: 12/05/17 11:01 | Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052380	1	12/12/17 10:17	12/12/17 10:30	KDW
Wet Chemistry by Method 300.0	WG1051166	1	12/08/17 14:38	12/09/17 16:50	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	200	12/09/17 10:08	12/11/17 18:18	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	20	12/15/17 14:22	12/19/17 00:53	ACM

PERAW-120517-1104 L956015-12 Solid

Collected by: AW / AB | Collected date/time: 12/05/17 11:04 | Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052380	1	12/12/17 10:17	12/12/17 10:30	KDW
Wet Chemistry by Method 300.0	WG1053112	1	12/13/17 15:05	12/14/17 00:02	MAJ
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	1	12/09/17 10:08	12/11/17 18:42	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	1	12/15/17 14:22	12/18/17 23:21	ACM

PERAW-120517-0837 L956015-13 Solid

Collected by: AW / AB
Collected date/time: 12/05/17 08:37
Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052380	1	12/12/17 10:17	12/12/17 10:30	KDW
Wet Chemistry by Method 300.0	WG1053112	2	12/13/17 15:05	12/14/17 02:29	MAJ
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	1	12/09/17 10:08	12/13/17 02:04	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	50	12/15/17 14:22	12/19/17 03:56	ACM

PERAW-120517-0842 L956015-14 Solid

Collected by: AW / AB
Collected date/time: 12/05/17 08:42
Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052383	1	12/12/17 10:01	12/12/17 10:14	KDW
Wet Chemistry by Method 300.0	WG1053112	1	12/13/17 15:05	12/14/17 00:44	MAJ
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	25	12/09/17 10:08	12/13/17 02:27	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	250	12/15/17 14:22	12/19/17 04:09	ACM

PERAW-120517-0845 L956015-15 Solid

Collected by: AW / AB
Collected date/time: 12/05/17 08:45
Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052380	1	12/12/17 10:17	12/12/17 10:30	KDW
Wet Chemistry by Method 300.0	WG1053112	1	12/13/17 15:05	12/14/17 01:10	MAJ
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	100	12/09/17 10:08	12/11/17 19:53	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	50	12/15/17 14:22	12/19/17 04:22	ACM

PERAW-120517-0850 L956015-16 Solid

Collected by: AW / AB
Collected date/time: 12/05/17 08:50
Received date/time: 12/07/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1052378	1	12/12/17 10:35	12/12/17 10:44	KDW
Wet Chemistry by Method 300.0	WG1053112	1	12/13/17 15:05	12/14/17 01:18	MAJ
Volatile Organic Compounds (GC) by Method 8015/8021	WG1052083	1	12/09/17 10:08	12/13/17 02:49	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1053214	250	12/15/17 14:22	12/19/17 04:34	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	94.5		1	12/12/2017 10:44	WG1052378

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	1810		52.9	5	12/09/2017 14:51	WG1051166

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		0.132	250	12/13/2017 00:58	WG1052083
Toluene	5.26		1.32	250	12/13/2017 00:58	WG1052083
Ethylbenzene	9.42		0.132	250	12/13/2017 00:58	WG1052083
Total Xylene	50.9		0.397	250	12/13/2017 00:58	WG1052083
TPH (GC/FID) Low Fraction	951		26.4	250	12/13/2017 00:58	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*98.3*		*77.0-120*		*12/13/2017 00:58*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*98.6*		*75.0-128*		*12/13/2017 00:58*	WG1052083

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	5770	J3	84.6	20	12/19/2017 00:26	WG1053214
C28-C40 Oil Range	1370		84.6	20	12/19/2017 00:26	WG1053214
(S) o-Terphenyl	*412*	J7	*18.0-148*		*12/19/2017 00:26*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.2		1	12/12/2017 10:44	WG1052378

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	168		10.2	1	12/09/2017 15:00	WG1051166

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		0.000509	1	12/11/2017 14:43	WG1052083
Toluene	ND		0.00509	1	12/13/2017 01:20	WG1052083
Ethylbenzene	ND		0.000509	1	12/13/2017 01:20	WG1052083
Total Xylene	ND		0.00153	1	12/13/2017 01:20	WG1052083
TPH (GC/FID) Low Fraction	ND		0.102	1	12/11/2017 14:43	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*97.7*		*77.0-120*		*12/11/2017 14:43*	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*95.6*		*77.0-120*		*12/13/2017 01:20*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*96.7*		*75.0-128*		*12/13/2017 01:20*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*100*		*75.0-128*		*12/11/2017 14:43*	WG1052083

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	J3	4.07	1	12/18/2017 21:50	WG1053214
C28-C40 Oil Range	ND		4.07	1	12/18/2017 21:50	WG1053214
(S) o-Terphenyl	*62.3*		*18.0-148*		*12/18/2017 21:50*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.2		1	12/12/2017 10:30	WG1052380

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	188		10.7	1	12/09/2017 15:08	WG1051166

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		0.000537	1	12/11/2017 15:07	WG1052083
Toluene	ND		0.00537	1	12/11/2017 15:07	WG1052083
Ethylbenzene	ND		0.000537	1	12/13/2017 01:42	WG1052083
Total Xylene	ND		0.00161	1	12/13/2017 01:42	WG1052083
TPH (GC/FID) Low Fraction	ND		0.107	1	12/11/2017 15:07	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*97.6*		*77.0-120*		*12/11/2017 15:07*	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*96.5*		*77.0-120*		*12/13/2017 01:42*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*96.3*		*75.0-128*		*12/13/2017 01:42*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*102*		*75.0-128*		*12/11/2017 15:07*	WG1052083

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	18.0	J3	4.29	1	12/18/2017 22:02	WG1053214
C28-C40 Oil Range	12.4		4.29	1	12/18/2017 22:02	WG1053214
(S) o-Terphenyl	*48.2*		*18.0-148*		*12/18/2017 22:02*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.0		1	12/12/2017 10:44	WG1052378

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	190		10.8	1	12/09/2017 15:17	WG1051166

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		0.000538	1	12/11/2017 15:31	WG1052083
Toluene	ND		0.00538	1	12/11/2017 15:31	WG1052083
Ethylbenzene	ND		0.000538	1	12/11/2017 15:31	WG1052083
Total Xylene	ND		0.00161	1	12/11/2017 15:31	WG1052083
TPH (GC/FID) Low Fraction	ND		0.108	1	12/11/2017 15:31	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*97.5*		*77.0-120*		*12/11/2017 15:31*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*100*		*75.0-128*		*12/11/2017 15:31*	WG1052083

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	J3	4.30	1	12/18/2017 22:15	WG1053214
C28-C40 Oil Range	ND		4.30	1	12/18/2017 22:15	WG1053214
(S) o-Terphenyl	*62.3*		*18.0-148*		*12/18/2017 22:15*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.5		1	12/12/2017 10:44	WG1052378

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	476		10.4	1	12/09/2017 15:25	WG1051166

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		0.000518	1	12/11/2017 15:55	WG1052083
Toluene	ND		0.00518	1	12/11/2017 15:55	WG1052083
Ethylbenzene	ND		0.000518	1	12/11/2017 15:55	WG1052083
Total Xylene	ND		0.00155	1	12/11/2017 15:55	WG1052083
TPH (GC/FID) Low Fraction	ND		0.104	1	12/11/2017 15:55	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*97.8*		*77.0-120*		*12/11/2017 15:55*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*101*		*75.0-128*		*12/11/2017 15:55*	WG1052083

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	J3	4.15	1	12/18/2017 22:28	WG1053214
C28-C40 Oil Range	ND		4.15	1	12/18/2017 22:28	WG1053214
(S) o-Terphenyl	*63.7*		*18.0-148*		*12/18/2017 22:28*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.6		1	12/12/2017 10:14	WG1052383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	286		10.6	1	12/09/2017 15:34	WG1051166

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	12/11/2017 16:19	WG1052083
Toluene	ND		0.00528	1	12/11/2017 16:19	WG1052083
Ethylbenzene	ND		0.000528	1	12/11/2017 16:19	WG1052083
Total Xylene	ND		0.00159	1	12/11/2017 16:19	WG1052083
TPH (GC/FID) Low Fraction	ND		0.106	1	12/11/2017 16:19	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*97.6*		*77.0-120*		*12/11/2017 16:19*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*100*		*75.0-128*		*12/11/2017 16:19*	WG1052083

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	J3	4.23	1	12/18/2017 22:42	WG1053214
C28-C40 Oil Range	ND		4.23	1	12/18/2017 22:42	WG1053214
(S) o-Terphenyl	*59.2*		*18.0-148*		*12/18/2017 22:42*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	78.3		1	12/12/2017 10:30	WG1052380

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	3490		128	10	12/09/2017 16:16	WG1051166

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.198		0.0639	100	12/11/2017 16:43	WG1052083
Toluene	4.73		0.639	100	12/11/2017 16:43	WG1052083
Ethylbenzene	4.54		0.0639	100	12/11/2017 16:43	WG1052083
Total Xylene	25.5		0.192	100	12/11/2017 16:43	WG1052083
TPH (GC/FID) Low Fraction	649		12.8	100	12/11/2017 16:43	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*90.9*		*77.0-120*		*12/11/2017 16:43*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*100*		*75.0-128*		*12/11/2017 16:43*	WG1052083

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	1730	J3	51.1	10	12/19/2017 00:40	WG1053214
C28-C40 Oil Range	429		51.1	10	12/19/2017 00:40	WG1053214
(S) o-Terphenyl	*148*		*18.0-148*		*12/19/2017 00:40*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.5		1	12/12/2017 10:14	WG1052383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	59.8		10.5	1	12/09/2017 16:25	WG1051166

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		0.000523	1	12/11/2017 17:06	WG1052083
Toluene	ND		0.00523	1	12/11/2017 17:06	WG1052083
Ethylbenzene	ND		0.000523	1	12/11/2017 17:06	WG1052083
Total Xylene	0.00255		0.00157	1	12/11/2017 17:06	WG1052083
TPH (GC/FID) Low Fraction	0.853		0.105	1	12/11/2017 17:06	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*96.4*		*77.0-120*		*12/11/2017 17:06*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*100*		*75.0-128*		*12/11/2017 17:06*	WG1052083

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	J3	4.19	1	12/18/2017 22:55	WG1053214
C28-C40 Oil Range	ND		4.19	1	12/18/2017 22:55	WG1053214
(S) o-Terphenyl	*61.9*		*18.0-148*		*12/18/2017 22:55*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.8		1	12/12/2017 10:30	WG1052380

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	72.1		10.9	1	12/09/2017 16:33	WG1051166

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.593		0.0545	100	12/11/2017 17:30	WG1052083
Toluene	18.8		0.545	100	12/11/2017 17:30	WG1052083
Ethylbenzene	12.2		0.0545	100	12/11/2017 17:30	WG1052083
Total Xylene	60.6		0.163	100	12/11/2017 17:30	WG1052083
TPH (GC/FID) Low Fraction	1080		10.9	100	12/11/2017 17:30	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*94.3*		*77.0-120*		*12/11/2017 17:30*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*101*		*75.0-128*		*12/11/2017 17:30*	WG1052083

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	16700	J3	218	50	12/19/2017 01:06	WG1053214
C28-C40 Oil Range	4410		218	50	12/19/2017 01:06	WG1053214
(S) o-Terphenyl	*1380*	J7	*18.0-148*		*12/19/2017 01:06*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.3		1	12/12/2017 10:30	WG1052380

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	55.8		10.5	1	12/09/2017 16:42	WG1051166

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		0.000525	1	12/11/2017 17:54	WG1052083
Toluene	ND		0.00525	1	12/11/2017 17:54	WG1052083
Ethylbenzene	0.000537		0.000525	1	12/11/2017 17:54	WG1052083
Total Xylene	0.00193		0.00157	1	12/11/2017 17:54	WG1052083
TPH (GC/FID) Low Fraction	ND		0.105	1	12/11/2017 17:54	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*97.1*		*77.0-120*		*12/11/2017 17:54*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*100*		*75.0-128*		*12/11/2017 17:54*	WG1052083

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	9.67	J3	4.20	1	12/18/2017 23:08	WG1053214
C28-C40 Oil Range	4.58		4.20	1	12/18/2017 23:08	WG1053214
(S) o-Terphenyl	*62.2*		*18.0-148*		*12/18/2017 23:08*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	83.4		1	12/12/2017 10:30	WG1052380

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	67.8		12.0	1	12/09/2017 16:50	WG1051166

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		0.120	200	12/11/2017 18:18	WG1052083
Toluene	ND		1.20	200	12/11/2017 18:18	WG1052083
Ethylbenzene	4.49		0.120	200	12/11/2017 18:18	WG1052083
Total Xylene	27.6		0.360	200	12/11/2017 18:18	WG1052083
TPH (GC/FID) Low Fraction	805		24.0	200	12/11/2017 18:18	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*99.3*		*77.0-120*		*12/11/2017 18:18*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*101*		*75.0-128*		*12/11/2017 18:18*	WG1052083

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	7170	J3	96.0	20	12/19/2017 00:53	WG1053214
C28-C40 Oil Range	1740		96.0	20	12/19/2017 00:53	WG1053214
(S) o-Terphenyl	*496*	J7	*18.0-148*		*12/19/2017 00:53*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.4		1	12/12/2017 10:30	WG1052380

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	46.9		10.5	1	12/14/2017 00:02	WG1053112

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		0.000524	1	12/11/2017 18:42	WG1052083
Toluene	ND		0.00524	1	12/11/2017 18:42	WG1052083
Ethylbenzene	ND		0.000524	1	12/11/2017 18:42	WG1052083
Total Xylene	ND		0.00157	1	12/11/2017 18:42	WG1052083
TPH (GC/FID) Low Fraction	ND		0.105	1	12/11/2017 18:42	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*97.8*		*77.0-120*		*12/11/2017 18:42*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*101*		*75.0-128*		*12/11/2017 18:42*	WG1052083

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	J3	4.19	1	12/18/2017 23:21	WG1053214
C28-C40 Oil Range	ND		4.19	1	12/18/2017 23:21	WG1053214
(S) o-Terphenyl	*64.2*		*18.0-148*		*12/18/2017 23:21*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.8		1	12/12/2017 10:30	WG1052380

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	1250		20.9	2	12/14/2017 02:29	WG1053112

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.00340		0.000522	1	12/13/2017 02:04	WG1052083
Toluene	0.0275		0.00522	1	12/13/2017 02:04	WG1052083
Ethylbenzene	0.00230		0.000522	1	12/13/2017 02:04	WG1052083
Total Xylene	0.0136		0.00157	1	12/13/2017 02:04	WG1052083
TPH (GC/FID) Low Fraction	2.49		0.104	1	12/13/2017 02:04	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*79.6*		*77.0-120*		*12/13/2017 02:04*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*80.7*		*75.0-128*		*12/13/2017 02:04*	WG1052083

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	8000	J3	209	50	12/19/2017 03:56	WG1053214
C28-C40 Oil Range	2800		209	50	12/19/2017 03:56	WG1053214
(S) o-Terphenyl	*785*	J7	*18.0-148*		*12/19/2017 03:56*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.3		1	12/12/2017 10:14	WG1052383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	696		10.4	1	12/14/2017 00:44	WG1053112

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.0471		0.0130	25	12/13/2017 02:27	WG1052083
Toluene	0.337		0.130	25	12/13/2017 02:27	WG1052083
Ethylbenzene	0.264		0.0130	25	12/13/2017 02:27	WG1052083
Total Xylene	0.788		0.0389	25	12/13/2017 02:27	WG1052083
TPH (GC/FID) Low Fraction	72.4		2.60	25	12/13/2017 02:27	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*92.9*		*77.0-120*		*12/13/2017 02:27*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*97.3*		*75.0-128*		*12/13/2017 02:27*	WG1052083

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	30700	J3	1040	250	12/19/2017 04:09	WG1053214
C28-C40 Oil Range	10000		1040	250	12/19/2017 04:09	WG1053214
(S) o-Terphenyl	*3750*	J7	*18.0-148*		*12/19/2017 04:09*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	85.0		1	12/12/2017 10:30	WG1052380

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	283		11.8	1	12/14/2017 01:10	WG1053112

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.860		0.0589	100	12/11/2017 19:53	WG1052083
Toluene	11.7		0.589	100	12/11/2017 19:53	WG1052083
Ethylbenzene	5.20		0.0589	100	12/11/2017 19:53	WG1052083
Total Xylene	25.7		0.177	100	12/11/2017 19:53	WG1052083
TPH (GC/FID) Low Fraction	521		11.8	100	12/11/2017 19:53	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*95.2*		*77.0-120*		*12/11/2017 19:53*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*102*		*75.0-128*		*12/11/2017 19:53*	WG1052083

