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

October 15, 2018

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

RE: Closure Request
Poker Lake Unit 208
Remediation Permit Number 2RP-4143
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), is pleased to present the following letter report detailing the excavation of impacted soil and confirmation soil sampling activities at the Poker Lake Unit (PLU) 208 (Site) in Unit Letter G, Section 18, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the excavation activities was to address impacts to soil after the release of crude oil and produced water at the wellhead.

On February 24, 2017, the stuffing box packing failed, causing a release of approximately 52.5 barrels (bbls) of crude oil and produced water to flow west to the edge of the well pad where it was stopped by an earthen berm. The release impacted approximately 2,025 square feet of caliche well pad. Free-standing liquid was removed with a vacuum truck; approximately 18 bbls of crude oil and produced water were recovered. The former operator reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 and was assigned Remediation Permit Number (RP) 2RP-4143 (Attachment 1).

Although the release occurred while the facility was operated by the previous operator, XTO is the current operator and is committed to addressing any releases that remain unresolved. Based on the results of the confirmation soil sampling 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 greater than 100 feet below ground surface (bgs) based on the nearest water well data and known aquifer properties. The nearest permitted water well is C 02108, located approximately 0.87 miles northwest of the Site, with a depth to groundwater of 186 feet bgs and a total depth of 200 feet bgs. The Site is less than 1,000 feet from a water source and greater than 200 feet from a private domestic water source. The closest surface water to the Site is an unnamed tributary to the Dog Town Draw, located approximately 600 feet south of the Site. 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 total benzene, toluene, ethylbenzene, and total xylenes (BTEX); and 1,000 mg/kg total petroleum hydrocarbons (TPH). Based on standard practice in this region, LTE applied a site-specific chloride action level of 600 mg/kg or within 10 percent (%) of the background concentrations.

PRELIMINARY SOIL SAMPLING

On January 11, 2018, an LTE scientist collected seven soil samples (SS1 through SS7) from a depth of 0.5 feet bgs to assess the lateral extent of soil impact. The soil sample locations, depicted on Figure 2, were selected based on information provided on the initial Form C-141 and field observations. Samples were screened for volatile aromatic hydrocarbons using a photo-ionization detector (PID) equipped with a 10.6 electron volt lamp in accordance with the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*, August 13, 1993. The soil samples were placed directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis, and immediately placed on ice. The samples were delivered at 4 degrees Celsius (°C) under strict chain-of-custody procedures to ESC Lab Sciences in Mount Juliet, Tennessee, for laboratory analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021B, TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) by EPA Method SW8015 Modified, and chloride by EPA Method 300.

Laboratory analytical results indicated one soil sample (SS1) exceeded the NMOCD site-specific remediation action level for TPH and three soil samples (SS1, SS4, and SS7) exceeded the remediation action level for chloride. Analytical results are depicted on Figure 2 and summarized in Table 1, and the laboratory analytical report is included in Attachment 2.

EXCAVATION ACTIVITIES

On July 20, 2018, LTE personnel returned to the Site to oversee the excavation of impacted soil as indicated by field screening and laboratory analytical results exceeding the NMOCD remediation action levels in initial soil samples SS1, SS4, and SS7. To delineate hydrocarbon and chloride impacts to soil and direct excavation activities, LTE screened soil using a PID and Hach® chloride QuanTab® test strips. Excavation activities commenced on July 20, 2018, and concluded on July 23, 2018. Impacted soil was removed from the release area to a depth of 10 feet to 12 feet bgs by mechanical excavation.

Upon completion of excavation activities, LTE collected confirmation side wall samples SW01 through SW08 and floor samples FS01 through FS03 from the final excavation extent. The soil samples were collected and handled as previously described and submitted to Xenco Laboratories in Midland, Texas. Analytical results are depicted on Figure 2 and summarized in Table 1, and the complete laboratory analytical reports are included as Attachment 2.

The excavation measured approximately 2,936 square feet with a depth ranging from 10 feet to 12 feet bgs. Approximately 1,003 cubic yards of impacted soil were removed from the excavation. The impacted soil was transported and properly disposed of at the R360 Landfarm, in Hobbs, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results confirmed that four preliminary soil samples SS2, SS3, SS5, and SS6 and all soil samples collected from the final excavation extent (SW01 through SW08 and FS01 through FS03) were compliant with the NMOCD site-specific remediation action levels for BTEX, TPH, and chloride. Laboratory analytical results indicated initial soil sample SS1 exceeded the NMOCD remediation action level for TPH and initial soil samples SS1, SS4, and SS7 exceeded the NMOCD remediation action level for chloride. The area around initial soil samples SS1, SS4, and SS7 were excavated and subsequent soil samples were compliant with NMOCD remediation action levels for TPH and chloride. Laboratory analytical results are presented on Figure 2 and summarized in Table 1, and the complete laboratory analytical reports are included as Attachment 2.

CONCLUSIONS

The impacted soil was excavated and laboratory analytical results for the confirmation soil samples collected from the final excavation extents indicate that BTEX, TPH, and chloride concentrations are compliant with 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 caliche well pad material. 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
Jim Amos, Bureau of Land Management (BLM)
Shelly Tucker, BLM

Attachments:

Figure 1	Site Location Map
Figure 2	Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-4143)
Attachment 2	Laboratory Analytical Reports

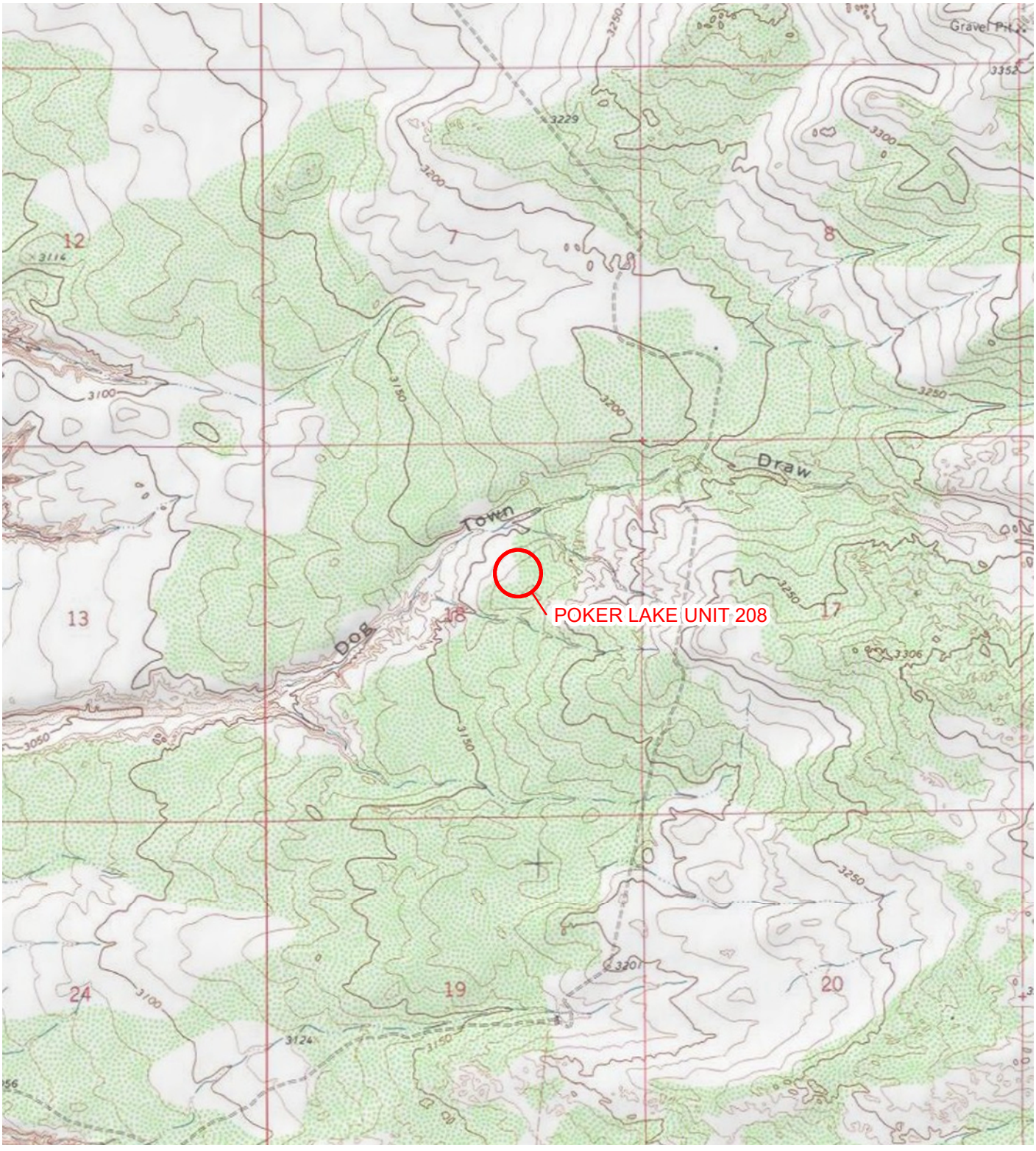


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NOTE: REMEDIATION PERMIT NUMBER 2RP-4143

