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

October 22, 2018

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

RE: Closure Request
Poker Lake Unit 330H Well
Remediation Permit Number 2RP-3108
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 excavation of impacted soil and confirmation soil sampling activities associated with the Poker Lake Unit (PLU) 330H well (Site) located in Unit D, Section 13, Township 24 South, Range 30 East, in Eddy County, New Mexico. The release occurred southeast of the well pad in Unit P, Section 24, Township 24 South, Range 30 East (Figure 1). The purpose of the soil sampling and excavation activities was to address impact to soil after an aboveground steel flow line corroded and caused the release of 1 barrel (bbl) of crude oil and 23 bbls of produced water in the right-of-way adjacent to the access road. No released fluids were recovered, which was discovered on July 4, 2015. The former operator reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on July 10, 2015, and was assigned Remediation Permit (RP) Number 2RP-3108 (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 events, XTO is requesting no further action for this release.

BACKGROUND

The release and remediation occurred prior to August 14, 2018; therefore, LTE ranked the Site according to criteria in the NMOCD 1993 *Guidelines for Leaks, Spills, and Releases.* The site ranking determined appropriate cleanup standards. Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data and known aquifer properties. The nearest permitted water well with depth to water data is C 02110, located approximately 1.4 miles west of the Site with a depth to water of 400 feet and a total depth of 600 feet. The water well is approximately 32 feet lower in elevation than the Site. The closest surface water to the Site is a dry wash located approximately 1.4 miles northwest of the Site. The Site is greater than 200 feet from any private domestic water source

and greater than 1,000 feet from a water source. Based on these criteria, the NMOCD site ranking for remediation action levels is 0, and the following remediation action levels apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); and 5,000 mg/kg total petroleum hydrocarbons (TPH). Based on standard practice in this region, LTE applied a site-specific chloride action level of 600 mg/kg.

SOIL SAMPLING

On January 11, 2018, an LTE scientist collected seven soil samples (SS1 through SS7) to assess the lateral extent of any potential remaining soil impacts. To eliminate the effects from weathering and natural degradation of contaminants at the ground surface, the soil samples were collected from each sample location at approximately 0.5 feet bgs. The soil sample locations, depicted on Figure 2, were based on information provided in the initial Form C-141 and field observations. The soil samples were screened for volatile aromatic hydrocarbons using a photo-ionization detector (PID) equipped with a 10.6 electron volt lamp in accordance with the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*, August 13, 1993. No elevated field screening readings were detected, and no soil staining was observed. The soil samples were collected and placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler, method of analysis, and immediately placed on ice. The soil samples were shipped at 4 degrees Celsius (°C) under strict chain-of-custody procedures to ESC Lab Sciences in Mount Juliet, Tennessee, for analysis of BTEX by United States Environmental Protection Agency (USEPA) Method 8021B, TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) by USEPA Method 8015M/D, and chloride by USEPA Method 300.0.

Laboratory analytical results for soil samples SS1 through SS7 indicated that BTEX, TPH, and chloride concentrations were compliant with NMOCD site-specific remediation action levels. Laboratory analytical results for soil sample SS1 indicated a TPH concentration 3,480 mg/kg. Laboratory analytical results are presented on Figure 2 and summarized in Table 1, and the laboratory analytical report is included in Attachment 2. Based on the elevated TPH concentration in soil sample SS1, excavation of impacted soil was warranted.

EXCAVATION ACTIVITIES

On July 3, 2018, LTE personnel returned to the Site to oversee excavation of impacted soil as indicated by laboratory analytical results for TPH in preliminary soil sample SS1. To delineate hydrocarbon and chloride impacts to soil and to direct excavation activities, LTE screened soil using a PID and Hach® chloride QuanTab® test strips. Impacted soil was excavated via hydro-vacuum to a depth of 1-foot bgs around the location of preliminary soil sample SS1. Upon completing excavation activities, LTE collected confirmation soil sample SS1A from the excavation. While on site for excavation activities, LTE collected two additional surface soil samples (SS8 and SS9) to confirm the lateral extent of the release. The soil samples were

collected, handled, and analyzed as described above and submitted to Xenco Laboratories in Midland, Texas.