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	6130	J3	235	50	12/19/2017 04:22	WG1053214
C28-C40 Oil Range	2020		235	50	12/19/2017 04:22	WG1053214
(S) o-Terphenyl	*680*	J7	*18.0-148*		*12/19/2017 04:22*	WG1053214

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.0		1	12/12/2017 10:44	WG1052378

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	98.5		10.5	1	12/14/2017 01:18	WG1053112

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.00142	B	0.000526	1	12/13/2017 02:49	WG1052083
Toluene	0.0173		0.00526	1	12/13/2017 02:49	WG1052083
Ethylbenzene	0.0223		0.000526	1	12/13/2017 02:49	WG1052083
Total Xylene	0.0538		0.00158	1	12/13/2017 02:49	WG1052083
TPH (GC/FID) Low Fraction	6.92		0.105	1	12/13/2017 02:49	WG1052083
(S) a,a,a-Trifluorotoluene(FID)	*79.5*		*77.0-120*		*12/13/2017 02:49*	WG1052083
(S) a,a,a-Trifluorotoluene(PID)	*80.2*		*75.0-128*		*12/13/2017 02:49*	WG1052083

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	27300	J3	1050	250	12/19/2017 04:34	WG1053214
C28-C40 Oil Range	9590		1050	250	12/19/2017 04:34	WG1053214
(S) o-Terphenyl	*3600*	J7	*18.0-148*		*12/19/2017 04:34*	WG1053214

Method Blank (MB)

(MB) R3272489-1 12/12/17 10:44

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.003			

L956015-04 Original Sample (OS) • Duplicate (DUP)

(OS) L956015-04 12/12/17 10:44 • (DUP) R3272489-3 12/12/17 10:44

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	93.0	92.9	1	0		5

Laboratory Control Sample (LCS)

(LCS) R3272489-2 12/12/17 10:44

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

Method Blank (MB)

(MB) R3272485-1 12/12/17 10:30

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

L956015-03 Original Sample (OS) • Duplicate (DUP)

(OS) L956015-03 12/12/17 10:30 • (DUP) R3272485-3 12/12/17 10:30

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	93.2	92.7	1	0		5

Laboratory Control Sample (LCS)

(LCS) R3272485-2 12/12/17 10:30

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

Method Blank (MB)

(MB) R3272481-1 12/12/17 10:14

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

L956015-06 Original Sample (OS) • Duplicate (DUP)

(OS) L956015-06 12/12/17 10:14 • (DUP) R3272481-3 12/12/17 10:14

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	94.6	94.8	1	0		5

Laboratory Control Sample (LCS)

(LCS) R3272481-2 12/12/17 10:14

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

Method Blank (MB)

(MB) R3271701-1 12/09/17 12:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	4.58	J	0.795	10.0

L955902-15 Original Sample (OS) • Duplicate (DUP)

(OS) L955902-15 12/09/17 13:26 • (DUP) R3271701-4 12/09/17 13:34

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1340	1420	2	5.91		20

L956015-11 Original Sample (OS) • Duplicate (DUP)

(OS) L956015-11 12/09/17 16:50 • (DUP) R3271701-7 12/09/17 16:59

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	67.8	73.5	1	8.06		20

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

(LCS) R3271701-2 12/09/17 12:35 • (LCSD) R3271701-3 12/09/17 12:43

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	209	211	105	106	90-110			0.837	20

L956015-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L956015-06 12/09/17 15:34 • (MS) R3271701-5 12/09/17 15:42 • (MSD) R3271701-6 12/09/17 16:08

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	528	286	905	868	117	110	1	80-120			4.25	20

Method Blank (MB)

(MB) R3273031-1 12/13/17 23:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	4.39	J	0.795	10.0

L956015-12 Original Sample (OS) • Duplicate (DUP)

(OS) L956015-12 12/14/17 00:02 • (DUP) R3273031-4 12/14/17 00:10

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	46.9	46.6	1	0.647		20

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

(LCS) R3273031-2 12/13/17 23:27 • (LCSD) R3273031-3 12/13/17 23:36

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	202	103	101	90-110			1.6	20

Method Blank (MB)

(MB) R3272382-5 12/11/17 11:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000136	J	0.000120	0.000500
Toluene	0.000231	J	0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0231	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*98.8*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*101*			*75.0-128*

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

(LCS) R3272382-1 12/11/17 09:36 • (LCSD) R3272382-2 12/11/17 09:59

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	0.0489	0.0498	97.9	99.5	71.0-121			1.69	20
Toluene	0.0500	0.0506	0.0506	101	101	72.0-120			0.0506	20
Ethylbenzene	0.0500	0.0505	0.0508	101	102	76.0-121			0.618	20
Total Xylene	0.150	0.156	0.157	104	105	75.0-124			0.768	20
(S) a,a,a-Trifluorotoluene(FID)				*98.6*	*98.9*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*100*	*99.9*	*75.0-128*				

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

(LCS) R3272382-3 12/11/17 10:23 • (LCSD) R3272382-4 12/11/17 10:47

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	5.01	4.97	91.1	90.4	70.0-136			0.852	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*104*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*112*	*113*	*75.0-128*				

Method Blank (MB)

(MB) R3274045-1 12/18/17 21:10

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	*65.5*			*18.0-148*

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

(LCS) R3274045-2 12/18/17 21:23 • (LCSD) R3274045-3 12/18/17 21:36

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	46.7	33.3	77.8	55.6	50.0-150		J3	33.3	20
(S) o-Terphenyl				*77.9*	*61.0*	*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.
J3	The associated batch QC was outside the established quality control range for precision.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

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
Conneticut	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		

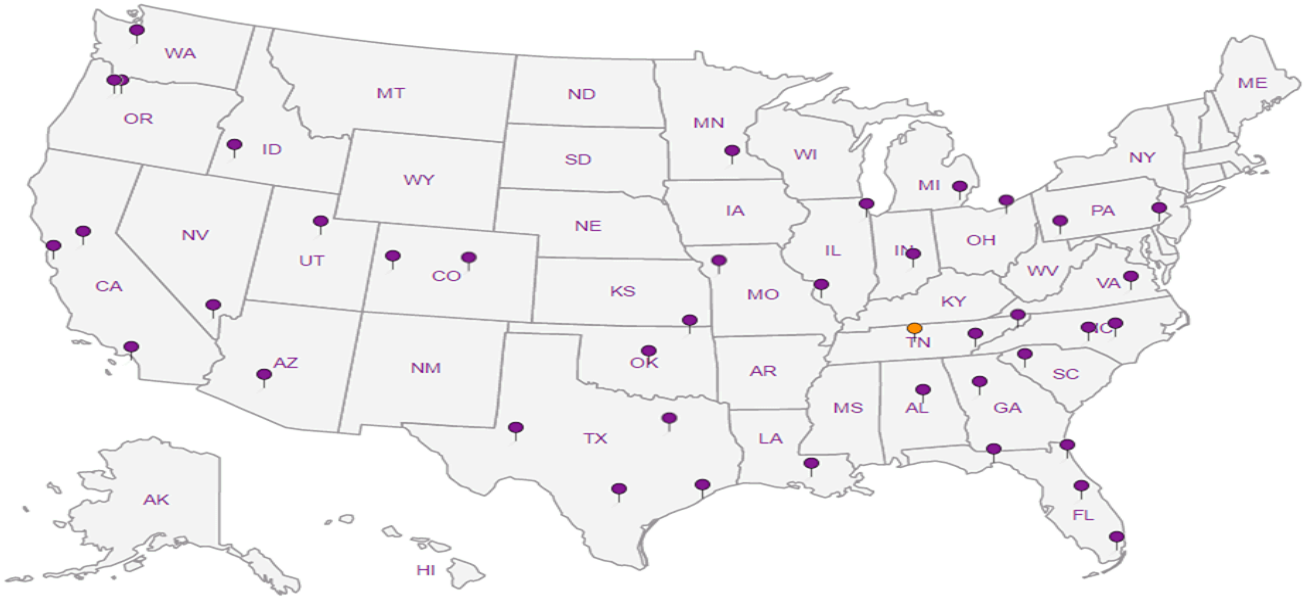
Third Party & Federal Accreditations

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.**



XTO ENERGY
Western Division

Quote Number	
Page 1 of 2	
XTO Contact: Kyle Littrell	XTO Contact Phone #: 1-970-317-1867
Email Results to: Kyle_Littrell@XTOenergy.com; Abaker@LTENV.com	
Well Site/Location: Remuda Basin 32-23-30 State 1H	API Number: 30-015-40341
Collected By: Aaron Williamson & Adrian Baker	Samples on Ice: (Y) / N
Company: LT Environmental	QA/QC Requested: No
Signature: Aaron Willi	Gray Areas for Lab Use Only!

Test Reason: Confirmation Soil Samples

Turnaround:
- ✓ Standard
- ___ Next Day
- ___ Two Day
- ___ Three Day
- ___ Std. 5 Bus. Days (by contract)

Date Needed: ___

Analysis: BTEX EPA METHOD 8021; TPH EPA METHOD 8015; Chloride EPA Method 30.1

Lab Information: F180

Office Abbreviations
Farmington = FAR
Durango = DUR
Bakken = BAK
Raton = RAT
Piceance = PC
Roosevelt = RSV
La Barge = LB
Orangeville = OV
Permian = PER

Sample ID	Sample Name	Media	Date	Time (MT)	Preservative	No. of Conts.	Sample Number
PERAW-120417-1547	SB-1 0-1'	S	12/04/17	15:47	ICE	1	956015 01
PERAW-120417-1625	SB-1 25'	S	12/04/17	16:25	ICE	1	02
PERAW-120417-1515	SB-2 0-1'	S	12/04/17	15:15	ICE	1	03
PERAW-120417-1525	SB-2 4-5'	S	12/04/17	15:25	ICE	1	04
PERAW-120417-1712	SB-3 15'	S	12/04/17	17:12	ICE	1	05
PERAW-120417-1714	SB-3 2-3'	S	12/04/17	17:14	ICE	1	06
PERAW-120517-0935	SB-4 0-1'	S	12/05/17	09:35	ICE	1	07
PERAW-120517-0939	SB-4 15'	S	12/05/17	09:39	ICE	1	08
PERAW-120517-1025	SB-5 0-1'	S	12/05/17	10:25	ICE	1	09
PERAW-120517-1028	SB-5 15'	S	12/05/17	10:28	ICE	1	10
PERAW-120517-1101	SB-6 1-2'	S	12/05/17	11:01	ICE	1	11
PERAW-120517-1104	SB-6 10-15'	S	12/05/17	11:04	ICE	1	12
See next Page							

Media: Filter = F Soil = S Wastewater = WW Groundwater = GW Drinking Waster = DW Sludge = SG Surface Water = SW Air = A Drill Mud = DM Other = OT

Relinquished By: (Signature)	Date: 12/06/17	Time: (CST) 14:41	Received By: (Signature)	Number of Bottles: 46	Sample Condition
Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)	Temperature: 0.5	Other Information
Relinquished By: (Signature)	Date:	Time:	Received for Lab by: (Signature)	Date: 12.7.17 / Time: 845	

Comments: TRK 7389 9201 4811 NET

* Sample ID will be the office and sampler-date-military time-sampler initials FARJM-MMDDYY-1200

XTO ENERGY
Western Division

Quote Number		Page 2 of 2
XTO Contact: Kyle Littrell		XTO Contact Phone #: 1-970-317-1867
Email Results to: Kyle_Littrell@XTOenergy.com Abaker@LTENV.COM		
Well Site/Location: Remuda Basin 32-23-30 State 1H	API Number: 30-015-40341	Test Reason: Confirmation Soil Samples
Collected By: Aaron Williamson & Adrian Baker	Samples on Ice: (Y) / N	Turnaround: ✓ Standard; ___ Next Day; ___ Two Day; ___ Three Day; ___ Std. 5 Bus. Days (by contract)
Company: LT Environmental	QA/QC Requested: NO	Date Needed: ___
Signature: Aaron Williamson	Gray Areas for Lab Use Only!	

Sample ID	Sample Name	Media	Date	Time (MT)	Preservative	No. of Conts.	BTEX EPA METHOD 8021	TPH EPA METHOD 8015	CHLORIDE EPA METHOD 300.1	Sample Number
PERAW-120517-0837	SS-1	S	12/05/17	08:37	ICE	1	✓	✓	✓	956015-13
PERAW-120517-0842	SS-2	S	12/05/17	08:42	ICE	1	✓	✓	✓	14
PERAW-120517-0845	SS-3	S	12/05/17	08:45	ICE	1	✓	✓	✓	15
PERAW-120517-0850	SS-4	S	12/05/17	08:50	ICE	1	✓	✓	✓	16
			~~12/05/17~~	ARW						

Media: Filter = F Soil = S Wastewater = WW Groundwater = GW Drinking Waster = DW Sludge = SG Surface Water = SW Air = A Drill Mud = DM Other = OT

Relinquished By: (Signature)	Date: 12/05/17	Time: 14:41	Received By: (Signature)	Number of Bottles: 16	Sample Condition
Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)	Temperature: 0.5	Other Information
Relinquished By: (Signature)	Date:	Time:	Received for Lab by: (Signature)	Date: 12.7.17 / Time: 845	

Comments: TRK 7389 9201 4511

* Sample ID will be the office and sampler-date-military time-sampler initials FARJM-MMDDYY-1200

ESCONK

Lab Information

Office Abbreviations
Farmington = FAR
Durango = DUR
Bakken = BAK
Raton = RAT
Piceance = PC
Roosevelt = RSV
La Barge = LB
Orangeville = OV
Permian = PER

ESC LAB SCIENCES
Cooler Receipt Form

Client:	SDG#	956015
Cooler Received/Opened On: 12/ 7 /17	Temperature:	0.5
Received by : *Branford Shaw*		
Signature: B. Shaw		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

Matt Shacklock

ESC Lab Sciences
Non-Conformance Form

Login #956015	Client: XTORNM	Date:12/7	Evaluated by:Matt S

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: Please clarify TPH 8015

Client informed by:		Call		Email		Voice Mail		Date:12/08/17	Time:0926
TSR Initials:DR	Client Contact:								

Login Instructions:

XTORNM
GRO, DRORLA, add TS

Analytical Report 576499

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda Basin 32-23-30 State #1H Tank Battery/ 30-015-40341

16-FEB-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

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

16-FEB-18

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

Reference: XENCO Report No(s): **576499**
Remuda Basin 32-23-30 State #1H Tank Battery/ 30-015-40341
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) 576499. 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. 576499 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
Odessa Laboratory Director

Sample Cross Reference 576499

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery/ 30-015-40341

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH6	S	02-13-18 14:00	5 ft	576499-001

Client Name: LT Environmental, Inc.

Project Name: Remuda Basin 32-23-30 State #1H Tank Battery/ 30-015-40341

Project ID:
Work Order Number(s): *576499*

Report Date: *16-FEB-18*
Date Received: *02/14/2018*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3041210 BTEX by EPA 8021B

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

Certificate of Analysis Summary 576499

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin 32-23-30 State #1H Tank Battery/ 30-015-40341

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Wed Feb-14-18 06:00 pm
Report Date: 16-FEB-18
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	576499-001					
	Field Id:	BH6					
	Depth:	5- ft					
	Matrix:	SOIL					
	Sampled:	Feb-13-18 14:00					
BTEX by EPA 8021B	***Extracted:***	Feb-15-18 09:30					
	Analyzed:	Feb-15-18 17:19					
	Units/RL:	mg/kg	RL				
Benzene		<0.00199	0.00199				
Toluene		<0.00199	0.00199				
Ethylbenzene		<0.00199	0.00199				
m,p-Xylenes		<0.00398	0.00398				
o-Xylene		<0.00199	0.00199				
Total Xylenes		<0.00199	0.00199				
Total BTEX		<0.00199	0.00199				
Inorganic Anions by EPA 300	***Extracted:***	Feb-15-18 18:00					
	Analyzed:	Feb-15-18 23:11					
	Units/RL:	mg/kg	RL				
Chloride		167	5.00				
TPH by SW8015 Mod	***Extracted:***	Feb-15-18 08:00					
	Analyzed:	Feb-16-18 10:15					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons		<15.0	15.0				
Diesel Range Organics		16.5	15.0				
Oil Range Hydrocarbons		<15.0	15.0				
Total TPH		16.5	15.0				

Certificate of Analytical Results 576499

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery/ 30-015-40341

Sample Id:	**BH6**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576499-001	Date Collected:	02.13.18 14.00	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.15.18 18.00	Basis:	Wet Weight
Seq Number:	3041201				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**167**	5.00	mg/kg	02.15.18 23.11		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.15.18 08.00	Basis:	Wet Weight
Seq Number:	3041217				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	02.16.18 10.15	U	1
Diesel Range Organics	C10C28DRO	**16.5**	15.0	mg/kg	02.16.18 10.15		1
Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	02.16.18 10.15	U	1
Total TPH	PHC635	**16.5**	15.0	mg/kg	02.16.18 10.15		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	02.16.18 10.15	
o-Terphenyl	84-15-1	114	%	70-135	02.16.18 10.15	

Certificate of Analytical Results 576499

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery/ 30-015-40341

Sample Id:	**BH6**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576499-001	Date Collected:	02.13.18 14.00	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.15.18 09.30	Basis:	Wet Weight
Seq Number:	3041210				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.15.18 17.19	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.15.18 17.19	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.15.18 17.19	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.15.18 17.19	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.15.18 17.19	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.15.18 17.19	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.15.18 17.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	80-120	02.15.18 17.19	
1,4-Difluorobenzene	540-36-3	85	%	80-120	02.15.18 17.19	

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

+ NELAC certification not offered for this compound.

