LT Environmental, Inc.
3300 North A Street, Building 1, #103
Midland, Texas 79705
T 432.704.5178 / F 432.704.5179

July 27, 2018

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

RE: Closure Request
James Ranch Unit #33
Remediation Permit Number 2RP-2416
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 James Ranch Unit (JRU) #33 (Site) in Unit Letter B, Section 1, 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 1/2 barrel (bbls) of crude oil and 34 bbls of produced water were released from failed packing in the wellhead stuffing box. The E-pot designed to shut down the well during stuffing box failure did not operate correctly.

The release was discovered on July 23, 2014. The release impacted approximately 3,790 square feet of the caliche well pad. All of the free-standing fluids were recovered. The former operator reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on August 4, 2014, and was assigned Remediation Permit Number (RP) 2RP-2416 (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 with depth to groundwater data is CP-02492 POD2, located approximately 1.52 miles southeast of the Site, with a depth to groundwater of 125 feet bgs and a total depth of 400 feet bgs. The closest surface water to the Site is an unnamed dry arroyo located approximately 0.96 miles southwest 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 0, 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 5,000 mg/kg total petroleum hydrocarbons (TPH). Based on standard practice in this

region, LTE proposes a site-specific chloride action level of 600 mg/kg or within 10 percent (%) of the background concentrations.

SOIL SAMPLING

On January 4, 2018, an LTE scientist collected six soil samples from a depth of 0.5 foot bgs (SS1 through SS6; Figure 2) to determine the extent of soil impact. 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. Minor surficial soil staining, but no hydrocarbon odor, was observed in the vicinity of SS1. Hydrocarbon-odor or staining was not observed in soil samples SS2 through SS6. 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, 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 two soil samples (SS1 and SS6) exceeded the site-specific remediation action level for TPH and chloride. 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 in the areas around surface samples SS1 and SS6 on February 20, 2018, to an approximate depth of 1.17 feet bgs. An LTE scientist field-screened soil using a PID and chloride test strips to direct the excavations and delineate impacted soil laterally and vertically in the excavation. LTE collected soil samples (EX-1 through EX-8) from the excavation. The soil samples were collected and handled as previously described and submitted to Hall Environmental Analysis Laboratory, Inc. in Albuquerque, New Mexico, for laboratory analysis of BTEX, TPH, and chloride.

Based on results of excavation progress samples, on April 27, 2018, and between May 17 and May 25, 2018, XTO excavated additional soil from the excavation. The western sidewall near the wellhead was advanced to 10 feet from the wellhead, and a sidewall soil sample, EX-8, was collected. XTO's safety policy restricts soil disturbing activities to a 10-foot radius of the wellhead. This safety policy is established to protect workers and to reduce the likelihood of compromising the integrity of the wellbore. The chloride concentration in soil sample EX-8 was 700 mg/kg and the TPH concentration was 8,800 mg/kg.

The final excavation was approximately 1,275 square feet in area and ranged in depth from approximately 1.17 feet bgs to 12.5 feet bgs in the middle portion east of the wellhead and 11.5

feet bgs in the southern portion of the excavation. Approximately 600 cubic yards of impacted soil were removed by heavy equipment or hand digging in the excavation. All impacted soil was transported and properly disposed of at Halfway Landfarm in Hobbs, New Mexico.

Although soil samples were collected for laboratory analysis to monitor excavation progress, LTE ultimately presents ten final sidewall soil samples (SW2, SW3, SW4B, SW5, SW6, EX-1, EX-3, EX-4, EX-5, and, EX-7) and two floor soil samples (FS1A and FS2) for confirmation that impacted soil was removed from the excavation. The soil samples were collected from locations identified to represent the exposed sidewalls and floor. As such, depth of the samples varied along the sidewalls depending on field observations. Samples were collected and handled previously described and submitted to Xenco Laboratories in Midland, Texas for analysis of BTEX, TPH, and chloride. The excavation footprint and confirmation soil samples are indicated on Figure 3 and laboratory analytical results for all data are provided on Table 1.

ANALYTICAL RESULTS

As detailed in Table 1, laboratory analytical results indicated soil samples SS-1, SS-6, SW1, SW1A, EX-2, EX-8, EX-9, and FS1 exceeded the site-specific remediation action levels. The excavation was extended laterally and vertically in those areas until subsequent laboratory analytical results indicated 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 all confirmation sidewall and floor soil samples with the exception of sidewall soil sample EX-8. Soil sample EX-8 contained a chloride concentration of 700 mg/kg and a TPH concentration of 8,800 mg/kg, which exceeds NMOCD remediation action levels of 600 mg/kg and 5,000 mg/kg, respectively. Due to safety restrictions, the chloride impacted soil will remain between soil sample EX-8 and the wellhead. Analytical results are depicted on Figure 2 and Figure 3. 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, except for directly east of the wellhead, indicated that concentrations of BTEX, TPH, and chloride do not exceed NMOCD site-specific remediation action levels. XTO has successfully removed 600 cubic yards of impacted soil at the Site, leaving only a minor volume of soil in place near the wellhead containing 700 mg/kg of chloride and a TPH concentration of 8,800 mg/kg. Due to the site ranking criteria of 0 for this Site, indicating potential receptors are significantly distant of any remaining impact, XTO requests no further action for this release. Migration of the chloride and TPH remaining at the wellhead is unlikely to migrate vertically to groundwater upon backfilling with caliche. Once backfill is complete, lateral migration to any surface receptors, such as surface water, will not occur. 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
Shelly Tucker, BLM
Jim Amos, BLM

Attachments:

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

FIGURES

Advancing Opportunity

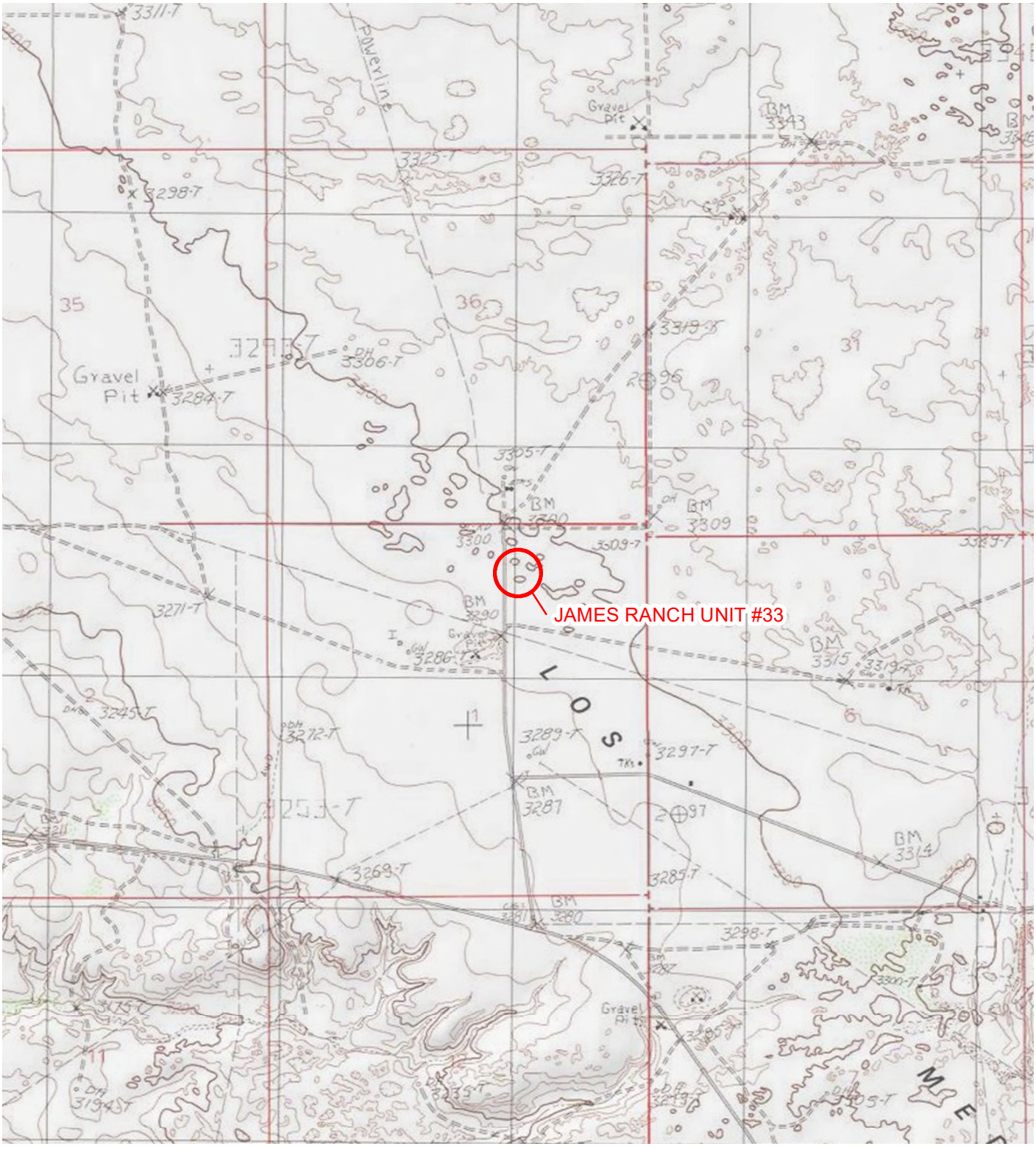

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-2416

FIGURE 1
SITE LOCATION MAP
JAMES RANCH UNIT #33
LOT 2 SEC 1 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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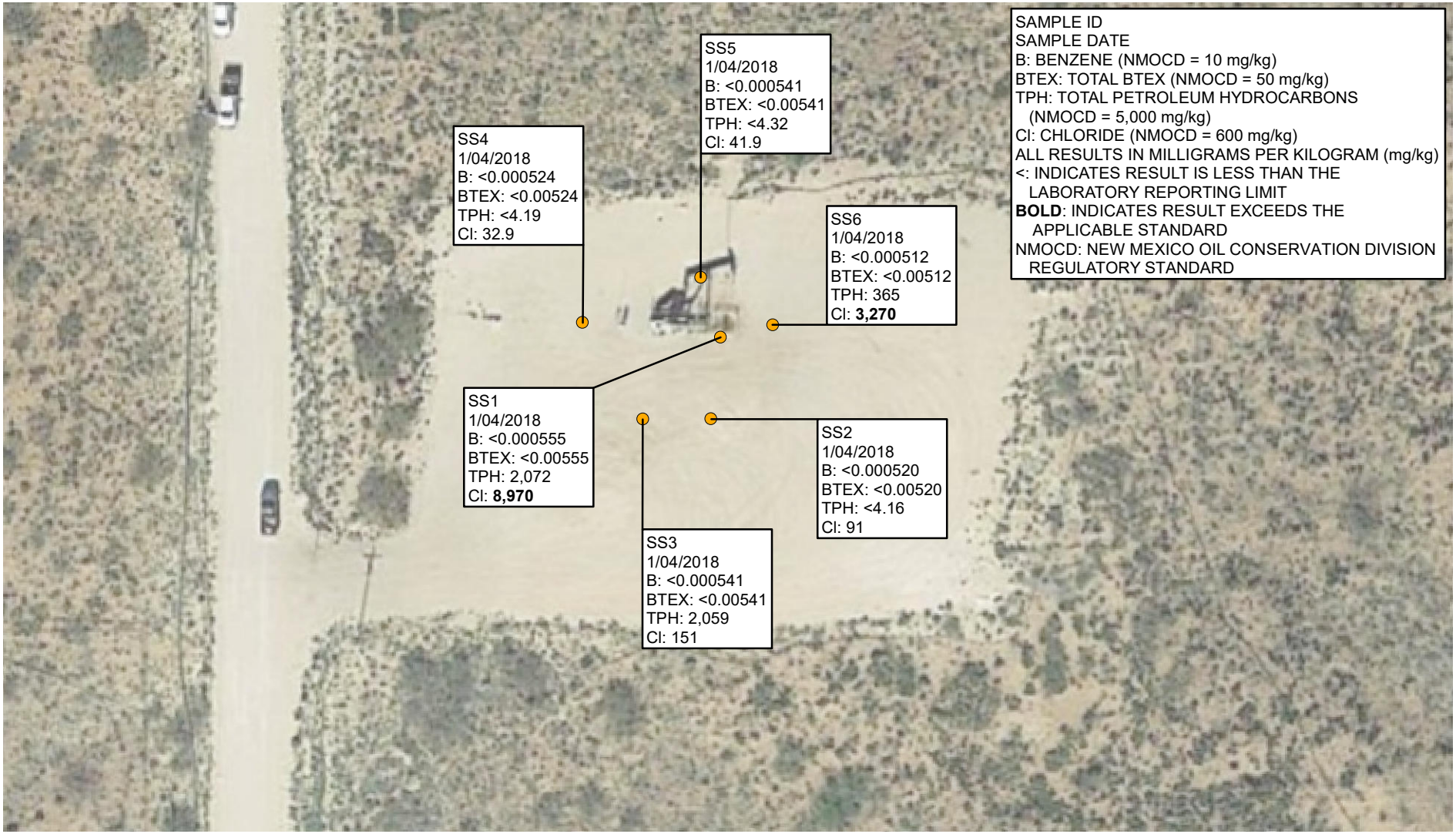

IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

- SOIL SAMPLE

0 60 120

Feet

N

FIGURE 2
INVESTIGATIVE SOIL SAMPLE LOCATIONS
AND ANALYTICAL RESULTS
JAMES RANCH UNIT #33
UNIT B SEC 1 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

NOTE: REMEDIATION PERMIT NUMBER 2RP-2416

P:\XTO Energy\GIS\MXD\012918004_JRU 33\012918004_FIG02_SITE_2018_INVESTIGATIVE_2416.mxd

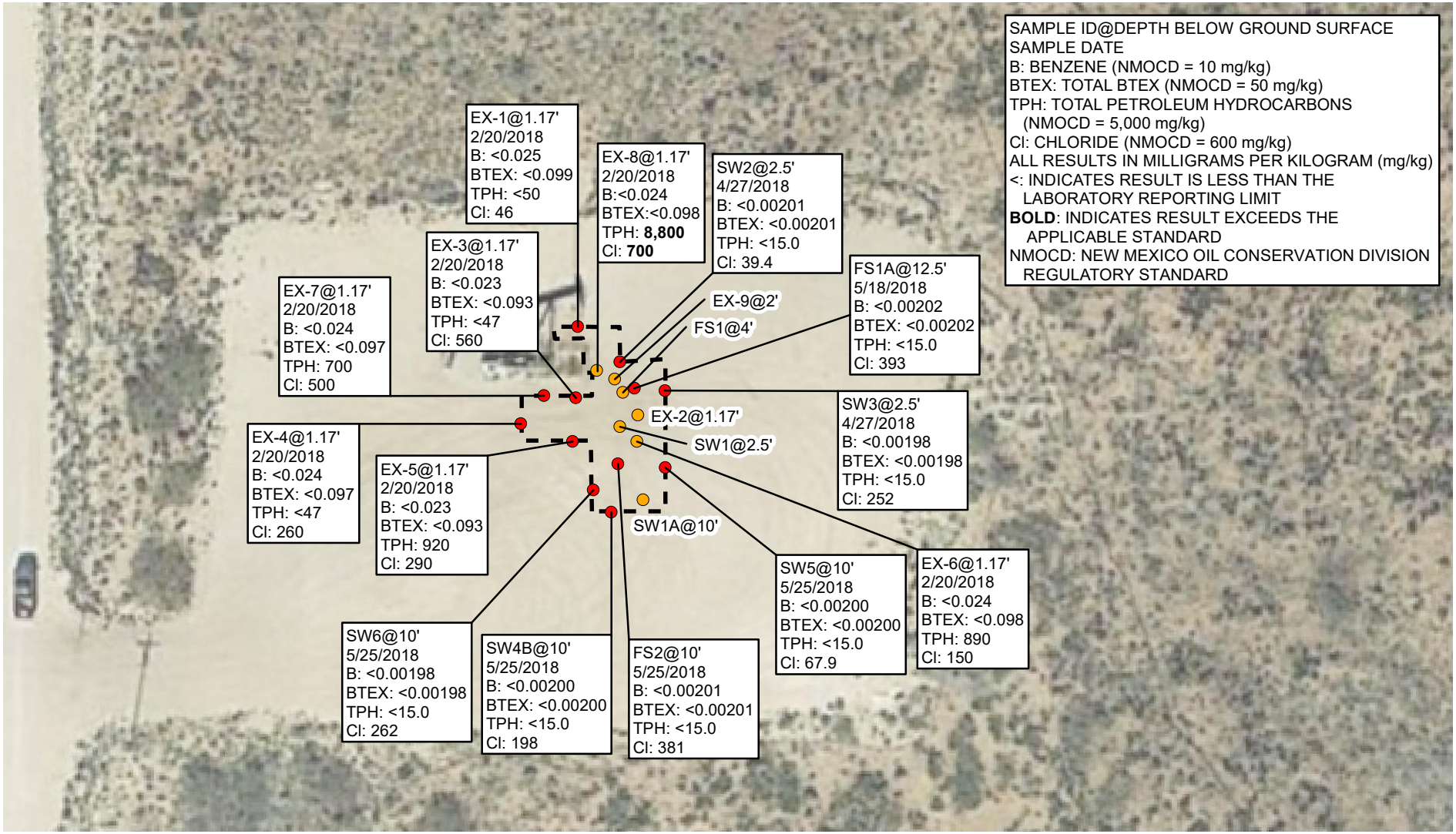

IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

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

0 50 100
Feet

N

NOTE: REMEDIATION PERMIT NUMBER 2RP-2416

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
AND ANALYTICAL RESULTS
JAMES RANCH UNIT #33
UNIT B SEC 1 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918004_JRU 33\012918004_FIG03_SITE_2018_2416_EXCAVATION.mxd

TABLE

TABLE 1
SOIL ANALYTICAL RESULTS
JAMES RANCH UNIT #33
REMEDIATION PERMIT 2RP-2416
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)
INVESTIGATIVE SAMPLES												
SS1	0.5	1/4/2018	<0.000555	<0.00555	<0.000555	<0.00167	<0.00555	<0.111	1,510	562	2,072	**8,970**
SS2	0.5	1/4/2018	<0.000520	<0.00520	<0.000520	<0.00156	<0.00520	<0.104	<4.16	<4.16	<4.16	91
SS3	0.5	1/4/2018	<0.000541	<0.00541	<0.000541	<0.00162	<0.00541	<0.108	1,720	339	2,059	151
SS4	0.5	1/4/2018	<0.000524	<0.00524	<0.000524	<0.00157	<0.00524	<0.105	<4.19	<4.19	<4.19	32.9
SS5	0.5	1/4/2018	<0.000541	<0.00541	<0.000541	<0.00162	<0.00541	<0.108	<4.32	<4.32	<4.32	41.9
SS6	0.5	1/4/2018	<0.000512	<0.00512	<0.000512	<0.00154	<0.00512	<0.102	224	141	365	**3,270**
EXCAVATION CONFIRMATION SAMPLES												
EX-1	1.17	2/20/2018	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<10	<50	<50	46
EX-2	1.17	2/20/2018	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	190	300	490	**620**
EX-3	1.17	2/20/2018	<0.023	<0.047	<0.047	<0.093	<0.093	<4.7	<9.5	<47	<47	560
EX-4	1.17	2/20/2018	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<9.4	<47	<47	260
EX-5	1.17	2/20/2018	<0.023	<0.046	<0.046	<0.093	<0.093	<4.6	350	570	920	290
EX-6	1.17	2/20/2018	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	210	680	890	150
EX-7	1.17	2/20/2018	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	220	480	700	500
EX-8	1.17	2/20/2018	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	3,400	5,400	**8,800**	**700**
EX-9	2	3/7/2018	<0.00198	0.0114	0.0161	0.108	0.135	<15.0	<15.0	<15.0	<15.0	**1,550**
FS1	4	4/27/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	**1,880**
SW1	2.5	4/27/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	**1,420**
SW2	2.5	4/27/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	39.4
SW3	2.5	4/27/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	252
FS1A	12.5	5/18/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	393
SW1A	10	5/18/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	**658**
SW4B @ 10'	10	5/25/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	198
FS2	10	5/25/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	381
SW5	10	5/25/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	67.9
SW6	10	5/25/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	262
NMOCD Remediation Action Levels			10	NE	NE	NE	50	NE	NE	NE	5,000	600

Notes:
bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
mg/kg - milligrams per kilogram
NE - not established
NMOCD - New Mexico Oil Conservation Division
TPH - total petroleum hydrocarbons
< - indicates result is below laboratory reporting limits
Bold - indicates result exceeds the applicable regulatory standard.

ATTACHMENT 1

INITIAL/FINAL NMOCD FORM C-141

Advancing Opportunity

NM OIL CONSERVATION
ARTESIA DISTRICT
AUG 05 2014
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

nAB1421929514 2RP-2414

OPERATOR

☒ Initial Report ☐ Final Repor

Name of Company: BOPCO, L.P. 260737	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: James Ranch Unit #33	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-31207

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	1	23S	30E	660	North	1813	East	Eddy

Latitude N 32.33935 **Longitude** W 103.831499

NATURE OF RELEASE

Type of Release: Crude oil and produced water	Volume of Release: ½ bbl crude oil and 34 bbls produced water	Volume Recovered: 5 bbls produced water
Source of Release: Wellhead stuffing box	Date and Hour of Occurrence: 7/23/14 time unknown	Date and Hour of Discovery: 7/23/14 at 8:51 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? NMOCD emergency #104	
By Whom? Tony Savoie	Date and Hour: 7/23/14 at 5:11 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The packing in the wellhead stuffing box failed. The well was equipped with an E-pot designed to shut down the well in case of stuffing box failure. The E-pot failed to operate correctly. The stuffing box was re-packed and the E-pot was repaired and tested.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted approximately 3,790 sq.ft. of caliche well pad. All of the free standing fluid was recovered and the stained area was left intact pending EH&S review.
The spill area will be cleaned up in accordance to the NMOCD and BLM remediation guidelines.

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

Signature: Tony Savoie

Printed Name: Tony Savoie

Title: Waste Management and Remediation Specialist

E-mail Address: tasavoie@basspet.com

Date: 8/4/14 Phone: 432-556-8730

OIL CONSERVATION DIVISION

Signed By: Mike Bratcher

Approved by Environmental Specialist:

Approval Date: 8/7/14 Expiration Date: N/A

Conditions of Approval: Remediation Per O.C.D. Rule & Guidelines.

Attached ☐

SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 9/7/14

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources

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, N.M. 88220	Telephone No. 432-221-7331
Facility Name: James Ranch Unit #33	Facility Type Exploration and Production

Surface Owner Federal	Mineral Owner Federal	API No. 30-015-31207

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	1	23S	30E	660	North	1830	East	Eddy

Latitude N 32.310289 **Longitude** -103.923423 NAD83

NATURE OF RELEASE

Type of Release Produced Water and crude oil	Volume of Release: 1/2 bbl crude oil and 34 bbls produced water	Volume Recovered: 5 bbls produced water
Source of Release: Wellhead stuffing box	Date and Hour of Occurrence 7/23/14 time unknown	Date and Hour of Discovery 7/23/14 at 8:51 a.m
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? NMOCD emergency # 104	
By Whom? Tony Savoie	Date and Hour 7/23/14 at 5:11 p.m.	
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 packing in the wellhead stuffing box failed. The well was equipped with an E-pot designed to shut down the well in case of stuffing box failure. The E-pot failed to operate correctly. The stuffing box was re-packed and the E-pot was repaired and tested.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted approximately 3,790 sq.ft. of caliche well pad. All of the free standing fluid was recovered and the stained area was left intact pending EH&S review.
LTE conducted soil sampling and excavation activities within the release footprint on February 20, 2018, April 27, 2018, and between May 17 and May 25, 2018. Approximately 600 cubic yards of impacted soil was removed via backhoe and skid loader or by hand digging/hydro excavation. Following excavation activities, LTE collected a total of 10 confirmation soil samples. Laboratory analytical results indicated, for the 10 soil samples, BTEX, TPH, and chloride concentrations did not exceed the NMOCD remediation action levels for the Site, with the exception of one soil sample that exceeded NMOCD remediation action level for chloride. The sample that exceeded the chloride standard was in an area where the excavation could not safely be advanced laterally due to the proximity of the wellhead. It is XTO safety policy to prohibit soil removal within 10 feet of the wellbore. Based on the confirmation sampling results, the volume of soil removed, and the site ranking of zero, XTO requests no further action for this release. Vertical and lateral migration of the residual chloride concentrations is unlikely to migrate to potential receptors when the excavations are backfilled with caliche. Once this request is granted, XTO will back fill and recontour 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: Bradford Billings
Title: SH&E Coordinator	Approval Date: 03/18/2020 Expiration Date:
E-mail Address: Kyle_Littrell@xtoenergy.com	Conditions of Approval: SEE BELOW Attached ☐
Date: 7/25/2018 Phone: 432-221-7331	

* Attach Additional Sheets If Necessary

Release contaned on pad. Noting till slightl elevated Cl and TPH is one small location, unsafe to remove.

