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

August 6, 2018

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

RE: Closure Request
James Ranch Unit #76
Remediation Permit Number 2RP-4715
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 the James Ranch Unit (JRU) #76 (Site) in Lot 5, Section 6, Township 23 South, Range 31 East, in Eddy County, New Mexico (Figure 1). The purpose of the excavation activities was to address impact to soil after a corroded subsurface flowline released fluid. The release of approximately 51 barrels (bbls) of crude oil and 4 bbls of produced water was discovered on April 9, 2018. The release affected approximately 1,100 square feet of the caliche pad and a small edge of the pasture bordering the east side of the well pad, extending about 100 feet north of the release point. Approximately 3 bbl of oil and 5 bbls of produced water were recovered with a vacuum truck. The well was shut down and the flowline was repaired. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on April 23, 2018, and was assigned Remediation Permit Number (RP) 2RP-4715. Based on the results of the confirmation sampling event conducted after impacted soil was removed, XTO is requesting no further action for this release.

BACKGROUND

Depth to groundwater at the Site is estimated to be approximately 76 feet below ground surface (bgs) based on the nearest water well data and known aquifer properties. The nearest permitted water well with depth to water data is C 02492, located approximately 1.02 miles southeast of the Site, with a depth to groundwater of 85 feet bgs and a total depth of 135 feet bgs. The closest surface water to the Site is an evaporation pond located approximately 4,335 feet south of the Site. The Site is greater than 200 feet from any private domestic water source and greater than 1,000 feet from a water source. Based on these criteria, the NMOCD site ranking for remediation action levels is 10, and the following remediation action levels apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg benzene, toluene, ethylbenzene, and total xylenes (BTEX); and 1,000 mg/kg total petroleum hydrocarbons (TPH). Based on standard practice in this region, LTE proposes a site-specific chloride action level of 600 mg/kg or within 10 percent (%) of the background concentrations.

EXCAVATION ACTIVITIES

Excavation activities took place from April 24 through April 27, 2018. To delineate hydrocarbon and chloride impacts to soil and to direct excavation activities, LTE screened soil samples using a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips. The excavation was approximately 1,100 square feet in area with a depth of approximately 4.5 feet bgs throughout the excavation. The horizontal extent of the excavation was approximately 10 feet by 100 feet and is illustrated on Figure 2. Approximately 120 cubic yards of impacted soil were removed using a skidsteer. Impacted soil was transported and properly disposed of at Lea Land Landfill, in Eunice, New Mexico.

From April 24 through April 27, 2018, LTE collected 15 soil samples, to assess current site conditions. Soil sample locations were based on visual inspection of the Site and the information provided on the C-141 Form and are depicted on Figure 2. The soil samples were collected and placed directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis, and immediately placed on ice. The soil samples were shipped at 4 degrees Celsius (°C) under strict chain-of-custody procedures to Xenco Laboratories in Midland, Texas, for analysis of BTEX by United States Environmental Protection Agency (USEPA) Method 8021B, TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-motor oil range organics (MRO) by USEPA Method 8015M, and chloride by USEPA Method 300.

On May 2 and June 11, 2018, LTE personnel returned to the Site to remediate areas of residual impact to soil as indicated by laboratory analytical results exceeding the NMOCD remediation action level for chloride. LTE collected soil samples FS12A@4', SW14A, and FS12B following further excavation activities in the vicinity the FS12 and SW14 soil sampling locations. The soil sample was collected, handled, and analyzed as described above. Soil sample locations and analytical results are depicted on Figure 2.

ANALYTICAL RESULTS

Laboratory analytical results indicated BTEX and TPH concentrations were complaint with the NMOCD remediation action levels in all soil samples. Laboratory analytical results indicated soil sample FS12 and SW14 initially exceeded the site-specific remediation action level for chloride, with values of 2,710 mg/kg and 14,200 mg/kg, respectively. The excavation was completed in the areas of soil sample FS12 and SW14, and the analytical results for confirmation soil samples FS12B and SW14A indicated a chloride concentration of 38.5 mg/kg and 174 mg/kg, respectively, which is compliant with the site-specific remediation action level. Laboratory analytical results are presented on Figure 2, summarized in Table 1, and the complete laboratory analytical reports are included as Attachment 2.

CONCLUSIONS

Initial visual observations indicated evidence of the release east of the wellhead. XTO removed impacted soil and laboratory analytical results for confirmation soil samples collected from the extent of the excavation indicate that concentrations of BTEX, TPH, and chloride do not exceed

NMOCD site-specific remediation action levels. XTO has successfully removed the impacted soil at the Site and requests no further action for this release. Upon approval of this request, XTO will backfill the excavation with material purchased locally. An updated NMOCD Form C-141 is included with Attachment 1.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Adrian Baker
Project Geologist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Maria Pruett, NMOCD
Ryan Mann, State Land Office
Mark Naranjo, State Land Office

Attachments:

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

FIGURES

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

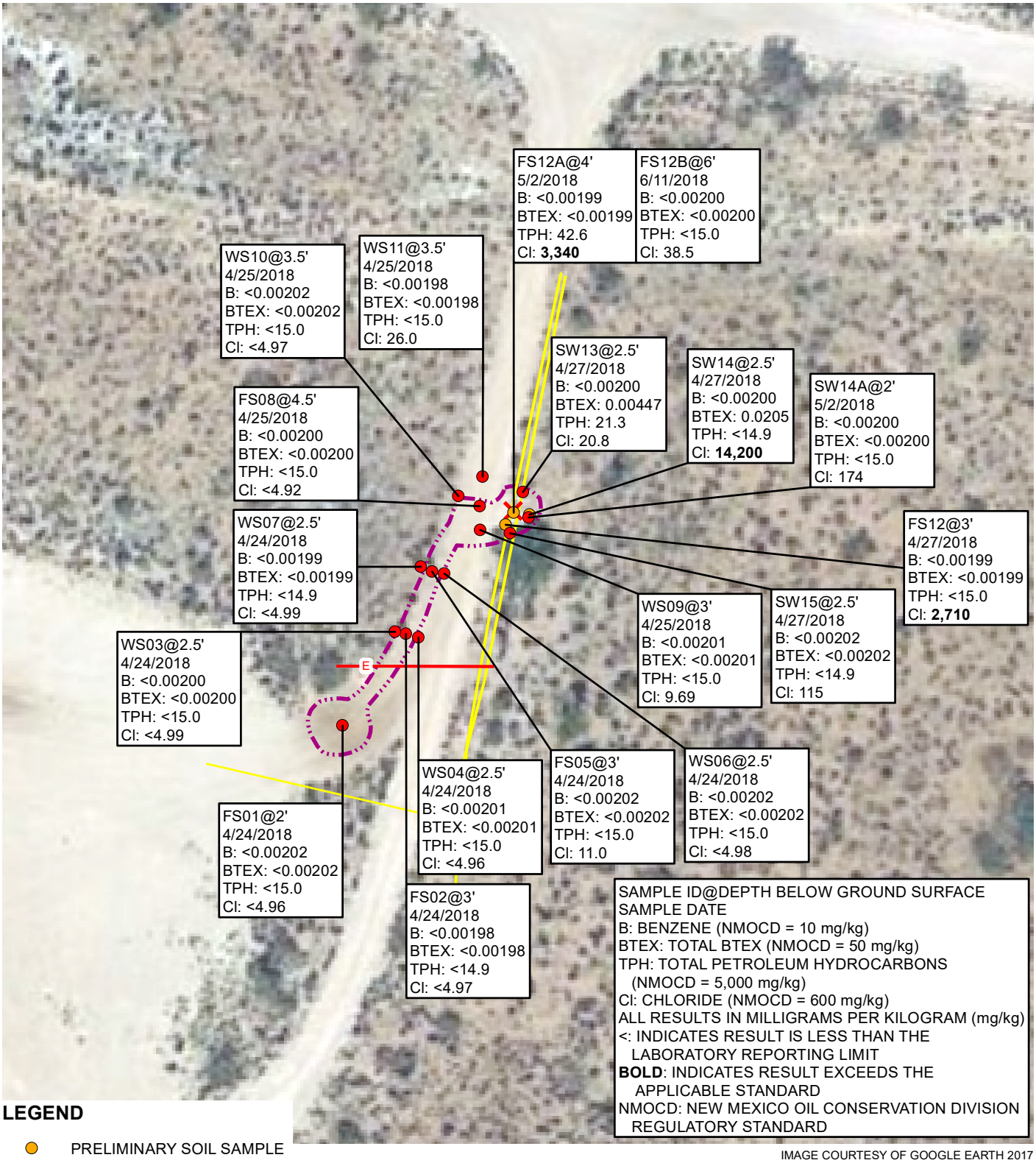
N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-4715