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

QC Summary 576499

LT Environmental, Inc.

Remuda Basin 32-23-30 State #1H Tank Battery/ 30-015-40341

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041201 Matrix: Solid Date Prep: 02.15.18
MB Sample Id: 7639216-1-BLK LCS Sample Id: 7639216-1-BKS LCSD Sample Id: 7639216-1-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	255	102	267	107	90-110	5	20	mg/kg	02.15.18 23:00	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041201 Matrix: Soil Date Prep: 02.15.18
Parent Sample Id: 574342-010 MS Sample Id: 574342-010 S MSD Sample Id: 574342-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	265	106	275	110	90-110	4	20	mg/kg	02.16.18 00:32	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041201 Matrix: Soil Date Prep: 02.15.18
Parent Sample Id: 576499-001 MS Sample Id: 576499-001 S MSD Sample Id: 576499-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	167	250	429	105	436	108	90-110	2	20	mg/kg	02.15.18 23:16	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3041217 Matrix: Solid Date Prep: 02.15.18
MB Sample Id: 7639225-1-BLK LCS Sample Id: 7639225-1-BKS LCSD Sample Id: 7639225-1-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	<15.0	1000	999	100	1080	108	70-135	8	35	mg/kg	02.15.18 09:49	
Diesel Range Organics	<15.0	1000	1090	109	1200	120	70-135	10	35	mg/kg	02.15.18 09:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		122		124		70-135	%	02.15.18 09:49
o-Terphenyl	94		121		130		70-135	%	02.15.18 09:49

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

QC Summary 576499

LT Environmental, Inc.

Remuda Basin 32-23-30 State #1H Tank Battery/ 30-015-40341

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3041217 Matrix: Soil Date Prep: 02.15.18
Parent Sample Id: 576101-025 MS Sample Id: 576101-025 S MSD Sample Id: 576101-025 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	<15.0	998	921	92	1010	101	70-135	9	35	mg/kg	02.15.18 11:08	
Diesel Range Organics	<15.0	998	1040	104	1120	112	70-135	7	35	mg/kg	02.15.18 11:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		117		70-135	%	02.15.18 11:08
o-Terphenyl	105		112		70-135	%	02.15.18 11:08

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3041210 Matrix: Solid Date Prep: 02.15.18
MB Sample Id: 7639222-1-BLK LCS Sample Id: 7639222-1-BKS LCSD Sample Id: 7639222-1-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	0.0891	89	0.0852	85	70-130	4	35	mg/kg	02.15.18 08:01	
Toluene	<0.00200	0.0998	0.0944	95	0.0894	89	70-130	5	35	mg/kg	02.15.18 08:01	
Ethylbenzene	<0.00200	0.0998	0.105	105	0.0998	100	71-129	5	35	mg/kg	02.15.18 08:01	
m,p-Xylenes	<0.00399	0.200	0.208	104	0.197	99	70-135	5	35	mg/kg	02.15.18 08:01	
o-Xylene	<0.00200	0.0998	0.102	102	0.0965	97	71-133	6	35	mg/kg	02.15.18 08:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	82		86		82		80-120	%	02.15.18 08:01
4-Bromofluorobenzene	96		112		114		80-120	%	02.15.18 08:01

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3041210 Matrix: Soil Date Prep: 02.15.18
Parent Sample Id: 576101-026 MS Sample Id: 576101-026 S MSD Sample Id: 576101-026 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	0.0733	73	0.0775	78	70-130	6	35	mg/kg	02.15.18 08:39	
Toluene	0.00250	0.100	0.0772	75	0.0819	80	70-130	6	35	mg/kg	02.15.18 08:39	
Ethylbenzene	<0.00201	0.100	0.0809	81	0.0867	87	71-129	7	35	mg/kg	02.15.18 08:39	
m,p-Xylenes	<0.00402	0.201	0.159	79	0.171	86	70-135	7	35	mg/kg	02.15.18 08:39	
o-Xylene	<0.00201	0.100	0.0804	80	0.0845	85	71-133	5	35	mg/kg	02.15.18 08:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		87		80-120	%	02.15.18 08:39
4-Bromofluorobenzene	113		113		80-120	%	02.15.18 08:39

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

CHAIN OF CUSTODY

Page 1 Of 1

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

Xenco Quote #
Xenco Job # 576499

Client / Reporting Information

Company Name / Branch: LTE / Permian
Company Address: 3300 N. A Street Bldg 1 Suite 103 Midland TX 79705
Email: Abaker@ltenv.com
Phone No: 432-704-5178
Project Contact: Adrian Baker
Samplers's Name: Aaron Williamson

Project Information

Project Name/Number: Remuda Basin 32-23-30 State #1H Tank Battery / 30-015-40341
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 30-015-40341

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	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Btex EPA Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.1	Field Comments
1	BH6	5'	2-13-18	14:00	S	1									X	X	X	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10	NFE ACW																	

Turnaround Time (Business days)

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

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

Temp: 3.9 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 3.7

FED-EX / UPS: Tracking #

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		2-14-18 1800		2		KRAMER
3				4		
5				Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02/14/2018 06:00:00 PM

Work Order #: 576499

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.7
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**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: Connie Hernandez Date: 02/15/2018

Checklist reviewed by: Jessica Kramer Date: 02/15/2018

Analytical Report 576500

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda Basin 32-23-30 State #1H Tank Battery

22-FEB-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

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

22-FEB-18

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

Reference: XENCO Report No(s): **576500**
Remuda Basin 32-23-30 State #1H Tank Battery
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) 576500. 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. 576500 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
Odessa Laboratory Director

Sample Cross Reference 576500

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH1	S	02-13-18 13:26	4 ft	576500-001
BH2	S	02-13-18 13:31	4 ft	576500-002
SW1	S	02-13-18 13:33	3.5 ft	576500-003
SW2	S	02-13-18 13:38	3.5 ft	576500-004
SW3	S	02-13-18 13:40	3.5 ft	576500-005
SW4	S	02-13-18 13:42	3.5 ft	576500-006
SW5	S	02-13-18 13:44	3.5 ft	576500-007
SW6	S	02-13-18 13:46	3.5 ft	576500-008
SW7	S	02-13-18 13:49	3.5 ft	576500-009
BH3	S	02-13-18 13:53	5 ft	576500-010
BH4	S	02-13-18 13:57	5 ft	576500-011
BH5	S	02-13-18 13:58	5 ft	576500-012

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3041453 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3041581 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 576500

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin 32-23-30 State #1H Tank Battery

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Wed Feb-14-18 06:00 pm
Report Date: 22-FEB-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	576500-001		576500-002		576500-003		576500-004		576500-005		576500-006	
	Field Id:	BH1		BH2		SW1		SW2		SW3		SW4	
	Depth:	4- ft		4- ft		3.5- ft		3.5- ft		3.5- ft		3.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-13-18 13:26		Feb-13-18 13:31		Feb-13-18 13:33		Feb-13-18 13:38		Feb-13-18 13:40		Feb-13-18 13:42	
BTEX by EPA 8021B	***Extracted:***	Feb-16-18 15:30		Feb-19-18 09:30		Feb-16-18 15:30		Feb-16-18 15:30		Feb-16-18 15:30		Feb-16-18 15:30	
	Analyzed:	Feb-16-18 18:25		Feb-19-18 13:04		Feb-16-18 19:01		Feb-16-18 19:19		Feb-16-18 19:38		Feb-16-18 19:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199
Toluene		<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199
Ethylbenzene		<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199
m,p-Xylenes		<0.00398	0.00398	<0.00403	0.00403	<0.00401	0.00401	<0.00404	0.00404	<0.00402	0.00402	<0.00398	0.00398
o-Xylene		<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199
Total Xylenes		<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199
Total BTEX		<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	Feb-21-18 16:30		Feb-21-18 16:30		Feb-21-18 16:30		Feb-21-18 16:30		Feb-21-18 17:00		Feb-21-18 17:00	
	Analyzed:	Feb-21-18 23:48		Feb-21-18 23:54		Feb-21-18 23:59		Feb-22-18 00:04		Feb-22-18 00:36		Feb-22-18 00:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		373	5.01	354	5.05	128	5.03	205	5.00	126	4.89	<5.02	5.02
TPH by SW8015 Mod	***Extracted:***	Feb-18-18 14:00		Feb-18-18 14:00		Feb-18-18 14:00		Feb-18-18 14:00		Feb-18-18 14:00		Feb-18-18 14:00	
	Analyzed:	Feb-19-18 02:01		Feb-19-18 03:20		Feb-19-18 03:46		Feb-19-18 04:14		Feb-19-18 04:40		Feb-19-18 05:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	15.8	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	112	15.0

Jessica Kramer
Odessa Laboratory Director

Certificate of Analysis Summary 576500

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin 32-23-30 State #1H Tank Battery

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Wed Feb-14-18 06:00 pm
Report Date: 22-FEB-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	576500-007		576500-008		576500-009		576500-010		576500-011		576500-012	
	Field Id:	SW5		SW6		SW7		BH3		BH4		BH5	
	Depth:	3.5- ft		3.5- ft		3.5- ft		5- ft		5- ft		5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-13-18 13:44		Feb-13-18 13:46		Feb-13-18 13:49		Feb-13-18 13:53		Feb-13-18 13:57		Feb-13-18 13:58	
BTEX by EPA 8021B	***Extracted:***	Feb-16-18 15:30		Feb-16-18 15:30		Feb-16-18 15:30		Feb-16-18 15:30		Feb-16-18 15:30		Feb-16-18 15:30	
	Analyzed:	Feb-16-18 21:11		Feb-16-18 20:15		Feb-16-18 20:33		Feb-16-18 20:52		Feb-16-18 22:25		Feb-16-18 22:44	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Toluene		0.0113	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		0.0135	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		0.0607	0.00398	<0.00402	0.00402	<0.00399	0.00399	<0.00403	0.00403	<0.00398	0.00398	<0.00399	0.00399
o-Xylene		0.0481	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		0.109	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		0.134	0.00199	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	Feb-21-18 17:00		Feb-21-18 17:00		Feb-21-18 17:00		Feb-21-18 17:00		Feb-21-18 17:00		Feb-21-18 17:00	
	Analyzed:	Feb-22-18 00:57		Feb-22-18 01:02		Feb-22-18 01:08		Feb-22-18 01:24		Feb-22-18 01:29		Feb-22-18 01:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		289	4.90	4150	25.0	17.3	5.00	11.3	4.96	7.58	4.88	223	4.99
TPH by SW8015 Mod	***Extracted:***	Feb-18-18 14:00		Feb-18-18 14:00		Feb-18-18 14:00		Feb-18-18 14:00		Feb-18-18 14:00		Feb-18-18 14:00	
	Analyzed:	Feb-19-18 05:34		Feb-19-18 05:59		Feb-19-18 06:26		Feb-19-18 06:54		Feb-19-18 08:12		Feb-19-18 08:38	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		30.6	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		341	15.0	15.5	15.0	21.7	14.9	20.3	15.0	21.9	14.9	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total TPH		372	15.0	15.5	15.0	21.7	14.9	20.3	15.0	21.9	14.9	<15.0	15.0

Jessica Kramer
Odessa Laboratory Director

Certificate of Analytical Results 576500

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH1**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-001	Date Collected:	02.13.18 13.26	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.21.18 16.30	Basis:	Wet Weight
Seq Number:	3041784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**373**	5.01	mg/kg	02.21.18 23.48		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 14.00	Basis:	Wet Weight
Seq Number:	3041606				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.19.18 02.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.19.18 02.01	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.19.18 02.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.19.18 02.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	02.19.18 02.01	
o-Terphenyl	84-15-1	111	%	70-135	02.19.18 02.01	

Certificate of Analytical Results 576500

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH1**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-001	Date Collected:	02.13.18 13.26	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.16.18 15.30	Basis:	Wet Weight
Seq Number:	3041453				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.16.18 18.25	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.16.18 18.25	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.16.18 18.25	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.16.18 18.25	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.16.18 18.25	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.16.18 18.25	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.16.18 18.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	81	%	80-120	02.16.18 18.25	
4-Bromofluorobenzene	460-00-4	106	%	80-120	02.16.18 18.25	

Certificate of Analytical Results 576500

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH2**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-002	Date Collected:	02.13.18 13.31	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.21.18 16.30	Basis:	Wet Weight
Seq Number:	3041784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**354**	5.05	mg/kg	02.21.18 23.54		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 14.00	Basis:	Wet Weight
Seq Number:	3041606				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.19.18 03.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.19.18 03.20	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.19.18 03.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.19.18 03.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	02.19.18 03.20	
o-Terphenyl	84-15-1	110	%	70-135	02.19.18 03.20	

Certificate of Analytical Results 576500

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH2**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-002	Date Collected:	02.13.18 13.31	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 09.30	Basis:	Wet Weight
Seq Number:	3041581				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.19.18 13.04	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.19.18 13.04	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.19.18 13.04	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.19.18 13.04	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.19.18 13.04	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.19.18 13.04	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.19.18 13.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	81	%	80-120	02.19.18 13.04	
4-Bromofluorobenzene	460-00-4	109	%	80-120	02.19.18 13.04	

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW1**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-003	Date Collected:	02.13.18 13.33	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.21.18 16.30	Basis:	Wet Weight
Seq Number:	3041784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**128**	5.03	mg/kg	02.21.18 23.59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 14.00	Basis:	Wet Weight
Seq Number:	3041606				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.19.18 03.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.19.18 03.46	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.19.18 03.46	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.19.18 03.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	02.19.18 03.46	
o-Terphenyl	84-15-1	111	%	70-135	02.19.18 03.46	

Certificate of Analytical Results 576500

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW1**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-003	Date Collected:	02.13.18 13.33	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.16.18 15.30	Basis:	Wet Weight
Seq Number:	3041453				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.16.18 19.01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.16.18 19.01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.16.18 19.01	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.16.18 19.01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.16.18 19.01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.16.18 19.01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.16.18 19.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	80	%	80-120	02.16.18 19.01	
4-Bromofluorobenzene	460-00-4	108	%	80-120	02.16.18 19.01	

Certificate of Analytical Results 576500

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW2**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-004	Date Collected:	02.13.18 13.38	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.21.18 16.30	Basis:	Wet Weight
Seq Number:	3041784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**205**	5.00	mg/kg	02.22.18 00.04		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 14.00	Basis:	Wet Weight
Seq Number:	3041606				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.19.18 04.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.19.18 04.14	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.19.18 04.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.19.18 04.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	02.19.18 04.14	
o-Terphenyl	84-15-1	105	%	70-135	02.19.18 04.14	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW2**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-004	Date Collected:	02.13.18 13.38	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.16.18 15.30	Basis:	Wet Weight
Seq Number:	3041453				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.16.18 19.19	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.16.18 19.19	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.16.18 19.19	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.16.18 19.19	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.16.18 19.19	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.16.18 19.19	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.16.18 19.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	80-120	02.16.18 19.19	
1,4-Difluorobenzene	540-36-3	81	%	80-120	02.16.18 19.19	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW3**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-005	Date Collected:	02.13.18 13.40	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.21.18 17.00	Basis:	Wet Weight
Seq Number:	3041790				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**126**	4.89	mg/kg	02.22.18 00.36		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 14.00	Basis:	Wet Weight
Seq Number:	3041606				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.19.18 04.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.19.18 04.40	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.19.18 04.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.19.18 04.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	02.19.18 04.40	
o-Terphenyl	84-15-1	112	%	70-135	02.19.18 04.40	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW3**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-005	Date Collected:	02.13.18 13.40	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.16.18 15.30	Basis:	Wet Weight
Seq Number:	3041453				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.16.18 19.38	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.16.18 19.38	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.16.18 19.38	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.16.18 19.38	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.16.18 19.38	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.16.18 19.38	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.16.18 19.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	80-120	02.16.18 19.38	
1,4-Difluorobenzene	540-36-3	87	%	80-120	02.16.18 19.38	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW4**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-006	Date Collected:	02.13.18 13.42	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.21.18 17.00	Basis:	Wet Weight
Seq Number:	3041790				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.02	5.02	mg/kg	02.22.18 00.52	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 14.00	Basis:	Wet Weight
Seq Number:	3041606				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.19.18 05.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	**15.8**	15.0	mg/kg	02.19.18 05.06		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.19.18 05.06	U	1
Total TPH	PHC635	**112**	15.0	mg/kg	02.19.18 05.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	02.19.18 05.06	
o-Terphenyl	84-15-1	110	%	70-135	02.19.18 05.06	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW4**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-006	Date Collected:	02.13.18 13.42	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.16.18 15.30	Basis:	Wet Weight
Seq Number:	3041453				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.16.18 19.56	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.16.18 19.56	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.16.18 19.56	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.16.18 19.56	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.16.18 19.56	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.16.18 19.56	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.16.18 19.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	80-120	02.16.18 19.56	
1,4-Difluorobenzene	540-36-3	81	%	80-120	02.16.18 19.56	