FIGURE 1
SITE LOCATION MAP
POKER LAKE UNIT 208
UNIT G SEC 18 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918008_PLU 208\012918008_FIG01_SL_2018_4143.mxd

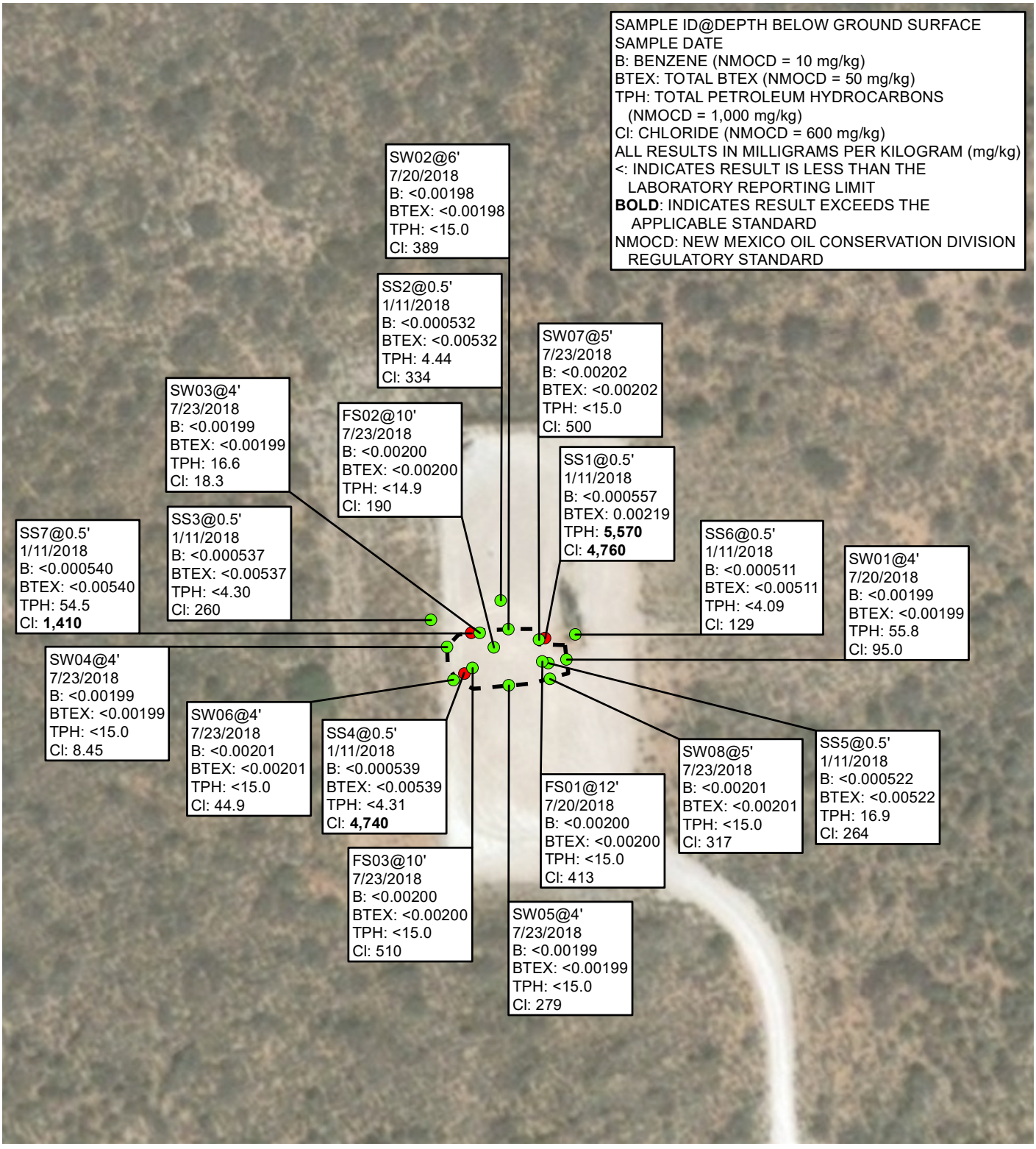


IMAGE COURTESY OF ESRI

LEGEND

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

0 100 200
Feet

N

NOTE: REMEDIATION PERMIT NUMBER 2RP-4143

FIGURE 2
SOIL SAMPLE LOCATIONS
POKER LAKE UNIT 208
UNIT G SEC 18 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918008_PLU 208\012918008_FIG02_SITE_2018_4143.mxd

TABLE 1
SOIL ANALYTICAL RESULTS
POKER LAKE UNIT 208
REMEDIATION PERMIT NUMBER 2RP-4143
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)
SS1	0.5	1/11/2018	<0.000557	<0.00557	<0.000557	0.00219 B	0.00219	0.285 B	4,300	1,270	**5,570**	**4,760**
SS2	0.5	1/11/2018	<0.000532	<0.00532	<0.000532	<0.00160	<0.00532	<0.106	4.44	<4.26	4.44	334
SS3	0.5	1/11/2018	<0.000537	<0.00537	<0.000537	<0.00161	<0.00537	<0.107	<4.30	<4.30	<4.30	260
SS4	0.5	1/11/2018	<0.000539	<0.00539	<0.000539	<0.00162	<0.00539	<0.108	<4.31	<4.31	<4.31	**4,740**
SS5	0.5	1/11/2018	<0.000522	<0.00522	<0.000522	<0.00157	<0.00522	<0.104	5.70	11.2	16.9	264
SS6	0.5	1/11/2018	<0.000511	<0.00511	<0.000511	<0.00153	<0.00511	<0.102	<4.09	<4.09	<4.09	129
SS7	0.5	1/11/2018	<0.000540	<0.00540	<0.000540	<0.00162	<0.00540	<0.108	21.8	32.7	54.5	**1,410** J3
FS01	12	7/20/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	413
SW01	4	7/20/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	55.8	<15.0	55.8	95.0
SW02	6	7/20/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	389
FS02	10	7/23/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	190
FS03	10	7/23/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	510
SW03	4	7/23/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	16.6	<14.9	<14.9	16.6	18.3
SW04	4	7/23/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	8.45
SW05	4	7/23/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	279
SW06	4	7/23/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	44.9
SW07	5	7/23/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	500
SW08	5	7/23/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	317
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.
B - The same analyte is found in the associated blank.
J3 - The associated batch QC was outside the established quality control range for precision.

NM OIL CONSERVATION
ARTESIA DISTRICT
MAR 09 2017
RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-1
Revised August 8, 2

Submit 1 Copy to appropriate District Offic
accordance with 19.15.29 NM

Release Notification and Corrective Action

nAB1707234362 2RP-4143

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO LP	Contact: Jacob Foust
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 432-266-2663
Facility Name: Poker Lake Unit 208	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-01532961

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	18	24S	30E	1880	N	1780	E	Eddy

Latitude 32.219730 **Longitude** -103.917999

NATURE OF RELEASE

Type of Release Oil and produced water	Volume of Release 52.5 bbls	Volume Recovered 18 bbls
Source of Release Stuffing box packing failure	Date and Hour of Occurrence 2-24-2017, A.M.	Date and Hour of Discovery 2-24-2017, 11:00 A.M.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher and Crystal Weaver, via email	
By Whom? Jacob Foust	Date and Hour 2-24-17, 6:14 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*
Release due to stuffing box packing failure. Stuffing box repaired.

Describe Area Affected and Cleanup Action Taken.*
Fluid flowed west from stuffing box, approx. 81', stopped by dirt berm at edge of location. Approximately 2,025 sq ft affected. Called out vacuum truck and recovered 18 barrels of fluid.

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: Jacob Foust	Approved by Environmental Specialist:
Title: EHS Environmental Supervisor	Approval Date: 3/13/17 Expiration Date: NA
E-mail Address: BJFoust@basspet.com	Conditions of Approval: COAs attached Attached ☒
Date: Phone: 432-266-2663	

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on **3/9/17** regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4143 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 4/14/17. 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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP- 4143
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 10/18/2018

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

OCD Only

Received by: Date:

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

Closure Approved by: Bradford Billings Date: 11/19/2019

Printed Name: Bradford Billings Title: E.Spec.A

Photograph 1: View northeast of equipment and excavation.

Photograph 2: View west of excavation.