The excavation measured approximately 4 square feet in area with a depth of approximately 1-foot bgs. The horizontal extent of the excavation is illustrated on Figure 2. Less than 1 cubic yard of impacted soil was removed using a hydro-vacuum. Impacted soil was transported and properly disposed of at the R360 Landfill Facility, in Hobbs, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results indicated that all final confirmation soil samples were compliant with the NMOCD site-specific remediation action levels for BTEX, TPH, and chloride. Laboratory analytical results indicated an elevated TPH concentration in initial soil sample SS1. The soil around initial soil sample SS1 was excavated, and laboratory analytical results for subsequent final excavation soil sample SS1A indicated a TPH concentration of 25.2 mg/kg. 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 from the release area and laboratory analytical results for the final confirmation surface soil samples and final excavation soil sample indicate that BTEX, TPH, and chloride concentrations are below laboratory detection limits and/or compliant with NMOCD site-specific remediation action levels. Natural degradation and excavation of impacted soil have successfully mitigated impacts at the Site. XTO requests no further action for this release. Upon approval of the no further action request, XTO will backfill the excavation and recontour the Site to match pre-existing conditions. An updated NMOCD Form C-141 is included as Attachment 1. A photographic log of the Site is included as Attachment 3.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Adrian Baker
Project Geologist

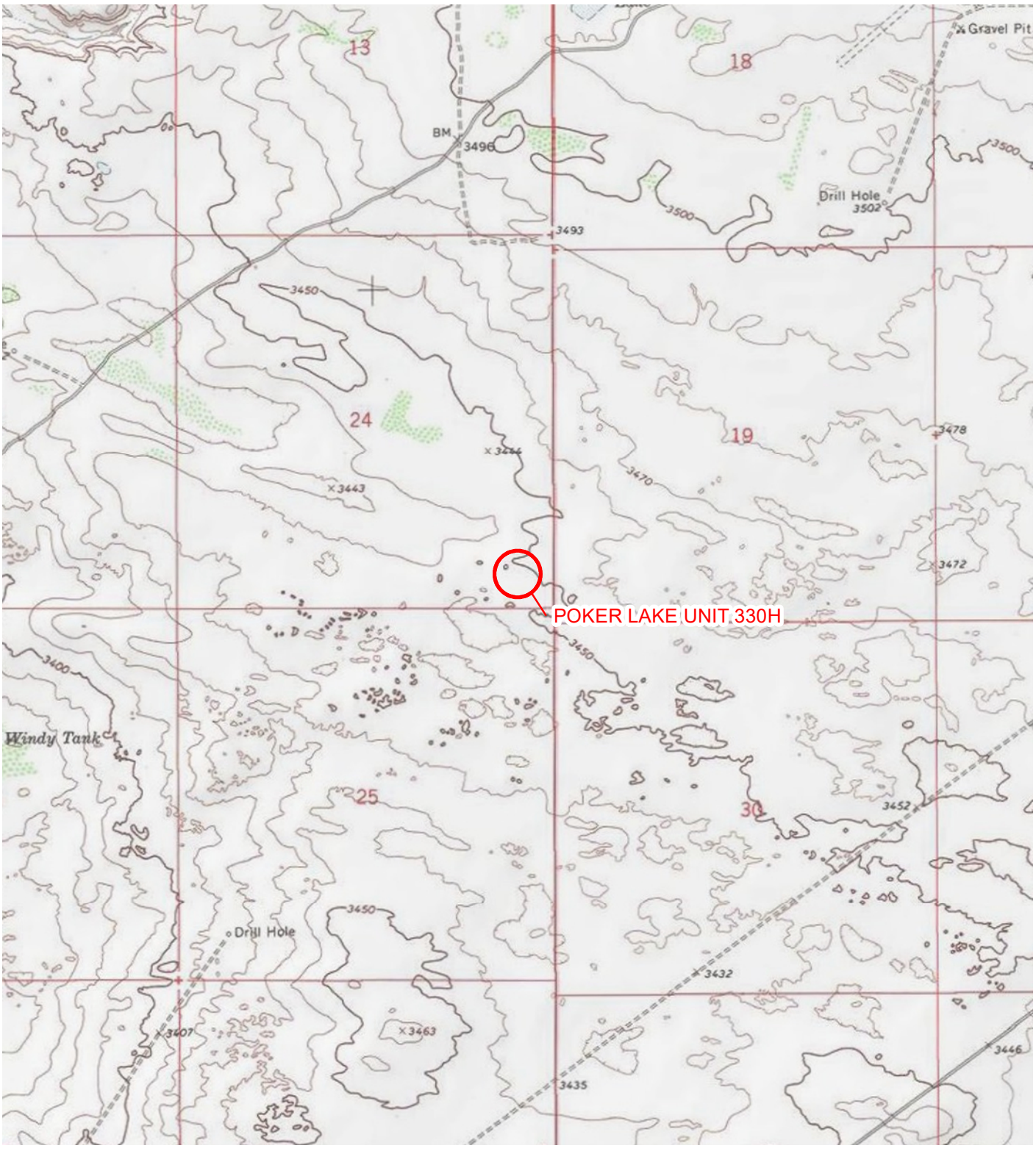
Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Maria Pruett, NMOCD
Jim Amos, 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
Attachment 2	Laboratory Analytical Reports
Attachment 3	Photographic Log