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Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW5**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-007	Date Collected:	02.13.18 13.44	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.21.18 17.00	Basis:	Wet Weight
Seq Number:	3041790				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**289**	4.90	mg/kg	02.22.18 00.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 14.00	Basis:	Wet Weight
Seq Number:	3041606				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**30.6**	15.0	mg/kg	02.19.18 05.34		1
Diesel Range Organics (DRO)	C10C28DRO	**341**	15.0	mg/kg	02.19.18 05.34		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.19.18 05.34	U	1
Total TPH	PHC635	**372**	15.0	mg/kg	02.19.18 05.34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	02.19.18 05.34	
o-Terphenyl	84-15-1	118	%	70-135	02.19.18 05.34	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW5**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-007	Date Collected:	02.13.18 13.44	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.16.18 15.30	Basis:	Wet Weight
Seq Number:	3041453				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.16.18 21.11	U	1
Toluene	108-88-3	**0.0113**	0.00199	mg/kg	02.16.18 21.11		1
Ethylbenzene	100-41-4	**0.0135**	0.00199	mg/kg	02.16.18 21.11		1
m,p-Xylenes	179601-23-1	**0.0607**	0.00398	mg/kg	02.16.18 21.11		1
o-Xylene	95-47-6	**0.0481**	0.00199	mg/kg	02.16.18 21.11		1
Total Xylenes	1330-20-7	**0.109**	0.00199	mg/kg	02.16.18 21.11		1
Total BTEX		**0.134**	0.00199	mg/kg	02.16.18 21.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	80-120	02.16.18 21.11	
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.16.18 21.11	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW6**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-008	Date Collected:	02.13.18 13.46	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.21.18 17.00	Basis:	Wet Weight
Seq Number:	3041790				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4150**	25.0	mg/kg	02.22.18 01.02		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 14.00	Basis:	Wet Weight
Seq Number:	3041606				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.19.18 05.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	**15.5**	15.0	mg/kg	02.19.18 05.59		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.19.18 05.59	U	1
Total TPH	PHC635	**15.5**	15.0	mg/kg	02.19.18 05.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	02.19.18 05.59	
o-Terphenyl	84-15-1	121	%	70-135	02.19.18 05.59	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW6**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-008	Date Collected:	02.13.18 13.46	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.16.18 15.30	Basis:	Wet Weight
Seq Number:	3041453				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.16.18 20.15	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.16.18 20.15	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.16.18 20.15	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.16.18 20.15	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.16.18 20.15	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.16.18 20.15	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.16.18 20.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	80-120	02.16.18 20.15	
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.16.18 20.15	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW7**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-009	Date Collected:	02.13.18 13.49	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.21.18 17.00	Basis:	Wet Weight
Seq Number:	3041790				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17.3**	5.00	mg/kg	02.22.18 01.08		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 14.00	Basis:	Wet Weight
Seq Number:	3041606				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.19.18 06.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	**21.7**	14.9	mg/kg	02.19.18 06.26		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.19.18 06.26	U	1
Total TPH	PHC635	**21.7**	14.9	mg/kg	02.19.18 06.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	02.19.18 06.26	
o-Terphenyl	84-15-1	112	%	70-135	02.19.18 06.26	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW7**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-009	Date Collected:	02.13.18 13.49	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.16.18 15.30	Basis:	Wet Weight
Seq Number:	3041453				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.16.18 20.33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.16.18 20.33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.16.18 20.33	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.16.18 20.33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.16.18 20.33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.16.18 20.33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.16.18 20.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	80-120	02.16.18 20.33	
1,4-Difluorobenzene	540-36-3	84	%	80-120	02.16.18 20.33	

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Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH3**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-010	Date Collected:	02.13.18 13.53	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.21.18 17.00	Basis:	Wet Weight
Seq Number:	3041790				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.3**	4.96	mg/kg	02.22.18 01.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 14.00	Basis:	Wet Weight
Seq Number:	3041606				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.19.18 06.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	**20.3**	15.0	mg/kg	02.19.18 06.54		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.19.18 06.54	U	1
Total TPH	PHC635	**20.3**	15.0	mg/kg	02.19.18 06.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	02.19.18 06.54	
o-Terphenyl	84-15-1	119	%	70-135	02.19.18 06.54	

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Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH3**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-010	Date Collected:	02.13.18 13.53	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.16.18 15.30	Basis:	Wet Weight
Seq Number:	3041453				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.16.18 20.52	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.16.18 20.52	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.16.18 20.52	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.16.18 20.52	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.16.18 20.52	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.16.18 20.52	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.16.18 20.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.16.18 20.52	
4-Bromofluorobenzene	460-00-4	105	%	80-120	02.16.18 20.52	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH4**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-011	Date Collected:	02.13.18 13.57	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.21.18 17.00	Basis:	Wet Weight
Seq Number:	3041790				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.58**	4.88	mg/kg	02.22.18 01.29		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 14.00	Basis:	Wet Weight
Seq Number:	3041606				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.19.18 08.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	**21.9**	14.9	mg/kg	02.19.18 08.12		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.19.18 08.12	U	1
Total TPH	PHC635	**21.9**	14.9	mg/kg	02.19.18 08.12		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	02.19.18 08.12	
o-Terphenyl	84-15-1	115	%	70-135	02.19.18 08.12	

Certificate of Analytical Results 576500

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH4**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-011	Date Collected:	02.13.18 13.57	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.16.18 15.30	Basis:	Wet Weight
Seq Number:	3041453				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.16.18 22.25	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.16.18 22.25	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.16.18 22.25	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.16.18 22.25	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.16.18 22.25	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.16.18 22.25	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.16.18 22.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	80-120	02.16.18 22.25	
4-Bromofluorobenzene	460-00-4	113	%	80-120	02.16.18 22.25	

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH5**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-012	Date Collected:	02.13.18 13.58	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.21.18 17.00	Basis:	Wet Weight
Seq Number:	3041790				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**223**	4.99	mg/kg	02.22.18 01.34		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 14.00	Basis:	Wet Weight
Seq Number:	3041606				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.19.18 08.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.19.18 08.38	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.19.18 08.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.19.18 08.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	02.19.18 08.38	
o-Terphenyl	84-15-1	113	%	70-135	02.19.18 08.38	

Certificate of Analytical Results 576500

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH5**	Matrix:	Soil	Date Received:	02.14.18 18.00
Lab Sample Id:	576500-012	Date Collected:	02.13.18 13.58	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.16.18 15.30	Basis:	Wet Weight
Seq Number:	3041453				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.16.18 22.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.16.18 22.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.16.18 22.44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.16.18 22.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.16.18 22.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.16.18 22.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.16.18 22.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	80-120	02.16.18 22.44	
1,4-Difluorobenzene	540-36-3	84	%	80-120	02.16.18 22.44	

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

+ NELAC certification not offered for this compound.

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

QC Summary 576500

LT Environmental, Inc.

Remuda Basin 32-23-30 State #1H Tank Battery

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041784 Matrix: Solid Date Prep: 02.21.18
MB Sample Id: 7639546-1-BLK LCS Sample Id: 7639546-1-BKS LCSD Sample Id: 7639546-1-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	273	109	274	110	90-110	0	20	mg/kg	02.21.18 21:31	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041790 Matrix: Solid Date Prep: 02.21.18
MB Sample Id: 7639564-1-BLK LCS Sample Id: 7639564-1-BKS LCSD Sample Id: 7639564-1-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	274	110	273	109	90-110	0	20	mg/kg	02.22.18 00:25	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041784 Matrix: Soil Date Prep: 02.21.18
Parent Sample Id: 576403-019 MS Sample Id: 576403-019 S MSD Sample Id: 576403-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	184	248	454	109	424	97	90-110	7	20	mg/kg	02.21.18 21:47	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041790 Matrix: Soil Date Prep: 02.21.18
Parent Sample Id: 576500-005 MS Sample Id: 576500-005 S MSD Sample Id: 576500-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	126	245	369	99	390	108	90-110	6	20	mg/kg	02.22.18 00:41	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041790 Matrix: Soil Date Prep: 02.21.18
Parent Sample Id: 576501-003 MS Sample Id: 576501-003 S MSD Sample Id: 576501-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	277	111	274	110	90-110	1	20	mg/kg	02.22.18 01:55	X

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

QC Summary 576500

LT Environmental, Inc.

Remuda Basin 32-23-30 State #1H Tank Battery

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3041606 | Matrix: Solid | Date Prep: 02.18.18
MB Sample Id: 7639463-1-BLK | LCS Sample Id: 7639463-1-BKS | LCSD Sample Id: 7639463-1-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	917	92	1000	100	70-135	9	35	mg/kg	02.19.18 01:07	
Diesel Range Organics (DRO)	<15.0	1000	989	99	1080	108	70-135	9	35	mg/kg	02.19.18 01:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		118		128		70-135	%	02.19.18 01:07
o-Terphenyl	103		115		127		70-135	%	02.19.18 01:07

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3041606 | Matrix: Soil | Date Prep: 02.18.18
Parent Sample Id: 576500-001 | MS Sample Id: 576500-001 S | MSD Sample Id: 576500-001 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	988	99	976	98	70-135	1	35	mg/kg	02.19.18 02:26	
Diesel Range Organics (DRO)	<15.0	999	1080	108	1060	106	70-135	2	35	mg/kg	02.19.18 02:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		128		70-135	%	02.19.18 02:26
o-Terphenyl	123		122		70-135	%	02.19.18 02:26

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3041453 | Matrix: Solid | Date Prep: 02.16.18
MB Sample Id: 7639384-1-BLK | LCS Sample Id: 7639384-1-BKS | LCSD Sample Id: 7639384-1-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	0.103	102	0.0823	82	70-130	22	35	mg/kg	02.16.18 16:13	
Toluene	<0.00202	0.101	0.0956	95	0.0854	85	70-130	11	35	mg/kg	02.16.18 16:13	
Ethylbenzene	<0.00202	0.101	0.0993	98	0.0887	89	71-129	11	35	mg/kg	02.16.18 16:13	
m,p-Xylenes	<0.00403	0.202	0.194	96	0.173	86	70-135	11	35	mg/kg	02.16.18 16:13	
o-Xylene	<0.00202	0.101	0.0972	96	0.0873	87	71-133	11	35	mg/kg	02.16.18 16:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	81		92		97		80-120	%	02.16.18 16:13
4-Bromofluorobenzene	115		111		115		80-120	%	02.16.18 16:13

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 576500

LT Environmental, Inc.

Remuda Basin 32-23-30 State #1H Tank Battery

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3041581 Matrix: Solid Date Prep: 02.19.18
MB Sample Id: 7639452-1-BLK LCS Sample Id: 7639452-1-BKS LCSD Sample Id: 7639452-1-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	0.0907	91	0.0908	91	70-130	0	35	mg/kg	02.19.18 08:55	
Toluene	<0.00199	0.0994	0.0960	97	0.0966	97	70-130	1	35	mg/kg	02.19.18 08:55	
Ethylbenzene	<0.00199	0.0994	0.107	108	0.109	109	71-129	2	35	mg/kg	02.19.18 08:55	
m,p-Xylenes	<0.00398	0.199	0.211	106	0.217	109	70-135	3	35	mg/kg	02.19.18 08:55	
o-Xylene	<0.00199	0.0994	0.103	104	0.106	106	71-133	3	35	mg/kg	02.19.18 08:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	82		83		89		80-120	%	02.19.18 08:55
4-Bromofluorobenzene	99		113		116		80-120	%	02.19.18 08:55

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3041453 Matrix: Soil Date Prep: 02.16.18
Parent Sample Id: 576500-001 MS Sample Id: 576500-001 S MSD Sample Id: 576500-001 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	0.0844	85	0.0807	81	70-130	4	35	mg/kg	02.16.18 17:03	
Toluene	<0.00199	0.0996	0.0913	92	0.0851	85	70-130	7	35	mg/kg	02.16.18 17:03	
Ethylbenzene	<0.00199	0.0996	0.0955	96	0.0882	88	71-129	8	35	mg/kg	02.16.18 17:03	
m,p-Xylenes	<0.00398	0.199	0.187	94	0.172	86	70-135	8	35	mg/kg	02.16.18 17:03	
o-Xylene	<0.00199	0.0996	0.0946	95	0.0865	87	71-133	9	35	mg/kg	02.16.18 17:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		100		80-120	%	02.16.18 17:03
4-Bromofluorobenzene	111		119		80-120	%	02.16.18 17:03

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3041581 Matrix: Soil Date Prep: 02.19.18
Parent Sample Id: 576793-001 MS Sample Id: 576793-001 S MSD Sample Id: 576793-001 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	0.0817	82	0.0725	73	70-130	12	35	mg/kg	02.19.18 09:34	
Toluene	<0.00199	0.0996	0.0873	88	0.0776	78	70-130	12	35	mg/kg	02.19.18 09:34	
Ethylbenzene	<0.00199	0.0996	0.0959	96	0.0888	89	71-129	8	35	mg/kg	02.19.18 09:34	
m,p-Xylenes	<0.00398	0.199	0.189	95	0.175	88	70-135	8	35	mg/kg	02.19.18 09:34	
o-Xylene	<0.00199	0.0996	0.0917	92	0.0875	88	71-133	5	35	mg/kg	02.19.18 09:34	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	84		80		80-120	%	02.19.18 09:34
4-Bromofluorobenzene	111		119		80-120	%	02.19.18 09:34

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 2

Hold until BH 6 on its own C.O.C is Run

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

Xenco Quote #

Xenco Job # 576500

Client / Reporting Information

Company Name / Branch: LTE / Permian

Company Address: 3300 N. A Street Bldg 1 Suite 103 Midland TX 79705

Email: Abaker@ltenv.com

Phone No: 432-704-5178

Project Contact: Adrian Baker

Samplers's Name: Aaron Williamson

Project Information

Project Name/Number: Remuda Basin 32-23-30 State #1H Tank Battery / 30-015-40341

Project Location: NM

Invoice To: XTO Energy - Kyle Littrell

PO Number: 30-015-40341

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 Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.1	Field Comments
1	BH 1	4'	2-13-18	13:26	S	1									X	X	X	
2	BH 2	4'	"	13:31	"	"									X	X	X	
3	SW 1	3.5'	"	13:33	"	"									X	X	X	
4	SW 2	3.5'	"	13:38	"	"									X	X	X	
5	SW 3	3.5'	"	13:40	"	"									X	X	X	
6	SW 4	3.5'	"	13:42	"	"									X	X	X	
7	SW 5	3.5'	"	13:44	"	"									X	X	X	
8	SW 6	3.5'	"	13:46	"	"									X	X	X	
9	SW 7	3.5'	"	13:49	"	"									X	X	X	
10	BH 3	5'	"	13:53	"	"									X	X	X	

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

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

Temp: 39 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 37

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		2-14-18 19:00	1	2		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 / Cooler Temp. / Thermo. Corr. Factor
			5			

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.