Site RP/Incident is closed, however, Restoration (.13 of Part 29) must still be accomplished to be environmentally releived) at closure/P&A of pad, etc

ATTACHMENT 2

LABORATORY ANALYTICAL REPORTS

Advancing Opportunity

ANALYTICAL REPORT

January 12, 2018

XTO Energy- Delaware Division

Sample Delivery Group:	L961541
Samples Received:	01/06/2018
Project Number:	30-015-31207
Description:	Confirmation Soil Sampling
Site:	JRU-33 (2RP-2416)
Report To:	Kyle Littrell 6401 N Holiday Hill Rd Suite 200 Midland, TX 79707

Entire Report Reviewed By:

Daphne R Richards

Daphne Richards
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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Sc: Sample Chain of Custody 18

SS1 L961541-01 Solid

Collected by	Collected date/time	Received date/time
Aaron Williamson	01/04/18 14:48	01/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1060792	1	01/09/18 09:37	01/09/18 10:58	JD
Wet Chemistry by Method 300.0	WG1060419	20	01/07/18 11:29	01/07/18 16:43	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1060606	1	01/08/18 09:37	01/10/18 03:27	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1060457	5	01/08/18 20:22	01/10/18 01:49	ACM

SS2 L961541-02 Solid

Collected by	Collected date/time	Received date/time
Aaron Williamson	01/04/18 14:51	01/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1060792	1	01/09/18 09:37	01/09/18 10:58	JD
Wet Chemistry by Method 300.0	WG1060419	1	01/07/18 11:29	01/07/18 17:09	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1060606	1	01/08/18 09:37	01/10/18 03:49	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1060457	1	01/08/18 20:22	01/10/18 21:52	ACM

SS3 L961541-03 Solid

Collected by	Collected date/time	Received date/time
Aaron Williamson	01/04/18 14:53	01/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1060792	1	01/09/18 09:37	01/09/18 10:58	JD
Wet Chemistry by Method 300.0	WG1060419	1	01/07/18 11:29	01/07/18 17:17	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1060606	1	01/08/18 09:37	01/10/18 04:11	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1060457	1	01/08/18 20:22	01/10/18 01:35	ACM
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1060457	20	01/08/18 20:22	01/11/18 01:19	ACM

SS4 L961541-04 Solid

Collected by	Collected date/time	Received date/time
Aaron Williamson	01/04/18 14:56	01/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1060792	1	01/09/18 09:37	01/09/18 10:58	JD
Wet Chemistry by Method 300.0	WG1060419	1	01/07/18 11:29	01/07/18 17:26	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1060606	1	01/08/18 09:37	01/10/18 04:33	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1060457	1	01/08/18 20:22	01/09/18 23:39	ACM

SS5 L961541-05 Solid

Collected by	Collected date/time	Received date/time
Aaron Williamson	01/04/18 14:59	01/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1060864	1	01/09/18 11:06	01/09/18 11:17	JD
Wet Chemistry by Method 300.0	WG1060419	1	01/07/18 11:29	01/07/18 18:00	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1060606	1	01/08/18 09:37	01/10/18 04:55	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1060457	1	01/08/18 20:22	01/09/18 23:53	ACM

SS6 L961541-06 Solid

Collected by	Collected date/time	Received date/time
Aaron Williamson	01/04/18 15:02	01/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1060864	1	01/09/18 11:06	01/09/18 11:17	JD
Wet Chemistry by Method 300.0	WG1060419	10	01/07/18 11:29	01/07/18 18:08	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1060606	1	01/08/18 09:37	01/10/18 05:17	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1060457	1	01/08/18 20:22	01/10/18 00:09	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. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne R Richards

Daphne Richards
Technical Service Representative

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.1		1	01/09/2018 10:58	WG1060792

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	8970		222	20	01/07/2018 16:43	WG1060419

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		0.000555	1	01/10/2018 03:27	WG1060606
Toluene	ND		0.00555	1	01/10/2018 03:27	WG1060606
Ethylbenzene	ND		0.000555	1	01/10/2018 03:27	WG1060606
Total Xylene	ND		0.00167	1	01/10/2018 03:27	WG1060606
TPH (GC/FID) Low Fraction	ND		0.111	1	01/10/2018 03:27	WG1060606
(S) a,a,a-Trifluorotoluene(FID)	*88.0*		*77.0-120*		*01/10/2018 03:27*	WG1060606
(S) a,a,a-Trifluorotoluene(PID)	*93.9*		*75.0-128*		*01/10/2018 03:27*	WG1060606

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	1510	V	22.2	5	01/10/2018 01:49	WG1060457
C28-C40 Oil Range	562		22.2	5	01/10/2018 01:49	WG1060457
(S) o-Terphenyl	*13.3*	J2	*18.0-148*		*01/10/2018 01:49*	WG1060457

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.1		1	01/09/2018 10:58	WG1060792

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	91.0		10.4	1	01/07/2018 17:09	WG1060419

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		0.000520	1	01/10/2018 03:49	WG1060606
Toluene	ND		0.00520	1	01/10/2018 03:49	WG1060606
Ethylbenzene	ND		0.000520	1	01/10/2018 03:49	WG1060606
Total Xylene	ND		0.00156	1	01/10/2018 03:49	WG1060606
TPH (GC/FID) Low Fraction	ND		0.104	1	01/10/2018 03:49	WG1060606
(S) a,a,a-Trifluorotoluene(FID)	*94.0*		*77.0-120*		*01/10/2018 03:49*	WG1060606
(S) a,a,a-Trifluorotoluene(PID)	*100*		*75.0-128*		*01/10/2018 03:49*	WG1060606

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		4.16	1	01/10/2018 21:52	WG1060457
C28-C40 Oil Range	ND		4.16	1	01/10/2018 21:52	WG1060457
(S) o-Terphenyl	*73.3*		*18.0-148*		*01/10/2018 21:52*	WG1060457

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.4		1	01/09/2018 10:58	WG1060792

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	151		10.8	1	01/07/2018 17:17	WG1060419

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		0.000541	1	01/10/2018 04:11	WG1060606
Toluene	ND		0.00541	1	01/10/2018 04:11	WG1060606
Ethylbenzene	ND		0.000541	1	01/10/2018 04:11	WG1060606
Total Xylene	ND		0.00162	1	01/10/2018 04:11	WG1060606
TPH (GC/FID) Low Fraction	ND		0.108	1	01/10/2018 04:11	WG1060606
(S) a,a,a-Trifluorotoluene(FID)	*87.4*		*77.0-120*		*01/10/2018 04:11*	WG1060606
(S) a,a,a-Trifluorotoluene(PID)	*93.0*		*75.0-128*		*01/10/2018 04:11*	WG1060606

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	1720		86.6	20	01/11/2018 01:19	WG1060457
C28-C40 Oil Range	339		4.33	1	01/10/2018 01:35	WG1060457
(S) o-Terphenyl	*0.000*	J7	*18.0-148*		*01/11/2018 01:19*	WG1060457
(S) o-Terphenyl	*0.738*	J2	*18.0-148*		*01/10/2018 01:35*	WG1060457

Sample Narrative:

L961541-03 WG1060457: Low surrogate due to matrix

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.4		1	01/09/2018 10:58	WG1060792

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	32.9		10.5	1	01/07/2018 17:26	WG1060419

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	01/10/2018 04:33	WG1060606
Toluene	ND		0.00524	1	01/10/2018 04:33	WG1060606
Ethylbenzene	ND		0.000524	1	01/10/2018 04:33	WG1060606
Total Xylene	ND		0.00157	1	01/10/2018 04:33	WG1060606
TPH (GC/FID) Low Fraction	ND		0.105	1	01/10/2018 04:33	WG1060606
(S) a,a,a-Trifluorotoluene(FID)	*93.6*		*77.0-120*		*01/10/2018 04:33*	WG1060606
(S) a,a,a-Trifluorotoluene(PID)	*99.9*		*75.0-128*		*01/10/2018 04:33*	WG1060606

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		4.19	1	01/09/2018 23:39	WG1060457
C28-C40 Oil Range	ND		4.19	1	01/09/2018 23:39	WG1060457
(S) o-Terphenyl	*71.0*		*18.0-148*		*01/09/2018 23:39*	WG1060457

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.5		1	01/09/2018 11:17	WG1060864

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	41.9		10.8	1	01/07/2018 18:00	WG1060419

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		0.000541	1	01/10/2018 04:55	WG1060606
Toluene	ND		0.00541	1	01/10/2018 04:55	WG1060606
Ethylbenzene	ND		0.000541	1	01/10/2018 04:55	WG1060606
Total Xylene	ND		0.00162	1	01/10/2018 04:55	WG1060606
TPH (GC/FID) Low Fraction	ND		0.108	1	01/10/2018 04:55	WG1060606
(S) a,a,a-Trifluorotoluene(FID)	*93.8*		*77.0-120*		*01/10/2018 04:55*	WG1060606
(S) a,a,a-Trifluorotoluene(PID)	*99.8*		*75.0-128*		*01/10/2018 04:55*	WG1060606

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		4.32	1	01/09/2018 23:53	WG1060457
C28-C40 Oil Range	ND		4.32	1	01/09/2018 23:53	WG1060457
(S) o-Terphenyl	*58.4*		*18.0-148*		*01/09/2018 23:53*	WG1060457

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.6		1	01/09/2018 11:17	WG1060864

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	3270		102	10	01/07/2018 18:08	WG1060419

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000512	1	01/10/2018 05:17	WG1060606
Toluene	ND		0.00512	1	01/10/2018 05:17	WG1060606
Ethylbenzene	ND		0.000512	1	01/10/2018 05:17	WG1060606
Total Xylene	ND		0.00154	1	01/10/2018 05:17	WG1060606
TPH (GC/FID) Low Fraction	ND		0.102	1	01/10/2018 05:17	WG1060606
(S) a,a,a-Trifluorotoluene(FID)	*91.0*		*77.0-120*		*01/10/2018 05:17*	WG1060606
(S) a,a,a-Trifluorotoluene(PID)	*96.7*		*75.0-128*		*01/10/2018 05:17*	WG1060606

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	224		4.10	1	01/10/2018 00:09	WG1060457
C28-C40 Oil Range	141		4.10	1	01/10/2018 00:09	WG1060457
(S) o-Terphenyl	*49.7*		*18.0-148*		*01/10/2018 00:09*	WG1060457

Method Blank (MB)

(MB) R3278450-1 01/09/18 10:58

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0			

L961536-04 Original Sample (OS) • Duplicate (DUP)

(OS) L961536-04 01/09/18 10:58 • (DUP) R3278450-3 01/09/18 10:58

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	86.5	88.7	1	3		5

Laboratory Control Sample (LCS)

(LCS) R3278450-2 01/09/18 10:58

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

Method Blank (MB)

(MB) R3278454-1 01/09/18 11:17

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

L961534-14 Original Sample (OS) • Duplicate (DUP)

(OS) L961534-14 01/09/18 11:17 • (DUP) R3278454-3 01/09/18 11:17

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	79.4	79.6	1	0		5

Laboratory Control Sample (LCS)

(LCS) R3278454-2 01/09/18 11:17

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

Method Blank (MB)

(MB) R3278057-1 01/07/18 13:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	2.48	J	0.795	10.0

L961536-06 Original Sample (OS) • Duplicate (DUP)

(OS) L961536-06 01/07/18 15:35 • (DUP) R3278057-4 01/07/18 15:43

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	408	411	1	0.667		20

L961541-04 Original Sample (OS) • Duplicate (DUP)

(OS) L961541-04 01/07/18 17:26 • (DUP) R3278057-7 01/07/18 17:34

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	32.9	35.8	1	8.32		20

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

(LCS) R3278057-2 01/07/18 13:48 • (LCSD) R3278057-3 01/07/18 13:57

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	200	200	99.9	100	90-110			0.085	20