FIGURES



LEGEND

SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000

Feet

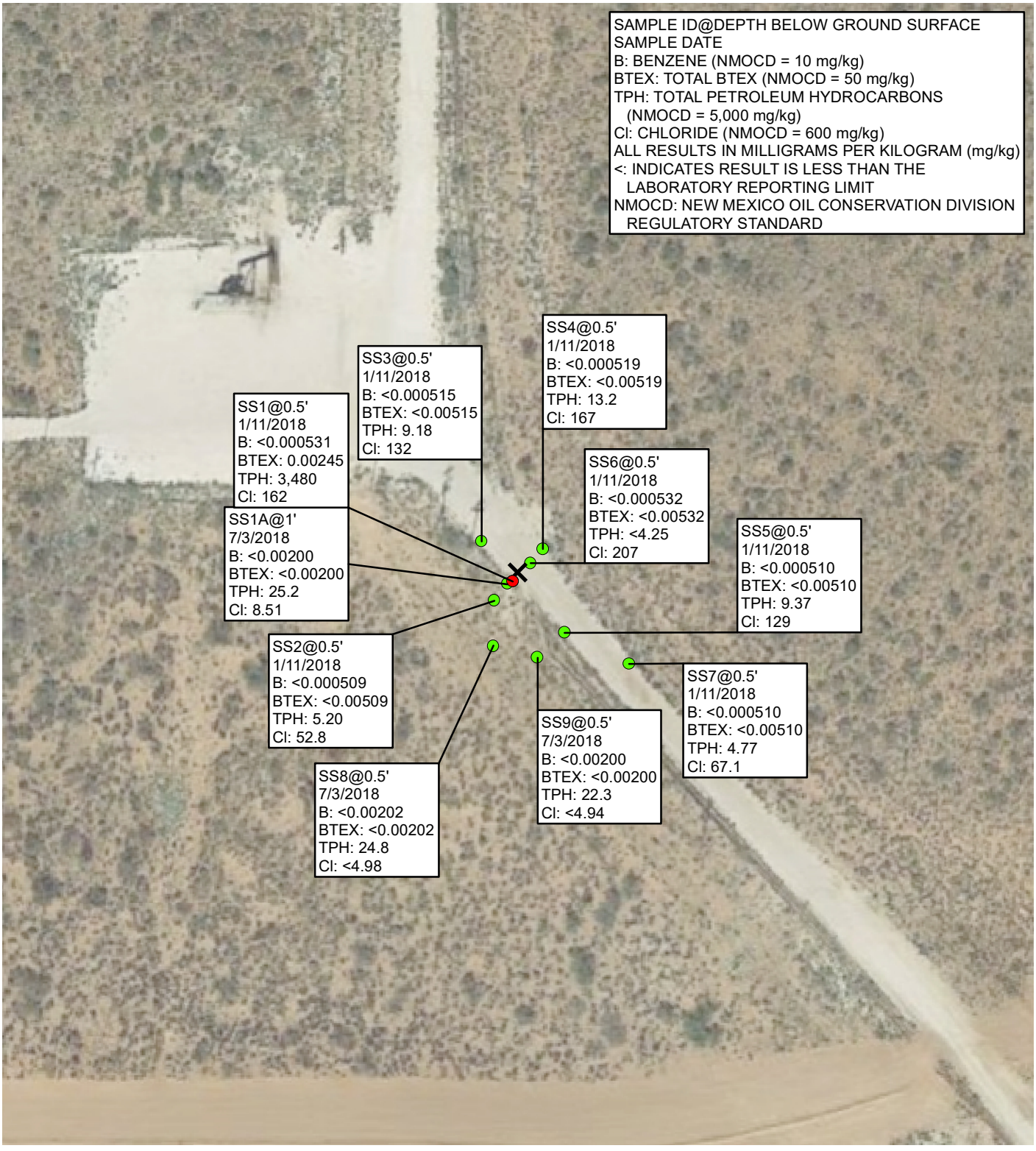
N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-3108