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

ANALYTICAL REPORT

January 22, 2018

XTO Energy- Delaware Division

Sample Delivery Group:	L963148
Samples Received:	01/13/2018
Project Number:	30-015-32961
Description:	Soil Samples
Site:	POKER LAKE UNIT 208 2RP-4143
Report To:	Kyle Littrell 6401 N Holiday Hill Rd Suite 200 Midland, TX 79707

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Technical Service Representative

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

SS1 L963148-01 Solid

Collected by: Aaron Williams | Collected date/time: 01/11/18 09:34 | Received date/time: 01/13/18 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1063383	1	01/17/18 10:10	01/17/18 10:22	JD
Wet Chemistry by Method 300.0	WG1062624	10	01/15/18 16:35	01/15/18 19:24	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:54	01/15/18 01:05	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	10	01/17/18 11:48	01/18/18 03:29	ACM

SS2 L963148-02 Solid

Collected by: Aaron Williams | Collected date/time: 01/11/18 09:37 | Received date/time: 01/13/18 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1063383	1	01/17/18 10:10	01/17/18 10:22	JD
Wet Chemistry by Method 300.0	WG1062624	1	01/15/18 16:35	01/15/18 19:33	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:54	01/15/18 01:28	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	1	01/17/18 11:48	01/18/18 00:13	ACM

SS3 L963148-03 Solid

Collected by: Aaron Williams | Collected date/time: 01/11/18 09:40 | Received date/time: 01/13/18 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1063383	1	01/17/18 10:10	01/17/18 10:22	JD
Wet Chemistry by Method 300.0	WG1062624	1	01/15/18 16:35	01/15/18 19:41	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:54	01/15/18 01:50	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	1	01/17/18 11:48	01/18/18 00:29	ACM

SS4 L963148-04 Solid

Collected by: Aaron Williams | Collected date/time: 01/11/18 09:43 | Received date/time: 01/13/18 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1063385	1	01/17/18 11:05	01/17/18 11:13	KDW
Wet Chemistry by Method 300.0	WG1062624	10	01/15/18 16:35	01/15/18 20:07	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:54	01/15/18 02:13	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	1	01/17/18 11:48	01/18/18 00:46	ACM

SS5 L963148-05 Solid

Collected by: Aaron Williams | Collected date/time: 01/11/18 09:46 | Received date/time: 01/13/18 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1063385	1	01/17/18 11:05	01/17/18 11:13	KDW
Wet Chemistry by Method 300.0	WG1062624	1	01/15/18 16:35	01/15/18 20:15	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:54	01/15/18 02:36	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	1	01/17/18 11:48	01/18/18 01:51	ACM

SS6 L963148-06 Solid

Collected by: Aaron Williams | Collected date/time: 01/11/18 09:49 | Received date/time: 01/13/18 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1063385	1	01/17/18 11:05	01/17/18 11:13	KDW
Wet Chemistry by Method 300.0	WG1062624	1	01/15/18 16:35	01/15/18 20:24	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:54	01/15/18 02:58	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	1	01/17/18 11:48	01/18/18 02:08	ACM

SS7 L963148-07 Solid

Collected by	Collected date/time	Received date/time
Aaron Williams	01/11/18 09:50	01/13/18 11:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1063385	1	01/17/18 11:05	01/17/18 11:13	KDW
Wet Chemistry by Method 300.0	WG1062624	5	01/15/18 16:35	01/15/18 20:32	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:54	01/15/18 03:21	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	1	01/17/18 11:48	01/18/18 02:24	ACM

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

Daphne R Richards

Daphne Richards
Technical Service Representative

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.8		1	01/17/2018 10:22	WG1063383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	4760		111	10	01/15/2018 19:24	WG1062624

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000557	1	01/15/2018 01:05	WG1062731
Toluene	ND		0.00557	1	01/15/2018 01:05	WG1062731
Ethylbenzene	ND		0.000557	1	01/15/2018 01:05	WG1062731
Total Xylene	0.00219	B	0.00167	1	01/15/2018 01:05	WG1062731
TPH (GC/FID) Low Fraction	0.285	B	0.111	1	01/15/2018 01:05	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*91.2*		*77.0-120*		*01/15/2018 01:05*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*102*		*75.0-128*		*01/15/2018 01:05*	WG1062731

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	4300		44.5	10	01/18/2018 03:29	WG1062855
C28-C40 Oil Range	1270		44.5	10	01/18/2018 03:29	WG1062855
(S) o-Terphenyl	*177*	J1	*18.0-148*		*01/18/2018 03:29*	WG1062855

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.9		1	01/17/2018 10:22	WG1063383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	334		10.6	1	01/15/2018 19:33	WG1062624

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000532	1	01/15/2018 01:28	WG1062731
Toluene	ND		0.00532	1	01/15/2018 01:28	WG1062731
Ethylbenzene	ND		0.000532	1	01/15/2018 01:28	WG1062731
Total Xylene	ND		0.00160	1	01/15/2018 01:28	WG1062731
TPH (GC/FID) Low Fraction	ND		0.106	1	01/15/2018 01:28	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*94.9*		*77.0-120*		*01/15/2018 01:28*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*107*		*75.0-128*		*01/15/2018 01:28*	WG1062731

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	4.44		4.26	1	01/18/2018 00:13	WG1062855
C28-C40 Oil Range	ND		4.26	1	01/18/2018 00:13	WG1062855
(S) o-Terphenyl	*108*		*18.0-148*		*01/18/2018 00:13*	WG1062855

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.1		1	01/17/2018 10:22	WG1063383

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	260		10.7	1	01/15/2018 19:41	WG1062624

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000537	1	01/15/2018 01:50	WG1062731
Toluene	ND		0.00537	1	01/15/2018 01:50	WG1062731
Ethylbenzene	ND		0.000537	1	01/15/2018 01:50	WG1062731
Total Xylene	ND		0.00161	1	01/15/2018 01:50	WG1062731
TPH (GC/FID) Low Fraction	ND		0.107	1	01/15/2018 01:50	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*93.1*		*77.0-120*		*01/15/2018 01:50*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*104*		*75.0-128*		*01/15/2018 01:50*	WG1062731

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		4.30	1	01/18/2018 00:29	WG1062855
C28-C40 Oil Range	ND		4.30	1	01/18/2018 00:29	WG1062855
(S) o-Terphenyl	*119*		*18.0-148*		*01/18/2018 00:29*	WG1062855

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.8		1	01/17/2018 11:13	WG1063385

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	4740		108	10	01/15/2018 20:07	WG1062624

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000539	1	01/15/2018 02:13	WG1062731
Toluene	ND		0.00539	1	01/15/2018 02:13	WG1062731
Ethylbenzene	ND		0.000539	1	01/15/2018 02:13	WG1062731
Total Xylene	ND		0.00162	1	01/15/2018 02:13	WG1062731
TPH (GC/FID) Low Fraction	ND		0.108	1	01/15/2018 02:13	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*93.4*		*77.0-120*		*01/15/2018 02:13*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*104*		*75.0-128*		*01/15/2018 02:13*	WG1062731

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		4.31	1	01/18/2018 00:46	WG1062855
C28-C40 Oil Range	ND		4.31	1	01/18/2018 00:46	WG1062855
(S) o-Terphenyl	*103*		*18.0-148*		*01/18/2018 00:46*	WG1062855

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.7		1	01/17/2018 11:13	WG1063385

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	264		10.4	1	01/15/2018 20:15	WG1062624

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000522	1	01/15/2018 02:36	WG1062731
Toluene	ND		0.00522	1	01/15/2018 02:36	WG1062731
Ethylbenzene	ND		0.000522	1	01/15/2018 02:36	WG1062731
Total Xylene	ND		0.00157	1	01/15/2018 02:36	WG1062731
TPH (GC/FID) Low Fraction	ND		0.104	1	01/15/2018 02:36	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*93.4*		*77.0-120*		*01/15/2018 02:36*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*104*		*75.0-128*		*01/15/2018 02:36*	WG1062731

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	5.70		4.18	1	01/18/2018 01:51	WG1062855
C28-C40 Oil Range	11.2		4.18	1	01/18/2018 01:51	WG1062855
(S) o-Terphenyl	*97.9*		*18.0-148*		*01/18/2018 01:51*	WG1062855

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.8		1	01/17/2018 11:13	WG1063385

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	129		10.2	1	01/15/2018 20:24	WG1062624

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000511	1	01/15/2018 02:58	WG1062731
Toluene	ND		0.00511	1	01/15/2018 02:58	WG1062731
Ethylbenzene	ND		0.000511	1	01/15/2018 02:58	WG1062731
Total Xylene	ND		0.00153	1	01/15/2018 02:58	WG1062731
TPH (GC/FID) Low Fraction	ND		0.102	1	01/15/2018 02:58	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*93.7*		*77.0-120*		*01/15/2018 02:58*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*105*		*75.0-128*		*01/15/2018 02:58*	WG1062731

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		4.09	1	01/18/2018 02:08	WG1062855
C28-C40 Oil Range	ND		4.09	1	01/18/2018 02:08	WG1062855
(S) o-Terphenyl	*118*		*18.0-148*		*01/18/2018 02:08*	WG1062855

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.6		1	01/17/2018 11:13	WG1063385

Wet Chemistry by Method 300.0

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	1410	J3	54.0	5	01/15/2018 20:32	WG1062624

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000540	1	01/15/2018 03:21	WG1062731
Toluene	ND		0.00540	1	01/15/2018 03:21	WG1062731
Ethylbenzene	ND		0.000540	1	01/15/2018 03:21	WG1062731
Total Xylene	ND		0.00162	1	01/15/2018 03:21	WG1062731
TPH (GC/FID) Low Fraction	ND		0.108	1	01/15/2018 03:21	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*93.5*		*77.0-120*		*01/15/2018 03:21*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*105*		*75.0-128*		*01/15/2018 03:21*	WG1062731