FIGURE 1
SITE LOCATION MAP
JAMES RANCH UNIT 76
LOT 5 SEC 6 T23S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918105_JRU 76\012918105_FIG01_SL_2018.mxd



LEGEND

- PRELIMINARY SOIL SAMPLE
- FINAL CONFIRMATION SOIL SAMPLE
- RELEASE LOCATION
- STEEL FLOW LINE
- E — ELECTRICAL LINE
- RELEASE PATH

NOTE: REMEDIATION PERMIT NUMBER 2RP-4715

FIGURE 2
SOIL SAMPLE LOCATIONS
JAMES RANCH UNIT 76
LOT 5 SEC 6 T23S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918105_JRU 76\012918105_FIG02_SITE_2018_4715.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS
JAMES RANCH UNIT 76
REMEDIATION PERMIT NUMBER 2RP-4715
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)
FS01	2	4/24/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<4.96
FS02	3	4/24/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	<14.9	<14.9	<14.9	<4.97
WS03	2.5	4/24/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<4.99
WS04	2.5	4/24/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<4.96
FS05	3	4/24/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	11.0
WS06	2.5	4/24/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<4.98
WS07	2.5	4/24/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<4.99
FS08	4.5	4/25/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<4.92
WS09	3	4/25/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	9.69
WS10	3.5	4/25/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<4.97
WS11	3.5	4/25/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	26.0
FS12	3	4/27/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	**2,710**
FS12A@4'	4	5/2/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	42.6	<15.0	42.6	**3,340**
FS12B	6	6/11/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	38.5
SW13	2.5	4/27/2018	<0.00200	<0.00200	<0.00200	0.00447	0.00447	<15.0	21.3	<15.0	21.3	20.8
SW14	2.5	4/27/2018	<0.00200	0.00261	0.00224	0.0156	0.0205	<14.9	<14.9	<14.9	<14.9	**14,200**
SW14A	2	5/2/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	174
SW15	2.5	4/27/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<14.9	<14.9	<14.9	<14.9	115
NMOCD Remediation Action Levels			10	NE	NE	NE	50	NE	NE	NE	1,000	600

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

ATTACHMENT 1

INITIAL/FINAL NMOCD FORM C-141

Advancing Opportunity

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

APR 23 2018

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

DISTRICT II-ARTESIA O.C.D.

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

nAB1811530564 Rapco2100737

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company XTO Energy	Contact Kyle Littrell
Address 522 W Mermod, Suite 704 Carlsbad, N M 88220	Telephone No 432-221-7331
Facility Name James Ranch Unit 76	Facility Type Exploration and Production

Surface Owner Federal	Mineral Owner Federal	API No 30-01529173

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	6	23S	31E	1900	North	360	West	Eddy

Latitude 32 335588 Longitude -103 824860 NAD83

NATURE OF RELEASE

Type of Release Oil and produced water	Volume of Release 4 bbl produced water 1 51bbl oil	Volume Recovered 3 5bbl produced water, 1 5bbl oil
Source of Release Flowline	Date and Hour of Occurrence 4/9/2018, AM	Date and Hour of Discovery 4/9/2018 11 00 AM
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour N/A	
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 *
Release was due to corrosion on buried flowline Flowline was repaired and facility returned to production

Describe Area Affected and Cleanup Action Taken *
Fluid flowed southwest down the lease road and settled at the entrance of the well pad A vac truck was dispatched and recovered 5bbl, with 51bbl remaining in the caliche An environmental crew has been retained to remediate location

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 Bryan Jacob Foust	Approved by Environmental Specialist
Title Environmental Coordinator	Approval Date 4/24/18 Expiration Date N/A
E-mail Address Bryan_Foust@xtoenergy com	Conditions of Approval See attached Attached ☒ SRP-4715
Date 4/23/2018 Phone 432-266-2663	

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on **4/23/18** regarding an unauthorized release The information contained on that form has been entered into our incident database and remediation case number 2RP 4715 has been assigned **Please refer to this case number in all future correspondence**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment Our regulations (19 15 29 11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19 15 30 NMAC* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District II office in Artesia on or before 5/23/18. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report Modest extensions of time to these deadlines may be granted, but only with acceptable justification**

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

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

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

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

- Composite sampling is not generally allowed

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

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

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

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

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

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

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

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 / BOPCO260737	Contact: Kyle Littrell
Address: 522 W Mermod, Suite 704, Carlsbad, NM 88220	Telephone No. 432-221-7331
Facility Name James Ranch Unit 76	Facility Type Exploration and Production

Surface Owner State of New Mexico	Mineral Owner State of New Mexico	API No. 30-015-37063

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
Lot 5	6	23S	31E					EDDY

Latitude N 32.335694 **Longitude** -103.823671 NAD83

NATURE OF RELEASE

Type of Release Oil and Produced Water	Volume of Release 4 bbl produced water, 1.51 bbl oil	Volume Recovered 3.5 bbl produced water, 1.5 bbls oil
Source of Release 2 7/8" flow line	Date and Hour of Occurrence 4/9/18, AM	Date and Hour of Discovery 4/9/2018 11 00 AM
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom?	Date and Hour N/A	
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.*
Release was due to corrosion on buried flowline. Flowline was repaired and facility returned to production.

Describe Area Affected and Cleanup Action Taken.*

Fluid flowed southwest down the lease road and settled at the entrance of the well pad. A vac truck was dispatched and removed 5 bbl, with .51 bbl remaining in the caliche. An environmental crew has been retained to remediate location.

LTE excavated soil and collected 18 soil samples from April 24 to June 11, 2018, to confirm compliance with the NMOCD site-specific ranking criteria for BTEX, TPH, and chloride. XTO requests no further action for the release.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Kyle Littrell	Approved by Environmental Specialist:	
Title: SH&E Coordinator	Approval Date:	Expiration Date:
E-mail Address: Kyle_Littrell@xtoenergy.com	Conditions of Approval:	Attached ☐
Date: 8/01/2018 Phone:		

* Attach Additional Sheets If Necessary

ATTACHMENT 2

LABORATORY ANALYTICAL REPORTS

Advancing Opportunity

Analytical Report 584210

for

LT Environmental, Inc.