Method Blank (MB)

(MB) R3278375-5 01/08/18 16:49

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000165	J	0.000120	0.000500
Toluene	0.000245	J	0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0255	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*96.1*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*108*			*75.0-128*

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

(LCS) R3278375-1 01/08/18 14:57 • (LCSD) R3278375-2 01/08/18 15:19

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	0.0443	0.0442	88.6	88.3	71.0-121			0.338	20
Toluene	0.0500	0.0473	0.0470	94.5	93.9	72.0-120			0.626	20
Ethylbenzene	0.0500	0.0463	0.0460	92.6	92.0	76.0-121			0.594	20
Total Xylene	0.150	0.142	0.141	94.5	93.9	75.0-124			0.637	20
(S) a,a,a-Trifluorotoluene(FID)				*94.3*	*94.5*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*104*	*105*	*75.0-128*				

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

(LCS) R3278375-3 01/08/18 15:42 • (LCSD) R3278375-4 01/08/18 16:04

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	4.87	4.74	88.5	86.2	70.0-136			2.57	20
(S) a,a,a-Trifluorotoluene(FID)				*111*	*111*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*122*	*122*	*75.0-128*				

Method Blank (MB)

(MB) R3278395-1 01/09/18 19:03

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	*54.5*			*18.0-148*

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

(LCS) R3278395-2 01/09/18 19:17 • (LCSD) R3278395-3 01/09/18 19:30

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	33.4	35.5	55.7	59.2	50.0-150			6.18	20
(S) o-Terphenyl				*60.2*	*62.0*	*18.0-148*				

L961541-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L961541-01 01/10/18 01:49 • (MS) R3278395-4 01/10/18 02:03 • (MSD) R3278395-5 01/10/18 02:17

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	66.6	1510	1750	1820	364	477	5	50.0-150	V	V	4.18	20
(S) o-Terphenyl					*16.9*	*16.0*		*18.0-148*	J2	J2		

Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

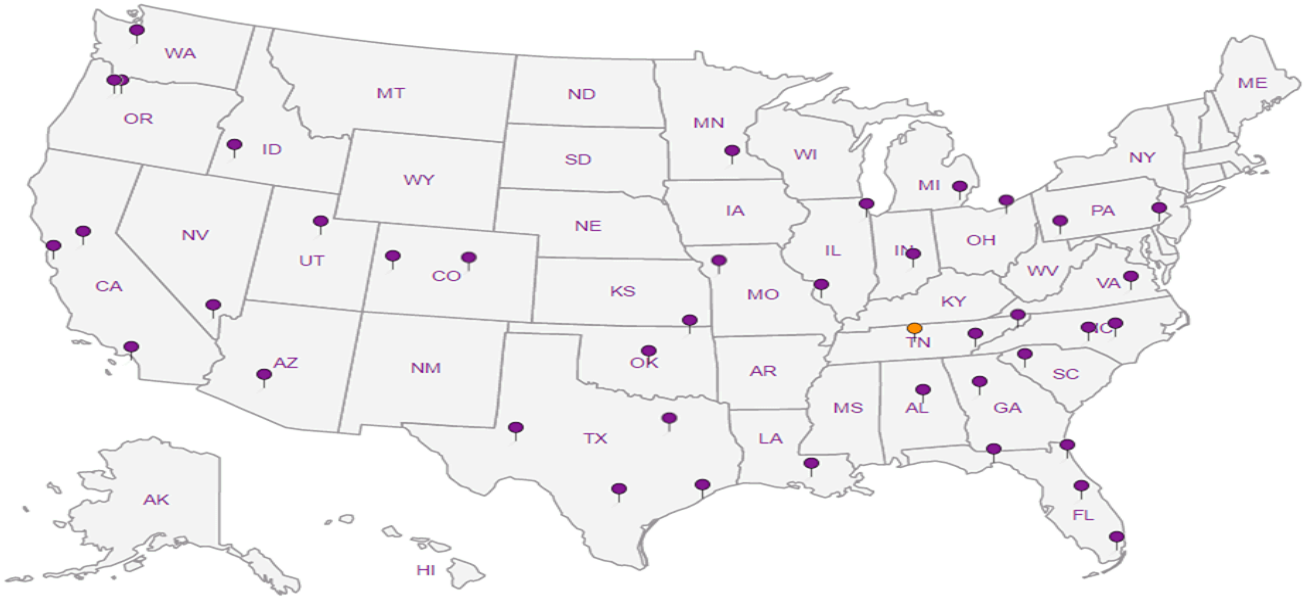
Third Party & Federal Accreditations

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

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

Our Locations

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



LTE

Billing Information: XTO

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LABORATORY SCIENCES

YOUR LAB OF CHOICE

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

L# 961541

G090

Report to: Kyle Littrell

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

Project Description: Confirmation Soil Sampling

City/State Collected: NM

Phone: 1-970-317-1867

Fax:

Client Project # 30-015-31207

Lab Project #

Collected by (print): Aaron Williamson

Site/Facility ID # (2RP-2416) James Ranch Unit #33

P.O. # 012918004

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

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

Quote #

Date Results Needed

Acctnum: XTOMTX

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX EPA Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.1	Remarks	Sample # (lab only)
SS1	Grab	SS	6"	1-4-18	14:48	1	✓	✓	✓		-01
SS2	Grab	SS	6"	1-4-18	14:51	1	✓	✓	✓		02
SS3	Grab	SS	6"	1-4-18	14:53	1	✓	✓	✓		03
SS4	Grab	SS	6"	1-4-18	14:56	1	✓	✓	✓		04
SS5	Grab	SS	6"	1-4-18	14:59	1	✓	✓	✓		05
SS6	Grab	SS	6"	1-4-18	15:02	1	✓	✓	✓		06

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking # 682711101610

Sample Receipt Checklist

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

	Date:	Time:		
Relinquished by : (Signature)	1-5-18	10:00	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	1-5-18	12:30	Received by: (Signature) FedEx	Temp: 1.1 °C Bottles Received: 6
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 01/06/18 Time: 0815

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

E502A

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 28, 2018

Adrian Baker
XTO Midland
6401 Holiday Hill Rd #200
Midland, TX 79707
TEL: (432) 894-5641
FAX (505) 333-3280

RE: JRU 33 OrderNo.: 1802C34

Dear Adrian Baker:

Hall Environmental Analysis Laboratory received 8 sample(s) on 2/22/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland
Client Sample ID: EX-1
Project: JRU 33
Collection Date: 2/20/2018 1:10:00 PM
Lab ID: 1802C34-001
Matrix: SOIL
Received Date: 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	46	30		mg/Kg	20	2/27/2018 3:05:16 AM	36733
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/27/2018 6:15:25 PM	36688
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/27/2018 6:15:25 PM	36688
Surr: DNOP	110	70-130		%Rec	1	2/27/2018 6:15:25 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/23/2018 3:41:10 PM	36675
Surr: BFB	91.7	15-316		%Rec	1	2/23/2018 3:41:10 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	2/23/2018 3:41:10 PM	36675
Toluene	ND	0.049		mg/Kg	1	2/23/2018 3:41:10 PM	36675
Ethylbenzene	ND	0.049		mg/Kg	1	2/23/2018 3:41:10 PM	36675
Xylenes, Total	ND	0.099		mg/Kg	1	2/23/2018 3:41:10 PM	36675
Surr: 4-Bromofluorobenzene	90.2	80-120		%Rec	1	2/23/2018 3:41:10 PM	36675

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland
Client Sample ID: EX-2
Project: JRU 33
Collection Date: 2/20/2018 1:20:00 PM
Lab ID: 1802C34-002
Matrix: SOIL
Received Date: 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	620	30		mg/Kg	20	2/27/2018 4:07:19 AM	36733
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	190	10		mg/Kg	1	2/27/2018 6:59:34 PM	36688
Motor Oil Range Organics (MRO)	300	50		mg/Kg	1	2/27/2018 6:59:34 PM	36688
Surr: DNOP	112	70-130		%Rec	1	2/27/2018 6:59:34 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/23/2018 4:04:45 PM	36675
Surr: BFB	87.0	15-316		%Rec	1	2/23/2018 4:04:45 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	2/23/2018 4:04:45 PM	36675
Toluene	ND	0.049		mg/Kg	1	2/23/2018 4:04:45 PM	36675
Ethylbenzene	ND	0.049		mg/Kg	1	2/23/2018 4:04:45 PM	36675
Xylenes, Total	ND	0.098		mg/Kg	1	2/23/2018 4:04:45 PM	36675
Surr: 4-Bromofluorobenzene	88.1	80-120		%Rec	1	2/23/2018 4:04:45 PM	36675

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland
Client Sample ID: EX-3
Project: JRU 33
Collection Date: 2/20/2018 4:00:00 PM
Lab ID: 1802C34-003
Matrix: SOIL
Received Date: 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	560	30		mg/Kg	20	2/27/2018 4:19:43 AM	36733
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	2/27/2018 7:21:37 PM	36688
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/27/2018 7:21:37 PM	36688
Surr: DNOP	112	70-130		%Rec	1	2/27/2018 7:21:37 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/23/2018 6:02:20 PM	36675
Surr: BFB	86.5	15-316		%Rec	1	2/23/2018 6:02:20 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	2/23/2018 6:02:20 PM	36675
Toluene	ND	0.047		mg/Kg	1	2/23/2018 6:02:20 PM	36675
Ethylbenzene	ND	0.047		mg/Kg	1	2/23/2018 6:02:20 PM	36675
Xylenes, Total	ND	0.093		mg/Kg	1	2/23/2018 6:02:20 PM	36675
Surr: 4-Bromofluorobenzene	87.3	80-120		%Rec	1	2/23/2018 6:02:20 PM	36675

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland
Client Sample ID: EX-4
Project: JRU 33
Collection Date: 2/20/2018 1:30:00 PM
Lab ID: 1802C34-004 **Matrix:** SOIL **Received Date:** 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	260	30		mg/Kg	20	2/27/2018 2:28:33 PM	36744
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	2/27/2018 7:43:36 PM	36688
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/27/2018 7:43:36 PM	36688
Surr: DNOP	106	70-130		%Rec	1	2/27/2018 7:43:36 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/23/2018 6:25:52 PM	36675
Surr: BFB	88.3	15-316		%Rec	1	2/23/2018 6:25:52 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	2/23/2018 6:25:52 PM	36675
Toluene	ND	0.049		mg/Kg	1	2/23/2018 6:25:52 PM	36675
Ethylbenzene	ND	0.049		mg/Kg	1	2/23/2018 6:25:52 PM	36675
Xylenes, Total	ND	0.097		mg/Kg	1	2/23/2018 6:25:52 PM	36675
Surr: 4-Bromofluorobenzene	87.5	80-120		%Rec	1	2/23/2018 6:25:52 PM	36675

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland
Client Sample ID: EX-5
Project: JRU 33
Collection Date: 2/20/2018 4:03:00 PM
Lab ID: 1802C34-005
Matrix: SOIL
Received Date: 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	290	30		mg/Kg	20	2/27/2018 2:40:57 PM	36744
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	350	94		mg/Kg	10	2/27/2018 8:05:40 PM	36688
Motor Oil Range Organics (MRO)	570	470		mg/Kg	10	2/27/2018 8:05:40 PM	36688
Surr: DNOP	0	70-130	S	%Rec	10	2/27/2018 8:05:40 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/23/2018 6:49:15 PM	36675
Surr: BFB	91.3	15-316		%Rec	1	2/23/2018 6:49:15 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	2/23/2018 6:49:15 PM	36675
Toluene	ND	0.046		mg/Kg	1	2/23/2018 6:49:15 PM	36675
Ethylbenzene	ND	0.046		mg/Kg	1	2/23/2018 6:49:15 PM	36675
Xylenes, Total	ND	0.093		mg/Kg	1	2/23/2018 6:49:15 PM	36675
Surr: 4-Bromofluorobenzene	88.5	80-120		%Rec	1	2/23/2018 6:49:15 PM	36675