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	21.8		4.32	1	01/18/2018 02:24	WG1062855
C28-C40 Oil Range	32.7		4.32	1	01/18/2018 02:24	WG1062855
(S) o-Terphenyl	*91.7*		*18.0-148*		*01/18/2018 02:24*	WG1062855

Method Blank (MB)

(MB) R3279976-1 01/17/18 10:22

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

L963117-01 Original Sample (OS) • Duplicate (DUP)

(OS) L963117-01 01/17/18 10:22 • (DUP) R3279976-3 01/17/18 10:22

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	80.4	80.7	1	0		5

Laboratory Control Sample (LCS)

(LCS) R3279976-2 01/17/18 10:22

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

Method Blank (MB)

(MB) R3279989-1 01/17/18 11:13

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

L963147-01 Original Sample (OS) • Duplicate (DUP)

(OS) L963147-01 01/17/18 11:13 • (DUP) R3279989-3 01/17/18 11:13

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

Laboratory Control Sample (LCS)

(LCS) R3279989-2 01/17/18 11:13

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

Method Blank (MB)

(MB) R3279626-1 01/15/18 16:54

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	2.75	J	0.795	10.0

L963147-05 Original Sample (OS) • Duplicate (DUP)

(OS) L963147-05 01/15/18 18:33 • (DUP) R3279626-4 01/15/18 18:42

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	129	123	1	4.48		20

L963148-07 Original Sample (OS) • Duplicate (DUP)

(OS) L963148-07 01/15/18 20:32 • (DUP) R3279626-7 01/15/18 20:58

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1410	1130	5	22.2	J3	20

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

(LCS) R3279626-2 01/15/18 17:02 • (LCSD) R3279626-3 01/15/18 17:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	200	200	200	100	99.8	90-110			0.441	20

L963148-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L963148-03 01/15/18 19:41 • (MS) R3279626-5 01/15/18 19:50 • (MSD) R3279626-6 01/15/18 19:58

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	537	260	824	827	105	105	1	80-120			0.256	20

Method Blank (MB)

(MB) R3279319-5 01/14/18 20:56

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000253	J	0.000120	0.000500
Toluene	0.000579	J	0.000150	0.00500
Ethylbenzene	0.000240	J	0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0346	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*89.1*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*101*			*75.0-128*

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

(LCS) R3279319-1 01/14/18 19:03 • (LCSD) R3279319-2 01/14/18 19:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0451	0.0457	90.2	91.4	71.0-121			1.33	20
Toluene	0.0500	0.0484	0.0483	96.7	96.5	72.0-120			0.189	20
Ethylbenzene	0.0500	0.0476	0.0478	95.2	95.6	76.0-121			0.472	20
Total Xylene	0.150	0.147	0.148	98.3	98.8	75.0-124			0.541	20
(S) a,a,a-Trifluorotoluene(FID)				*96.7*	*94.6*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*107*	*105*	*75.0-128*				

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

(LCS) R3279319-3 01/14/18 19:48 • (LCSD) R3279319-4 01/14/18 20:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.65	5.41	103	98.4	70.0-136			4.33	20
(S) a,a,a-Trifluorotoluene(FID)				*108*	*107*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*120*	*119*	*75.0-128*				

L963147-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L963147-06 01/15/18 03:43 • (MS) R3279319-6 01/15/18 04:06 • (MSD) R3279319-7 01/15/18 04:28

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0532	ND	0.0162	0.0152	30.1	28.1	1	10.0-146			6.91	29
Toluene	0.0532	ND	0.0181	0.0165	33.2	30.0	1	10.0-143			9.59	30
Ethylbenzene	0.0532	ND	0.0188	0.0174	35.0	32.3	1	10.0-147			7.99	31
Total Xylene	0.160	ND	0.0594	0.0547	37.3	34.3	1	10.0-149	J6	J6	8.39	30
(S) a,a,a-Trifluorotoluene(FID)					*94.3*	*93.8*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*105*	*105*		*75.0-128*				

L963147-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L963147-06 01/15/18 03:43 • (MS) R3279319-8 01/15/18 04:51 • (MSD) R3279319-9 01/15/18 05:14

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.85	ND	1.99	0.935	33.6	15.5	1	10.0-147		J3	72.2	30
(S) a,a,a-Trifluorotoluene(FID)					*94.0*	*94.2*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*107*	*104*		*75.0-128*				

Method Blank (MB)

(MB) R3280124-1 01/17/18 20:21

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*122*			*18.0-148*

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

(LCS) R3280124-4 01/17/18 22:01 • (LCSD) R3280124-5 01/17/18 22:17

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
C10-C28 Diesel Range	60.0	51.8	54.8	86.4	91.3	50.0-150			5.51	20
(S) o-Terphenyl				*155*	*153*	*18.0-148*	J1	J1		

L963149-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L963149-03 01/17/18 22:34 • (MS) R3280124-2 01/17/18 21:28 • (MSD) R3280124-3 01/17/18 21:44

Analyte	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
C10-C28 Diesel Range	61.8	ND	59.4	60.4	96.0	97.7	1	50.0-150			1.75	20
(S) o-Terphenyl					*137*	*131*		*18.0-148*				

Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

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

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

State Accreditations

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

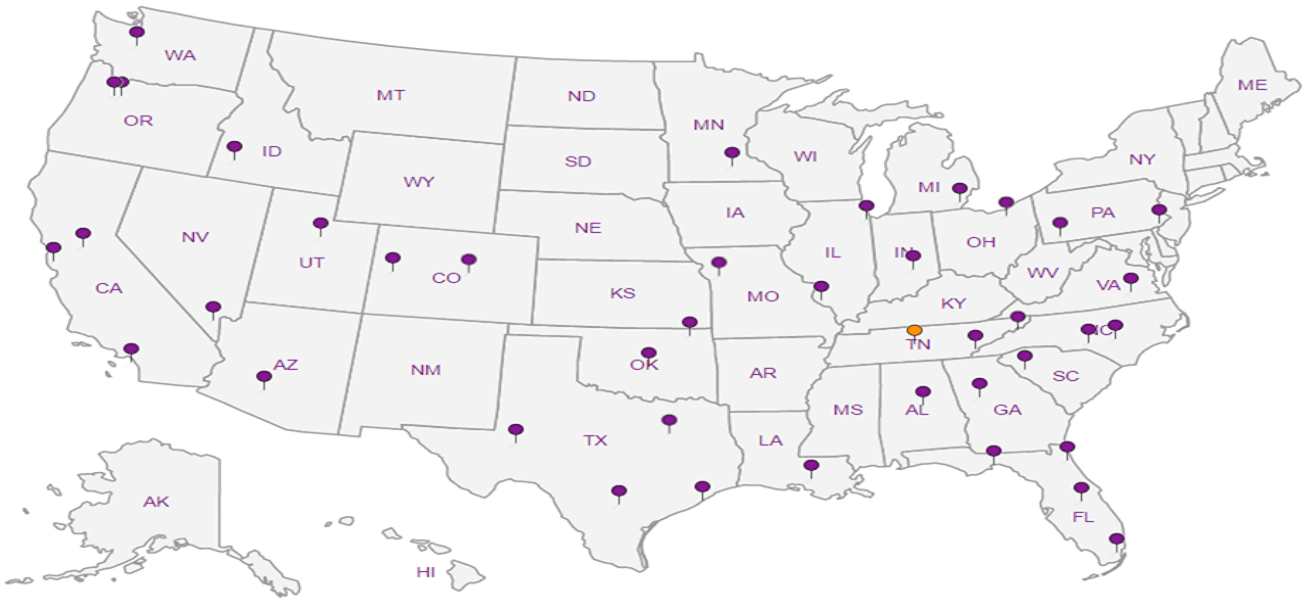
Third Party Federal Accreditations

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

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

Our Locations

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



Billing Information:

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LABORATORY SCIENCES

YOUR LAB OF CHOICE

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

L# 963148

G010

Acctnum: XTOMTX

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Report to: **Kyle Littrell**

Email To: **Abaker@ltenv.com**

Project Description: **Soil Samples**

City/State Collected: **NM**

Phone: **1-970-317-1867**
Fax:

Client Project # **30-015-32961**

Lab Project #

Collected by (print): **Aaron Williamson**

Site/Facility ID # (2RP-4143) **Poker Lake Unit 208**

P.O. # **012918008**

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX EPA Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.1	Remarks	Sample # (lab only)
SS1	Grab	SS	0.5 feet	1/11/2018	09:34	1	X	X	X		01
SS2	Grab	SS	0.5 feet	1/11/2018	09:37	1	X	X	X		02
SS3	Grab	SS	0.5 feet	1/11/2018	09:40	1	X	X	X		03
SS4	Grab	SS	0.5 feet	1/11/2018	09:43	1	X	X	X		04
SS5	Grab	SS	0.5 feet	1/11/2018	09:46	1	X	X	X		05
SS6	Grab	SS	0.5 feet	1/11/2018	09:49	1	X	X	X		06
SS7	Grab	SS	0.5 feet	1/11/2018	09:50	1	X	X	X		07
			NFE	ARW							

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

Remarks:
Also Email to: Awilliamson@ltenv.com
All times recorded in Mountain Time

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

Sample Receipt Checklist

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / (No) HCL / MeoH TBR
	1-12-18	13:10		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
	1-12-18	15:50	Southwest Airlines	2.5 amb 50 7=402
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				01/13/18 1130

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Matt Shacklock

ESC LAB SCIENCES

YOUR LAB OF CHOICE

Login #:963148	Client: XTOMTX	Date:1/13	Evaluated by:Matt S

Non-Conformance (check applicable items)

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

Login Comments: What TPH? Logged for DRORLA and GRO per previous sampling

Client informed by:		Call		Email		Voice Mail		Date: 1/17/18	Time: 1054
TSR Initials: DR	Client Contact:								

Login Instructions:

All XTOMTX should be BTEXGRO, DRORLA, CHLORIDE-300, TS

Analytical Report 593336

for

LT Environmental, Inc.