CHAIN OF CUSTODY

Page 2 of 2

Hold until BH 6 on its own C.G.C. is Run

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

Xenco Quote #

Xenco Job # 576500

Client / Reporting Information

Company Name / Branch: LTE / Permian

Company Address: 3300 N. A Street Bldg 1 Suite 103 Midland TX 79705

Email: Abaker@ltenv.com

Phone No: 432-704-5178

Project Contact: Adrian Baker

Samplers's Name: Aaron Williamson

Project Information

Project Name/Number: Remuda Basin 32-23-30 State #1H Tank Battery / 30-015-40341

Project Location: NM

Invoice To: XTO Energy - Kyle Littrell

PO Number: 30-015-40341

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 Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.1	Field Comments
1	BH 4	5'	2-13-18	13:57	S	1									X	X	X	
2	BH 5	5'	2-13-18	13:58	S	1									X	X	X	
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10	NFE AR																	

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

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

Temp: 3.9 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 3.7

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		2-14-18 1800	1	2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
			5	4		4

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.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02/14/2018 06:00:00 PM

Work Order #: 576500

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.7
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**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: Connie Hernandez Date: 02/15/2018

Checklist reviewed by: Jessica Kramer Date: 02/15/2018

Jessica Kramer

Analytical Report 576793

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda Basin 32-23-30 State #1H Tank Battery

23-FEB-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

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

23-FEB-18

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

Reference: XENCO Report No(s): **576793**
Remuda Basin 32-23-30 State #1H Tank Battery
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) 576793. 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. 576793 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
Odessa Laboratory Director

Sample Cross Reference 576793

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH7	S	02-15-18 16:23	4 ft	576793-001
BH8	S	02-15-18 16:25	4 ft	576793-002
BH9	S	02-15-18 16:27	4 ft	576793-003
BH10	S	02-15-18 16:29	4 ft	576793-004
BH11	S	02-15-18 16:31	4 ft	576793-005
BH12	S	02-15-18 16:33	4 ft	576793-006
BH13	S	02-15-18 16:35	3.5 ft	576793-007
BH14	S	02-15-18 16:37	5 ft	576793-008
BH15	S	02-15-18 16:39	5 ft	576793-009
BH16	S	02-15-18 16:41	5 ft	576793-010
BH17	S	02-15-18 16:43	4.5 ft	576793-011
BH18	S	02-15-18 16:45	3.5 ft	576793-012
SW8	S	02-15-18 16:47	3.5 ft	576793-013
SW9	S	02-15-18 16:49	3.5 ft	576793-014
SW10	S	02-15-18 16:51	3.5 ft	576793-015
SW11	S	02-15-18 16:53	3.5 ft	576793-016

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3041581 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3041807 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3041974 Inorganic Anions by EPA 300
Lab Sample ID 576793-016 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: 576793-006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 576793

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin 32-23-30 State #1H Tank Battery

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Fri Feb-16-18 02:16 pm
Report Date: 23-FEB-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	576793-001		576793-002		576793-003		576793-004		576793-005		576793-006	
	Field Id:	BH7		BH8		BH9		BH10		BH11		BH12	
	Depth:	4- ft		4- ft		4- ft		4- ft		4- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-15-18 16:23		Feb-15-18 16:25		Feb-15-18 16:27		Feb-15-18 16:29		Feb-15-18 16:31		Feb-15-18 16:33	
BTEX by EPA 8021B	***Extracted:***	Feb-19-18 09:30		Feb-19-18 17:00		Feb-19-18 17:00		Feb-19-18 17:00		Feb-19-18 17:00		Feb-19-18 17:00	
	Analyzed:	Feb-19-18 11:09		Feb-19-18 22:07		Feb-19-18 22:26		Feb-19-18 22:46		Feb-19-18 23:05		Feb-19-18 23:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	0.00261	0.00199	<0.00200	0.00200	<0.00198	0.00198
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	0.0651	0.00199	0.0288	0.00200	0.00312	0.00198
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	0.0436	0.00199	0.0875	0.00200	<0.00198	0.00198
m,p-Xylenes		<0.00399	0.00399	<0.00401	0.00401	<0.00402	0.00402	0.170	0.00398	0.294	0.00399	0.0457	0.00396
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	0.293	0.00199	0.220	0.00200	0.0656	0.00198
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	0.463	0.00199	0.514	0.00200	0.111	0.00198
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	0.574	0.00199	0.630	0.00200	0.114	0.00198
Inorganic Anions by EPA 300	***Extracted:***	Feb-22-18 18:00		Feb-22-18 18:00		Feb-22-18 18:00		Feb-22-18 18:00		Feb-22-18 18:00		Feb-23-18 10:50	
	Analyzed:	Feb-23-18 04:53		Feb-23-18 04:58		Feb-23-18 05:03		Feb-23-18 05:09		Feb-23-18 05:14		Feb-23-18 12:18	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		8.22	4.91	368	4.93	44.3	5.05	677	4.97	343	4.90	369	4.88
TPH by SW8015 Mod	***Extracted:***	Feb-20-18 07:00		Feb-20-18 07:00		Feb-20-18 07:00		Feb-20-18 07:00		Feb-20-18 07:00		Feb-20-18 07:00	
	Analyzed:	Feb-20-18 11:21		Feb-20-18 11:47		Feb-20-18 12:14		Feb-20-18 12:40		Feb-20-18 13:06		Feb-20-18 13:32	
	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	775	14.9	258	15.0	98.3	15.0
Diesel Range Organics (DRO)		<15.0	15.0	28.4	15.0	106	15.0	4900	14.9	1710	15.0	1270	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	60.4	14.9	26.1	15.0	23.3	15.0
Total TPH		<15.0	15.0	28.4	15.0	106	15.0	5740	14.9	1990	15.0	1390	15.0

Jessica Kramer
Odessa Laboratory Director

Certificate of Analysis Summary 576793

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin 32-23-30 State #1H Tank Battery

Project Id:

Contact: Adrian Baker

Project Location: NM

Date Received in Lab: Fri Feb-16-18 02:16 pm

Report Date: 23-FEB-18

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	576793-007		576793-008		576793-009		576793-010		576793-011		576793-012	
	Field Id:	BH13		BH14		BH15		BH16		BH17		BH18	
	Depth:	3.5- ft		5- ft		5- ft		5- ft		4.5- ft		3.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-15-18 16:35		Feb-15-18 16:37		Feb-15-18 16:39		Feb-15-18 16:41		Feb-15-18 16:43		Feb-15-18 16:45	
BTEX by EPA 8021B	***Extracted:***	Feb-19-18 17:00		Feb-19-18 17:00		Feb-19-18 17:00		Feb-19-18 17:00		Feb-19-18 17:00		Feb-19-18 17:00	
	Analyzed:	Feb-19-18 23:43		Feb-20-18 00:02		Feb-20-18 00:21		Feb-20-18 00:40		Feb-20-18 00:59		Feb-20-18 01:56	
	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	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199
Toluene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199
Ethylbenzene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199
m,p-Xylenes		<0.00404	0.00404	<0.00401	0.00401	<0.00398	0.00398	<0.00403	0.00403	<0.00399	0.00399	<0.00398	0.00398
o-Xylene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199
Total Xylenes		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199
Total BTEX		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	Feb-23-18 10:50		Feb-23-18 10:50		Feb-23-18 10:50		Feb-23-18 10:50		Feb-23-18 10:50		Feb-23-18 10:50	
	Analyzed:	Feb-23-18 13:07		Feb-23-18 13:12		Feb-23-18 13:17		Feb-23-18 13:22		Feb-23-18 13:28		Feb-23-18 13:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		13.2	4.98	9.81	4.97	14.9	4.88	15.0	4.87	19.5	4.87	175	4.89
TPH by SW8015 Mod	***Extracted:***	Feb-20-18 07:00		Feb-20-18 07:00		Feb-20-18 07:00		Feb-20-18 07:00		Feb-20-18 07:00		Feb-20-18 07:00	
	Analyzed:	Feb-20-18 13:57		Feb-20-18 15:16		Feb-20-18 15:42		Feb-20-18 16:07		Feb-20-18 16:33		Feb-20-18 16:58	
	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	41.6	15.0	<15.0	15.0	<15.0	15.0	27.4	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	41.6	15.0	<15.0	15.0	<15.0	15.0	27.4	15.0	<15.0	15.0

Jessica Kramer
Odessa Laboratory Director

Certificate of Analysis Summary 576793

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin 32-23-30 State #1H Tank Battery

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Fri Feb-16-18 02:16 pm
Report Date: 23-FEB-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	576793-013		576793-014		576793-015		576793-016					
	Field Id:	SW8		SW9		SW10		SW11					
	Depth:	3.5- ft		3.5- ft		3.5- ft		3.5- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Feb-15-18 16:47		Feb-15-18 16:49		Feb-15-18 16:51		Feb-15-18 16:53					
BTEX by EPA 8021B	***Extracted:***	Feb-19-18 17:00		Feb-19-18 17:00		Feb-19-18 17:00		Feb-19-18 17:00					
	Analyzed:	Feb-20-18 02:15		Feb-20-18 02:34		Feb-20-18 02:53		Feb-20-18 03:12					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202				
Toluene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202				
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202				
m,p-Xylenes		<0.00401	0.00401	<0.00404	0.00404	<0.00399	0.00399	<0.00403	0.00403				
o-Xylene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202				
Total Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202				
Total BTEX		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202				
Inorganic Anions by EPA 300	***Extracted:***	Feb-23-18 10:50		Feb-23-18 10:50		Feb-23-18 10:50		Feb-23-18 10:50					
	Analyzed:	Feb-23-18 13:43		Feb-23-18 13:48		Feb-23-18 16:01		Feb-23-18 13:59					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		9.59	5.05	8.22	5.05	<5.03	5.03	23.9	5.05				
TPH by SW8015 Mod	***Extracted:***	Feb-20-18 07:00		Feb-20-18 07:00		Feb-20-18 07:00		Feb-20-18 07:00					
	Analyzed:	Feb-20-18 17:24		Feb-20-18 17:50		Feb-20-18 18:16		Feb-20-18 18:42					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				

Jessica Kramer
Odessa Laboratory Director

Certificate of Analytical Results 576793

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH7**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-001	Date Collected:	02.15.18 16.23	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.22.18 18.00	Basis:	Wet Weight
Seq Number:	3041915				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.22**	4.91	mg/kg	02.23.18 04.53		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.20.18 11.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.20.18 11.21	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.20.18 11.21	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.20.18 11.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	02.20.18 11.21	
o-Terphenyl	84-15-1	110	%	70-135	02.20.18 11.21	

Certificate of Analytical Results 576793

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH7**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-001	Date Collected:	02.15.18 16.23	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 09.30	Basis:	Wet Weight
Seq Number:	3041581				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.19.18 11.09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.19.18 11.09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.19.18 11.09	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.19.18 11.09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.19.18 11.09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.19.18 11.09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.19.18 11.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	80-120	02.19.18 11.09	
1,4-Difluorobenzene	540-36-3	80	%	80-120	02.19.18 11.09	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH8**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-002	Date Collected:	02.15.18 16.25	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.22.18 18.00	Basis:	Wet Weight
Seq Number:	3041915				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**368**	4.93	mg/kg	02.23.18 04.58		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.20.18 11.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	**28.4**	15.0	mg/kg	02.20.18 11.47		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.20.18 11.47	U	1
Total TPH	PHC635	**28.4**	15.0	mg/kg	02.20.18 11.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.20.18 11.47	
o-Terphenyl	84-15-1	98	%	70-135	02.20.18 11.47	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH8**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-002	Date Collected:	02.15.18 16.25	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.19.18 22.07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.19.18 22.07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.19.18 22.07	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.19.18 22.07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.19.18 22.07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.19.18 22.07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.19.18 22.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	80-120	02.19.18 22.07	
1,4-Difluorobenzene	540-36-3	83	%	80-120	02.19.18 22.07	

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH9**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-003	Date Collected:	02.15.18 16.27	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.22.18 18.00	Basis:	Wet Weight
Seq Number:	3041915				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**44.3**	5.05	mg/kg	02.23.18 05.03		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.20.18 12.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	**106**	15.0	mg/kg	02.20.18 12.14		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.20.18 12.14	U	1
Total TPH	PHC635	**106**	15.0	mg/kg	02.20.18 12.14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	02.20.18 12.14	
o-Terphenyl	84-15-1	102	%	70-135	02.20.18 12.14	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH9**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-003	Date Collected:	02.15.18 16.27	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.19.18 22.26	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.19.18 22.26	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.19.18 22.26	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.19.18 22.26	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.19.18 22.26	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.19.18 22.26	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.19.18 22.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	84	%	80-120	02.19.18 22.26	
4-Bromofluorobenzene	460-00-4	110	%	80-120	02.19.18 22.26	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH10**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-004	Date Collected:	02.15.18 16.29	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.22.18 18.00	Basis:	Wet Weight
Seq Number:	3041915				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**677**	4.97	mg/kg	02.23.18 05.09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**775**	14.9	mg/kg	02.20.18 12.40		1
Diesel Range Organics (DRO)	C10C28DRO	**4900**	14.9	mg/kg	02.20.18 12.40		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**60.4**	14.9	mg/kg	02.20.18 12.40		1
Total TPH	PHC635	**5740**	14.9	mg/kg	02.20.18 12.40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	02.20.18 12.40	
o-Terphenyl	84-15-1	102	%	70-135	02.20.18 12.40	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH10**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-004	Date Collected:	02.15.18 16.29	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00261**	0.00199	mg/kg	02.19.18 22.46		1
Toluene	108-88-3	**0.0651**	0.00199	mg/kg	02.19.18 22.46		1
Ethylbenzene	100-41-4	**0.0436**	0.00199	mg/kg	02.19.18 22.46		1
m,p-Xylenes	179601-23-1	**0.170**	0.00398	mg/kg	02.19.18 22.46		1
o-Xylene	95-47-6	**0.293**	0.00199	mg/kg	02.19.18 22.46		1
Total Xylenes	1330-20-7	**0.463**	0.00199	mg/kg	02.19.18 22.46		1
Total BTEX		**0.574**	0.00199	mg/kg	02.19.18 22.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	85	%	80-120	02.19.18 22.46	
4-Bromofluorobenzene	460-00-4	118	%	80-120	02.19.18 22.46	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH11**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-005	Date Collected:	02.15.18 16.31	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.22.18 18.00	Basis:	Wet Weight
Seq Number:	3041915				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**343**	4.90	mg/kg	02.23.18 05.14		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**258**	15.0	mg/kg	02.20.18 13.06		1
Diesel Range Organics (DRO)	C10C28DRO	**1710**	15.0	mg/kg	02.20.18 13.06		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**26.1**	15.0	mg/kg	02.20.18 13.06		1
Total TPH	PHC635	**1990**	15.0	mg/kg	02.20.18 13.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	02.20.18 13.06	
o-Terphenyl	84-15-1	130	%	70-135	02.20.18 13.06	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH11**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-005	Date Collected:	02.15.18 16.31	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.19.18 23.05	U	1
Toluene	108-88-3	**0.0288**	0.00200	mg/kg	02.19.18 23.05		1
Ethylbenzene	100-41-4	**0.0875**	0.00200	mg/kg	02.19.18 23.05		1
m,p-Xylenes	179601-23-1	**0.294**	0.00399	mg/kg	02.19.18 23.05		1
o-Xylene	95-47-6	**0.220**	0.00200	mg/kg	02.19.18 23.05		1
Total Xylenes	1330-20-7	**0.514**	0.00200	mg/kg	02.19.18 23.05		1
Total BTEX		**0.630**	0.00200	mg/kg	02.19.18 23.05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	80	%	80-120	02.19.18 23.05	
4-Bromofluorobenzene	460-00-4	116	%	80-120	02.19.18 23.05	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH12**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-006	Date Collected:	02.15.18 16.33	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.23.18 10.50	Basis:	Wet Weight
Seq Number:	3041974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**369**	4.88	mg/kg	02.23.18 12.18		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**98.3**	15.0	mg/kg	02.20.18 13.32		1
Diesel Range Organics (DRO)	C10C28DRO	**1270**	15.0	mg/kg	02.20.18 13.32		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**23.3**	15.0	mg/kg	02.20.18 13.32		1
Total TPH	PHC635	**1390**	15.0	mg/kg	02.20.18 13.32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	02.20.18 13.32	
o-Terphenyl	84-15-1	130	%	70-135	02.20.18 13.32	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH12**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-006	Date Collected:	02.15.18 16.33	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.19.18 23.24	U	1
Toluene	108-88-3	**0.00312**	0.00198	mg/kg	02.19.18 23.24		1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.19.18 23.24	U	1
m,p-Xylenes	179601-23-1	**0.0457**	0.00396	mg/kg	02.19.18 23.24		1
o-Xylene	95-47-6	**0.0656**	0.00198	mg/kg	02.19.18 23.24		1
Total Xylenes	1330-20-7	**0.111**	0.00198	mg/kg	02.19.18 23.24		1
Total BTEX		**0.114**	0.00198	mg/kg	02.19.18 23.24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	82	%	80-120	02.19.18 23.24	
4-Bromofluorobenzene	460-00-4	117	%	80-120	02.19.18 23.24	