FIGURE 1
SITE LOCATION MAP
POKER LAKE UNIT 330H
UNIT P SEC 24 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918009_PLU 330H\012918009_FIG01_SL_2018.mxd



LEGEND

IMAGE COURTESY OF GOOGLE EARTH 2017

- RELEASE LOCATION
- PRELIMINARY SOIL SAMPLE
- FINAL CONFIRMATION SOIL SAMPLE

0 100 200
Feet

N

HYDRO-VACUUM EXCAVATION AROUND SS1
APPROXIMATELY 2' X 2' X 1'

NOTE: REMEDIATION PERMIT NUMBER 2RP-3108

FIGURE 2
SOIL SAMPLE LOCATIONS
POKER LAKE UNIT 330H
UNIT P SEC 24 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918009_PLU 330H\012918009_FIG02_SITE_2018.mxd

TABLE

TABLE 1
SOIL ANALYTICAL RESULTS
POKER LAKE UNIT 330H
REMEDIATION PERMIT NUMBER 2RP-3108
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	<0.000531	<0.00531	<0.000531	0.00245	0.00245	0.357	2,240	1,240	3,480	162
SS2	0.5	1/11/2018	<0.000509	<0.00509	<0.000509	<0.00153	<0.00509	0.186	<4.07	5.01	5.20	52.8
SS3	0.5	1/11/2018	<0.000515	<0.00515	<0.000515	<0.00154	<0.00515	<0.103	<4.12	9.18	9.18	132
SS4	0.5	1/11/2018	<0.000519	<0.00519	<0.000519	<0.00156	<0.00519	<0.104	<4.15	13.2	13.2	167
SS5	0.5	1/11/2018	<0.000510	<0.00510	<0.000510	<0.00153	<0.00510	<0.102	<4.08	9.37	9.37	129
SS6	0.5	1/11/2018	<0.000532	<0.00532	<0.000532	<0.00160	<0.00532	<0.106	<4.25	<4.25	<4.25	207
SS7	0.5	1/11/2018	<0.000510	<0.00510	<0.000510	<0.00153	<0.00510	<0.102	<4.08	4.77	4.77	67.1
SS1A	1	7/3/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	25.2	<15.0	<15.0	25.2	8.51
SS8	0.5	7/3/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	24.8	<15.0	<15.0	24.8	<4.98
SS9	0.5	7/3/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	22.3	<15.0	<15.0	22.3	<4.94
NMOCD Remediation Action Levels			10	NE	NE	NE	50	NE	NE	NE	5,000	600

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

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141

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

Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1519648727 2160737

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P.	Contact: Bradley Blevins
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: PLU 330H	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner:	API No. 3001539253

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	13	24S	30E	130		710		Eddy

Latitude: 32.197383 **Longitude:** 103.827265

NATURE OF RELEASE

Type of Release: Crude oil, Produced water	Volume of Release: 1 barrel oil, 23 barrels produced water	Volume Recovered: No fluids were recovered
Source of Release: Flowline failed due to corrosion	Date and Hour of Occurrence: July 4 2015 @ 7:00am	Date and Hour of Discovery: July 4 2015 @ 8:00am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike/ Heather via e-mail	
By Whom? Amy Ruth	Date and Hour: July 4 2015 @ 4:49pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 10 2015
RECEIVED

Describe Cause of Problem and Remedial Action Taken.*
A flowline failed due to corrosion of the steel line, the well was shut in until repairs could be made.

Describe Area Affected and Cleanup Action Taken.*
A section of the flowline was repaired and the well was put back on production. No fluids were recovered.