Project Manager: Adrian Baker

JRU 76

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

01-MAY-18

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

Reference: XENCO Report No(s): **584210**
JRU 76
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) 584210. 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. 584210 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 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS 12	S	04-27-18 14:35	- 3 ft	584210-001
SW1 3	S	04-27-18 14:40	2 - 5 ft	584210-002
SW1 4	S	04-27-18 14:45	2 - 5 ft	584210-003
SW15	S	04-27-18 14:50	2 - 5 ft	584210-004
FS01	S	04-24-18 13:20	- 2 ft	584210-005
FS02	S	04-24-18 13:10	- 3 ft	584210-006
WS03	S	04-24-18 13:05	- 2.5 ft	584210-007
WS04	S	04-24-18 13:00	- 2.5 ft	584210-008
FS05	S	04-24-18 13:30	- 3 ft	584210-009
WS06	S	04-24-18 13:37	- 2.5 ft	584210-010
WS07	S	04-24-18 13:45	- 2.5 ft	584210-011
FS08	S	04-25-18 09:49	- 4.5 ft	584210-012
WS09	S	04-25-18 10:04	- 3 ft	584210-013
WS10	S	04-25-18 09:56	- 3.5 ft	584210-014
WS11	S	04-25-18 10:15	- 3.5 ft	584210-015

Client Name: LT Environmental, Inc.
Project Name: JRU 76

Project ID:
Work Order Number(s): *584210*

Report Date: *01-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-3048431 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 584210

LT Environmental, Inc., Arvada, CO

Project Name: JRU 76

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

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

Analysis Requested	*Lab Id:*	584210-001		584210-002		584210-003		584210-004		584210-005		584210-006	
	Field Id:	FS 12		SW1 3		SW1 4		SW15		FS01		FS02	
	Depth:	3 ft		2-5 ft		2-5 ft		2-5 ft		2 ft		3 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-27-18 14:35		Apr-27-18 14:40		Apr-27-18 14:45		Apr-27-18 14:50		Apr-24-18 13:20		Apr-24-18 13:10	
BTEX by EPA 8021B	*Extracted:*	Apr-30-18 17:00		Apr-30-18 17:00		Apr-30-18 17:00		Apr-30-18 17:00		Apr-30-18 17:00		Apr-30-18 17:00	
	Analyzed:	Apr-30-18 21:27		Apr-30-18 21:48		Apr-30-18 22:09		Apr-30-18 22:29		Apr-30-18 22:51		Apr-30-18 23:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00198	0.00198
Toluene		<0.00199	0.00199	<0.00200	0.00200	0.00261	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00198	0.00198
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	0.00224	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00198	0.00198
m,p-Xylenes		<0.00398	0.00398	0.00447	0.00399	0.0104	0.00401	<0.00403	0.00403	<0.00404	0.00404	<0.00397	0.00397
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	0.00521	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00198	0.00198
Total Xylenes		<0.00199	0.00199	0.00447	0.00200	0.0156	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00198	0.00198
Total BTEX		<0.00199	0.00199	0.00447	0.00200	0.0205	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00198	0.00198
Inorganic Anions by EPA 300	*Extracted:*	Apr-30-18 15:30		Apr-30-18 15:30		Apr-30-18 15:30		Apr-30-18 15:30		Apr-30-18 17:30		Apr-30-18 17:30	
	Analyzed:	Apr-30-18 20:10		Apr-30-18 20:16		Apr-30-18 20:22		Apr-30-18 20:28		Apr-30-18 21:03		Apr-30-18 21:21	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2710	24.8	20.8	4.96	14200	99.6	115	4.96	<4.96	4.96	<4.97	4.97
TPH by SW8015 Mod	*Extracted:*	Apr-30-18 14:00		Apr-30-18 14:00		Apr-30-18 14:00		Apr-30-18 14:00		Apr-30-18 14:00		Apr-30-18 14:00	
	Analyzed:	Apr-30-18 16:41		Apr-30-18 18:03		Apr-30-18 18:30		Apr-30-18 18:56		Apr-30-18 19:23		Apr-30-18 19:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0	<14.9	14.9
Diesel Range Organics (DRO)		<15.0	15.0	21.3	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0	<14.9	14.9
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0	<14.9	14.9
Total TPH		<15.0	15.0	21.3	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0	<14.9	14.9

Certificate of Analysis Summary 584210

LT Environmental, Inc., Arvada, CO

Project Name: JRU 76

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

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

Analysis Requested	*Lab Id:*	584210-007		584210-008		584210-009		584210-010		584210-011		584210-012	
	Field Id:	WS03		WS04		FS05		WS06		WS07		FS08	
	Depth:	2.5 ft		2.5 ft		3 ft		2.5 ft		2.5 ft		4.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-24-18 13:05		Apr-24-18 13:00		Apr-24-18 13:30		Apr-24-18 13:37		Apr-24-18 13:45		Apr-25-18 09:49	
BTEX by EPA 8021B	*Extracted:*	Apr-30-18 17:00		Apr-30-18 17:00		Apr-30-18 17:00		Apr-30-18 17:00		Apr-30-18 17:00		Apr-30-18 17:00	
	Analyzed:	Apr-30-18 23:32		Apr-30-18 23:53		May-01-18 00:14		May-01-18 00:36		May-01-18 02:01		May-01-18 02:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00399	0.00399	<0.00402	0.00402	<0.00403	0.00403	<0.00403	0.00403	<0.00398	0.00398	<0.00399	0.00399
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200
Inorganic Anions by EPA 300	*Extracted:*	Apr-30-18 17:30		Apr-30-18 17:30		Apr-30-18 17:30		Apr-30-18 17:30		Apr-30-18 17:30		Apr-30-18 17:30	
	Analyzed:	Apr-30-18 21:27		Apr-30-18 21:33		Apr-30-18 21:39		Apr-30-18 21:57		Apr-30-18 22:03		Apr-30-18 22:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.99	4.99	<4.96	4.96	11.0	4.94	<4.98	4.98	<4.99	4.99	<4.92	4.92
TPH by SW8015 Mod	*Extracted:*	Apr-30-18 14:00		Apr-30-18 14:00		Apr-30-18 14:00		Apr-30-18 14:00		Apr-30-18 14:00		Apr-30-18 14:00	
	Analyzed:	Apr-30-18 20:17		Apr-30-18 20:43		Apr-30-18 21:10		Apr-30-18 21:37		Apr-30-18 22:56		Apr-30-18 23:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0

Certificate of Analysis Summary 584210

LT Environmental, Inc., Arvada, CO

Project Name: JRU 76

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

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

Analysis Requested									
	Lab Id:	584210-013		584210-014		584210-015			
	Field Id:	WS09		WS10		WS11			
	Depth:	3 ft		3.5 ft		3.5 ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Apr-25-18 10:04		Apr-25-18 09:56		Apr-25-18 10:15			
BTEX by EPA 8021B	***Extracted:***	Apr-30-18 17:00		Apr-30-18 17:00		Apr-30-18 17:00			
	Analyzed:	May-01-18 02:44		May-01-18 03:06		May-01-18 03:27			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		<0.00201	0.00201	<0.00202	0.00202	<0.00198	0.00198		
Toluene		<0.00201	0.00201	<0.00202	0.00202	<0.00198	0.00198		
Ethylbenzene		<0.00201	0.00201	<0.00202	0.00202	<0.00198	0.00198		
m,p-Xylenes		<0.00402	0.00402	<0.00404	0.00404	<0.00397	0.00397		
o-Xylene		<0.00201	0.00201	<0.00202	0.00202	<0.00198	0.00198		
Total Xylenes		<0.00201	0.00201	<0.00202	0.00202	<0.00198	0.00198		
Total BTEX		<0.00201	0.00201	<0.00202	0.00202	<0.00198	0.00198		
Inorganic Anions by EPA 300	***Extracted:***	Apr-30-18 17:30		Apr-30-18 17:30		Apr-30-18 17:30			
	Analyzed:	Apr-30-18 22:15		Apr-30-18 22:21		Apr-30-18 22:27			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		9.69	4.98	<4.97	4.97	26.0	4.93		
TPH by SW8015 Mod	***Extracted:***	Apr-30-18 14:00		Apr-30-18 14:00		Apr-30-18 14:00			
	Analyzed:	Apr-30-18 23:52		May-01-18 00:18		May-01-18 00:46			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0		