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Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH13**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-007	Date Collected:	02.15.18 16.35	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.23.18 10.50	Basis:	Wet Weight
Seq Number:	3041974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13.2**	4.98	mg/kg	02.23.18 13.07		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.20.18 13.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.20.18 13.57	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.20.18 13.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.20.18 13.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	02.20.18 13.57	
o-Terphenyl	84-15-1	115	%	70-135	02.20.18 13.57	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH13**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-007	Date Collected:	02.15.18 16.35	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.19.18 23.43	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.19.18 23.43	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.19.18 23.43	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.19.18 23.43	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.19.18 23.43	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.19.18 23.43	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.19.18 23.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	80-120	02.19.18 23.43	
1,4-Difluorobenzene	540-36-3	82	%	80-120	02.19.18 23.43	

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Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH14**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-008	Date Collected:	02.15.18 16.37	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.23.18 10.50	Basis:	Wet Weight
Seq Number:	3041974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.81**	4.97	mg/kg	02.23.18 13.12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.20.18 15.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	**41.6**	15.0	mg/kg	02.20.18 15.16		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.20.18 15.16	U	1
Total TPH	PHC635	**41.6**	15.0	mg/kg	02.20.18 15.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	02.20.18 15.16	
o-Terphenyl	84-15-1	99	%	70-135	02.20.18 15.16	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH14**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-008	Date Collected:	02.15.18 16.37	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.20.18 00.02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.20.18 00.02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.20.18 00.02	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.20.18 00.02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.20.18 00.02	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.20.18 00.02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.20.18 00.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	80-120	02.20.18 00.02	
1,4-Difluorobenzene	540-36-3	83	%	80-120	02.20.18 00.02	

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH15**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-009	Date Collected:	02.15.18 16.39	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.23.18 10.50	Basis:	Wet Weight
Seq Number:	3041974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14.9**	4.88	mg/kg	02.23.18 13.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.20.18 15.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.20.18 15.42	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.20.18 15.42	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.20.18 15.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	02.20.18 15.42	
o-Terphenyl	84-15-1	108	%	70-135	02.20.18 15.42	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH15**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-009	Date Collected:	02.15.18 16.39	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.20.18 00.21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.20.18 00.21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.20.18 00.21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.20.18 00.21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.20.18 00.21	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.20.18 00.21	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.20.18 00.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83	%	80-120	02.20.18 00.21	
4-Bromofluorobenzene	460-00-4	108	%	80-120	02.20.18 00.21	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH16**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-010	Date Collected:	02.15.18 16.41	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.23.18 10.50	Basis:	Wet Weight
Seq Number:	3041974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15.0**	4.87	mg/kg	02.23.18 13.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.20.18 16.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.20.18 16.07	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.20.18 16.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.20.18 16.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.20.18 16.07	
o-Terphenyl	84-15-1	100	%	70-135	02.20.18 16.07	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH16**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-010	Date Collected:	02.15.18 16.41	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.20.18 00.40	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.20.18 00.40	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.20.18 00.40	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.20.18 00.40	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.20.18 00.40	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.20.18 00.40	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.20.18 00.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	80-120	02.20.18 00.40	
1,4-Difluorobenzene	540-36-3	83	%	80-120	02.20.18 00.40	

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Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH17**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-011	Date Collected:	02.15.18 16.43	Sample Depth:	4.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.23.18 10.50	Basis:	Wet Weight
Seq Number:	3041974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.5**	4.87	mg/kg	02.23.18 13.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.20.18 16.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	**27.4**	15.0	mg/kg	02.20.18 16.33		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.20.18 16.33	U	1
Total TPH	PHC635	**27.4**	15.0	mg/kg	02.20.18 16.33		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	02.20.18 16.33	
o-Terphenyl	84-15-1	109	%	70-135	02.20.18 16.33	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH17**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-011	Date Collected:	02.15.18 16.43	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.20.18 00.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.20.18 00.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.20.18 00.59	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.20.18 00.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.20.18 00.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.20.18 00.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.20.18 00.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	80-120	02.20.18 00.59	
1,4-Difluorobenzene	540-36-3	81	%	80-120	02.20.18 00.59	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH18**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-012	Date Collected:	02.15.18 16.45	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.23.18 10.50	Basis:	Wet Weight
Seq Number:	3041974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**175**	4.89	mg/kg	02.23.18 13.33		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.20.18 16.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.20.18 16.58	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.20.18 16.58	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.20.18 16.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	02.20.18 16.58	
o-Terphenyl	84-15-1	104	%	70-135	02.20.18 16.58	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**BH18**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-012	Date Collected:	02.15.18 16.45	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.20.18 01.56	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.20.18 01.56	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.20.18 01.56	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.20.18 01.56	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.20.18 01.56	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.20.18 01.56	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.20.18 01.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	80-120	02.20.18 01.56	
1,4-Difluorobenzene	540-36-3	85	%	80-120	02.20.18 01.56	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW8**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-013	Date Collected:	02.15.18 16.47	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.23.18 10.50	Basis:	Wet Weight
Seq Number:	3041974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.59**	5.05	mg/kg	02.23.18 13.43		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.20.18 17.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.20.18 17.24	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.20.18 17.24	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.20.18 17.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	02.20.18 17.24	
o-Terphenyl	84-15-1	106	%	70-135	02.20.18 17.24	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW8**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-013	Date Collected:	02.15.18 16.47	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.20.18 02.15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.20.18 02.15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.20.18 02.15	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.20.18 02.15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.20.18 02.15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.20.18 02.15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.20.18 02.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	80-120	02.20.18 02.15	
1,4-Difluorobenzene	540-36-3	84	%	80-120	02.20.18 02.15	

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Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW9**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-014	Date Collected:	02.15.18 16.49	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.23.18 10.50	Basis:	Wet Weight
Seq Number:	3041974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.22**	5.05	mg/kg	02.23.18 13.48		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.20.18 17.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.20.18 17.50	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.20.18 17.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.20.18 17.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	02.20.18 17.50	
o-Terphenyl	84-15-1	109	%	70-135	02.20.18 17.50	

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LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW9**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-014	Date Collected:	02.15.18 16.49	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.20.18 02.34	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.20.18 02.34	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.20.18 02.34	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.20.18 02.34	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.20.18 02.34	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.20.18 02.34	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.20.18 02.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	80-120	02.20.18 02.34	
1,4-Difluorobenzene	540-36-3	82	%	80-120	02.20.18 02.34	

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Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW10**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-015	Date Collected:	02.15.18 16.51	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.23.18 10.50	Basis:	Wet Weight
Seq Number:	3041974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.03	5.03	mg/kg	02.23.18 16.01	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.20.18 18.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.20.18 18.16	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.20.18 18.16	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.20.18 18.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	02.20.18 18.16	
o-Terphenyl	84-15-1	106	%	70-135	02.20.18 18.16	

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Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW10**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-015	Date Collected:	02.15.18 16.51	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.20.18 02.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.20.18 02.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.20.18 02.53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.20.18 02.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.20.18 02.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.20.18 02.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.20.18 02.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	80-120	02.20.18 02.53	
1,4-Difluorobenzene	540-36-3	82	%	80-120	02.20.18 02.53	

Certificate of Analytical Results 576793

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW11**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-016	Date Collected:	02.15.18 16.53	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.23.18 10.50	Basis:	Wet Weight
Seq Number:	3041974				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**23.9**	5.05	mg/kg	02.23.18 13.59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.20.18 07.00	Basis:	Wet Weight
Seq Number:	3041815				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.20.18 18.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.20.18 18.42	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.20.18 18.42	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.20.18 18.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	02.20.18 18.42	
o-Terphenyl	84-15-1	108	%	70-135	02.20.18 18.42	

Certificate of Analytical Results 576793

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30 State #1H Tank Battery

Sample Id:	**SW11**	Matrix:	Soil	Date Received:	02.16.18 14.16
Lab Sample Id:	576793-016	Date Collected:	02.15.18 16.53	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 17.00	Basis:	Wet Weight
Seq Number:	3041807				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.20.18 03.12	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.20.18 03.12	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.20.18 03.12	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.20.18 03.12	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.20.18 03.12	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.20.18 03.12	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.20.18 03.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.20.18 03.12	
4-Bromofluorobenzene	460-00-4	114	%	80-120	02.20.18 03.12	

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

+ NELAC certification not offered for this compound.

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

QC Summary 576793

LT Environmental, Inc.

Remuda Basin 32-23-30 State #1H Tank Battery

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041915 Matrix: Solid Date Prep: 02.22.18
MB Sample Id: 7639642-1-BLK LCS Sample Id: 7639642-1-BKS LCSD Sample Id: 7639642-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	262	105	258	103	90-110	2	20	mg/kg	02.23.18 02:40	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041974 Matrix: Solid Date Prep: 02.23.18
MB Sample Id: 7639670-1-BLK LCS Sample Id: 7639670-1-BKS LCSD Sample Id: 7639670-1-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	271	108	272	109	90-110	0	20	mg/kg	02.23.18 10:54	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041915 Matrix: Soil Date Prep: 02.22.18
Parent Sample Id: 576780-022 MS Sample Id: 576780-022 S MSD Sample Id: 576780-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	176	252	430	101	433	102	90-110	1	20	mg/kg	02.23.18 02:56	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041915 Matrix: Soil Date Prep: 02.22.18
Parent Sample Id: 576786-001 MS Sample Id: 576786-001 S MSD Sample Id: 576786-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	39.0	252	315	110	311	108	90-110	1	20	mg/kg	02.23.18 04:10	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041974 Matrix: Soil Date Prep: 02.23.18
Parent Sample Id: 576793-006 MS Sample Id: 576793-006 S MSD Sample Id: 576793-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	369	244	639	111	649	115	90-110	2	20	mg/kg	02.23.18 12:23	X

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 576793

LT Environmental, Inc.

Remuda Basin 32-23-30 State #1H Tank Battery

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3041974 Matrix: Soil Date Prep: 02.23.18
Parent Sample Id: 576793-016 MS Sample Id: 576793-016 S MSD Sample Id: 576793-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.9	253	285	103	278	100	90-110	2	20	mg/kg	02.23.18 14:15	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3041815 Matrix: Solid Date Prep: 02.20.18
MB Sample Id: 7639517-1-BLK LCS Sample Id: 7639517-1-BKS LCSD Sample Id: 7639517-1-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	875	88	868	87	70-135	1	35	mg/kg	02.20.18 08:17	
Diesel Range Organics (DRO)	<15.0	1000	963	96	961	96	70-135	0	35	mg/kg	02.20.18 08:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		109		107		70-135	%	02.20.18 08:17
o-Terphenyl	125		107		106		70-135	%	02.20.18 08:17

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3041815 Matrix: Soil Date Prep: 02.20.18
Parent Sample Id: 576746-001 MS Sample Id: 576746-001 S MSD Sample Id: 576746-001 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	868	87	858	86	70-135	1	35	mg/kg	02.20.18 09:34	
Diesel Range Organics (DRO)	<15.0	998	966	97	960	96	70-135	1	35	mg/kg	02.20.18 09:34	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		107		70-135	%	02.20.18 09:34
o-Terphenyl	106		105		70-135	%	02.20.18 09:34

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

QC Summary 576793

LT Environmental, Inc.

Remuda Basin 32-23-30 State #1H Tank Battery

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3041581 | Matrix: Solid | Date Prep: 02.19.18
MB Sample Id: 7639452-1-BLK | LCS Sample Id: 7639452-1-BKS | LCSD Sample Id: 7639452-1-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	0.0907	91	0.0908	91	70-130	0	35	mg/kg	02.19.18 08:55	
Toluene	<0.00199	0.0994	0.0960	97	0.0966	97	70-130	1	35	mg/kg	02.19.18 08:55	
Ethylbenzene	<0.00199	0.0994	0.107	108	0.109	109	71-129	2	35	mg/kg	02.19.18 08:55	
m,p-Xylenes	<0.00398	0.199	0.211	106	0.217	109	70-135	3	35	mg/kg	02.19.18 08:55	
o-Xylene	<0.00199	0.0994	0.103	104	0.106	106	71-133	3	35	mg/kg	02.19.18 08:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	82		83		89		80-120	%	02.19.18 08:55
4-Bromofluorobenzene	99		113		116		80-120	%	02.19.18 08:55

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3041807 | Matrix: Solid | Date Prep: 02.19.18
MB Sample Id: 7639602-1-BLK | LCS Sample Id: 7639602-1-BKS | LCSD Sample Id: 7639602-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0838	84	0.0857	86	70-130	2	35	mg/kg	02.19.18 19:53	
Toluene	<0.00199	0.0996	0.0880	88	0.0904	90	70-130	3	35	mg/kg	02.19.18 19:53	
Ethylbenzene	<0.00199	0.0996	0.0983	99	0.0993	99	71-129	1	35	mg/kg	02.19.18 19:53	
m,p-Xylenes	<0.00398	0.199	0.195	98	0.196	98	70-135	1	35	mg/kg	02.19.18 19:53	
o-Xylene	<0.00199	0.0996	0.0967	97	0.0980	98	71-133	1	35	mg/kg	02.19.18 19:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	84		87		82		80-120	%	02.19.18 19:53
4-Bromofluorobenzene	110		115		111		80-120	%	02.19.18 19:53

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3041581 | Matrix: Soil | Date Prep: 02.19.18
Parent Sample Id: 576793-001 | MS Sample Id: 576793-001 S | MSD Sample Id: 576793-001 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	0.0817	82	0.0725	73	70-130	12	35	mg/kg	02.19.18 09:34	
Toluene	<0.00199	0.0996	0.0873	88	0.0776	78	70-130	12	35	mg/kg	02.19.18 09:34	
Ethylbenzene	<0.00199	0.0996	0.0959	96	0.0888	89	71-129	8	35	mg/kg	02.19.18 09:34	
m,p-Xylenes	<0.00398	0.199	0.189	95	0.175	88	70-135	8	35	mg/kg	02.19.18 09:34	
o-Xylene	<0.00199	0.0996	0.0917	92	0.0875	88	71-133	5	35	mg/kg	02.19.18 09:34	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	84		80		80-120	%	02.19.18 09:34
4-Bromofluorobenzene	111		119		80-120	%	02.19.18 09:34

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

QC Summary 576793

LT Environmental, Inc.

Remuda Basin 32-23-30 State #1H Tank Battery

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

Seq Number: 3041807 Matrix: Soil Date Prep: 02.19.18

Parent Sample Id: 576793-002 MS Sample Id: 576793-002 S MSD Sample Id: 576793-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0792	79	0.0791	79	70-130	0	35	mg/kg	02.19.18 20:32	
Toluene	<0.00200	0.0998	0.0824	83	0.0831	83	70-130	1	35	mg/kg	02.19.18 20:32	
Ethylbenzene	<0.00200	0.0998	0.0898	90	0.0906	91	71-129	1	35	mg/kg	02.19.18 20:32	
m,p-Xylenes	<0.00399	0.200	0.175	88	0.178	89	70-135	2	35	mg/kg	02.19.18 20:32	
o-Xylene	<0.00200	0.0998	0.0884	89	0.0883	88	71-133	0	35	mg/kg	02.19.18 20:32	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	84		81		80-120	%	02.19.18 20:32
4-Bromofluorobenzene	117		113		80-120	%	02.19.18 20:32

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

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Revision 2016.1

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Xenco Quote # | Xenco Job # 576793

Client / Reporting Information

Company Name / Branch: LTE / Permian
Company Address: 3300 N. A Street Bldg 1 Suite 103
Email: Abaker@LTEnv.com Phone No: 432-704-5178
Project Contact: Adrian Baker
Samplers's Name: Aaron Williamson

Project Information

Project Name/Number: Remuda Basin 32-23-30 State #1H Fed. Battery
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 30-015-40341

Analytical Information

BTEX Method 8021
TPH method 8015
Chloride Met. 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	Field Comments
1	BH 7	4'	2/15/18	16:23	S	1									
2	BH 8			16:25											
3	BH 9			16:27											
4	BH 10			16:29											
5	BH 11			16:31											
6	BH 12	↓		16:33											
7	BH 13	3.5'		16:35											
8	BH 14	5'		16:37											
9	BH 15	5'		16:39											
10	BH 16	5'	↓	16:41	↓	↓									

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

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: 2RP-4420

Temp: 5.8 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.6

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

Relinquished by Sampler: 1	Date Time: 2-16-18	Received By: 1	Relinquished By: 2	Date Time: 2/16 2:16	
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: X — Cooler Temp. — Thermo. Corr. Factor