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland
Client Sample ID: EX-6
Project: JRU 33
Collection Date: 2/20/2018 1:00:00 PM
Lab ID: 1802C34-006
Matrix: SOIL
Received Date: 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	150	30		mg/Kg	20	2/27/2018 2:53:21 PM	36744
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	210	96		mg/Kg	10	2/27/2018 8:27:33 PM	36688
Motor Oil Range Organics (MRO)	680	480		mg/Kg	10	2/27/2018 8:27:33 PM	36688
Surr: DNOP	0	70-130	S	%Rec	10	2/27/2018 8:27:33 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/23/2018 7:12:41 PM	36675
Surr: BFB	91.4	15-316		%Rec	1	2/23/2018 7:12:41 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	2/23/2018 7:12:41 PM	36675
Toluene	ND	0.049		mg/Kg	1	2/23/2018 7:12:41 PM	36675
Ethylbenzene	ND	0.049		mg/Kg	1	2/23/2018 7:12:41 PM	36675
Xylenes, Total	ND	0.098		mg/Kg	1	2/23/2018 7:12:41 PM	36675
Surr: 4-Bromofluorobenzene	90.4	80-120		%Rec	1	2/23/2018 7:12:41 PM	36675

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland
Client Sample ID: EX-7
Project: JRU 33
Collection Date: 2/20/2018 4:05:00 PM
Lab ID: 1802C34-007 **Matrix:** SOIL **Received Date:** 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	500	30		mg/Kg	20	2/27/2018 3:05:45 PM	36744
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	220	94		mg/Kg	10	2/27/2018 8:49:34 PM	36688
Motor Oil Range Organics (MRO)	480	470		mg/Kg	10	2/27/2018 8:49:34 PM	36688
Surr: DNOP	0	70-130	S	%Rec	10	2/27/2018 8:49:34 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/23/2018 7:35:59 PM	36675
Surr: BFB	93.3	15-316		%Rec	1	2/23/2018 7:35:59 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	2/23/2018 7:35:59 PM	36675
Toluene	ND	0.048		mg/Kg	1	2/23/2018 7:35:59 PM	36675
Ethylbenzene	ND	0.048		mg/Kg	1	2/23/2018 7:35:59 PM	36675
Xylenes, Total	ND	0.097		mg/Kg	1	2/23/2018 7:35:59 PM	36675
Surr: 4-Bromofluorobenzene	90.6	80-120		%Rec	1	2/23/2018 7:35:59 PM	36675

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland
Client Sample ID: EX-8
Project: JRU 33
Collection Date: 2/20/2018 4:08:00 PM
Lab ID: 1802C34-008 **Matrix:** SOIL **Received Date:** 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	700	30		mg/Kg	20	2/27/2018 3:18:10 PM	36744
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	3400	480		mg/Kg	50	2/27/2018 9:11:33 PM	36688
Motor Oil Range Organics (MRO)	5400	2400		mg/Kg	50	2/27/2018 9:11:33 PM	36688
Surr: DNOP	0	70-130	S	%Rec	50	2/27/2018 9:11:33 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/23/2018 7:59:11 PM	36675
Surr: BFB	90.6	15-316		%Rec	1	2/23/2018 7:59:11 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	2/23/2018 7:59:11 PM	36675
Toluene	ND	0.049		mg/Kg	1	2/23/2018 7:59:11 PM	36675
Ethylbenzene	ND	0.049		mg/Kg	1	2/23/2018 7:59:11 PM	36675
Xylenes, Total	ND	0.098		mg/Kg	1	2/23/2018 7:59:11 PM	36675
Surr: 4-Bromofluorobenzene	87.1	80-120		%Rec	1	2/23/2018 7:59:11 PM	36675

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802C34**

28-Feb-18

Client: XTO Midland

Project: JRU 33

Sample ID	**MB-36733**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**36733**	RunNo:	**49405**					
Prep Date:	**2/26/2018**	Analysis Date:	**2/26/2018**	SeqNo:	**1595239**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-36733**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**36733**	RunNo:	**49405**					
Prep Date:	**2/26/2018**	Analysis Date:	**2/26/2018**	SeqNo:	**1595240**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.2	90	110			

Sample ID	**MB-36744**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**36744**	RunNo:	**49418**					
Prep Date:	**2/27/2018**	Analysis Date:	**2/27/2018**	SeqNo:	**1596960**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-36744**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**36744**	RunNo:	**49418**					
Prep Date:	**2/27/2018**	Analysis Date:	**2/27/2018**	SeqNo:	**1596961**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802C34**

28-Feb-18

Client: XTO Midland

Project: JRU 33

Sample ID	**LCS-36688**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**36688**		RunNo:	**49375**				
Prep Date:	**2/23/2018**	Analysis Date:	**2/26/2018**		SeqNo:	**1594585**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.2	70	130			
Surr: DNOP	4.3		5.000		85.6	70	130			

Sample ID	**MB-36688**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**36688**		RunNo:	**49375**				
Prep Date:	**2/23/2018**	Analysis Date:	**2/26/2018**		SeqNo:	**1594586**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		95.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802C34**

28-Feb-18

Client: XTO Midland

Project: JRU 33

Sample ID	**MB-36675**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**36675**	RunNo:	**49365**					
Prep Date:	**2/22/2018**	Analysis Date:	**2/23/2018**	SeqNo:	**1593569**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.2	15	316			

Sample ID	**LCS-36675**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**36675**	RunNo:	**49365**					
Prep Date:	**2/22/2018**	Analysis Date:	**2/23/2018**	SeqNo:	**1593571**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	75.9	131			
Surr: BFB	1000		1000		103	15	316			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802C34**

28-Feb-18

Client: XTO Midland

Project: JRU 33

Sample ID	**MB-36675**	SampType:	**MBLK**		TestCode:	**EPA Method 8021B: Volatiles**				
Client ID:	**PBS**	Batch ID:	**36675**		RunNo:	**49365**				
Prep Date:	**2/22/2018**	Analysis Date:	**2/23/2018**		SeqNo:	**1593604**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		91.6	80	120			

Sample ID	**LCS-36675**	SampType:	**LCS**		TestCode:	**EPA Method 8021B: Volatiles**				
Client ID:	**LCSS**	Batch ID:	**36675**		RunNo:	**49365**				
Prep Date:	**2/22/2018**	Analysis Date:	**2/23/2018**		SeqNo:	**1593606**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	97.2	77.3	128			
Toluene	0.96	0.050	1.000	0	96.0	79.2	125			
Ethylbenzene	0.95	0.050	1.000	0	95.2	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	97.9	81.6	129			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.2	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: XTO Energy | Work Order Number: 1802C34 | RcptNo: 1

Received By: Sophia Campuzano 2/22/2018 10:00:00 AM

Completed By: Dennis Suazo 2/22/2018 10:50:27 AM

Reviewed By: ENM 2/22/18

Labeled By MW 2/22/18

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: ____ (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? ____
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: ____

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date: ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.8	Good	Not Present			

Chain-of-Custody Record

Client: XTO Energy
Kyle Litterell
Mailing Address:

Phone #:
email or Fax#: Kyle_litterell@xtoenergy.com
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) PDF

Turn-Around Time: 5 day
☒ Standard ☐ Rush
Project Name: JRU #33
Project #:
Project Manager: LTE: Adrian Baker
Sampler: Eric Carroll
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.0 - 0.2(CF) = 0.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1802C34	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
2/22/18	1310	Soil	Ex-1	1 4oz	Cool	001	X		X					X				
	1320		Ex-2			002	X		X					X				
	1600		Ex-3			003	X		X					X				
	1336		Ex-4			004	X		X					X				
	1603		Ex-5			005	X		X					X				
	1300		Ex-6			006	X		X					X				
	1605		Ex-7			007	X		X					X				
↓	1608	↓	Ex-8	↓	↓	008	X		X					X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/22/18	1530			2/22/18	1630
2/22/18	1900		courier	02/22/18	1000

Remarks: Please CC: aager@ltenv.com
abaker@ltenv.com

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Analytical Report 578899

for

LT Environmental, Inc.

Project Manager: Adrian Baker

JRU #33

17-MAR-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)

17-MAR-18

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

Reference: XENCO Report No(s): **578899**
JRU #33
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) 578899. 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. 578899 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 578899

LT Environmental, Inc., Arvada, CO

JRU #33

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
EX-9	S	03-07-18 12:00	24 In	578899-001

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3043914 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 578899

LT Environmental, Inc., Arvada, CO

Project Name: JRU #33

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Sat Mar-10-18 12:21 pm
Report Date: 17-MAR-18
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	578899-001						
	Field Id:	EX-9						
	Depth:	24- In						
	Matrix:	SOIL						
	Sampled:	Mar-07-18 12:00						
BTEX by EPA 8021B	***Extracted:***	Mar-14-18 16:45						
	Analyzed:	Mar-15-18 04:31						
	Units/RL:	mg/kg	RL					
Benzene		<0.00198	0.00198					
Toluene		0.0114	0.00198					
Ethylbenzene		0.0161	0.00198					
m,p-Xylenes		0.0635	0.00397					
o-Xylene		0.0440	0.00198					
Total Xylenes		0.108	0.00198					
Total BTEX		0.135	0.00198					
Inorganic Anions by EPA 300	***Extracted:***	Mar-14-18 11:00						
	Analyzed:	Mar-14-18 18:20						
	Units/RL:	mg/kg	RL					
Chloride		1550	25.0					
TPH by SW8015 Mod	***Extracted:***	Mar-12-18 17:00						
	Analyzed:	Mar-13-18 02:29						
	Units/RL:	mg/kg	RL					
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0					
Diesel Range Organics (DRO)		<15.0	15.0					
Oil Range Hydrocarbons (ORO)		<15.0	15.0					
Total TPH		<15.0	15.0					

Jessica Kramer
Project Assistant

Certificate of Analytical Results 578899

LT Environmental, Inc., Arvada, CO

JRU #33

Sample Id:	**EX-9**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578899-001	Date Collected:	03.07.18 12.00	Sample Depth:	24 In

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1550**	25.0	mg/kg	03.14.18 18.20		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.12.18 17.00	Basis:	Wet Weight
Seq Number:	3043522				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.13.18 02.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.13.18 02.29	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.13.18 02.29	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.13.18 02.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	03.13.18 02.29	
o-Terphenyl	84-15-1	91	%	70-135	03.13.18 02.29	

Certificate of Analytical Results 578899

LT Environmental, Inc., Arvada, CO

JRU #33

Sample Id:	**EX-9**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578899-001	Date Collected:	03.07.18 12.00	Sample Depth:	24 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.14.18 16.45	Basis:	Wet Weight
Seq Number:	3043914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.15.18 04.31	U	1
Toluene	108-88-3	**0.0114**	0.00198	mg/kg	03.15.18 04.31		1
Ethylbenzene	100-41-4	**0.0161**	0.00198	mg/kg	03.15.18 04.31		1
m,p-Xylenes	179601-23-1	**0.0635**	0.00397	mg/kg	03.15.18 04.31		1
o-Xylene	95-47-6	**0.0440**	0.00198	mg/kg	03.15.18 04.31		1
Total Xylenes	1330-20-7	**0.108**	0.00198	mg/kg	03.15.18 04.31		1
Total BTEX		**0.135**	0.00198	mg/kg	03.15.18 04.31		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	85	%	70-130	03.15.18 04.31	
4-Bromofluorobenzene	460-00-4	101	%	70-130	03.15.18 04.31	

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 578899

LT Environmental, Inc.

JRU #33

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

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

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

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

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

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

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3043522 Matrix: Solid Date Prep: 03.12.18
MB Sample Id: 7640686-1-BLK LCS Sample Id: 7640686-1-BKS LCSD Sample Id: 7640686-1-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	914	91	909	91	70-135	1	35	mg/kg	03.12.18 20:15	
Diesel Range Organics (DRO)	<15.0	1000	825	83	813	81	70-135	1	35	mg/kg	03.12.18 20:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		98		102		70-135	%	03.12.18 20:15
o-Terphenyl	93		92		90		70-135	%	03.12.18 20:15

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

QC Summary 578899

LT Environmental, Inc.