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**FS 12**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-001	Date Collected:	04.27.18 14.35	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 15.30	Basis:	Wet Weight
Seq Number:	3048466				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2710**	24.8	mg/kg	04.30.18 20.10		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.30.18 16.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.30.18 16.41	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	04.30.18 16.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.30.18 16.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	04.30.18 16.41	
o-Terphenyl	84-15-1	98	%	70-135	04.30.18 16.41	

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**FS 12**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-001	Date Collected:	04.27.18 14.35	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.30.18 21.27	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.30.18 21.27	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.30.18 21.27	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.30.18 21.27	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.30.18 21.27	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.30.18 21.27	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.30.18 21.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.30.18 21.27	
1,4-Difluorobenzene	540-36-3	98	%	70-130	04.30.18 21.27	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**SW1 3**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-002	Date Collected:	04.27.18 14.40	Sample Depth:	2 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 15.30	Basis:	Wet Weight
Seq Number:	3048466				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.8**	4.96	mg/kg	04.30.18 20.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.30.18 18.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	**21.3**	15.0	mg/kg	04.30.18 18.03		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	04.30.18 18.03	U	1
Total TPH	PHC635	**21.3**	15.0	mg/kg	04.30.18 18.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	04.30.18 18.03	
o-Terphenyl	84-15-1	94	%	70-135	04.30.18 18.03	

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**SW1 3**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-002	Date Collected:	04.27.18 14.40	Sample Depth:	2 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.30.18 21.48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.30.18 21.48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.30.18 21.48	U	1
m,p-Xylenes	179601-23-1	**0.00447**	0.00399	mg/kg	04.30.18 21.48		1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.30.18 21.48	U	1
Total Xylenes	1330-20-7	**0.00447**	0.00200	mg/kg	04.30.18 21.48		1
Total BTEX		**0.00447**	0.00200	mg/kg	04.30.18 21.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.30.18 21.48	
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.30.18 21.48	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**SW1 4**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-003	Date Collected:	04.27.18 14.45	Sample Depth:	2 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 15.30	Basis:	Wet Weight
Seq Number:	3048466				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14200**	99.6	mg/kg	04.30.18 20.22		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.30.18 18.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.30.18 18.30	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	04.30.18 18.30	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.30.18 18.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	04.30.18 18.30	
o-Terphenyl	84-15-1	93	%	70-135	04.30.18 18.30	

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**SW1 4**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-003	Date Collected:	04.27.18 14.45	Sample Depth:	2 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.30.18 22.09	U	1
Toluene	108-88-3	**0.00261**	0.00200	mg/kg	04.30.18 22.09		1
Ethylbenzene	100-41-4	**0.00224**	0.00200	mg/kg	04.30.18 22.09		1
m,p-Xylenes	179601-23-1	**0.0104**	0.00401	mg/kg	04.30.18 22.09		1
o-Xylene	95-47-6	**0.00521**	0.00200	mg/kg	04.30.18 22.09		1
Total Xylenes	1330-20-7	**0.0156**	0.00200	mg/kg	04.30.18 22.09		1
Total BTEX		**0.0205**	0.00200	mg/kg	04.30.18 22.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.30.18 22.09	
1,4-Difluorobenzene	540-36-3	99	%	70-130	04.30.18 22.09	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**SW15**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-004	Date Collected:	04.27.18 14.50	Sample Depth:	2 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 15.30	Basis:	Wet Weight
Seq Number:	3048466				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**115**	4.96	mg/kg	04.30.18 20.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.30.18 18.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.30.18 18.56	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	04.30.18 18.56	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.30.18 18.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	04.30.18 18.56	
o-Terphenyl	84-15-1	92	%	70-135	04.30.18 18.56	

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**SW15**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-004	Date Collected:	04.27.18 14.50	Sample Depth:	2 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.30.18 22.29	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.30.18 22.29	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.30.18 22.29	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.30.18 22.29	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.30.18 22.29	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.30.18 22.29	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.30.18 22.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	04.30.18 22.29	
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.30.18 22.29	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-005	Date Collected:	04.24.18 13.20	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 17.30	Basis:	Wet Weight
Seq Number:	3048470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	04.30.18 21.03	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.30.18 19.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.30.18 19.23	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	04.30.18 19.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.30.18 19.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	04.30.18 19.23	
o-Terphenyl	84-15-1	97	%	70-135	04.30.18 19.23	

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-005	Date Collected:	04.24.18 13.20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.30.18 22.51	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.30.18 22.51	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.30.18 22.51	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.30.18 22.51	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.30.18 22.51	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.30.18 22.51	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.30.18 22.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	04.30.18 22.51	
1,4-Difluorobenzene	540-36-3	96	%	70-130	04.30.18 22.51	

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-006	Date Collected:	04.24.18 13.10	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 17.30	Basis:	Wet Weight
Seq Number:	3048470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	04.30.18 21.21	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.30.18 19.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.30.18 19.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	04.30.18 19.49	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.30.18 19.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	04.30.18 19.49	
o-Terphenyl	84-15-1	91	%	70-135	04.30.18 19.49	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-006	Date Collected:	04.24.18 13.10	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.30.18 23.10	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.30.18 23.10	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.30.18 23.10	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.30.18 23.10	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.30.18 23.10	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.30.18 23.10	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.30.18 23.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	04.30.18 23.10	
4-Bromofluorobenzene	460-00-4	100	%	70-130	04.30.18 23.10	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS03**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-007	Date Collected:	04.24.18 13.05	Sample Depth:	2.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 17.30	Basis:	Wet Weight
Seq Number:	3048470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	04.30.18 21.27	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.30.18 20.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.30.18 20.17	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	04.30.18 20.17	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.30.18 20.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	04.30.18 20.17	
o-Terphenyl	84-15-1	98	%	70-135	04.30.18 20.17	

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS03**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-007	Date Collected:	04.24.18 13.05	Sample Depth:	2.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.30.18 23.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.30.18 23.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.30.18 23.32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.30.18 23.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.30.18 23.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.30.18 23.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.30.18 23.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.30.18 23.32	
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.30.18 23.32	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS04**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-008	Date Collected:	04.24.18 13.00	Sample Depth:	2.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 17.30	Basis:	Wet Weight
Seq Number:	3048470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	04.30.18 21.33	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.30.18 20.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.30.18 20.43	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	04.30.18 20.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.30.18 20.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	04.30.18 20.43	
o-Terphenyl	84-15-1	86	%	70-135	04.30.18 20.43	