Project Manager: Adrian Baker

PLU 208

31-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)

31-JUL-18

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

Reference: XENCO Report No(s): **593336**
PLU 208
Project Address: Carlsbad 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) 593336. 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. 593336 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 593336

LT Environmental, Inc., Arvada, CO

PLU 208

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	07-20-18 14:30	12 ft	593336-001
SW01	S	07-20-18 14:55	4 ft	593336-002
SW02	S	07-20-18 15:30	6 ft	593336-003

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3058037 BTEX by EPA 8021B

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

Certificate of Analysis Summary 593336

LT Environmental, Inc., Arvada, CO

Project Name: PLU 208

Project Id:

Contact: Adrian Baker

Project Location: Carlsbad NM

Date Received in Lab: Tue Jul-24-18 11:09 am

Report Date: 31-JUL-18

Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	593336-001		593336-002		593336-003			
	Field Id:	FS01		SW01		SW02			
	Depth:	12- ft		4- ft		6- ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Jul-20-18 14:30		Jul-20-18 14:55		Jul-20-18 15:30			
BTEX by EPA 8021B	***Extracted:***	Jul-27-18 10:00		Jul-27-18 10:00		Jul-27-18 10:00			
	Analyzed:	Jul-27-18 16:51		Jul-27-18 17:13		Jul-27-18 17:33			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198		
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198		
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198		
m,p-Xylenes		<0.00401	0.00401	<0.00398	0.00398	<0.00397	0.00397		
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198		
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198		
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198		
Inorganic Anions by EPA 300	***Extracted:***	Jul-27-18 15:15		Jul-27-18 15:15		Jul-27-18 15:15			
	Analyzed:	Jul-27-18 17:20		Jul-27-18 17:41		Jul-27-18 17:57			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		413	5.05	95.0	4.95	389	5.00		
TPH by SW8015 Mod	***Extracted:***	Jul-24-18 13:00		Jul-24-18 13:00		Jul-24-18 13:00			
	Analyzed:	Jul-24-18 17:25		Jul-24-18 17:44		Jul-24-18 18:04			
	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	55.8	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	55.8	15.0	<15.0	15.0		

Certificate of Analytical Results 593336

LT Environmental, Inc., Arvada, CO

PLU 208

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	07.24.18 11.09
Lab Sample Id:	593336-001	Date Collected:	07.20.18 14.30	Sample Depth:	12 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.27.18 15.15	Basis:	Wet Weight
Seq Number:	3058212				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**413**	5.05	mg/kg	07.27.18 17.20		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.24.18 13.00	Basis:	Wet Weight
Seq Number:	3057652				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.24.18 17.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.24.18 17.25	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.24.18 17.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.24.18 17.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	07.24.18 17.25	
o-Terphenyl	84-15-1	95	%	70-135	07.24.18 17.25	

Certificate of Analytical Results 593336

LT Environmental, Inc., Arvada, CO

PLU 208

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	07.24.18 11.09
Lab Sample Id:	593336-001	Date Collected:	07.20.18 14.30	Sample Depth:	12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.27.18 10.00	Basis:	Wet Weight
Seq Number:	3058037				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.27.18 16.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.27.18 16.51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.27.18 16.51	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.27.18 16.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.27.18 16.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.27.18 16.51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.27.18 16.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	70-130	07.27.18 16.51	
1,4-Difluorobenzene	540-36-3	109	%	70-130	07.27.18 16.51	

Certificate of Analytical Results 593336

LT Environmental, Inc., Arvada, CO

PLU 208

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	07.24.18 11.09
Lab Sample Id:	593336-002	Date Collected:	07.20.18 14.55	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.27.18 15.15	Basis:	Wet Weight
Seq Number:	3058212				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**95.0**	4.95	mg/kg	07.27.18 17.41		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.24.18 13.00	Basis:	Wet Weight
Seq Number:	3057652				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.24.18 17.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	**55.8**	15.0	mg/kg	07.24.18 17.44		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.24.18 17.44	U	1
Total TPH	PHC635	**55.8**	15.0	mg/kg	07.24.18 17.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	07.24.18 17.44	
o-Terphenyl	84-15-1	98	%	70-135	07.24.18 17.44	

Certificate of Analytical Results 593336

LT Environmental, Inc., Arvada, CO

PLU 208

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	07.24.18 11.09
Lab Sample Id:	593336-002	Date Collected:	07.20.18 14.55	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.27.18 10.00	Basis:	Wet Weight
Seq Number:	3058037				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.27.18 17.13	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.27.18 17.13	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.27.18 17.13	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.27.18 17.13	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.27.18 17.13	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.27.18 17.13	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.27.18 17.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	70-130	07.27.18 17.13	
1,4-Difluorobenzene	540-36-3	103	%	70-130	07.27.18 17.13	

LT Environmental, Inc., Arvada, CO

PLU 208

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	07.24.18 11.09
Lab Sample Id:	593336-003	Date Collected:	07.20.18 15.30	Sample Depth:	6 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.27.18 15.15	Basis:	Wet Weight
Seq Number:	3058212				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**389**	5.00	mg/kg	07.27.18 17.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.24.18 13.00	Basis:	Wet Weight
Seq Number:	3057652				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.24.18 18.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.24.18 18.04	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.24.18 18.04	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.24.18 18.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	07.24.18 18.04	
o-Terphenyl	84-15-1	96	%	70-135	07.24.18 18.04	

Certificate of Analytical Results 593336

LT Environmental, Inc., Arvada, CO

PLU 208

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	07.24.18 11.09
Lab Sample Id:	593336-003	Date Collected:	07.20.18 15.30	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.27.18 10.00	Basis:	Wet Weight
Seq Number:	3058037				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.27.18 17.33	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.27.18 17.33	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.27.18 17.33	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.27.18 17.33	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.27.18 17.33	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.27.18 17.33	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.27.18 17.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	70-130	07.27.18 17.33	
1,4-Difluorobenzene	540-36-3	108	%	70-130	07.27.18 17.33	

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 593336

LT Environmental, Inc.

PLU 208

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3058212 Matrix: Solid Date Prep: 07.27.18
MB Sample Id: 7659295-1-BLK LCS Sample Id: 7659295-1-BKS LCSD Sample Id: 7659295-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	250	100	251	100	90-110	0	20	mg/kg	07.27.18 15:45	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3058212 Matrix: Soil Date Prep: 07.27.18
Parent Sample Id: 593335-002 MS Sample Id: 593335-002 S MSD Sample Id: 593335-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	32.8	251	289	102	290	102	90-110	0	20	mg/kg	07.27.18 16:01	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3058212 Matrix: Soil Date Prep: 07.27.18
Parent Sample Id: 593336-001 MS Sample Id: 593336-001 S MSD Sample Id: 593336-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	413	253	643	91	644	91	90-110	0	20	mg/kg	07.27.18 17:25	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3057652 Matrix: Solid Date Prep: 07.24.18
MB Sample Id: 7659050-1-BLK LCS Sample Id: 7659050-1-BKS LCSD Sample Id: 7659050-1-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	931	93	948	95	70-135	2	20	mg/kg	07.24.18 08:48	
Diesel Range Organics (DRO)	<15.0	1000	940	94	970	97	70-135	3	20	mg/kg	07.24.18 08:48	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		123		113		70-135	%	07.24.18 08:48
o-Terphenyl	101		107		106		70-135	%	07.24.18 08:48

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

QC Summary 593336

LT Environmental, Inc.