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

Signature: Bradley Blevins

Printed Name: Bradley Blevins

Title: Assistant Remediation Foreman

E-mail Address: bblevins@basspet.com

Date: 7-10-15 Phone: 432-214-3704

OIL CONSERVATION DIVISION

Signed By Mike Bratcher

Approved by Environmental Specialist:

Approval Date: 7/14/15 Expiration Date: N/A

Conditions of Approval: Attached ☐
Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 9/11/15

2RP-308

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	2RP-3108
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy, Inc	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)* 2RP-3108
Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.197383 Longitude -103.827265
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 330H	Site Type Exploration and Production
Date Release Discovered 7/4/2015	API# *(if applicable)* 30-015-39253

Unit Letter	Section	Township	Range	County
P	24	24S	30E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☒ Crude Oil	Volume Released (bbls) 1	Volume Recovered (bbls) 0
☒ Produced Water	Volume Released (bbls) 23	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A flowline failed due to corrosion of the steel line.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-3108
Facility ID	
Application ID	

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

Initial Response

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

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

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

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

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 10/22/2018

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-3108
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: 10/22/2018

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: Brittany Hall Date: 3/17/2023

Printed Name: Brittany Hall Title: Environmental Specialist

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

ANALYTICAL REPORT

January 22, 2018

XTO Energy- Delaware Division

Sample Delivery Group:	L963147
Samples Received:	01/13/2018
Project Number:	30-015-39253
Description:	Soil Samples
Site:	PLU 330H 2RP-3108
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.

TABLE OF CONTENTS

SS1 L963147-01 Solid

Collected by: Aaron Williams | Collected date/time: 01/11/18 07:47 | 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 18:00	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:10	01/14/18 22:49	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	10	01/17/18 11:48	01/18/18 03:13	ACM

SS2 L963147-02 Solid

Collected by: Aaron Williams | Collected date/time: 01/11/18 07:51 | 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 18:08	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:10	01/14/18 23:12	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	1	01/17/18 11:48	01/17/18 22:50	ACM

SS3 L963147-03 Solid

Collected by: Aaron Williams | Collected date/time: 01/11/18 07:54 | 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 18:16	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:10	01/14/18 23:35	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	1	01/17/18 11:48	01/17/18 21:11	ACM

SS4 L963147-04 Solid

Collected by: Aaron Williams | Collected date/time: 01/11/18 07:57 | 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 18:25	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:10	01/14/18 23:57	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	1	01/17/18 11:48	01/17/18 23:07	ACM

SS5 L963147-05 Solid

Collected by: Aaron Williams | Collected date/time: 01/11/18 08:00 | 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 18:33	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:10	01/15/18 00:20	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	1	01/17/18 11:48	01/17/18 23:23	ACM

SS6 L963147-06 Solid

Collected by: Aaron Williams | Collected date/time: 01/11/18 08:03 | 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 18:50	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:10	01/15/18 03:43	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	1	01/17/18 11:48	01/17/18 23:40	ACM

SS7 L963147-07 Solid

			Collected by	Collected date/time	Received date/time
			Aaron Williams	01/11/18 08:05	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 19:16	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1062731	1	01/14/18 12:10	01/15/18 00:42	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1062855	1	01/17/18 11:48	01/17/18 23:56	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	94.2		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	162		10.6	1	01/15/2018 18:00	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		0.000531	1	01/14/2018 22:49	WG1062731
Toluene	ND		0.00531	1	01/14/2018 22:49	WG1062731
Ethylbenzene	ND		0.000531	1	01/14/2018 22:49	WG1062731
Total Xylene	0.00245	B	0.00159	1	01/14/2018 22:49	WG1062731
TPH (GC/FID) Low Fraction	0.357	B	0.106	1	01/14/2018 22:49	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*93.7*		*77.0-120*		*01/14/2018 22:49*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*105*		*75.0-128*		*01/14/2018 22:49*	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	2240		42.5	10	01/18/2018 03:13	WG1062855
C28-C40 Oil Range	1240		42.5	10	01/18/2018 03:13	WG1062855
(S) o-Terphenyl	*197*	J1	*18.0-148*		*01/18/2018 03:13*	WG1062855

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.3		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	52.8		10.2	1	01/15/2018 18:08	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		0.000509	1	01/14/2018 23:12	WG1062731
Toluene	ND		0.00509	1	01/14/2018 23:12	WG1062731
Ethylbenzene	ND		0.000509	1	01/14/2018 23:12	WG1062731
Total Xylene	ND		0.00153	1	01/14/2018 23:12	WG1062731
TPH (GC/FID) Low Fraction	0.186	B	0.102	1	01/14/2018 23:12	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*97.0*		*77.0-120*		*01/14/2018 23:12*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*106*		*75.0-128*		*01/14/2018 23:12*	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		4.07	1	01/17/2018 22:50	WG1062855
C28-C40 Oil Range	5.01		4.07	1	01/17/2018 22:50	WG1062855
(S) o-Terphenyl	*124*		*18.0-148*		*01/17/2018 22:50*	WG1062855