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS04**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-008	Date Collected:	04.24.18 13.00	Sample Depth:	2.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.30.18 23.53	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.30.18 23.53	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.30.18 23.53	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.30.18 23.53	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.30.18 23.53	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.30.18 23.53	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.30.18 23.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.30.18 23.53	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.30.18 23.53	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-009	Date Collected:	04.24.18 13.30	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 17.30	Basis:	Wet Weight
Seq Number:	3048470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.0**	4.94	mg/kg	04.30.18 21.39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.30.18 21.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.30.18 21.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	04.30.18 21.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.30.18 21.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	04.30.18 21.10	
o-Terphenyl	84-15-1	81	%	70-135	04.30.18 21.10	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-009	Date Collected:	04.24.18 13.30	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.01.18 00.14	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.01.18 00.14	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.01.18 00.14	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.01.18 00.14	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.01.18 00.14	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.01.18 00.14	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.01.18 00.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	70-130	05.01.18 00.14	
4-Bromofluorobenzene	460-00-4	95	%	70-130	05.01.18 00.14	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS06**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-010	Date Collected:	04.24.18 13.37	Sample Depth:	2.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 17.30	Basis:	Wet Weight
Seq Number:	3048470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	04.30.18 21.57	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.30.18 21.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.30.18 21.37	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	04.30.18 21.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.30.18 21.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	04.30.18 21.37	
o-Terphenyl	84-15-1	87	%	70-135	04.30.18 21.37	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS06**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-010	Date Collected:	04.24.18 13.37	Sample Depth:	2.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.01.18 00.36	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.01.18 00.36	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.01.18 00.36	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.01.18 00.36	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.01.18 00.36	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.01.18 00.36	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.01.18 00.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	05.01.18 00.36	
4-Bromofluorobenzene	460-00-4	93	%	70-130	05.01.18 00.36	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS07**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-011	Date Collected:	04.24.18 13.45	Sample Depth:	2.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 17.30	Basis:	Wet Weight
Seq Number:	3048470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	04.30.18 22.03	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.30.18 22.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	04.30.18 22.56	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	04.30.18 22.56	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	04.30.18 22.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	04.30.18 22.56	
o-Terphenyl	84-15-1	86	%	70-135	04.30.18 22.56	

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS07**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-011	Date Collected:	04.24.18 13.45	Sample Depth:	2.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.01.18 02.01	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.01.18 02.01	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.01.18 02.01	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.01.18 02.01	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.01.18 02.01	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.01.18 02.01	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.01.18 02.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	05.01.18 02.01	
1,4-Difluorobenzene	540-36-3	95	%	70-130	05.01.18 02.01	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-012	Date Collected:	04.25.18 09.49	Sample Depth:	4.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 17.30	Basis:	Wet Weight
Seq Number:	3048470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.92	4.92	mg/kg	04.30.18 22.09	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.30.18 23.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.30.18 23.24	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	04.30.18 23.24	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.30.18 23.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	04.30.18 23.24	
o-Terphenyl	84-15-1	93	%	70-135	04.30.18 23.24	

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**FS08**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-012	Date Collected:	04.25.18 09.49	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.01.18 02.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.01.18 02.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.01.18 02.23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.01.18 02.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.01.18 02.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.01.18 02.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.01.18 02.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	05.01.18 02.23	
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.01.18 02.23	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS09**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-013	Date Collected:	04.25.18 10.04	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 17.30	Basis:	Wet Weight
Seq Number:	3048470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.69**	4.98	mg/kg	04.30.18 22.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.30.18 23.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	04.30.18 23.52	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	04.30.18 23.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	04.30.18 23.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.30.18 23.52	
o-Terphenyl	84-15-1	94	%	70-135	04.30.18 23.52	

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS09**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-013	Date Collected:	04.25.18 10.04	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.01.18 02.44	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.01.18 02.44	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.01.18 02.44	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.01.18 02.44	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.01.18 02.44	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.01.18 02.44	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.01.18 02.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	05.01.18 02.44	
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.01.18 02.44	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS10**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-014	Date Collected:	04.25.18 09.56	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 17.30	Basis:	Wet Weight
Seq Number:	3048470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	04.30.18 22.21	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.01.18 00.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.01.18 00.18	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.01.18 00.18	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.01.18 00.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	05.01.18 00.18	
o-Terphenyl	84-15-1	90	%	70-135	05.01.18 00.18	

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS10**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-014	Date Collected:	04.25.18 09.56	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.01.18 03.06	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.01.18 03.06	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.01.18 03.06	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	05.01.18 03.06	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.01.18 03.06	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.01.18 03.06	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.01.18 03.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	05.01.18 03.06	
1,4-Difluorobenzene	540-36-3	111	%	70-130	05.01.18 03.06	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS11**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-015	Date Collected:	04.25.18 10.15	Sample Depth:	3.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.30.18 17.30	Basis:	Wet Weight
Seq Number:	3048470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.0**	4.93	mg/kg	04.30.18 22.27		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	04.30.18 14.00	Basis:	Wet Weight
Seq Number:	3048526				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.01.18 00.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.01.18 00.46	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.01.18 00.46	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.01.18 00.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	05.01.18 00.46	
o-Terphenyl	84-15-1	84	%	70-135	05.01.18 00.46	

Certificate of Analytical Results 584210

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**WS11**	Matrix:	Soil	Date Received:	04.30.18 13.00
Lab Sample Id:	584210-015	Date Collected:	04.25.18 10.15	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	04.30.18 17.00	Basis:	Wet Weight
Seq Number:	3048431				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.01.18 03.27	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.01.18 03.27	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.01.18 03.27	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.01.18 03.27	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.01.18 03.27	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.01.18 03.27	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.01.18 03.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.01.18 03.27	
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.01.18 03.27	

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 584210

LT Environmental, Inc.

JRU 76

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3048466 Matrix: Solid Date Prep: 04.30.18
MB Sample Id: 7643729-1-BLK LCS Sample Id: 7643729-1-BKS LCSD Sample Id: 7643729-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	273	109	258	103	90-110	6	20	mg/kg	05.01.18 04:26	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3048470 Matrix: Solid Date Prep: 04.30.18
MB Sample Id: 7643730-1-BLK LCS Sample Id: 7643730-1-BKS LCSD Sample Id: 7643730-1-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	245	98	245	98	90-110	0	20	mg/kg	04.30.18 20:52	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3048466 Matrix: Soil Date Prep: 04.30.18
Parent Sample Id: 583953-001 MS Sample Id: 583953-001 S MSD Sample Id: 583953-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	86.1	250	350	106	355	108	90-110	1	20	mg/kg	05.01.18 04:44	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3048466 Matrix: Soil Date Prep: 04.30.18
Parent Sample Id: 583953-002 MS Sample Id: 583953-002 S MSD Sample Id: 583953-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	258	103	259	104	90-110	0	20	mg/kg	04.30.18 19:16	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3048470 Matrix: Soil Date Prep: 04.30.18
Parent Sample Id: 584210-005 MS Sample Id: 584210-005 S MSD Sample Id: 584210-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.96	248	265	107	260	105	90-110	2	20	mg/kg	04.30.18 21:09	

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 584210

LT Environmental, Inc.

JRU 76

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3048470 Matrix: Soil Date Prep: 04.30.18
Parent Sample Id: 584210-015 MS Sample Id: 584210-015 S MSD Sample Id: 584210-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	26.0	247	285	105	285	105	90-110	0	20	mg/kg	04.30.18 22:33	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3048526 Matrix: Solid Date Prep: 04.30.18
MB Sample Id: 7643799-1-BLK LCS Sample Id: 7643799-1-BKS LCSD Sample Id: 7643799-1-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	903	90	911	91	70-135	1	20	mg/kg	04.30.18 15:46	
Diesel Range Organics (DRO)	<15.0	1000	972	97	983	98	70-135	1	20	mg/kg	04.30.18 15:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		127		126		70-135	%	04.30.18 15:46
o-Terphenyl	91		105		103		70-135	%	04.30.18 15:46

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3048526 Matrix: Soil Date Prep: 04.30.18
Parent Sample Id: 584210-001 MS Sample Id: 584210-001 S MSD Sample Id: 584210-001 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	972	97	982	98	70-135	1	20	mg/kg	04.30.18 17:09	
Diesel Range Organics (DRO)	<15.0	999	1080	108	1100	110	70-135	2	20	mg/kg	04.30.18 17:09	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		129		70-135	%	04.30.18 17:09
o-Terphenyl	109		108		70-135	%	04.30.18 17:09

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

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

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

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

Final 1.000

QC Summary 584210

LT Environmental, Inc.