PLU 208

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3057652 Matrix: Soil Date Prep: 07.24.18
Parent Sample Id: 593218-001 MS Sample Id: 593218-001 S MSD Sample Id: 593218-001 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	963	97	971	97	70-135	1	20	mg/kg	07.24.18 09:47	
Diesel Range Organics (DRO)	<15.0	997	998	100	1020	102	70-135	2	20	mg/kg	07.24.18 09:47	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		115		70-135	%	07.24.18 09:47
o-Terphenyl	103		102		70-135	%	07.24.18 09:47

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3058037 Matrix: Solid Date Prep: 07.27.18
MB Sample Id: 7659257-1-BLK LCS Sample Id: 7659257-1-BKS LCSD Sample Id: 7659257-1-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	0.0986	99	0.0964	96	70-130	2	35	mg/kg	07.27.18 10:22	
Toluene	<0.00200	0.0998	0.0989	99	0.0968	97	70-130	2	35	mg/kg	07.27.18 10:22	
Ethylbenzene	<0.00200	0.0998	0.111	111	0.107	107	70-130	4	35	mg/kg	07.27.18 10:22	
m,p-Xylenes	<0.00399	0.200	0.220	110	0.213	107	70-130	3	35	mg/kg	07.27.18 10:22	
o-Xylene	<0.00200	0.0998	0.107	107	0.104	104	70-130	3	35	mg/kg	07.27.18 10:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		115		110		70-130	%	07.27.18 10:22
4-Bromofluorobenzene	84		84		83		70-130	%	07.27.18 10:22

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3058037 Matrix: Soil Date Prep: 07.27.18
Parent Sample Id: 593218-014 MS Sample Id: 593218-014 S MSD Sample Id: 593218-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0923	91	0.0853	86	70-130	8	35	mg/kg	07.27.18 11:04	
Toluene	<0.00201	0.101	0.0899	89	0.0819	82	70-130	9	35	mg/kg	07.27.18 11:04	
Ethylbenzene	<0.00201	0.101	0.0959	95	0.0857	86	70-130	11	35	mg/kg	07.27.18 11:04	
m,p-Xylenes	<0.00402	0.201	0.189	94	0.168	84	70-130	12	35	mg/kg	07.27.18 11:04	
o-Xylene	<0.00201	0.101	0.0920	91	0.0827	83	70-130	11	35	mg/kg	07.27.18 11:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	114		109		70-130	%	07.27.18 11:04
4-Bromofluorobenzene	87		84		70-130	%	07.27.18 11:04

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

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

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www.xenco.com

Xenco Quote #

Xenco Job # 5933336

Client / Reporting Information

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

Project Information

Project Name/Number: PLU-208
Project Location: Carlsbad, NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 2RP-4143

Analytical Information

No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX EPA 8021	TPH EPA 8015	Chloride 300.1	Field Comments
1	FS01	12'	7/23/18	1430	S	1								X	X	X	X	
2	SW01	4'	↓	1455	↓	↓								X	X	X	X	
3	SW02	6'	↓	1530	↓	↓								X	X	X	X	
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Matrix Codes

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

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking # 772797460858

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	Ben Belill	7/24 17:14	Cinda Mayfield	Cinda Mayfield	7/23 15:30	J CRAMER 7/24/18 1109
2	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3						
4	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
5						X 0.6 R 0.0

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

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MIDLAND, TX 79701
UNITED STATES US

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DIMS: 18x16x12 IN
BILL RECIPIENT

TO XENCO
XENCO
1211 W. FLORIDA AVE
MIDLAND TX 79701
(806) 794-1296
INV:
PO:
REF:
DEPT:

552J2/8532/DCA5

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XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/24/2018 11:09:00 AM

Work Order #: 593336

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)?	.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**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: Shawnee Gomez Date: 07/24/2018

Checklist reviewed by: Jessica Kramer Date: 07/24/2018

Analytical Report 593927

for

LT Environmental, Inc.

Project Manager: Adrian Baker

PLU-208

06-AUG-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

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

06-AUG-18

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

Reference: XENCO Report No(s): **593927**
PLU-208
Project Address: Carlsbad, 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) 593927. 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. 593927 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

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Sample Cross Reference 593927

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS02	S	07-23-18 11:10	10 ft	593927-001
FS03	S	07-23-18 14:50	10 ft	593927-002
SW03	S	07-23-18 12:00	4 ft	593927-003
SW04	S	07-23-18 12:10	4 ft	593927-004
SW05	S	07-23-18 13:40	4 ft	593927-005
SW06	S	07-23-18 14:40	4 ft	593927-006
SW07	S	07-23-18 15:44	5 ft	593927-007
SW08	S	07-23-18 16:00	5 ft	593927-008

Client Name: LT Environmental, Inc.
Project Name: PLU-208

Project ID:
Work Order Number(s): *593927*

Report Date: *06-AUG-18*
Date Received: *07/28/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3058496 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3058718 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3058721 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3058865 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 593927

LT Environmental, Inc., Arvada, CO

Project Name: PLU-208

Project Id:
Contact: Adrian Baker
Project Location: Carlsbad, NM

Date Received in Lab: Sat Jul-28-18 09:00 am
Report Date: 06-AUG-18
Project Manager: Jessica Kramer

Analysis Requested	*Lab Id:*	593927-001		593927-002		593927-003		593927-004		593927-005		593927-006	
	Field Id:	FS02		FS03		SW03		SW04		SW05		SW06	
	Depth:	10- ft		10- ft		4- ft		4- ft		4- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-23-18 11:10		Jul-23-18 14:50		Jul-23-18 12:00		Jul-23-18 12:10		Jul-23-18 13:40		Jul-23-18 14:40	
BTEX by EPA 8021B	*Extracted:*	Aug-01-18 08:00		Aug-01-18 08:00		Aug-01-18 08:00		Aug-01-18 08:00		Aug-02-18 08:00		Aug-03-18 15:00	
	Analyzed:	Aug-01-18 16:51		Aug-01-18 17:11		Aug-01-18 17:32		Aug-01-18 17:53		Aug-02-18 18:12		Aug-03-18 22:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00201	0.00201
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00201	0.00201
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00201	0.00201
m,p-Xylenes		<0.00399	0.00399	<0.00401	0.00401	<0.00398	0.00398	<0.00398	0.00398	<0.00398	0.00398	<0.00402	0.00402
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00201	0.00201
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00201	0.00201
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00201	0.00201
Inorganic Anions by EPA 300	*Extracted:*	Aug-01-18 09:30		Aug-01-18 09:30		Aug-01-18 09:30		Aug-01-18 09:30		Aug-01-18 09:30		Aug-01-18 09:30	
	Analyzed:	Aug-01-18 13:22		Aug-01-18 13:28		Aug-01-18 13:35		Aug-01-18 13:42		Aug-01-18 13:48		Aug-01-18 14:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		190	4.95	510	4.95	18.3	4.98	8.45	4.98	279	4.99	44.9	4.98
TPH by SW8015 Mod	*Extracted:*	Jul-30-18 16:00		Jul-30-18 16:00		Jul-30-18 16:00		Jul-30-18 16:00		Jul-30-18 16:00		Jul-30-18 16:00	
	Analyzed:	Jul-30-18 23:40		Jul-31-18 00:00		Jul-31-18 00:20		Jul-31-18 00:40		Jul-31-18 01:00		Jul-31-18 01:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	16.6	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<14.9	14.9	<15.0	15.0	16.6	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 593927

LT Environmental, Inc., Arvada, CO

Project Name: PLU-208

Project Id:
Contact: Adrian Baker
Project Location: Carlsbad, NM

Date Received in Lab: Sat Jul-28-18 09:00 am
Report Date: 06-AUG-18
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	593927-007		593927-008					
	Field Id:	SW07		SW08					
	Depth:	5- ft		5- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Jul-23-18 15:44		Jul-23-18 16:00					
BTEX by EPA 8021B	***Extracted:***	Aug-02-18 08:00		Aug-02-18 14:00					
	Analyzed:	Aug-02-18 17:51		Aug-03-18 05:18					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00202	0.00202	<0.00201	0.00201				
Toluene		<0.00202	0.00202	<0.00201	0.00201				
Ethylbenzene		<0.00202	0.00202	<0.00201	0.00201				
m,p-Xylenes		<0.00403	0.00403	<0.00402	0.00402				
o-Xylene		<0.00202	0.00202	<0.00201	0.00201				
Total Xylenes		<0.00202	0.00202	<0.00201	0.00201				
Total BTEX		<0.00202	0.00202	<0.00201	0.00201				
Inorganic Anions by EPA 300	***Extracted:***	Aug-01-18 09:30		Aug-01-18 09:30					
	Analyzed:	Aug-01-18 13:55		Aug-01-18 14:22					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		500	4.96	317	5.00				
TPH by SW8015 Mod	***Extracted:***	Jul-30-18 16:00		Jul-30-18 16:00					
	Analyzed:	Jul-31-18 02:19		Jul-31-18 02:40					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0				
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 593927

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-001	Date Collected:	07.23.18 11.10	Sample Depth:	10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.01.18 09.30	Basis:	Wet Weight
Seq Number:	3058584				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**190**	4.95	mg/kg	08.01.18 13.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.30.18 16.00	Basis:	Wet Weight
Seq Number:	3058330				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.30.18 23.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.30.18 23.40	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	07.30.18 23.40	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.30.18 23.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.30.18 23.40	
o-Terphenyl	84-15-1	92	%	70-135	07.30.18 23.40	

Certificate of Analytical Results 593927

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-001	Date Collected:	07.23.18 11.10	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.01.18 08.00	Basis:	Wet Weight
Seq Number:	3058496				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.01.18 16.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.01.18 16.51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.01.18 16.51	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.01.18 16.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.01.18 16.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.01.18 16.51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.01.18 16.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	08.01.18 16.51	
1,4-Difluorobenzene	540-36-3	107	%	70-130	08.01.18 16.51	