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.1		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	132		10.3	1	01/15/2018 18:16	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		0.000515	1	01/14/2018 23:35	WG1062731
Toluene	ND		0.00515	1	01/14/2018 23:35	WG1062731
Ethylbenzene	ND		0.000515	1	01/14/2018 23:35	WG1062731
Total Xylene	ND		0.00154	1	01/14/2018 23:35	WG1062731
TPH (GC/FID) Low Fraction	ND		0.103	1	01/14/2018 23:35	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*92.6*		*77.0-120*		*01/14/2018 23:35*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*104*		*75.0-128*		*01/14/2018 23:35*	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		4.12	1	01/17/2018 21:11	WG1062855
C28-C40 Oil Range	9.18		4.12	1	01/17/2018 21:11	WG1062855
(S) o-Terphenyl	*112*		*18.0-148*		*01/17/2018 21:11*	WG1062855

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.4		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	167		10.4	1	01/15/2018 18:25	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		0.000519	1	01/14/2018 23:57	WG1062731
Toluene	ND		0.00519	1	01/14/2018 23:57	WG1062731
Ethylbenzene	ND		0.000519	1	01/14/2018 23:57	WG1062731
Total Xylene	ND		0.00156	1	01/14/2018 23:57	WG1062731
TPH (GC/FID) Low Fraction	ND		0.104	1	01/14/2018 23:57	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*93.8*		*77.0-120*		*01/14/2018 23:57*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*104*		*75.0-128*		*01/14/2018 23:57*	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		4.15	1	01/17/2018 23:07	WG1062855
C28-C40 Oil Range	13.2		4.15	1	01/17/2018 23:07	WG1062855
(S) o-Terphenyl	*110*		*18.0-148*		*01/17/2018 23:07*	WG1062855

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.1		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	129		10.2	1	01/15/2018 18:33	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		0.000510	1	01/15/2018 00:20	WG1062731
Toluene	ND		0.00510	1	01/15/2018 00:20	WG1062731
Ethylbenzene	ND		0.000510	1	01/15/2018 00:20	WG1062731
Total Xylene	ND		0.00153	1	01/15/2018 00:20	WG1062731
TPH (GC/FID) Low Fraction	ND		0.102	1	01/15/2018 00:20	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*93.1*		*77.0-120*		*01/15/2018 00:20*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*104*		*75.0-128*		*01/15/2018 00:20*	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		4.08	1	01/17/2018 23:23	WG1062855
C28-C40 Oil Range	9.37		4.08	1	01/17/2018 23:23	WG1062855
(S) o-Terphenyl	*115*		*18.0-148*		*01/17/2018 23:23*	WG1062855

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.0		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	207		10.6	1	01/15/2018 18:50	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 03:43	WG1062731
Toluene	ND		0.00532	1	01/15/2018 03:43	WG1062731
Ethylbenzene	ND		0.000532	1	01/15/2018 03:43	WG1062731
Total Xylene	ND	J6	0.00160	1	01/15/2018 03:43	WG1062731
TPH (GC/FID) Low Fraction	ND	J3	0.106	1	01/15/2018 03:43	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*93.3*		*77.0-120*		*01/15/2018 03:43*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*104*		*75.0-128*		*01/15/2018 03:43*	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		4.25	1	01/17/2018 23:40	WG1062855
C28-C40 Oil Range	ND		4.25	1	01/17/2018 23:40	WG1062855
(S) o-Terphenyl	*119*		*18.0-148*		*01/17/2018 23:40*	WG1062855

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.1		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	67.1		10.2	1	01/15/2018 19:16	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		0.000510	1	01/15/2018 00:42	WG1062731
Toluene	ND		0.00510	1	01/15/2018 00:42	WG1062731
Ethylbenzene	ND		0.000510	1	01/15/2018 00:42	WG1062731
Total Xylene	ND		0.00153	1	01/15/2018 00:42	WG1062731
TPH (GC/FID) Low Fraction	ND		0.102	1	01/15/2018 00:42	WG1062731
(S) a,a,a-Trifluorotoluene(FID)	*92.8*		*77.0-120*		*01/15/2018 00:42*	WG1062731
(S) a,a,a-Trifluorotoluene(PID)	*104*		*75.0-128*		*01/15/2018 00:42*	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		4.08	1	01/17/2018 23:56	WG1062855
C28-C40 Oil Range	4.77		4.08	1	01/17/2018 23:56	WG1062855
(S) o-Terphenyl	*116*		*18.0-148*		*01/17/2018 23:56*	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*				