JRU 76

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

Seq Number: 3048431 Matrix: Solid Date Prep: 04.30.18

MB Sample Id: 7643736-1-BLK LCS Sample Id: 7643736-1-BKS LCSD Sample Id: 7643736-1-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	0.101	0.114	113	0.116	116	70-130	2	35	mg/kg	04.30.18 18:58	
Toluene	<0.00201	0.101	0.109	108	0.110	110	70-130	1	35	mg/kg	04.30.18 18:58	
Ethylbenzene	<0.00201	0.101	0.110	109	0.112	112	70-130	2	35	mg/kg	04.30.18 18:58	
m,p-Xylenes	<0.00402	0.201	0.228	113	0.229	114	70-130	0	35	mg/kg	04.30.18 18:58	
o-Xylene	<0.00201	0.101	0.112	111	0.112	112	70-130	0	35	mg/kg	04.30.18 18:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		105		103		70-130	%	04.30.18 18:58
4-Bromofluorobenzene	96		100		98		70-130	%	04.30.18 18:58

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

Seq Number: 3048431 Matrix: Soil Date Prep: 04.30.18

Parent Sample Id: 584210-009 MS Sample Id: 584210-009 S MSD Sample Id: 584210-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.103	102	0.107	107	70-130	4	35	mg/kg	04.30.18 19:41	
Toluene	<0.00202	0.101	0.0969	96	0.101	101	70-130	4	35	mg/kg	04.30.18 19:41	
Ethylbenzene	<0.00202	0.101	0.0966	96	0.0997	100	70-130	3	35	mg/kg	04.30.18 19:41	
m,p-Xylenes	<0.00403	0.202	0.199	99	0.204	102	70-130	2	35	mg/kg	04.30.18 19:41	
o-Xylene	<0.00202	0.101	0.101	100	0.101	101	70-130	0	35	mg/kg	04.30.18 19:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		106		70-130	%	04.30.18 19:41
4-Bromofluorobenzene	99		100		70-130	%	04.30.18 19:41

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

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

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

584210
~~584212~~ BT

Xenco Quote #
Xenco Job #

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: ~~Adrian Baker~~ 439-894-5641
Project Contact: Adrian Baker
Samplers's Name Glenn Thompson

Project Information

Project Name/Number: JRU 76
Project Location: New Mexico
Invoice To: Kyle Littrell XTO Energy
PO Number:

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	FS01	2'	4/24/18	1320	S	1								1 GT	X	X	X	
2	FS02	3'	4/24/18	1310	S	1								1 GT	X	X	X	
3	WS03	2.5'	4/24/18	1305	S	1								1	X	X	X	
4	WS04	2.5'	4/24/18	1300	S	1								1	X	X	X	
5	FS05	3'	4/24/18	1330	S	1								1	X	X	X	
6	WS06	2.5'	4/24/18	1337	S	1								1	X	X	X	
7	WS07	2.5'	4/24/18	1345	S	1								1	X	X	X	
8	FS08	4.5'	4/25/18	949	S	1								1	X	X	X	
9	WS09	3'	4/25/18	1004	S	1								1	X	X	X	
10	WS10	3.5'	4/25/18	956	S	1								1	X	X	X	
	WS11	3.5'	4/25/18	1015	S	1								1	X	X	X	

Turnaround Time (Business days)

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

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

FED-EX

Notes:

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

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	Glenn Thompson	4/27/18	1	2	4/30 4/1	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.

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

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

Xenco Quote #

Xenco Job # 584210

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:
Project Contact: Adrian Baker
Samplers's Name Glenn Thompson

Project Information

Project Name/Number: JRU 76
Project Location: New Mexico
Invoice To: Kyle Littrell XTO Energy
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 EPA Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.0	Field Comments
1	FS12	3'	4/27/18	1435	S	1								1	X	X	X	
2	SW13	2.5'	4/27/18	1440	S	1								1	X	X	X	
3	SW14	2.5'	4/27/18	1445	S	1								1	X	X	X	
4	SW15	2.5'	4/27/18	1450	S	1								1	X	X	X	
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

- [ ] Same Day TAT
- [x] 5 Day TAT
- [x] 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:

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	Glenn Thompson	4/27/18		2	4/30 100	2 4/30/1300
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
			5			

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04/30/2018 01:00:00 PM

Work Order #: 584210

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 585092

for

LT Environmental, Inc.

Project Manager: Adrian Baker

JRU 76

012918105

19-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)

19-JUL-18

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

Reference: XENCO Report No(s): **585092**
JRU 76
Project Address: JRU 76

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) 585092. 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. 585092 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 585092

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW 14 A	S	05-02-18 09:45	2 ft	585092-001
FS 12A @4'	S	05-02-18 11:00	4 ft	585092-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU 76

Project ID: *012918105*
Work Order Number(s): *585092*

Report Date: *19-JUL-18*
Date Received: *05/07/2018*

Sample receipt non conformances and comments:

Per clients email, correct sample depth on Sample 001 SW14A, added 2ft JKR 07/19/18 NEW VERSION GENERATED

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3049989 BTEX by EPA 8021B

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

Certificate of Analysis Summary 585092

LT Environmental, Inc., Arvada, CO

Project Name: JRU 76

Project Id: 012918105
Contact: Adrian Baker
Project Location: JRU 76

Date Received in Lab: Mon May-07-18 09:15 am
Report Date: 19-JUL-18
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	585092-001		585092-002					
	Field Id:	SW 14 A		FS 12A @4'					
	Depth:	2- ft		4- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	May-02-18 09:45		May-02-18 11:00					
BTEX by EPA 8021B	***Extracted:***	May-14-18 09:00		May-14-18 09:00					
	Analyzed:	May-14-18 14:39		May-14-18 15:01					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00199	0.00199				
Toluene		<0.00200	0.00200	<0.00199	0.00199				
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199				
m,p-Xylenes		<0.00399	0.00399	<0.00398	0.00398				
o-Xylene		<0.00200	0.00200	<0.00199	0.00199				
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199				
Total BTEX		<0.00200	0.00200	<0.00199	0.00199				
Inorganic Anions by EPA 300	***Extracted:***	May-11-18 11:30		May-11-18 11:30					
	Analyzed:	May-11-18 18:09		May-11-18 18:15					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		174	5.00	3340	25.0				
TPH by SW8015 Mod	***Extracted:***	May-07-18 17:00		May-07-18 17:00					
	Analyzed:	May-08-18 03:08		May-08-18 03:35					
	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	42.6	15.0				
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	42.6	15.0				

Jessica Kramer
Project Assistant

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**SW 14 A**	Matrix:	Soil	Date Received:	05.07.18 09.15
Lab Sample Id:	585092-001	Date Collected:	05.02.18 09.45	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.11.18 11.30	Basis:	Wet Weight
Seq Number:	3049872				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**174**	5.00	mg/kg	05.11.18 18.09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.07.18 17.00	Basis:	Wet Weight
Seq Number:	3049320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.08.18 03.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.08.18 03.08	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.08.18 03.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.08.18 03.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.08.18 03.08	
o-Terphenyl	84-15-1	101	%	70-135	05.08.18 03.08	