Certificate of Analytical Results 593927

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-002	Date Collected:	07.23.18 14.50	Sample Depth:	10 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.01.18 09.30	Basis:	Wet Weight
Seq Number:	3058584				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**510**	4.95	mg/kg	08.01.18 13.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.30.18 16.00	Basis:	Wet Weight
Seq Number:	3058330				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.31.18 00.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.31.18 00.00	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.31.18 00.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.31.18 00.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.31.18 00.00	
o-Terphenyl	84-15-1	94	%	70-135	07.31.18 00.00	

Certificate of Analytical Results 593927

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-002	Date Collected:	07.23.18 14.50	Sample Depth:	10 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.01.18 08.00	Basis:	Wet Weight
Seq Number:	3058496				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.01.18 17.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.01.18 17.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.01.18 17.11	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.01.18 17.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.01.18 17.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.01.18 17.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.01.18 17.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	84	%	70-130	08.01.18 17.11	
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.01.18 17.11	

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-003	Date Collected:	07.23.18 12.00	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.01.18 09.30	Basis:	Wet Weight
Seq Number:	3058584				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.3**	4.98	mg/kg	08.01.18 13.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.30.18 16.00	Basis:	Wet Weight
Seq Number:	3058330				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**16.6**	14.9	mg/kg	07.31.18 00.20		1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.31.18 00.20	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	07.31.18 00.20	U	1
Total TPH	PHC635	**16.6**	14.9	mg/kg	07.31.18 00.20		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	07.31.18 00.20	
o-Terphenyl	84-15-1	87	%	70-135	07.31.18 00.20	

Certificate of Analytical Results 593927

LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW03**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-003	Date Collected:	07.23.18 12.00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.01.18 08.00	Basis:	Wet Weight
Seq Number:	3058496				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.01.18 17.32	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.01.18 17.32	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.01.18 17.32	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.01.18 17.32	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.01.18 17.32	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.01.18 17.32	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.01.18 17.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.01.18 17.32	
4-Bromofluorobenzene	460-00-4	88	%	70-130	08.01.18 17.32	

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-004	Date Collected:	07.23.18 12.10	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.01.18 09.30	Basis:	Wet Weight
Seq Number:	3058584				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.45**	4.98	mg/kg	08.01.18 13.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.30.18 16.00	Basis:	Wet Weight
Seq Number:	3058330				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.31.18 00.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.31.18 00.40	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.31.18 00.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.31.18 00.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	07.31.18 00.40	
o-Terphenyl	84-15-1	95	%	70-135	07.31.18 00.40	

Certificate of Analytical Results 593927

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-004	Date Collected:	07.23.18 12.10	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.01.18 08.00	Basis:	Wet Weight
Seq Number:	3058496				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.01.18 17.53	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.01.18 17.53	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.01.18 17.53	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.01.18 17.53	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.01.18 17.53	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.01.18 17.53	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.01.18 17.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	08.01.18 17.53	
1,4-Difluorobenzene	540-36-3	105	%	70-130	08.01.18 17.53	

Certificate of Analytical Results 593927

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-005	Date Collected:	07.23.18 13.40	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.01.18 09.30	Basis:	Wet Weight
Seq Number:	3058584				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**279**	4.99	mg/kg	08.01.18 13.48		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.30.18 16.00	Basis:	Wet Weight
Seq Number:	3058330				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.31.18 01.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.31.18 01.00	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.31.18 01.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.31.18 01.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	07.31.18 01.00	
o-Terphenyl	84-15-1	86	%	70-135	07.31.18 01.00	

Certificate of Analytical Results 593927

LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW05**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-005	Date Collected:	07.23.18 13.40	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.02.18 08.00	Basis:	Wet Weight
Seq Number:	3058718				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.02.18 18.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.02.18 18.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.02.18 18.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.02.18 18.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.02.18 18.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.02.18 18.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.02.18 18.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	08.02.18 18.12	
4-Bromofluorobenzene	460-00-4	96	%	70-130	08.02.18 18.12	

LT Environmental, Inc., Arvada, CO

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Sample Id:	**SW06**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-006	Date Collected:	07.23.18 14.40	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.01.18 09.30	Basis:	Wet Weight
Seq Number:	3058584				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**44.9**	4.98	mg/kg	08.01.18 14.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.30.18 16.00	Basis:	Wet Weight
Seq Number:	3058330				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.31.18 01.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.31.18 01.59	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.31.18 01.59	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.31.18 01.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	07.31.18 01.59	
o-Terphenyl	84-15-1	95	%	70-135	07.31.18 01.59	

Certificate of Analytical Results 593927

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-006	Date Collected:	07.23.18 14.40	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.03.18 15.00	Basis:	Wet Weight
Seq Number:	3058865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.03.18 22.50	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.03.18 22.50	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.03.18 22.50	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.03.18 22.50	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.03.18 22.50	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.03.18 22.50	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.03.18 22.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	08.03.18 22.50	
1,4-Difluorobenzene	540-36-3	109	%	70-130	08.03.18 22.50	

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-007	Date Collected:	07.23.18 15.44	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.01.18 09.30	Basis:	Wet Weight
Seq Number:	3058584				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**500**	4.96	mg/kg	08.01.18 13.55		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.30.18 16.00	Basis:	Wet Weight
Seq Number:	3058330				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.31.18 02.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.31.18 02.19	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.31.18 02.19	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.31.18 02.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	07.31.18 02.19	
o-Terphenyl	84-15-1	93	%	70-135	07.31.18 02.19	

Certificate of Analytical Results 593927

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-007	Date Collected:	07.23.18 15.44	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.02.18 08.00	Basis:	Wet Weight
Seq Number:	3058718				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	08.02.18 17.51	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	08.02.18 17.51	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	08.02.18 17.51	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	08.02.18 17.51	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	08.02.18 17.51	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	08.02.18 17.51	U	1
Total BTEX		<0.00202	0.00202	mg/kg	08.02.18 17.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	08.02.18 17.51	
4-Bromofluorobenzene	460-00-4	91	%	70-130	08.02.18 17.51	

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id:	**SW08**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-008	Date Collected:	07.23.18 16.00	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	08.01.18 09.30	Basis:	Wet Weight
Seq Number:	3058584				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**317**	5.00	mg/kg	08.01.18 14.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.30.18 16.00	Basis:	Wet Weight
Seq Number:	3058330				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.31.18 02.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.31.18 02.40	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.31.18 02.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.31.18 02.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.31.18 02.40	
o-Terphenyl	84-15-1	90	%	70-135	07.31.18 02.40	

Certificate of Analytical Results 593927

LT Environmental, Inc., Arvada, CO

PLU-208

Sample Id:	**SW08**	Matrix:	Soil	Date Received:	07.28.18 09.00
Lab Sample Id:	593927-008	Date Collected:	07.23.18 16.00	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.02.18 14.00	Basis:	Wet Weight
Seq Number:	3058721				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.03.18 05.18	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.03.18 05.18	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.03.18 05.18	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.03.18 05.18	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.03.18 05.18	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.03.18 05.18	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.03.18 05.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	08.03.18 05.18	
4-Bromofluorobenzene	460-00-4	97	%	70-130	08.03.18 05.18	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 593927

LT Environmental, Inc.

PLU-208

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3058584 Matrix: Solid Date Prep: 08.01.18
MB Sample Id: 7659574-1-BLK LCS Sample Id: 7659574-1-BKS LCSD Sample Id: 7659574-1-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	248	99	90-110	0	20	mg/kg	08.01.18 12:08	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3058584 Matrix: Soil Date Prep: 08.01.18
Parent Sample Id: 593926-002 MS Sample Id: 593926-002 S MSD Sample Id: 593926-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.98	249	248	100	248	100	90-110	0	20	mg/kg	08.01.18 12:28	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3058584 Matrix: Soil Date Prep: 08.01.18
Parent Sample Id: 593927-007 MS Sample Id: 593927-007 S MSD Sample Id: 593927-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	500	248	729	92	728	92	90-110	0	20	mg/kg	08.01.18 14:02	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3058330 Matrix: Solid Date Prep: 07.30.18
MB Sample Id: 7659409-1-BLK LCS Sample Id: 7659409-1-BKS LCSD Sample Id: 7659409-1-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	918	92	934	93	70-135	2	20	mg/kg	07.30.18 17:40	
Diesel Range Organics (DRO)	<15.0	1000	955	96	959	96	70-135	0	20	mg/kg	07.30.18 17:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		124		124		70-135	%	07.30.18 17:40
o-Terphenyl	94		100		100		70-135	%	07.30.18 17:40

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

QC Summary 593927

LT Environmental, Inc.