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

CHAIN OF CUSTODY

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Xenco Quote #

Xenco Job # 576793

Client / Reporting Information

Company Name / Branch: LTE / Permian

Company Address: 3300 N. A Street Bldg 1 Suite 103

Email: Abaker@LTEnv.com Phone No: 432-704-5178

Project Contact: Adrian Baker

Samplers's Name: Aaron Williamson

Project Information

Project Name/Number: Remuda Basin 32-23-30 State #1H Tank Battery

Project Location: NM

Invoice To: XTO Energy - Kyle Littrell

PO Number: 30-015-40341

Analytical Information

Btex Meth 8021 | TPH Meth 8015 | Chloride 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	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	BH17	4.5'	2/15/18	16:43	S	1								X	
2	BH18	3.5'		16:45											
3	SW8	3.5'		16:47											
4	SW9			16:49											
5	SW10			16:51											
6	SW11			16:53											
7															
8															
9															
10	NEE Above														

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

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: 2RP-4420

Temp: 5.8 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.6

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

	Relinquished by Sampler:	Date Time:	Received By:
1		2-16-18	
2	Relinquished By:	Date Time: 2/16 2:16	Received By:
3	Relinquished by:	Date Time:	Received By:
4	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:

Custody Seal # | Preserved where applicable | On Ice: X | Cooler Temp. | Thermo. Corr. Factor

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02/16/2018 02:16:00 PM

Work Order #: 576793

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)?	5.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst:

PH Device/Lot#:

Checklist completed by: Connie Hernandez Date: 02/16/2018

Checklist reviewed by: Jessica Kramer Date: 02/19/2018

Analytical Report 585765

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Remuda Basin 32-23-30

21-MAY-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-25), 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)

21-MAY-18

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

Reference: XENCO Report No(s): **585765**
Remuda Basin 32-23-30
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) 585765. 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. 585765 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH10A	S	05-08-18 14:15	4 ft	585765-001
BH11A	S	05-08-18 14:20	4 ft	585765-002
BH12A	S	05-08-18 14:25	4 ft	585765-003
WS1	S	05-08-18 14:30	2.5 ft	585765-004
WS2	S	05-08-18 14:35	2.5 ft	585765-005
WS3	S	05-08-18 14:00	2.5 ft	585765-006
WS4	S	05-08-18 14:45	2.5 ft	585765-007

Client Name: LT Environmental, Inc.
Project Name: Remuda Basin 32-23-30

Project ID:
Work Order Number(s): *585765*

Report Date: *21-MAY-18*
Date Received: *05/11/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3050445 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 585765

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin 32-23-30

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Fri May-11-18 10:55 am
Report Date: 21-MAY-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	585765-001		585765-002		585765-003		585765-004		585765-005		585765-006	
	Field Id:	BH10A		BH11A		BH12A		WS1		WS2		WS3	
	Depth:	4- ft		4- ft		4- ft		2.5- ft		2.5- ft		2.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-08-18 14:15		May-08-18 14:20		May-08-18 14:25		May-08-18 14:30		May-08-18 14:35		May-08-18 14:00	
BTEX by EPA 8021B	***Extracted:***	May-16-18 11:00		May-16-18 11:00		May-16-18 11:00		May-16-18 11:00		May-16-18 11:00		May-16-18 11:00	
	Analyzed:	May-16-18 21:29		May-16-18 21:50		May-16-18 22:11		May-16-18 22:32		May-16-18 22:53		May-16-18 23:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Toluene		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
m,p-Xylenes		<0.00399	0.00399	<0.00403	0.00403	<0.00404	0.00404	<0.00401	0.00401	<0.00398	0.00398	<0.00397	0.00397
o-Xylene		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Total Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Total BTEX		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Inorganic Anions by EPA 300	***Extracted:***	May-14-18 15:30		May-14-18 15:30		May-14-18 15:30		May-14-18 17:00		May-14-18 17:00		May-14-18 17:00	
	Analyzed:	May-14-18 18:50		May-14-18 18:56		May-14-18 19:02		May-14-18 19:56		May-14-18 19:38		May-14-18 20:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		191	4.95	314	4.95	254	4.97	772	25.0	<4.96	4.96	<4.99	4.99
TPH by SW8015 Mod	***Extracted:***	May-11-18 16:00		May-11-18 16:00		May-11-18 16:00		May-11-18 16:00		May-11-18 16:00		May-11-18 16:00	
	Analyzed:	May-12-18 07:29		May-12-18 07:56		May-12-18 08:22		May-12-18 08:48		May-12-18 09:15		May-12-18 09:42	
	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	<14.9	14.9
Diesel Range Organics (DRO)		892	15.0	128	15.0	185	15.0	2200	15.0	22.3	15.0	48.7	14.9
Oil Range Hydrocarbons (ORO)		51.4	15.0	<15.0	15.0	<15.0	15.0	68.5	15.0	<15.0	15.0	<14.9	14.9
Total TPH		943	15.0	128	15.0	185	15.0	2270	15.0	22.3	15.0	48.7	14.9

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 585765

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin 32-23-30

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Fri May-11-18 10:55 am
Report Date: 21-MAY-18
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	585765-007					
	Field Id:	WS4					
	Depth:	2.5- ft					
	Matrix:	SOIL					
	Sampled:	May-08-18 14:45					
BTEX by EPA 8021B	***Extracted:***	May-16-18 11:00					
	Analyzed:	May-17-18 00:18					
	Units/RL:	mg/kg	RL				
Benzene		<0.00199	0.00199				
Toluene		<0.00199	0.00199				
Ethylbenzene		<0.00199	0.00199				
m,p-Xylenes		<0.00398	0.00398				
o-Xylene		<0.00199	0.00199				
Total Xylenes		<0.00199	0.00199				
Total BTEX		<0.00199	0.00199				
Inorganic Anions by EPA 300	***Extracted:***	May-14-18 17:00					
	Analyzed:	May-14-18 20:08					
	Units/RL:	mg/kg	RL				
Chloride		731	25.0				
TPH by SW8015 Mod	***Extracted:***	May-11-18 16:00					
	Analyzed:	May-12-18 10:09					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9				
Diesel Range Organics (DRO)		75.0	14.9				
Oil Range Hydrocarbons (ORO)		<14.9	14.9				
Total TPH		75.0	14.9				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**BH10A**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-001	Date Collected:	05.08.18 14.15	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.18 15.30	Basis:	Wet Weight
Seq Number:	3050071				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**191**	4.95	mg/kg	05.14.18 18.50		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.18 16.00	Basis:	Wet Weight
Seq Number:	3049896				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.18 07.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	**892**	15.0	mg/kg	05.12.18 07.29		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**51.4**	15.0	mg/kg	05.12.18 07.29		1
Total TPH	PHC635	**943**	15.0	mg/kg	05.12.18 07.29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.12.18 07.29	
o-Terphenyl	84-15-1	122	%	70-135	05.12.18 07.29	

Certificate of Analytical Results 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**BH10A**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-001	Date Collected:	05.08.18 14.15	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.16.18 11.00	Basis:	Wet Weight
Seq Number:	3050445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.18 21.29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.18 21.29	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.18 21.29	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.16.18 21.29	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.18 21.29	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.18 21.29	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.18 21.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.16.18 21.29	
4-Bromofluorobenzene	460-00-4	109	%	70-130	05.16.18 21.29	

Certificate of Analytical Results 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**BH11A**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-002	Date Collected:	05.08.18 14.20	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.18 15.30	Basis:	Wet Weight
Seq Number:	3050071				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**314**	4.95	mg/kg	05.14.18 18.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.18 16.00	Basis:	Wet Weight
Seq Number:	3049896				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.18 07.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	**128**	15.0	mg/kg	05.12.18 07.56		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.12.18 07.56	U	1
Total TPH	PHC635	**128**	15.0	mg/kg	05.12.18 07.56		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	05.12.18 07.56	
o-Terphenyl	84-15-1	94	%	70-135	05.12.18 07.56	

Certificate of Analytical Results 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**BH11A**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-002	Date Collected:	05.08.18 14.20	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.16.18 11.00	Basis:	Wet Weight
Seq Number:	3050445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.16.18 21.50	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.16.18 21.50	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.16.18 21.50	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.16.18 21.50	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.16.18 21.50	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.16.18 21.50	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.16.18 21.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.16.18 21.50	
1,4-Difluorobenzene	540-36-3	94	%	70-130	05.16.18 21.50	

Certificate of Analytical Results 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**BH12A**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-003	Date Collected:	05.08.18 14.25	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.18 15.30	Basis:	Wet Weight
Seq Number:	3050071				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**254**	4.97	mg/kg	05.14.18 19.02		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.18 16.00	Basis:	Wet Weight
Seq Number:	3049896				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.18 08.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	**185**	15.0	mg/kg	05.12.18 08.22		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.12.18 08.22	U	1
Total TPH	PHC635	**185**	15.0	mg/kg	05.12.18 08.22		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	05.12.18 08.22	
o-Terphenyl	84-15-1	92	%	70-135	05.12.18 08.22	

Certificate of Analytical Results 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**BH12A**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-003	Date Collected:	05.08.18 14.25	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.16.18 11.00	Basis:	Wet Weight
Seq Number:	3050445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.16.18 22.11	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.16.18 22.11	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.16.18 22.11	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	05.16.18 22.11	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.16.18 22.11	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.16.18 22.11	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.16.18 22.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	70-130	05.16.18 22.11	
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.16.18 22.11	

Certificate of Analytical Results 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**WS1**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-004	Date Collected:	05.08.18 14.30	Sample Depth:	2.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.18 17.00	Basis:	Wet Weight
Seq Number:	3050085				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**772**	25.0	mg/kg	05.14.18 19.56		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.18 16.00	Basis:	Wet Weight
Seq Number:	3049896				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.18 08.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	**2200**	15.0	mg/kg	05.12.18 08.48		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**68.5**	15.0	mg/kg	05.12.18 08.48		1
Total TPH	PHC635	**2270**	15.0	mg/kg	05.12.18 08.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	05.12.18 08.48	
o-Terphenyl	84-15-1	126	%	70-135	05.12.18 08.48	

Certificate of Analytical Results 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**WS1**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-004	Date Collected:	05.08.18 14.30	Sample Depth:	2.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.16.18 11.00	Basis:	Wet Weight
Seq Number:	3050445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.18 22.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.18 22.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.18 22.32	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.16.18 22.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.18 22.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.18 22.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.18 22.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	70-130	05.16.18 22.32	
4-Bromofluorobenzene	460-00-4	109	%	70-130	05.16.18 22.32	

Certificate of Analytical Results 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**WS2**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-005	Date Collected:	05.08.18 14.35	Sample Depth:	2.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.18 17.00	Basis:	Wet Weight
Seq Number:	3050085				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	05.14.18 19.38	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.18 16.00	Basis:	Wet Weight
Seq Number:	3049896				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.18 09.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	**22.3**	15.0	mg/kg	05.12.18 09.15		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.12.18 09.15	U	1
Total TPH	PHC635	**22.3**	15.0	mg/kg	05.12.18 09.15		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	05.12.18 09.15	
o-Terphenyl	84-15-1	94	%	70-135	05.12.18 09.15	

Certificate of Analytical Results 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**WS2**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-005	Date Collected:	05.08.18 14.35	Sample Depth:	2.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.16.18 11.00	Basis:	Wet Weight
Seq Number:	3050445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.16.18 22.53	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.16.18 22.53	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.16.18 22.53	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.16.18 22.53	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.16.18 22.53	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.16.18 22.53	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.16.18 22.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.16.18 22.53	
1,4-Difluorobenzene	540-36-3	87	%	70-130	05.16.18 22.53	

Certificate of Analytical Results 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**WS3**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-006	Date Collected:	05.08.18 14.00	Sample Depth:	2.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.18 17.00	Basis:	Wet Weight
Seq Number:	3050085				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	05.14.18 20.02	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.18 16.00	Basis:	Wet Weight
Seq Number:	3049896				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.12.18 09.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	**48.7**	14.9	mg/kg	05.12.18 09.42		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	05.12.18 09.42	U	1
Total TPH	PHC635	**48.7**	14.9	mg/kg	05.12.18 09.42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	05.12.18 09.42	
o-Terphenyl	84-15-1	102	%	70-135	05.12.18 09.42	

Certificate of Analytical Results 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**WS3**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-006	Date Collected:	05.08.18 14.00	Sample Depth:	2.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.16.18 11.00	Basis:	Wet Weight
Seq Number:	3050445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.16.18 23.57	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.16.18 23.57	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.16.18 23.57	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.16.18 23.57	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.16.18 23.57	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.16.18 23.57	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.16.18 23.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	80	%	70-130	05.16.18 23.57	
4-Bromofluorobenzene	460-00-4	90	%	70-130	05.16.18 23.57	

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**WS4**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-007	Date Collected:	05.08.18 14.45	Sample Depth:	2.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.18 17.00	Basis:	Wet Weight
Seq Number:	3050085				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**731**	25.0	mg/kg	05.14.18 20.08		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.11.18 16.00	Basis:	Wet Weight
Seq Number:	3049896				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.12.18 10.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	**75.0**	14.9	mg/kg	05.12.18 10.09		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	05.12.18 10.09	U	1
Total TPH	PHC635	**75.0**	14.9	mg/kg	05.12.18 10.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	05.12.18 10.09	
o-Terphenyl	84-15-1	85	%	70-135	05.12.18 10.09	

Certificate of Analytical Results 585765

LT Environmental, Inc., Arvada, CO

Remuda Basin 32-23-30

Sample Id:	**WS4**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585765-007	Date Collected:	05.08.18 14.45	Sample Depth:	2.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.16.18 11.00	Basis:	Wet Weight
Seq Number:	3050445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.17.18 00.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.17.18 00.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.17.18 00.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.17.18 00.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.17.18 00.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.17.18 00.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.17.18 00.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	05.17.18 00.18	
1,4-Difluorobenzene	540-36-3	96	%	70-130	05.17.18 00.18	

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 585765

LT Environmental, Inc.

Remuda Basin 32-23-30

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3050071 Matrix: Solid Date Prep: 05.14.18
MB Sample Id: 7644694-1-BLK LCS Sample Id: 7644694-1-BKS LCSD Sample Id: 7644694-1-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	230	92	225	90	90-110	2	20	mg/kg	05.14.18 16:08	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3050085 Matrix: Solid Date Prep: 05.14.18
MB Sample Id: 7644695-1-BLK LCS Sample Id: 7644695-1-BKS LCSD Sample Id: 7644695-1-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	231	92	231	92	90-110	0	20	mg/kg	05.14.18 19:26	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3050071 Matrix: Soil Date Prep: 05.14.18
Parent Sample Id: 585760-002 MS Sample Id: 585760-002 S MSD Sample Id: 585760-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	54.6	250	322	107	314	104	90-110	3	20	mg/kg	05.14.18 16:26	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3050071 Matrix: Soil Date Prep: 05.14.18
Parent Sample Id: 585761-002 MS Sample Id: 585761-002 S MSD Sample Id: 585761-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	257	103	246	98	90-110	4	20	mg/kg	05.14.18 17:50	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3050085 Matrix: Soil Date Prep: 05.14.18
Parent Sample Id: 585765-005 MS Sample Id: 585765-005 S MSD Sample Id: 585765-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.96	248	240	97	241	97	90-110	0	20	mg/kg	05.14.18 19:44	

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

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

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

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

QC Summary 585765

LT Environmental, Inc.

Remuda Basin 32-23-30

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3050085 Matrix: Soil Date Prep: 05.14.18
Parent Sample Id: 585798-002 MS Sample Id: 585798-002 S MSD Sample Id: 585798-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	199	250	465	106	465	106	90-110	0	20	mg/kg	05.14.18 21:07	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3049896 Matrix: Solid Date Prep: 05.11.18
MB Sample Id: 7644584-1-BLK LCS Sample Id: 7644584-1-BKS LCSD Sample Id: 7644584-1-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	956	96	1120	112	70-135	16	20	mg/kg	05.12.18 00:26	
Diesel Range Organics (DRO)	<15.0	1000	1060	106	1180	118	70-135	11	20	mg/kg	05.12.18 00:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		105		122		70-135	%	05.12.18 00:26
o-Terphenyl	114		100		117		70-135	%	05.12.18 00:26

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3049896 Matrix: Soil Date Prep: 05.11.18
Parent Sample Id: 585756-001 MS Sample Id: 585756-001 S MSD Sample Id: 585756-001 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	976	98	967	97	70-135	1	20	mg/kg	05.12.18 01:44	
Diesel Range Organics (DRO)	<15.0	1000	1110	111	1100	110	70-135	1	20	mg/kg	05.12.18 01:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		104		70-135	%	05.12.18 01:44
o-Terphenyl	101		99		70-135	%	05.12.18 01:44

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

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

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

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

QC Summary 585765

LT Environmental, Inc.