JRU #33

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3043522 Matrix: Soil Date Prep: 03.12.18
Parent Sample Id: 578928-001 MS Sample Id: 578928-001 S MSD Sample Id: 578928-001 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)	3700	999	3980	28	3700	0	70-135	7	35	mg/kg	03.12.18 21:15	X
Diesel Range Organics (DRO)	3520	999	3420	0	3200	0	70-135	7	35	mg/kg	03.12.18 21:15	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		97		70-135	%	03.12.18 21:15
o-Terphenyl	106		106		70-135	%	03.12.18 21:15

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3043914 Matrix: Solid Date Prep: 03.14.18
MB Sample Id: 7640818-1-BLK LCS Sample Id: 7640818-1-BKS LCSD Sample Id: 7640818-1-BSD

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

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

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

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

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

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

Revision 2016.1

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

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

www.xenco.com

Xenco Quote #: | Xenco Job #: 578899

Client / Reporting Information

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

Project Information

Project Name/Number: JRU #33
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 30-015-31207

Analytical Information

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

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX	TPH	Chloride	Field Comments
1	~~SS~~ Ex-9	24"	3/7/18	1200	S	1									x	x	x	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Eric Carroll	3/9/18 1520	1	2	3/10 1200	2
3		3/10 12:21	3 Julian M	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

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

Work Order #: 578899

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

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

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

Jessica Kramer

Analytical Report 584213

for

LT Environmental, Inc.

Project Manager: Adrian Baker

JRU 33

08-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)

08-MAY-18

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

Reference: XENCO Report No(s): **584213**
JRU 33
Project Address: New Mexico

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) 584213. 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. 584213 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 584213

LT Environmental, Inc., Arvada, CO

JRU 33

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS 1	S	04-27-18 13:30	4 ft	584213-001
SW 1	S	04-27-18 13:35	2.5 ft	584213-002
SW 2	S	04-27-18 13:40	2.5 ft	584213-003
SW 3	S	04-27-18 13:50	2.5 ft	584213-004

Client Name: LT Environmental, Inc.

Project Name: JRU 33

Project ID:
Work Order Number(s): *584213*

Report Date: *08-MAY-18*
Date Received: *04/30/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3049162 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3049179 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 584213

LT Environmental, Inc., Arvada, CO

Project Name: JRU 33

Project Id:
Contact: Adrian Baker
Project Location: New Mexico

Date Received in Lab: Mon Apr-30-18 01:00 pm
Report Date: 08-MAY-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	584213-001		584213-002		584213-003		584213-004					
	Field Id:	FS 1		SW 1		SW 2		SW 3					
	Depth:	4- ft		2.5- ft		2.5- ft		2.5- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Apr-27-18 13:30		Apr-27-18 13:35		Apr-27-18 13:40		Apr-27-18 13:50					
BTEX by EPA 8021B	***Extracted:***	May-05-18 07:35		May-05-18 07:35		May-05-18 07:35		May-07-18 08:00					
	Analyzed:	May-05-18 11:25		May-05-18 11:46		May-05-18 12:08		May-07-18 10:24					
	Units/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	<0.00198	0.00198				
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198				
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198				
m,p-Xylenes		<0.00399	0.00399	<0.00401	0.00401	<0.00402	0.00402	<0.00397	0.00397				
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198				
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198				
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198				
Inorganic Anions by EPA 300	***Extracted:***	May-03-18 13:00		May-03-18 13:00		May-03-18 13:00		May-03-18 13:00					
	Analyzed:	May-03-18 17:13		May-03-18 17:31		May-03-18 17:37		May-03-18 17:43					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		1880	24.8	1420	25.0	39.4	5.00	252	4.95				
TPH by SW8015 Mod	***Extracted:***	May-02-18 12:00		May-02-18 12:00		May-02-18 12:00		May-02-18 12:00					
	Analyzed:	May-02-18 20:45		May-02-18 21:12		May-02-18 21:39		May-02-18 22:06					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<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	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				

Certificate of Analytical Results 584213

LT Environmental, Inc., Arvada, CO

JRU 33

Sample Id:	**FS 1**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584213-001	Date Collected:	04.27.18 13.30	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.03.18 13.00	Basis:	Wet Weight
Seq Number:	3048902				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1880**	24.8	mg/kg	05.03.18 17.13		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.18 12.00	Basis:	Wet Weight
Seq Number:	3048781				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.02.18 20.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.02.18 20.45	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.02.18 20.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.02.18 20.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	05.02.18 20.45	
o-Terphenyl	84-15-1	92	%	70-135	05.02.18 20.45	

Certificate of Analytical Results 584213

LT Environmental, Inc., Arvada, CO

JRU 33

Sample Id:	**FS 1**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584213-001	Date Collected:	04.27.18 13.30	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.05.18 07.35	Basis:	Wet Weight
Seq Number:	3049162				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.05.18 11.25	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.05.18 11.25	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.05.18 11.25	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.05.18 11.25	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.05.18 11.25	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.05.18 11.25	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.05.18 11.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	05.05.18 11.25	
1,4-Difluorobenzene	540-36-3	91	%	70-130	05.05.18 11.25	

Certificate of Analytical Results 584213

LT Environmental, Inc., Arvada, CO

JRU 33

Sample Id:	**SW 1**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584213-002	Date Collected:	04.27.18 13.35	Sample Depth:	2.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.03.18 13.00	Basis:	Wet Weight
Seq Number:	3048902				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1420**	25.0	mg/kg	05.03.18 17.31		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.18 12.00	Basis:	Wet Weight
Seq Number:	3048781				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.02.18 21.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.02.18 21.12	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.02.18 21.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.02.18 21.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	05.02.18 21.12	
o-Terphenyl	84-15-1	95	%	70-135	05.02.18 21.12	

Certificate of Analytical Results 584213

LT Environmental, Inc., Arvada, CO

JRU 33

Sample Id:	**SW 1**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584213-002	Date Collected:	04.27.18 13.35	Sample Depth:	2.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.05.18 07.35	Basis:	Wet Weight
Seq Number:	3049162				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.05.18 11.46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.05.18 11.46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.05.18 11.46	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.05.18 11.46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.05.18 11.46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.05.18 11.46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.05.18 11.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.05.18 11.46	
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.05.18 11.46	

Certificate of Analytical Results 584213

LT Environmental, Inc., Arvada, CO

JRU 33

Sample Id:	**SW 2**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584213-003	Date Collected:	04.27.18 13.40	Sample Depth:	2.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.03.18 13.00	Basis:	Wet Weight
Seq Number:	3048902				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.4**	5.00	mg/kg	05.03.18 17.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.18 12.00	Basis:	Wet Weight
Seq Number:	3048781				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.02.18 21.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.02.18 21.39	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.02.18 21.39	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.02.18 21.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.02.18 21.39	
o-Terphenyl	84-15-1	95	%	70-135	05.02.18 21.39	

Certificate of Analytical Results 584213

LT Environmental, Inc., Arvada, CO

JRU 33

Sample Id:	**SW 2**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584213-003	Date Collected:	04.27.18 13.40	Sample Depth:	2.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.05.18 07.35	Basis:	Wet Weight
Seq Number:	3049162				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.05.18 12.08	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.05.18 12.08	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.05.18 12.08	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.05.18 12.08	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.05.18 12.08	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.05.18 12.08	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.05.18 12.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	05.05.18 12.08	
4-Bromofluorobenzene	460-00-4	107	%	70-130	05.05.18 12.08	

Certificate of Analytical Results 584213

LT Environmental, Inc., Arvada, CO

JRU 33

Sample Id:	**SW 3**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584213-004	Date Collected:	04.27.18 13.50	Sample Depth:	2.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.03.18 13.00	Basis:	Wet Weight
Seq Number:	3048902				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**252**	4.95	mg/kg	05.03.18 17.43		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.02.18 12.00	Basis:	Wet Weight
Seq Number:	3048781				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.02.18 22.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.02.18 22.06	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.02.18 22.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.02.18 22.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	05.02.18 22.06	
o-Terphenyl	84-15-1	89	%	70-135	05.02.18 22.06	

Certificate of Analytical Results 584213

LT Environmental, Inc., Arvada, CO

JRU 33

Sample Id:	**SW 3**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584213-004	Date Collected:	04.27.18 13.50	Sample Depth:	2.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.07.18 08.00	Basis:	Wet Weight
Seq Number:	3049179				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.07.18 10.24	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.07.18 10.24	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.07.18 10.24	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.07.18 10.24	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.07.18 10.24	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.07.18 10.24	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.07.18 10.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	05.07.18 10.24	
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.07.18 10.24	

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 584213

LT Environmental, Inc.

JRU 33

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3048902 Matrix: Solid Date Prep: 05.03.18
MB Sample Id: 7644034-1-BLK LCS Sample Id: 7644034-1-BKS LCSD Sample Id: 7644034-1-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	267	107	264	106	90-110	1	20	mg/kg	05.03.18 16:25	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3048902 Matrix: Soil Date Prep: 05.03.18
Parent Sample Id: 584211-001 MS Sample Id: 584211-001 S MSD Sample Id: 584211-001 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	261	104	258	103	90-110	1	20	mg/kg	05.03.18 16:43	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3048902 Matrix: Soil Date Prep: 05.03.18
Parent Sample Id: 584211-002 MS Sample Id: 584211-002 S MSD Sample Id: 584211-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	145	250	409	106	408	105	90-110	0	20	mg/kg	05.03.18 18:07	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3048781 Matrix: Solid Date Prep: 05.02.18
MB Sample Id: 7643972-1-BLK LCS Sample Id: 7643972-1-BKS LCSD Sample Id: 7643972-1-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	1100	110	1030	103	70-135	7	20	mg/kg	05.02.18 13:41	
Diesel Range Organics (DRO)	<15.0	1000	1130	113	1080	108	70-135	5	20	mg/kg	05.02.18 13:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		120		110		70-135	%	05.02.18 13:41
o-Terphenyl	91		117		108		70-135	%	05.02.18 13:41

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 584213

LT Environmental, Inc.

JRU 33

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3048781 Matrix: Soil Date Prep: 05.02.18
Parent Sample Id: 584189-083 MS Sample Id: 584189-083 S MSD Sample Id: 584189-083 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	927	93	878	88	70-135	5	20	mg/kg	05.02.18 15:27	
Diesel Range Organics (DRO)	<15.0	998	1020	102	943	94	70-135	8	20	mg/kg	05.02.18 15:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		97		70-135	%	05.02.18 15:27
o-Terphenyl	93		89		70-135	%	05.02.18 15:27

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3049162 Matrix: Solid Date Prep: 05.05.18
MB Sample Id: 7644146-1-BLK LCS Sample Id: 7644146-1-BKS LCSD Sample Id: 7644146-1-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	0.117	117	0.120	120	70-130	3	35	mg/kg	05.05.18 08:11	
Toluene	<0.00201	0.100	0.113	113	0.117	117	70-130	3	35	mg/kg	05.05.18 08:11	
Ethylbenzene	<0.00201	0.100	0.119	119	0.123	123	70-130	3	35	mg/kg	05.05.18 08:11	
m,p-Xylenes	<0.00402	0.201	0.247	123	0.258	129	70-130	4	35	mg/kg	05.05.18 08:11	
o-Xylene	<0.00201	0.100	0.120	120	0.126	126	70-130	5	35	mg/kg	05.05.18 08:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		103		104		70-130	%	05.05.18 08:11
4-Bromofluorobenzene	93		98		105		70-130	%	05.05.18 08:11

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3049179 Matrix: Solid Date Prep: 05.07.18
MB Sample Id: 7644210-1-BLK LCS Sample Id: 7644210-1-BKS LCSD Sample Id: 7644210-1-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	0.114	114	0.111	111	70-130	3	35	mg/kg	05.07.18 07:51	
Toluene	<0.00200	0.0998	0.112	112	0.109	109	70-130	3	35	mg/kg	05.07.18 07:51	
Ethylbenzene	<0.00200	0.0998	0.120	120	0.116	116	70-130	3	35	mg/kg	05.07.18 07:51	
m,p-Xylenes	<0.00399	0.200	0.251	126	0.243	122	70-130	3	35	mg/kg	05.07.18 07:51	
o-Xylene	<0.00200	0.0998	0.122	122	0.119	119	70-130	2	35	mg/kg	05.07.18 07:51	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		97		101		70-130	%	05.07.18 07:51
4-Bromofluorobenzene	103		108		111		70-130	%	05.07.18 07:51

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 584213

LT Environmental, Inc.