PLU-208

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3058330 Matrix: Soil Date Prep: 07.30.18
Parent Sample Id: 593924-001 MS Sample Id: 593924-001 S MSD Sample Id: 593924-001 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	880	88	902	90	70-135	2	20	mg/kg	07.30.18 18:41	
Diesel Range Organics (DRO)	<15.0	997	953	96	979	98	70-135	3	20	mg/kg	07.30.18 18:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		125		70-135	%	07.30.18 18:41
o-Terphenyl	94		92		70-135	%	07.30.18 18:41

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3058496 Matrix: Solid Date Prep: 08.01.18
MB Sample Id: 7659535-1-BLK LCS Sample Id: 7659535-1-BKS LCSD Sample Id: 7659535-1-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	0.0887	88	0.0867	87	70-130	2	35	mg/kg	08.01.18 08:50	
Toluene	<0.00202	0.101	0.0930	92	0.0920	92	70-130	1	35	mg/kg	08.01.18 08:50	
Ethylbenzene	<0.00202	0.101	0.108	107	0.106	106	70-130	2	35	mg/kg	08.01.18 08:50	
m,p-Xylenes	<0.00403	0.202	0.212	105	0.209	105	70-130	1	35	mg/kg	08.01.18 08:50	
o-Xylene	<0.00202	0.101	0.104	103	0.104	104	70-130	0	35	mg/kg	08.01.18 08:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		117		112		70-130	%	08.01.18 08:50
4-Bromofluorobenzene	82		84		89		70-130	%	08.01.18 08:50

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3058718 Matrix: Solid Date Prep: 08.02.18
MB Sample Id: 7659651-1-BLK LCS Sample Id: 7659651-1-BKS LCSD Sample Id: 7659651-1-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	0.107	106	0.106	105	70-130	1	35	mg/kg	08.02.18 10:06	
Toluene	<0.00202	0.101	0.106	105	0.105	104	70-130	1	35	mg/kg	08.02.18 10:06	
Ethylbenzene	<0.00202	0.101	0.114	113	0.112	111	70-130	2	35	mg/kg	08.02.18 10:06	
m,p-Xylenes	<0.00403	0.202	0.231	114	0.227	112	70-130	2	35	mg/kg	08.02.18 10:06	
o-Xylene	<0.00202	0.101	0.108	107	0.107	106	70-130	1	35	mg/kg	08.02.18 10:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		118		115		70-130	%	08.02.18 10:06
4-Bromofluorobenzene	94		101		104		70-130	%	08.02.18 10:06

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

QC Summary 593927

LT Environmental, Inc.

PLU-208

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3058721 | Matrix: Solid | Date Prep: 08.02.18
MB Sample Id: 7659654-1-BLK | LCS Sample Id: 7659654-1-BKS | LCSD Sample Id: 7659654-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.107	107	0.0979	97	70-130	9	35	mg/kg	08.02.18 21:41	
Toluene	<0.00201	0.100	0.102	102	0.0937	93	70-130	8	35	mg/kg	08.02.18 21:41	
Ethylbenzene	<0.00201	0.100	0.109	109	0.0989	98	70-130	10	35	mg/kg	08.02.18 21:41	
m,p-Xylenes	<0.00402	0.201	0.225	112	0.204	101	70-130	10	35	mg/kg	08.02.18 21:41	
o-Xylene	<0.00201	0.100	0.108	108	0.0980	97	70-130	10	35	mg/kg	08.02.18 21:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		126		114		70-130	%	08.02.18 21:41
4-Bromofluorobenzene	90		98		95		70-130	%	08.02.18 21:41

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3058865 | Matrix: Solid | Date Prep: 08.03.18
MB Sample Id: 7659750-1-BLK | LCS Sample Id: 7659750-1-BKS | LCSD Sample Id: 7659750-1-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	0.0997	100	0.103	103	70-130	3	35	mg/kg	08.03.18 16:36	
Toluene	<0.00200	0.0998	0.0978	98	0.103	103	70-130	5	35	mg/kg	08.03.18 16:36	
Ethylbenzene	<0.00200	0.0998	0.104	104	0.108	108	70-130	4	35	mg/kg	08.03.18 16:36	
m,p-Xylenes	<0.00399	0.200	0.211	106	0.220	110	70-130	4	35	mg/kg	08.03.18 16:36	
o-Xylene	<0.00200	0.0998	0.0993	99	0.105	105	70-130	6	35	mg/kg	08.03.18 16:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		118		118		70-130	%	08.03.18 16:36
4-Bromofluorobenzene	97		92		101		70-130	%	08.03.18 16:36

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3058496 | Matrix: Soil | Date Prep: 08.01.18
Parent Sample Id: 593924-001 | MS Sample Id: 593924-001 S | MSD Sample Id: 593924-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0710	71	0.0665	67	70-130	7	35	mg/kg	08.01.18 09:31	X
Toluene	<0.00201	0.100	0.0726	73	0.0635	64	70-130	13	35	mg/kg	08.01.18 09:31	X
Ethylbenzene	<0.00201	0.100	0.0788	79	0.0641	64	70-130	21	35	mg/kg	08.01.18 09:31	X
m,p-Xylenes	<0.00402	0.201	0.154	77	0.122	61	70-130	23	35	mg/kg	08.01.18 09:31	X
o-Xylene	<0.00201	0.100	0.0777	78	0.0622	62	70-130	22	35	mg/kg	08.01.18 09:31	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		114		70-130	%	08.01.18 09:31
4-Bromofluorobenzene	90		94		70-130	%	08.01.18 09:31

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

QC Summary 593927

LT Environmental, Inc.

PLU-208

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3058721 Matrix: Soil Date Prep: 08.02.18
Parent Sample Id: 594409-001 MS Sample Id: 594409-001 S MSD Sample Id: 594409-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0800	79	0.0883	88	70-130	10	35	mg/kg	08.02.18 22:22	
Toluene	<0.00202	0.101	0.0757	75	0.0801	80	70-130	6	35	mg/kg	08.02.18 22:22	
Ethylbenzene	<0.00202	0.101	0.0685	68	0.0704	70	70-130	3	35	mg/kg	08.02.18 22:22	X
m,p-Xylenes	<0.00403	0.202	0.136	67	0.140	70	70-130	3	35	mg/kg	08.02.18 22:22	X
o-Xylene	<0.00202	0.101	0.0667	66	0.0667	67	70-130	0	35	mg/kg	08.02.18 22:22	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	122		125		70-130	%	08.02.18 22:22
4-Bromofluorobenzene	108		99		70-130	%	08.02.18 22:22

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3058865 Matrix: Soil Date Prep: 08.03.18
Parent Sample Id: 594381-001 MS Sample Id: 594381-001 S MSD Sample Id: 594381-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0915	92	0.0888	89	70-130	3	35	mg/kg	08.03.18 17:18	
Toluene	<0.00200	0.100	0.0846	85	0.0837	84	70-130	1	35	mg/kg	08.03.18 17:18	
Ethylbenzene	<0.00200	0.100	0.0738	74	0.0800	80	70-130	8	35	mg/kg	08.03.18 17:18	
m,p-Xylenes	<0.00400	0.200	0.145	73	0.161	80	70-130	10	35	mg/kg	08.03.18 17:18	
o-Xylene	<0.00200	0.100	0.0716	72	0.0765	77	70-130	7	35	mg/kg	08.03.18 17:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	121		120		70-130	%	08.03.18 17:18
4-Bromofluorobenzene	102		100		70-130	%	08.03.18 17:18

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3058718 Matrix: Soil Date Prep: 08.02.18
Parent Sample Id: 593926-005 MS Sample Id: 593926-005 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0586	58	70-130	mg/kg	08.02.18 10:47	X
Toluene	<0.00201	0.101	0.0565	56	70-130	mg/kg	08.02.18 10:47	X
Ethylbenzene	<0.00201	0.101	0.0568	56	70-130	mg/kg	08.02.18 10:47	X
m,p-Xylenes	<0.00402	0.201	0.114	57	70-130	mg/kg	08.02.18 10:47	X
o-Xylene	<0.00201	0.101	0.0534	53	70-130	mg/kg	08.02.18 10:47	X

Surrogate	MS %Rec	MS Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		70-130	%	08.02.18 10:47
4-Bromofluorobenzene	104		70-130	%	08.02.18 10:47

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 # 593987

Client / Reporting Information

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

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

Email: Abaker@ltenv.com

Phone No: (432) 704-5178

Project Contact: Adrian Baker

Samplers's Name: Ben Belill

Project Information

Project Name/Number: PLU-208

Project Location: Carlsbad, NM

Invoice To: XTO Energy - Kyle Littrell

PO Number: 2RP-4143

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 8020	TPH EPA 8015	Chloride 300.1	Field Comments
1	FS02	10'	7/23/18	1110	S	1								X	X	X	X	
2	FS03	10'		1450										X	X	X	X	
3	SW03	4'		1200										X	X	X	X	
4	SW04	4'		1210										X	X	X	X	
5	SW05	4'		1340										X	X	X	X	
6	SW06	4'		1440										X	X	X	X	
7	SW07	5'		1544										X	X	X	X	
8	SW08	5'		1600										X	X	X	X	
9																		
10																		

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking # 777801224445

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

	Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1	Ben Belill	7/26 17:25		2	7/27 15:30	2
3			3	4		4
5			5	Custody Seal #	Preserved where applicable	On Ice: ✓ Cooler Temp. 0.3 Thermo. Corr. Factor 0.0

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

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: 07/28/2018 09:00:00 AM

Work Order #: 593927

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 07/30/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 07/30/2018
Jessica Kramer