Remuda Basin 32-23-30

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

Seq Number: 3050445 Matrix: Solid Date Prep: 05.16.18

MB Sample Id: 7644897-1-BLK LCS Sample Id: 7644897-1-BKS LCSD Sample Id: 7644897-1-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	0.103	103	0.0994	98	70-130	4	35	mg/kg	05.16.18 17:39	
Toluene	<0.00201	0.100	0.102	102	0.0970	96	70-130	5	35	mg/kg	05.16.18 17:39	
Ethylbenzene	<0.00201	0.100	0.104	104	0.0982	97	70-130	6	35	mg/kg	05.16.18 17:39	
m,p-Xylenes	<0.00402	0.201	0.218	108	0.208	103	70-130	5	35	mg/kg	05.16.18 17:39	
o-Xylene	<0.00201	0.100	0.112	112	0.103	102	70-130	8	35	mg/kg	05.16.18 17:39	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		103		97		70-130	%	05.16.18 17:39
4-Bromofluorobenzene	86		101		93		70-130	%	05.16.18 17:39

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

Seq Number: 3050445 Matrix: Soil Date Prep: 05.16.18

Parent Sample Id: 585762-001 MS Sample Id: 585762-001 S MSD Sample Id: 585762-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.00873	0.0998	0.0691	60	0.0797	71	70-130	14	35	mg/kg	05.16.18 18:22	X
Toluene	0.00488	0.0998	0.0402	35	0.0538	49	70-130	29	35	mg/kg	05.16.18 18:22	X
Ethylbenzene	<0.00200	0.0998	0.0258	26	0.0357	36	70-130	32	35	mg/kg	05.16.18 18:22	X
m,p-Xylenes	0.00709	0.200	0.0560	24	0.0711	32	70-130	24	35	mg/kg	05.16.18 18:22	X
o-Xylene	<0.00200	0.0998	0.0292	29	0.0398	40	70-130	31	35	mg/kg	05.16.18 18:22	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		103		70-130	%	05.16.18 18:22
4-Bromofluorobenzene	94		95		70-130	%	05.16.18 18:22

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

CHAIN OF CUSTODY

Page 1 Of 1

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Xenco Job # 595705

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 Michael A Wicker

Project Information

Project Name/Number: Remuda Basin 32-23-36
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 30-015-40341 (2RP-4420

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 (8021)	TPH (8015B)	Cl	Field Comments
1	BH 10 A	4'	5/8/18	1415	S	1									X	X	X	
2	BH 11 A	4'		1420											X	X	X	
3	BH 12 A	4'		1425											X	X	X	
4	WS 1	2.5'		1430											X	X	X	
5	WS 2	2.5'		1435											X	X	X	
6	WS 3	2.5'		1440											X	X	X	
7	WS 4	2.5'		1445											X	X	X	
8																		
9																		
10																		

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [x] 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:

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

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		5/10 1240			5/10/18 13:40	
2						
3		5/10 3308	CRAMER	5/11/18 1055		
4						
5						

Custody Seal # | Preserved where applicable | On Ice | Cooler Temp. | Thermo. Corr. Factor

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/11/2018 10:55:00 AM

Work Order #: 585765

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: Brianna Teel Date: 05/11/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/11/2018
Jessica Kramer

Analytical Report 590095

for

LT Environmental, Inc.

Project Manager: Adrian Baker

RB 32-23-30

012917030

30-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)

30-JUN-18

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

Reference: XENCO Report No(s): **590095**
RB 32-23-30
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) 590095. 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. 590095 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 590095

LT Environmental, Inc., Arvada, CO

RB 32-23-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
WS5	S	06-20-18 10:30	3 In	590095-001
WS6	S	06-20-18 11:30	3 In	590095-002
WS7	S	06-20-18 14:00	3 In	590095-003

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3054380 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3054984 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 590095

LT Environmental, Inc., Arvada, CO

Project Name: RB 32-23-30

Project Id: 012917030
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Fri Jun-22-18 09:52 am
Report Date: 30-JUN-18
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	590095-001		590095-002		590095-003					
	Field Id:	WS5		WS6		WS7					
	Depth:	3- In		3- In		3- In					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Jun-20-18 10:30		Jun-20-18 11:30		Jun-20-18 14:00					
BTEX by EPA 8021B	***Extracted:***	Jun-28-18 14:30		Jun-24-18 07:30		Jun-28-18 14:30					
	Analyzed:	Jun-28-18 22:18		Jun-25-18 00:10		Jun-28-18 22:37					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
m,p-Xylenes		<0.00398	0.00398	<0.00399	0.00399	<0.00402	0.00402				
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
Inorganic Anions by EPA 300	***Extracted:***	Jun-27-18 10:30		Jun-27-18 10:30		Jun-27-18 10:30					
	Analyzed:	Jun-27-18 13:12		Jun-27-18 13:17		Jun-27-18 13:33					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		6.45	4.99	<4.97	4.97	6.26	4.93				
TPH by SW8015 Mod	***Extracted:***	** ** ** **		** ** ** **		** ** ** **					
	Analyzed:	Jun-22-18 17:51		Jun-22-18 18:12		Jun-22-18 18:32					
	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

Certificate of Analytical Results 590095

LT Environmental, Inc., Arvada, CO

RB 32-23-30

Sample Id:	**WS5**	Matrix:	Soil	Date Received:	06.22.18 09.52
Lab Sample Id:	590095-001	Date Collected:	06.20.18 10.30	Sample Depth:	3 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.27.18 10.30	Basis:	Wet Weight
Seq Number:	3054771				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.45**	4.99	mg/kg	06.27.18 13.12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.18 09.00	Basis:	Wet Weight
Seq Number:	3054583				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.18 17.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.18 17.51	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.22.18 17.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.18 17.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	06.22.18 17.51	
o-Terphenyl	84-15-1	76	%	70-135	06.22.18 17.51	

Certificate of Analytical Results 590095

LT Environmental, Inc., Arvada, CO

RB 32-23-30

Sample Id:	**WS5**	Matrix:	Soil	Date Received:	06.22.18 09.52
Lab Sample Id:	590095-001	Date Collected:	06.20.18 10.30	Sample Depth:	3 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.28.18 14.30	Basis:	Wet Weight
Seq Number:	3054984				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.28.18 22.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.28.18 22.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.28.18 22.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.28.18 22.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.28.18 22.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.28.18 22.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.28.18 22.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	70-130	06.28.18 22.18	
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.28.18 22.18	

Certificate of Analytical Results 590095

LT Environmental, Inc., Arvada, CO

RB 32-23-30

Sample Id:	**WS6**	Matrix:	Soil	Date Received:	06.22.18 09.52
Lab Sample Id:	590095-002	Date Collected:	06.20.18 11.30	Sample Depth:	3 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.27.18 10.30	Basis:	Wet Weight
Seq Number:	3054771				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	06.27.18 13.17	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.18 09.00	Basis:	Wet Weight
Seq Number:	3054583				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.18 18.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.18 18.12	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.22.18 18.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.18 18.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	06.22.18 18.12	
o-Terphenyl	84-15-1	80	%	70-135	06.22.18 18.12	

Certificate of Analytical Results 590095

LT Environmental, Inc., Arvada, CO

RB 32-23-30

Sample Id:	**WS6**	Matrix:	Soil	Date Received:	06.22.18 09.52
Lab Sample Id:	590095-002	Date Collected:	06.20.18 11.30	Sample Depth:	3 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.24.18 07.30	Basis:	Wet Weight
Seq Number:	3054380				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.25.18 00.10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.25.18 00.10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.25.18 00.10	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.25.18 00.10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.25.18 00.10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.25.18 00.10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.25.18 00.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	06.25.18 00.10	
4-Bromofluorobenzene	460-00-4	90	%	70-130	06.25.18 00.10	

Certificate of Analytical Results 590095

LT Environmental, Inc., Arvada, CO

RB 32-23-30

Sample Id:	**WS7**	Matrix:	Soil	Date Received:	06.22.18 09.52
Lab Sample Id:	590095-003	Date Collected:	06.20.18 14.00	Sample Depth:	3 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.27.18 10.30	Basis:	Wet Weight
Seq Number:	3054771				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.26**	4.93	mg/kg	06.27.18 13.33		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.18 09.00	Basis:	Wet Weight
Seq Number:	3054583				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.18 18.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.18 18.32	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.22.18 18.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.18 18.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	06.22.18 18.32	
o-Terphenyl	84-15-1	82	%	70-135	06.22.18 18.32	

Certificate of Analytical Results 590095

LT Environmental, Inc., Arvada, CO

RB 32-23-30

Sample Id:	**WS7**	Matrix:	Soil	Date Received:	06.22.18 09.52
Lab Sample Id:	590095-003	Date Collected:	06.20.18 14.00	Sample Depth:	3 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.28.18 14.30	Basis:	Wet Weight
Seq Number:	3054984				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.28.18 22.37	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.28.18 22.37	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.28.18 22.37	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.28.18 22.37	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.28.18 22.37	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.28.18 22.37	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.28.18 22.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	06.28.18 22.37	
4-Bromofluorobenzene	460-00-4	91	%	70-130	06.28.18 22.37	

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 590095

LT Environmental, Inc.

RB 32-23-30

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3054771 Matrix: Solid Date Prep: 06.27.18
MB Sample Id: 7657440-1-BLK LCS Sample Id: 7657440-1-BKS LCSD Sample Id: 7657440-1-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	237	95	237	95	90-110	0	20	mg/kg	06.27.18 11:51	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3054771 Matrix: Soil Date Prep: 06.27.18
Parent Sample Id: 590094-021 MS Sample Id: 590094-021 S MSD Sample Id: 590094-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	244	98	245	98	90-110	0	20	mg/kg	06.27.18 12:07	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3054771 Matrix: Soil Date Prep: 06.27.18
Parent Sample Id: 590095-002 MS Sample Id: 590095-002 S MSD Sample Id: 590095-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.97	249	241	97	242	97	90-110	0	20	mg/kg	06.27.18 13:23	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3054583 Matrix: Solid Date Prep: 06.22.18
MB Sample Id: 7657318-1-BLK LCS Sample Id: 7657318-1-BKS LCSD Sample Id: 7657318-1-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	859	86	842	84	70-135	2	20	mg/kg	06.22.18 11:02	
Diesel Range Organics (DRO)	<15.0	1000	879	88	890	89	70-135	1	20	mg/kg	06.22.18 11:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	78		103		103		70-135	%	06.22.18 11:02
o-Terphenyl	83		96		100		70-135	%	06.22.18 11:02

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 590095

LT Environmental, Inc.

RB 32-23-30

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3054583 Matrix: Soil Date Prep: 06.22.18
Parent Sample Id: 589937-001 MS Sample Id: 589937-001 S MSD Sample Id: 589937-001 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	837	84	848	85	70-135	1	20	mg/kg	06.22.18 12:03	
Diesel Range Organics (DRO)	<15.0	998	866	87	879	88	70-135	1	20	mg/kg	06.22.18 12:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		106		70-135	%	06.22.18 12:03
o-Terphenyl	95		97		70-135	%	06.22.18 12:03

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3054380 Matrix: Solid Date Prep: 06.24.18
MB Sample Id: 7657207-1-BLK LCS Sample Id: 7657207-1-BKS LCSD Sample Id: 7657207-1-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	0.0855	86	0.0956	96	70-130	11	35	mg/kg	06.24.18 16:36	
Toluene	<0.00200	0.0998	0.0878	88	0.101	101	70-130	14	35	mg/kg	06.24.18 16:36	
Ethylbenzene	<0.00200	0.0998	0.0872	87	0.0999	100	70-130	14	35	mg/kg	06.24.18 16:36	
m,p-Xylenes	<0.00399	0.200	0.181	91	0.209	104	70-130	14	35	mg/kg	06.24.18 16:36	
o-Xylene	<0.00200	0.0998	0.0850	85	0.0983	98	70-130	15	35	mg/kg	06.24.18 16:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		89		95		70-130	%	06.24.18 16:36
4-Bromofluorobenzene	79		84		93		70-130	%	06.24.18 16:36

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3054984 Matrix: Solid Date Prep: 06.28.18
MB Sample Id: 7657544-1-BLK LCS Sample Id: 7657544-1-BKS LCSD Sample Id: 7657544-1-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	0.0929	93	0.0926	93	70-130	0	35	mg/kg	06.28.18 20:08	
Toluene	<0.00200	0.0998	0.0971	97	0.0983	98	70-130	1	35	mg/kg	06.28.18 20:08	
Ethylbenzene	<0.00200	0.0998	0.0991	99	0.102	102	70-130	3	35	mg/kg	06.28.18 20:08	
m,p-Xylenes	<0.00399	0.200	0.203	102	0.206	102	70-130	1	35	mg/kg	06.28.18 20:08	
o-Xylene	<0.00200	0.0998	0.0989	99	0.0958	96	70-130	3	35	mg/kg	06.28.18 20:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		92		70-130	%	06.28.18 20:08
4-Bromofluorobenzene	86		96		107		70-130	%	06.28.18 20:08

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

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

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

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

QC Summary 590095

LT Environmental, Inc.

RB 32-23-30

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

Seq Number: 3054380 Matrix: Soil Date Prep: 06.24.18

Parent Sample Id: 589610-001 MS Sample Id: 589610-001 S MSD Sample Id: 589610-001 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	0.0795	80	0.0726	73	70-130	9	35	mg/kg	06.24.18 17:12	
Toluene	<0.00199	0.0996	0.0855	86	0.0791	79	70-130	8	35	mg/kg	06.24.18 17:12	
Ethylbenzene	<0.00199	0.0996	0.0815	82	0.0758	76	70-130	7	35	mg/kg	06.24.18 17:12	
m,p-Xylenes	<0.00398	0.199	0.170	85	0.158	79	70-130	7	35	mg/kg	06.24.18 17:12	
o-Xylene	<0.00199	0.0996	0.0816	82	0.0731	73	70-130	11	35	mg/kg	06.24.18 17:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		74		70-130	%	06.24.18 17:12
4-Bromofluorobenzene	92		82		70-130	%	06.24.18 17:12

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

Seq Number: 3054984 Matrix: Soil Date Prep: 06.28.18

Parent Sample Id: 590094-023 MS Sample Id: 590094-023 S MSD Sample Id: 590094-023 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	0.0843	84	0.0898	89	70-130	6	35	mg/kg	06.28.18 20:45	
Toluene	<0.00200	0.100	0.0881	88	0.0895	89	70-130	2	35	mg/kg	06.28.18 20:45	
Ethylbenzene	<0.00200	0.100	0.0910	91	0.0929	92	70-130	2	35	mg/kg	06.28.18 20:45	
m,p-Xylenes	<0.00401	0.200	0.184	92	0.189	94	70-130	3	35	mg/kg	06.28.18 20:45	
o-Xylene	<0.00200	0.100	0.0882	88	0.0891	88	70-130	1	35	mg/kg	06.28.18 20:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		109		70-130	%	06.28.18 20:45
4-Bromofluorobenzene	103		102		70-130	%	06.28.18 20:45

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

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

Dallas Texas (214-902-0300) | Midland, Texas (432-704-5251)

www.xenco.com

Xenco Quote # | Xenco Job # 590095

Client / Reporting Information

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

Company Address: 3300 N "A" St, Bldg 1, Unit #103, Midland, TX 79705

Email: Abaker@ltenviron.com Phone No: 432-704-5178

Project Contact: Adrian Baker

Samplers's Name: Daniel Thomas

Project Information

Project Name/Number: RB 32-23-30 / 012917030

Project Location: NM

Invoice To: XTO - Energy - Hyde Lithium

PO Number:

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	WS5	3'	6-20-18	1030	Soil	1								X	X	X	X	
2	WS6	3'	"	1130	"	"								X	X	X	X	
3	WS7	3'	"	1400	"	"								X	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 ✓ 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 # 773539041013

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		6-20-18 1705	1			
2					6/21/18 15:30	2 Received 6/22/18
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: X Cooler Temp. 5.9 Thermo. Corr. Factor 0.0

0952

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.

ORIGIN ID:MAFA (806) 794-1296
XENCO
XENCO
1211 W. FLORIDA AVE
MIDLAND, TX 79701
UNITED STATES US

SHIP DATE: 21JUN18
ACTWGT: 27.00 LB
CAD: 101813706/NET3980
DIMS: 24x15x16 IN
BILL RECIPIENT

TO XENCO
XENCO
1211 W. FLORIDA AVE

MIDLAND TX 79701
(806) 794-1296
INV:
PO:
REF:
DEPT:

552J2/93DF/DCA5

J181118012601uv

FedEx Express

FRI - 22 JUN 3:00P
STANDARD OVERNIGHT

TRK# 0201 7725 3904 1013

41 MAFA

79701
LBB
TX-US

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.
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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 06/22/2018 09:52:00 AM

Work Order #: 590095

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)?	5.4
#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: 06/22/2018

Checklist reviewed by: Jessica Kramer Date: 06/22/2018