JRU 33

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3049162 Matrix: Soil Date Prep: 05.05.18
Parent Sample Id: 584211-003 MS Sample Id: 584211-003 S MSD Sample Id: 584211-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0741	75	0.0600	60	70-130	21	35	mg/kg	05.05.18 08:54	X
Toluene	<0.00199	0.0994	0.0731	74	0.0608	61	70-130	18	35	mg/kg	05.05.18 08:54	X
Ethylbenzene	<0.00199	0.0994	0.0747	75	0.0669	67	70-130	11	35	mg/kg	05.05.18 08:54	X
m,p-Xylenes	<0.00398	0.199	0.153	77	0.140	70	70-130	9	35	mg/kg	05.05.18 08:54	
o-Xylene	<0.00199	0.0994	0.0785	79	0.0737	74	70-130	6	35	mg/kg	05.05.18 08:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		102		70-130	%	05.05.18 08:54
4-Bromofluorobenzene	94		111		70-130	%	05.05.18 08:54

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3049179 Matrix: Soil Date Prep: 05.07.18
Parent Sample Id: 584503-001 MS Sample Id: 584503-001 S MSD Sample Id: 584503-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0529	53	0.0545	55	70-130	3	35	mg/kg	05.07.18 08:35	X
Toluene	<0.00200	0.0998	0.0455	46	0.0415	42	70-130	9	35	mg/kg	05.07.18 08:35	X
Ethylbenzene	<0.00200	0.0998	0.0390	39	0.0335	34	70-130	15	35	mg/kg	05.07.18 08:35	X
m,p-Xylenes	<0.00399	0.200	0.0802	40	0.0718	36	70-130	11	35	mg/kg	05.07.18 08:35	X
o-Xylene	<0.00200	0.0998	0.0433	43	0.0382	38	70-130	13	35	mg/kg	05.07.18 08:35	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		88		70-130	%	05.07.18 08:35
4-Bromofluorobenzene	111		114		70-130	%	05.07.18 08:35

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

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

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

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

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

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Dallas Texas (214-902-0300)

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Midland, Texas (432-704-5251)

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Xenco Quote #

Xenco Job # 584213

Client / Reporting Information

Company Name / Branch: LTE Midland

Company Address: 3300 North A ST, Building 1, Unit #103 Midland TX

Email: ABaker@LTENV.com

Phone No: 432-894-5641

Project Contact: Adrian Baker

Samplers's Name

Project Information

Project Name/Number: JRU 33

Project Location: New Mexico

Invoice To: Kyle Littrell

PO Number: 30-015-31207 2RP-2416

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	FS1	4	4/27/18	1330	S	1								1	X	X	X	
2	SW1	2.5	4/27/18	1335	S	1								1	X	X	X	
3	SW2	2.5	4/27/18	1340	S	1								1	X	X	X	
4	SW3	2.5	4/27/18	1350	S	1								1	X	X	X	
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

Data Deliverable Information

- [ ] Same Day TAT
- [x] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY
- [ ] TAT Starts Day received by Lab, if received by 5:00 pm

- [ ] 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: 3.7 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 3.5

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		4/27/18 CT		2	4/30 1100	2 4/30 1300
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

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: 04/30/2018 01:00:00 PM

Work Order #: 584213

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)?	3.5
#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: 04/30/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 04/30/2018
Jessica Kramer

Analytical Report 586809

for

LT Environmental, Inc.

Project Manager: Adrian Baker

JRU33

23-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)

23-MAY-18

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

Reference: XENCO Report No(s): **586809**
JRU33
Project Address: JRU33

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) 586809. 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. 586809 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,

Mike Kimmel
Client Services Manager

Sample Cross Reference 586809

LT Environmental, Inc., Arvada, CO

JRU33

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS1A @ 12.5'	S	05-18-18 09:15	- 12.5 ft	586809-001
SW1A @ 10'	S	05-18-18 15:15	- 10 ft	586809-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: JRU33

Project ID:
Work Order Number(s): *586809*

Report Date: *23-MAY-18*
Date Received: *05/22/2018*

Sample receipt non conformances and comments:

Client changed TAT to 24 HRS 05/22/18 JKR

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3051136 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 586809

LT Environmental, Inc., Arvada, CO

Project Name: JRU33

Project Id:
Contact: Adrian Baker
Project Location: JRU33

Date Received in Lab: Tue May-22-18 02:05 pm
Report Date: 23-MAY-18
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	586809-001		586809-002				
	Field Id:	FS1A @ 12.5'		SW1A @ 10'				
	Depth:	12.5 ft		10 ft				
	Matrix:	SOIL		SOIL				
	Sampled:	May-18-18 09:15		May-18-18 15:15				
BTEX by EPA 8021B	***Extracted:***	May-23-18 08:00		May-23-18 08:00				
	Analyzed:	May-23-18 14:02		May-23-18 14:20				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Benzene		<0.00202	0.00202	<0.00199	0.00199			
Toluene		<0.00202	0.00202	<0.00199	0.00199			
Ethylbenzene		<0.00202	0.00202	<0.00199	0.00199			
m,p-Xylenes		<0.00403	0.00403	<0.00398	0.00398			
o-Xylene		<0.00202	0.00202	<0.00199	0.00199			
Total Xylenes		<0.00202	0.00202	<0.00199	0.00199			
Total BTEX		<0.00202	0.00202	<0.00199	0.00199			
Inorganic Anions by EPA 300	***Extracted:***	May-22-18 17:00		May-22-18 17:00				
	Analyzed:	May-22-18 23:32		May-22-18 23:38				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		393	4.98	658	4.95			
TPH by SW8015 Mod	***Extracted:***	May-23-18 11:00		May-23-18 11:00				
	Analyzed:	May-23-18 13:00		May-23-18 13:55				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0			
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0			
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0			
Total TPH		<15.0	15.0	<15.0	15.0			

Mike Kimmel
Client Services Manager

Certificate of Analytical Results 586809

LT Environmental, Inc., Arvada, CO

JRU33

Sample Id:	**FS1A @ 12.5'**	Matrix:	Soil	Date Received:	05.22.18 14.05
Lab Sample Id:	586809-001	Date Collected:	05.18.18 09.15	Sample Depth:	12.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.22.18 17.00	Basis:	Wet Weight
Seq Number:	3051043				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**393**	4.98	mg/kg	05.22.18 23.32		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.23.18 11.00	Basis:	Wet Weight
Seq Number:	3051128				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.23.18 13.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.23.18 13.00	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.23.18 13.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.23.18 13.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	05.23.18 13.00	
o-Terphenyl	84-15-1	104	%	70-135	05.23.18 13.00	

Certificate of Analytical Results 586809

LT Environmental, Inc., Arvada, CO

JRU33

Sample Id:	**FS1A @ 12.5'**	Matrix:	Soil	Date Received:	05.22.18 14.05
Lab Sample Id:	586809-001	Date Collected:	05.18.18 09.15	Sample Depth:	12.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.23.18 08.00	Basis:	Wet Weight
Seq Number:	3051136				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.23.18 14.02	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.23.18 14.02	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.23.18 14.02	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.23.18 14.02	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.23.18 14.02	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.23.18 14.02	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.23.18 14.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.23.18 14.02	
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.23.18 14.02	

Certificate of Analytical Results 586809

LT Environmental, Inc., Arvada, CO

JRU33

Sample Id:	**SW1A @ 10'**	Matrix:	Soil	Date Received:	05.22.18 14.05
Lab Sample Id:	586809-002	Date Collected:	05.18.18 15.15	Sample Depth:	10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.22.18 17.00	Basis:	Wet Weight
Seq Number:	3051043				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**658**	4.95	mg/kg	05.22.18 23.38		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.23.18 11.00	Basis:	Wet Weight
Seq Number:	3051128				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.23.18 13.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.23.18 13.55	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.23.18 13.55	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.23.18 13.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	05.23.18 13.55	
o-Terphenyl	84-15-1	94	%	70-135	05.23.18 13.55	

Certificate of Analytical Results 586809

LT Environmental, Inc., Arvada, CO

JRU33

Sample Id:	**SW1A @ 10'**	Matrix:	Soil	Date Received:	05.22.18 14.05
Lab Sample Id:	586809-002	Date Collected:	05.18.18 15.15	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.23.18 08.00	Basis:	Wet Weight
Seq Number:	3051136				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.23.18 14.20	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.23.18 14.20	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.23.18 14.20	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.23.18 14.20	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.23.18 14.20	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.23.18 14.20	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.23.18 14.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.23.18 14.20	
1,4-Difluorobenzene	540-36-3	105	%	70-130	05.23.18 14.20	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 586809

LT Environmental, Inc.

JRU33

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3051043 Matrix: Solid Date Prep: 05.22.18
MB Sample Id: 7645263-1-BLK LCS Sample Id: 7645263-1-BKS LCSD Sample Id: 7645263-1-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	225	90	231	92	90-110	3	20	mg/kg	05.22.18 22:14	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3051043 Matrix: Soil Date Prep: 05.22.18
Parent Sample Id: 586576-002 MS Sample Id: 586576-002 S MSD Sample Id: 586576-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.98	249	240	96	238	96	90-110	1	20	mg/kg	05.22.18 23:56	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3051043 Matrix: Soil Date Prep: 05.22.18
Parent Sample Id: 586760-001 MS Sample Id: 586760-001 S MSD Sample Id: 586760-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	98.2	249	350	101	370	109	90-110	6	20	mg/kg	05.22.18 22:32	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3051128 Matrix: Solid Date Prep: 05.23.18
MB Sample Id: 7645324-1-BLK LCS Sample Id: 7645324-1-BKS LCSD Sample Id: 7645324-1-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	923	92	946	95	70-135	2	20	mg/kg	05.23.18 12:23	
Diesel Range Organics (DRO)	<15.0	1000	978	98	1010	101	70-135	3	20	mg/kg	05.23.18 12:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		121		121		70-135	%	05.23.18 12:23
o-Terphenyl	105		107		109		70-135	%	05.23.18 12:23

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 586809

LT Environmental, Inc.

JRU33

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3051128 Matrix: Soil Date Prep: 05.23.18
Parent Sample Id: 586809-001 MS Sample Id: 586809-001 S MSD Sample Id: 586809-001 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	956	96	962	96	70-135	1	20	mg/kg	05.23.18 13:18	
Diesel Range Organics (DRO)	<15.0	998	1020	102	1040	104	70-135	2	20	mg/kg	05.23.18 13:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		119		70-135	%	05.23.18 13:18
o-Terphenyl	107		107		70-135	%	05.23.18 13:18

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3051136 Matrix: Solid Date Prep: 05.23.18
MB Sample Id: 7645314-1-BLK LCS Sample Id: 7645314-1-BKS LCSD Sample Id: 7645314-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0956	95	0.0870	87	70-130	9	35	mg/kg	05.23.18 07:40	
Toluene	<0.00202	0.101	0.0930	92	0.0847	85	70-130	9	35	mg/kg	05.23.18 07:40	
Ethylbenzene	<0.00202	0.101	0.0972	96	0.0907	91	70-130	7	35	mg/kg	05.23.18 07:40	
m,p-Xylenes	<0.00403	0.202	0.209	103	0.190	95	70-130	10	35	mg/kg	05.23.18 07:40	
o-Xylene	<0.00202	0.101	0.109	108	0.0999	100	70-130	9	35	mg/kg	05.23.18 07:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		97		102		70-130	%	05.23.18 07:40
4-Bromofluorobenzene	91		108		102		70-130	%	05.23.18 07:40

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3051136 Matrix: Soil Date Prep: 05.23.18
Parent Sample Id: 586189-002 MS Sample Id: 586189-002 S MSD Sample Id: 586189-002 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	0.100	0.0501	50	0.0497	49	70-130	1	35	mg/kg	05.23.18 08:16	X
Toluene	<0.00200	0.100	0.0395	40	0.0364	36	70-130	8	35	mg/kg	05.23.18 08:16	X
Ethylbenzene	<0.00200	0.100	0.0294	29	0.0267	26	70-130	10	35	mg/kg	05.23.18 08:16	X
m,p-Xylenes	0.00572	0.200	0.0593	27	0.0531	24	70-130	11	35	mg/kg	05.23.18 08:16	X
o-Xylene	<0.00200	0.100	0.0318	32	0.0266	26	70-130	18	35	mg/kg	05.23.18 08:16	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		81		70-130	%	05.23.18 08:16
4-Bromofluorobenzene	100		87		70-130	%	05.23.18 08:16

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

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

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

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

Final 1.000

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

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Xenco Quote #:
Xenco Job #: 582009

Client / Reporting Information

Company Name / Branch: LT Environmental Inc. Permian Office
Company Address: 3300 North "A" St. Building 1, unit 103, Midland Tx 79705
Email: abaker@ltenv.com Phone No: (432) 704-5178
Project Contact: Adrian Baker
Samplers's Name: Lynda Lambach

Project Information

Project Name/Number: JRU33
Project Location: JRU33
Invoice To: XTO Energy - Kyle Littrell
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	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX 8021 (only 4 BTEX)	TPH (MRO GRO DRO) 8015	Chloride (300.0)	Field Comments
1	FS1A @ 12.5'	12.5'	05/18/18	9:15	S	1								X	X	X	X	
2	SW1A @ 10'	10'	05/18/18	15:15	S	1								X	X	X	X	South wall
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		05/21/2018 14:15	1	2	5/21 15:30	2 5/22 1405
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 1.8; Thermo. Corr. Factor: 0.0°

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such 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: 05/22/2018 02:05:16 PM

Work Order #: 586809

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)?	5.9
#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: 05/22/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/22/2018
Jessica Kramer

Analytical Report 587529

for

LT Environmental, Inc.