Semi-Volatile Organic Compounds (GC) by Method 8015

L963147-01,02,03,04,05,06,07

Method Blank (MB)

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

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*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 mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.0	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) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	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*				

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

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		

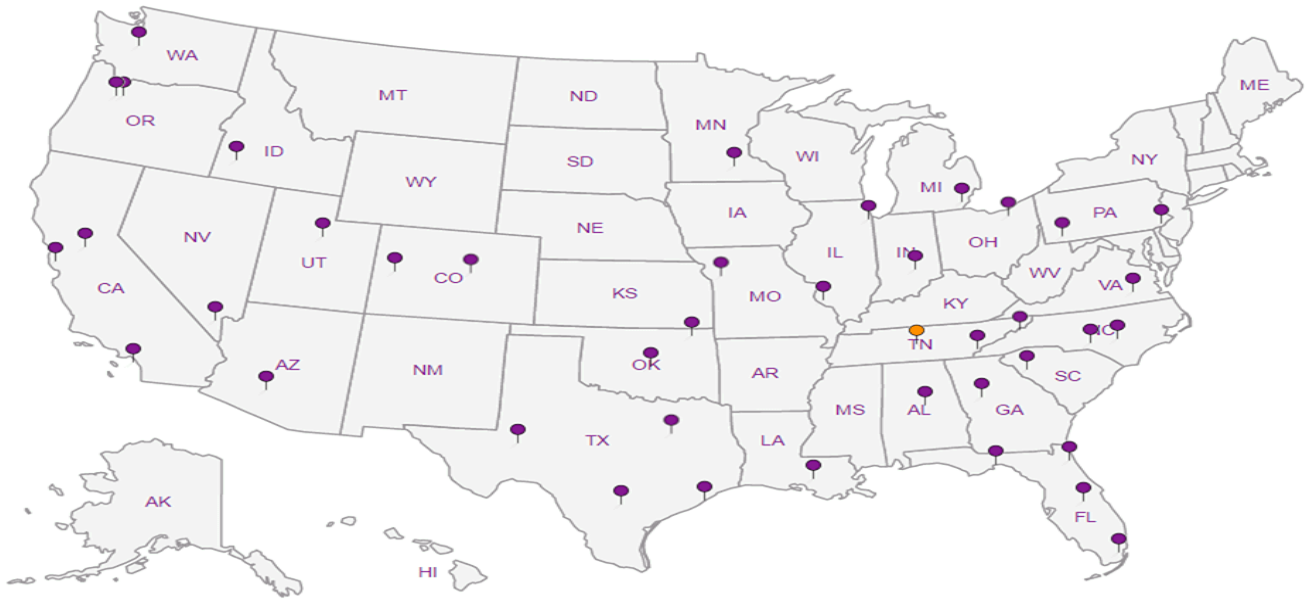
Third Party Federal Accreditations

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 ___ of ___

ESC LABORATORIES

YOUR LAB OF CHOICE

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

L# 963147
G011

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 # **30-015-39253**

Lab Project #

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

Site/Facility ID # (2RP-3108) **PLU 330H**

P.O. # **012918009**

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

Acctnum: **XTOMTX**
Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX EPA Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.1	Remarks	Sample # (lab only)
SS1	Grab	SS	0.5 feet	1/11/2018	07:47	1	X	X	X		01
SS2	Grab	SS	0.5 feet	1/11/2018	07:51	1	X	X	X		02
SS3	Grab	SS	0.5 feet	1/11/2018	07:54	1	X	X	X		03
SS4	Grab	SS	0.5 feet	1/11/2018	07:57	1	X	X	X		04
SS5	Grab	SS	0.5 feet	1/11/2018	08:00	1	X	X	X		05
SS6	Grab	SS	0.5 feet	1/11/2018	08:03	1	X	X	X		06
SS7	Grab	SS	0.5 feet	1/11/2018	08:05	1	X	X	X		07
				N.F.E. NRW							

* 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)
	1-12-18	13:10	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	1-12-18	15:50	Southwest Airlines
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 2.5 °C Bottles Received: 7=402

Date: 01/13/18 Time: 1130

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Matt Shacklock

ESC LAB SCIENCES
YOUR LAB OF CHOICE

Login #:963147	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 based off 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 591483

for

LT Environmental, Inc.