Certificate of Analytical Results 585092

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**SW 14 A**	Matrix:	Soil	Date Received:	05.07.18 09.15
Lab Sample Id:	585092-001	Date Collected:	05.02.18 09.45	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.14.18 09.00	Basis:	Wet Weight
Seq Number:	3049989				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.18 14.39	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.18 14.39	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.18 14.39	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.14.18 14.39	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.18 14.39	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.18 14.39	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.18 14.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	05.14.18 14.39	
4-Bromofluorobenzene	460-00-4	89	%	70-130	05.14.18 14.39	

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**FS 12A @4'**	Matrix:	Soil	Date Received:	05.07.18 09.15
Lab Sample Id:	585092-002	Date Collected:	05.02.18 11.00	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.11.18 11.30	Basis:	Wet Weight
Seq Number:	3049872				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3340**	25.0	mg/kg	05.11.18 18.15		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.07.18 17.00	Basis:	Wet Weight
Seq Number:	3049320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.08.18 03.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	**42.6**	15.0	mg/kg	05.08.18 03.35		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.08.18 03.35	U	1
Total TPH	PHC635	**42.6**	15.0	mg/kg	05.08.18 03.35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	05.08.18 03.35	
o-Terphenyl	84-15-1	91	%	70-135	05.08.18 03.35	

Certificate of Analytical Results 585092

LT Environmental, Inc., Arvada, CO

JRU 76

Sample Id:	**FS 12A @4'**	Matrix:	Soil	Date Received:	05.07.18 09.15
Lab Sample Id:	585092-002	Date Collected:	05.02.18 11.00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.14.18 09.00	Basis:	Wet Weight
Seq Number:	3049989				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.14.18 15.01	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.14.18 15.01	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.14.18 15.01	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.14.18 15.01	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.14.18 15.01	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.14.18 15.01	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.14.18 15.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	05.14.18 15.01	
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.14.18 15.01	

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 585092

LT Environmental, Inc.

JRU 76

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3049872 Matrix: Solid Date Prep: 05.11.18
MB Sample Id: 7644511-1-BLK LCS Sample Id: 7644511-1-BKS LCSD Sample Id: 7644511-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	274	110	275	110	90-110	0	20	mg/kg	05.11.18 15:28	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3049872 Matrix: Soil Date Prep: 05.11.18
Parent Sample Id: 585089-001 MS Sample Id: 585089-001 S MSD Sample Id: 585089-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	177	250	465	115	452	110	90-110	3	20	mg/kg	05.11.18 15:46	X

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3049872 Matrix: Soil Date Prep: 05.11.18
Parent Sample Id: 585089-005 MS Sample Id: 585089-005 S MSD Sample Id: 585089-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	286	248	549	106	547	105	90-110	0	20	mg/kg	05.11.18 17:09	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3049320 Matrix: Solid Date Prep: 05.07.18
MB Sample Id: 7644257-1-BLK LCS Sample Id: 7644257-1-BKS LCSD Sample Id: 7644257-1-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	935	94	947	95	70-135	1	20	mg/kg	05.07.18 19:37	
Diesel Range Organics (DRO)	<15.0	1000	1070	107	1030	103	70-135	4	20	mg/kg	05.07.18 19:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	87		106		123		70-135	%	05.07.18 19:37
o-Terphenyl	91		103		99		70-135	%	05.07.18 19:37

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 585092

LT Environmental, Inc.

JRU 76

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3049320 Matrix: Soil Date Prep: 05.07.18
Parent Sample Id: 585089-001 MS Sample Id: 585089-001 S MSD Sample Id: 585089-001 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	997	1010	101	1010	101	70-135	0	20	mg/kg	05.07.18 20:56	
Diesel Range Organics (DRO)	<15.0	997	1120	112	1110	111	70-135	1	20	mg/kg	05.07.18 20:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		106		70-135	%	05.07.18 20:56
o-Terphenyl	104		110		70-135	%	05.07.18 20:56

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3049989 Matrix: Solid Date Prep: 05.14.18
MB Sample Id: 7644639-1-BLK LCS Sample Id: 7644639-1-BKS LCSD Sample Id: 7644639-1-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	0.113	112	0.121	121	70-130	7	35	mg/kg	05.14.18 08:18	
Toluene	<0.00202	0.101	0.110	109	0.114	114	70-130	4	35	mg/kg	05.14.18 08:18	
Ethylbenzene	<0.00202	0.101	0.111	110	0.114	114	70-130	3	35	mg/kg	05.14.18 08:18	
m,p-Xylenes	<0.00403	0.202	0.233	115	0.238	118	70-130	2	35	mg/kg	05.14.18 08:18	
o-Xylene	<0.00202	0.101	0.115	114	0.116	116	70-130	1	35	mg/kg	05.14.18 08:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		109		105		70-130	%	05.14.18 08:18
4-Bromofluorobenzene	92		91		81		70-130	%	05.14.18 08:18

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3049989 Matrix: Soil Date Prep: 05.14.18
Parent Sample Id: 584965-003 MS Sample Id: 584965-003 S MSD Sample Id: 584965-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.119	120	0.0859	85	70-130	32	35	mg/kg	05.14.18 20:01	
Toluene	<0.00198	0.0992	0.0970	98	0.0710	70	70-130	31	35	mg/kg	05.14.18 20:01	
Ethylbenzene	<0.00198	0.0992	0.0735	74	0.0562	56	70-130	27	35	mg/kg	05.14.18 20:01	X
m,p-Xylenes	<0.00397	0.198	0.147	74	0.114	56	70-130	25	35	mg/kg	05.14.18 20:01	X
o-Xylene	<0.00198	0.0992	0.0768	77	0.0597	59	70-130	25	35	mg/kg	05.14.18 20:01	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		114		70-130	%	05.14.18 20:01
4-Bromofluorobenzene	91		102		70-130	%	05.14.18 20:01

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

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

Xenco Quote # | Xenco Job # 585092

Client / Reporting Information

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

Project Information

Project Name/Number: JRU 76/012918105
Project Location: JRU 76
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 (BTEX only)	TPH (MRO, DRO, GRO) SOM5	Chloride (300.0)	Field Comments
1	SW 14 A		5-2-18	0945	S	1									X	X	X	
2	FS 12 A @ 4'	4'	↓	1100	S	1									X	X	X	
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 IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

Temp: 2.4 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.2

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		5-4-18; 1225			5/4/18 14:07	
2			5/4/18 12:25			
3	Relinquished by:	5/4/18 4:10	Received By:	Relinquished By: ARTESIA	5-5-18 9:00	Received By: 5/7/18 09:15
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice: X Cooler Temp. 2.4° 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: 05/07/2018 09:15:00 AM

Work Order #: 585092

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)?	2.2
#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?	**Yes**
#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: 05/07/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/07/2018
Jessica Kramer

Analytical Report 589288

for

LT Environmental, Inc.