Project Manager: Adrian Baker

JRU-33

06-JUL-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-15)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

06-JUL-18

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

Reference: XENCO Report No(s): **587529**
JRU-33
Project Address: NM 2RP 2416

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) 587529. 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. 587529 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 587529

LT Environmental, Inc., Arvada, CO

JRU-33

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW4B @10'	S	05-25-18 09:30	- 10 ft	587529-001
FS 2	S	05-25-18 10:30	- 10 ft	587529-002
SW5	S	05-25-18 10:40	- 10 ft	587529-003
SW6	S	05-25-18 11:50	- 10 ft	587529-004

Sample receipt non conformances and comments:

New Version of report generated due to incorrect sample names. 07/06/18 JKR

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3052094 BTEX by EPA 8021B

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

Certificate of Analysis Summary 587529

LT Environmental, Inc., Arvada, CO

Project Name: JRU-33

Project Id:
Contact: Adrian Baker
Project Location: NM 2RP 2416

Date Received in Lab: Wed May-30-18 10:48 am
Report Date: 06-JUL-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	587529-001		587529-002		587529-003		587529-004					
	Field Id:	SW4B @10'		FS 2		SW5		SW6					
	Depth:	10 ft		10 ft		10 ft		10 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	May-25-18 09:30		May-25-18 10:30		May-25-18 10:40		May-25-18 11:50					
BTEX by EPA 8021B	***Extracted:***	May-31-18 15:00		May-31-18 15:00		May-31-18 15:00		May-31-18 15:00					
	Analyzed:	May-31-18 21:55		May-31-18 22:14		May-31-18 22:32		May-31-18 23:26					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00198	0.00198				
Toluene		<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00198	0.00198				
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00198	0.00198				
m,p-Xylenes		<0.00400	0.00400	<0.00402	0.00402	<0.00401	0.00401	<0.00395	0.00395				
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00198	0.00198				
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00198	0.00198				
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00198	0.00198				
Inorganic Anions by EPA 300	***Extracted:***	May-31-18 08:30		May-31-18 08:30		May-31-18 08:30		May-31-18 08:30					
	Analyzed:	May-31-18 11:34		May-31-18 11:40		May-31-18 11:45		May-31-18 11:50					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		198	4.96	381	4.91	67.9	4.99	262	4.94				
TPH by SW8015 Mod	***Extracted:***	May-31-18 07:00		May-31-18 07:00		May-31-18 07:00		May-31-18 07:00					
	Analyzed:	May-31-18 10:57		May-31-18 12:02		May-31-18 12:24		May-31-18 12:45					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<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	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 587529

LT Environmental, Inc., Arvada, CO

JRU-33

Sample Id:	**SW4B @10'**	Matrix:	Soil	Date Received:	05.30.18 10.48
Lab Sample Id:	587529-001	Date Collected:	05.25.18 09.30	Sample Depth:	10 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**198**	4.96	mg/kg	05.31.18 11.34		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.31.18 10.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.31.18 10.57	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.31.18 10.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.31.18 10.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	05.31.18 10.57	
o-Terphenyl	84-15-1	97	%	70-135	05.31.18 10.57	

Certificate of Analytical Results 587529

LT Environmental, Inc., Arvada, CO

JRU-33

Sample Id:	**SW4B @10'**	Matrix:	Soil	Date Received:	05.30.18 10.48
Lab Sample Id:	587529-001	Date Collected:	05.25.18 09.30	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	05.31.18 15.00	Basis:	Wet Weight
Seq Number:	3052094				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.31.18 21.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.31.18 21.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.31.18 21.55	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.31.18 21.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.31.18 21.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.31.18 21.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.31.18 21.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	127	%	70-130	05.31.18 21.55	
1,4-Difluorobenzene	540-36-3	96	%	70-130	05.31.18 21.55	

Certificate of Analytical Results 587529

LT Environmental, Inc., Arvada, CO

JRU-33

Sample Id:	**FS 2**	Matrix:	Soil	Date Received:	05.30.18 10.48
Lab Sample Id:	587529-002	Date Collected:	05.25.18 10.30	Sample Depth:	10 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**381**	4.91	mg/kg	05.31.18 11.40		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.31.18 12.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.31.18 12.02	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.31.18 12.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.31.18 12.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	05.31.18 12.02	
o-Terphenyl	84-15-1	94	%	70-135	05.31.18 12.02	

Certificate of Analytical Results 587529

LT Environmental, Inc., Arvada, CO

JRU-33

Sample Id:	**FS 2**	Matrix:	Soil	Date Received:	05.30.18 10.48
Lab Sample Id:	587529-002	Date Collected:	05.25.18 10.30	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	05.31.18 15.00	Basis:	Wet Weight
Seq Number:	3052094				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.31.18 22.14	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.31.18 22.14	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.31.18 22.14	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.31.18 22.14	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.31.18 22.14	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.31.18 22.14	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.31.18 22.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	05.31.18 22.14	
4-Bromofluorobenzene	460-00-4	113	%	70-130	05.31.18 22.14	

LT Environmental, Inc., Arvada, CO

JRU-33

Sample Id:	**SW5**	Matrix:	Soil	Date Received:	05.30.18 10.48
Lab Sample Id:	587529-003	Date Collected:	05.25.18 10.40	Sample Depth:	10 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**67.9**	4.99	mg/kg	05.31.18 11.45		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.31.18 12.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.31.18 12.24	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.31.18 12.24	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.31.18 12.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	05.31.18 12.24	
o-Terphenyl	84-15-1	95	%	70-135	05.31.18 12.24	

Certificate of Analytical Results 587529

LT Environmental, Inc., Arvada, CO

JRU-33

Sample Id:	**SW5**	Matrix:	Soil	Date Received:	05.30.18 10.48
Lab Sample Id:	587529-003	Date Collected:	05.25.18 10.40	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	05.31.18 15.00	Basis:	Wet Weight
Seq Number:	3052094				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.31.18 22.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.31.18 22.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.31.18 22.32	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.31.18 22.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.31.18 22.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.31.18 22.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.31.18 22.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	125	%	70-130	05.31.18 22.32	
1,4-Difluorobenzene	540-36-3	105	%	70-130	05.31.18 22.32	

LT Environmental, Inc., Arvada, CO

JRU-33

Sample Id:	**SW6**	Matrix:	Soil	Date Received:	05.30.18 10.48
Lab Sample Id:	587529-004	Date Collected:	05.25.18 11.50	Sample Depth:	10 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**262**	4.94	mg/kg	05.31.18 11.50		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.31.18 12.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.31.18 12.45	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.31.18 12.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.31.18 12.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	05.31.18 12.45	
o-Terphenyl	84-15-1	97	%	70-135	05.31.18 12.45	

Certificate of Analytical Results 587529

LT Environmental, Inc., Arvada, CO

JRU-33

Sample Id:	**SW6**	Matrix:	Soil	Date Received:	05.30.18 10.48
Lab Sample Id:	587529-004	Date Collected:	05.25.18 11.50	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	05.31.18 15.00	Basis:	Wet Weight
Seq Number:	3052094				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.31.18 23.26	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.31.18 23.26	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.31.18 23.26	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	05.31.18 23.26	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.31.18 23.26	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.31.18 23.26	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.31.18 23.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	05.31.18 23.26	
1,4-Difluorobenzene	540-36-3	84	%	70-130	05.31.18 23.26	

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 587529

LT Environmental, Inc.

JRU-33

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

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

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

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5.25	250	277	109	278	109	90-110	0	20	mg/kg	05.31.18 09:38	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3051902 Matrix: Soil Date Prep: 05.31.18
Parent Sample Id: 587528-001 MS Sample Id: 587528-001 S MSD Sample Id: 587528-001 SD

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

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

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

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

MS/MSD Percent Recovery
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 587529

LT Environmental, Inc.

JRU-33

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

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

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

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3052094 Matrix: Solid Date Prep: 05.31.18
MB Sample Id: 7655894-1-BLK LCS Sample Id: 7655894-1-BKS LCSD Sample Id: 7655894-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.102	102	0.0961	96	70-130	6	35	mg/kg	05.31.18 18:01	
Toluene	<0.00200	0.100	0.0948	95	0.0990	99	70-130	4	35	mg/kg	05.31.18 18:01	
Ethylbenzene	<0.00200	0.100	0.0949	95	0.0962	96	70-130	1	35	mg/kg	05.31.18 18:01	
m,p-Xylenes	<0.00401	0.200	0.201	101	0.202	100	70-130	0	35	mg/kg	05.31.18 18:01	
o-Xylene	<0.00200	0.100	0.109	109	0.107	107	70-130	2	35	mg/kg	05.31.18 18:01	

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

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

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

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

MS/MSD Percent Recovery [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

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XENCO LABORATORIES

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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 # 587529

Client / Reporting Information

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

Project Information

Project Name/Number: IRU 33
Project Location: NM 2RP 2416
Invoice To: XTO Energy - Kyle Littrell
PO Number:

Analytical Information

BTEX 8021 (only BTEX)
TPH (MRO, GRO, DRO) 8015
Chloride (300.0)

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 (MRO, GRO, DRO) 8015	Chloride (300.0)	Field Comments
1	SW1B @ 10'	10'	05/25/18	9:30	S	1								X	X	X	X	South wall
2	FS 2	↓	↓	10:30	S	1								X	X	X	X	South floor
3	SW #4			10:40	S	1								X	X	X	X	East wall
4	SW #5			11:50	S	1								X	X	X	X	west wall
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking #

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	Frank Comfort	05/25/18 15:30	Matthew Dow	Matthew Dow	5/25/18 1550	Timothy P. Elliott
2						
3		5/29 1530				
4						
5						

Custody Seal #
Preserved where applicable
On Ice: X
Cooler Temp. 3.0°C
Thermo. Corr. Factor 1.0 0.0

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

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CHAIN OF CUSTODY

Page 1 Of 1

Xenco Quote #
Xenco Job # 587529

Client / Reporting Information

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

Project Information

Project Name/Number: JRU 33
Project Location: NM 2RP 2416
Invoice To: XTO Energy - Kyle Littrell
PO Number:

Analytical Information

No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX 8021 (only BTEX)	TPH (MRO, GRO, DRO) 8015	Chloride (300.0)	Field Comments
1	SW1B @ 10'	10'	05/25/18	9:30	S	1								X	X	X	X	South wall
2	FS 2	↓	↓	10:30	S	1								X	X	X	X	South floor
3	SW 4	↓	↓	10:40	S	1								X	X	X	X	East wall
4	SW 5	↓	↓	11:50	S	1								X	X	X	X	west wall
5																		
6																		
7																		
8																		
9																		
10																		

Matrix Codes

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

Turnaround Time (Business days)

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- [x] 5 Day TAT
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- [ ] 3 Day EMERGENCY

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- [ ] Level IV (Full Data Pkg /raw data)
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- [ ] TRRP Checklist

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

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 [signature]	05/25/18 15:30	1 [signature]	2 [signature]	5/25/18 1550	2 Timothy P. Elliott
Relinquished by: 3 [signature]	Date Time: 5/29 1530	Received By: 3	Relinquished By: 4	Date Time: 5-30-18 10:40	Received By: 4 [signature]
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: X; Cooler Temp.: 3.0°C; Thermo. Corr. Factor: R8 0°

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

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/30/2018 10:48:28 AM

Work Order #: 587529

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**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: 05/30/2018

Brianna Teel

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

Jessica Kramer