Project Manager: Adrian Baker

JRU 76/012918105

012918105

20-JUN-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

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

20-JUN-18

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

Reference: XENCO Report No(s): **589288**
JRU 76/012918105
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) 589288. 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. 589288 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 589288

LT Environmental, Inc., Arvada, CO

JRU 76/012918105

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS12B	S	06-11-18 14:45	6 ft	589288-001

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3053865 BTEX by EPA 8021B

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

Certificate of Analysis Summary 589288

LT Environmental, Inc., Arvada, CO

Project Name: JRU 76/012918105

Project Id: 012918105
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Thu Jun-14-18 02:20 pm
Report Date: 20-JUN-18
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	589288-001					
	Field Id:	FS12B					
	Depth:	6- ft					
	Matrix:	SOIL					
	Sampled:	Jun-11-18 14:45					
BTEX by EPA 8021B	***Extracted:***	Jun-18-18 17:00					
	Analyzed:	Jun-19-18 08:53					
	Units/RL:	mg/kg	RL				
Benzene		<0.00200	0.00200				
Toluene		<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200				
m,p-Xylenes		<0.00399	0.00399				
o-Xylene		<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200				
Total BTEX		<0.00200	0.00200				
Inorganic Anions by EPA 300	***Extracted:***	Jun-19-18 10:15					
	Analyzed:	Jun-19-18 16:00					
	Units/RL:	mg/kg	RL				
Chloride		38.5	4.94				
TPH by SW8015 Mod	***Extracted:***	Jun-15-18 18:00					
	Analyzed:	Jun-17-18 11:47					
	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 589288

LT Environmental, Inc., Arvada, CO

JRU 76/012918105

Sample Id:	**FS12B**	Matrix:	Soil	Date Received:	06.14.18 14.20
Lab Sample Id:	589288-001	Date Collected:	06.11.18 14.45	Sample Depth:	6 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.19.18 10.15	Basis:	Wet Weight
Seq Number:	3053848				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**38.5**	4.94	mg/kg	06.19.18 16.00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.15.18 18.00	Basis:	Wet Weight
Seq Number:	3053883				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.18 11.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.17.18 11.47	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.17.18 11.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.17.18 11.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	06.17.18 11.47	
o-Terphenyl	84-15-1	85	%	70-135	06.17.18 11.47	

Certificate of Analytical Results 589288

LT Environmental, Inc., Arvada, CO

JRU 76/012918105

Sample Id:	**FS12B**	Matrix:	Soil	Date Received:	06.14.18 14.20
Lab Sample Id:	589288-001	Date Collected:	06.11.18 14.45	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.18.18 17.00	Basis:	Wet Weight
Seq Number:	3053865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.19.18 08.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.19.18 08.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.19.18 08.53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.19.18 08.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.19.18 08.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.19.18 08.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.19.18 08.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	06.19.18 08.53	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.19.18 08.53	

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 589288

LT Environmental, Inc.

JRU 76/012918105

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3053848 Matrix: Solid Date Prep: 06.19.18
MB Sample Id: 7656885-1-BLK LCS Sample Id: 7656885-1-BKS LCSD Sample Id: 7656885-1-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	247	99	246	98	90-110	0	20	mg/kg	06.19.18 11:00	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3053848 Matrix: Soil Date Prep: 06.19.18
Parent Sample Id: 589355-007 MS Sample Id: 589355-007 S MSD Sample Id: 589355-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	15.6	245	262	101	262	101	90-110	0	20	mg/kg	06.19.18 14:52	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3053848 Matrix: Soil Date Prep: 06.19.18
Parent Sample Id: 589589-001 MS Sample Id: 589589-001 S MSD Sample Id: 589589-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.90	245	250	102	250	102	90-110	0	20	mg/kg	06.19.18 11:21	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3053883 Matrix: Solid Date Prep: 06.15.18
MB Sample Id: 7656922-1-BLK LCS Sample Id: 7656922-1-BKS LCSD Sample Id: 7656922-1-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	829	83	869	87	70-135	5	20	mg/kg	06.17.18 11:06	
Diesel Range Organics (DRO)	<15.0	1000	874	87	916	92	70-135	5	20	mg/kg	06.17.18 11:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	84		118		124		70-135	%	06.17.18 11:06
o-Terphenyl	89		100		105		70-135	%	06.17.18 11:06

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

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

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

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

Final 1.000

QC Summary 589288

LT Environmental, Inc.

JRU 76/012918105

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3053883 | Matrix: Soil | Date Prep: 06.15.18
Parent Sample Id: 589288-001 | MS Sample Id: 589288-001 S | MSD Sample Id: 589288-001 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	810	81	811	81	70-135	0	20	mg/kg	06.17.18 12:07	
Diesel Range Organics (DRO)	<15.0	998	820	82	820	82	70-135	0	20	mg/kg	06.17.18 12:07	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		113		70-135	%	06.17.18 12:07
o-Terphenyl	94		90		70-135	%	06.17.18 12:07

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3053865 | Matrix: Solid | Date Prep: 06.18.18
MB Sample Id: 7656907-1-BLK | LCS Sample Id: 7656907-1-BKS | LCSD Sample Id: 7656907-1-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	0.0818	82	0.0773	77	70-130	6	35	mg/kg	06.19.18 02:36	
Toluene	<0.00200	0.0998	0.0826	83	0.0798	80	70-130	3	35	mg/kg	06.19.18 02:36	
Ethylbenzene	<0.00200	0.0998	0.0818	82	0.0783	78	70-130	4	35	mg/kg	06.19.18 02:36	
m,p-Xylenes	<0.00399	0.200	0.168	84	0.164	82	70-130	2	35	mg/kg	06.19.18 02:36	
o-Xylene	<0.00200	0.0998	0.0773	77	0.0820	82	70-130	6	35	mg/kg	06.19.18 02:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		81		94		70-130	%	06.19.18 02:36
4-Bromofluorobenzene	107		102		115		70-130	%	06.19.18 02:36

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3053865 | Matrix: Soil | Date Prep: 06.18.18
Parent Sample Id: 588899-004 | MS Sample Id: 588899-004 S | MSD Sample Id: 588899-004 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	0.0560	56	0.0631	62	70-130	12	35	mg/kg	06.19.18 03:13	X
Toluene	<0.00200	0.100	0.0452	45	0.0549	54	70-130	19	35	mg/kg	06.19.18 03:13	X
Ethylbenzene	<0.00200	0.100	0.0349	35	0.0462	46	70-130	28	35	mg/kg	06.19.18 03:13	X
m,p-Xylenes	<0.00401	0.200	0.0697	35	0.0947	47	70-130	30	35	mg/kg	06.19.18 03:13	X
o-Xylene	<0.00200	0.100	0.0354	35	0.0477	47	70-130	30	35	mg/kg	06.19.18 03:13	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		97		70-130	%	06.19.18 03:13
4-Bromofluorobenzene	105		104		70-130	%	06.19.18 03:13

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

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

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

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

Final 1.000

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

CHAIN OF CUSTODY

Page 1 Of 1

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
www.xenco.com

Phoenix, Arizona (480-355-0900)

Xenco Quote #
Xenco Job # 589288

Client / Reporting Information

Company Name / Branch: LT Environmental, Inc - Permian Office
Company Address: Midland, TX | 3300 N "A" St, Bldg 1, Unit 103
Email: Abaker@ltenv.com
Phone No: 4327045178
Project Contact: Adrian Baker
Samplers's Name: Daniel Thomas

Project Information

Project Name/Number: JRU 76 | 012918105
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 2RP-4719

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	Sample Depth	Collection Date	Collection Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX	TPH	Chloride	Field Comments
1	FS12B	6'	6-11-18	1445	Soil	1								X	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
- Standard

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking #

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

Relinquished by Sampler / Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	6-12-18 1230	1 Amie New	2 Amie New	6/13/18 15:30	2
3	6/14/18 14:00	3 [signature]	4		4
5		5	Custody Seal #	Preserved where applicable	On Ice ✓ · Cooler Temp. 3.5°C · Thermo. Corr. Factor R8 0°C

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

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

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

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 06/14/2018 02:20:35 PM

Work Order #: 589288

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**	TPH WAS IN BULK CONTAINER
#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: 06/14/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 06/14/2018
Jessica Kramer