Project Manager: Adrian Baker

PLU 330H/012918009

012918009

13-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)

13-JUL-18

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

Reference: XENCO Report No(s): **591483**
PLU 330H/012918009
Project Address: NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 591483. 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. 591483 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

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

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

Sample Cross Reference 591483

LT Environmental, Inc., Arvada, CO

PLU 330H/012918009

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS1A	S	07-03-18 14:40	1 ft	591483-001
SS8	S	07-03-18 14:45	6 In	591483-002
SS9	S	07-03-18 14:50	6 In	591483-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 330H/012918009

Project ID: *012918009*
Work Order Number(s): *591483*

Report Date: *13-JUL-18*
Date Received: *07/07/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3056210 BTEX by EPA 8021B

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

Certificate of Analysis Summary 591483

LT Environmental, Inc., Arvada, CO

Project Name: PLU 330H/012918009

Project Id: 012918009
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Sat Jul-07-18 09:00 am
Report Date: 13-JUL-18
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	591483-001		591483-002		591483-003				
	Field Id:	SS1A		SS8		SS9				
	Depth:	1- ft		6- In		6- In				
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	Jul-03-18 14:40		Jul-03-18 14:45		Jul-03-18 14:50				
BTEX by EPA 8021B	***Extracted:***	Jul-11-18 10:00		Jul-11-18 10:00		Jul-11-18 10:00				
	Analyzed:	Jul-11-18 16:34		Jul-11-18 16:52		Jul-11-18 17:10				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Benzene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200			
Toluene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200			
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200			
m,p-Xylenes		<0.00400	0.00400	<0.00403	0.00403	<0.00401	0.00401			
o-Xylene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200			
Total Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200			
Total BTEX		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200			
Inorganic Anions by EPA 300	***Extracted:***	Jul-12-18 17:30		Jul-12-18 17:30		Jul-12-18 17:30				
	Analyzed:	Jul-12-18 23:23		Jul-13-18 00:38		Jul-13-18 00:54				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Chloride		8.51	4.99	<4.98	4.98	<4.94	4.94			
TPH by SW8015 Mod	***Extracted:***	Jul-11-18 07:00		Jul-11-18 07:00		Jul-11-18 07:00				
	Analyzed:	Jul-11-18 13:44		Jul-11-18 14:46		Jul-11-18 15:07				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		25.2	15.0	24.8	15.0	22.3	15.0			
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0			
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0			
Total TPH		25.2	15.0	24.8	15.0	22.3	15.0			

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

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 591483

LT Environmental, Inc., Arvada, CO

PLU 330H/012918009

Sample Id:	**SS1A**	Matrix:	Soil	Date Received:	07.07.18 09.00
Lab Sample Id:	591483-001	Date Collected:	07.03.18 14.40	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.12.18 17.30	Basis:	Wet Weight
Seq Number:	3056289				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.51**	4.99	mg/kg	07.12.18 23.23		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.11.18 07.00	Basis:	Wet Weight
Seq Number:	3056201				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**25.2**	15.0	mg/kg	07.11.18 13.44		1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.11.18 13.44	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.11.18 13.44	U	1
Total TPH	PHC635	**25.2**	15.0	mg/kg	07.11.18 13.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	07.11.18 13.44	
o-Terphenyl	84-15-1	88	%	70-135	07.11.18 13.44	

Certificate of Analytical Results 591483

LT Environmental, Inc., Arvada, CO

PLU 330H/012918009

Sample Id:	**SS1A**	Matrix:	Soil	Date Received:	07.07.18 09.00
Lab Sample Id:	591483-001	Date Collected:	07.03.18 14.40	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.11.18 10.00	Basis:	Wet Weight
Seq Number:	3056210				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.11.18 16.34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.11.18 16.34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.11.18 16.34	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.11.18 16.34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.11.18 16.34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.11.18 16.34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.11.18 16.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.11.18 16.34	
4-Bromofluorobenzene	460-00-4	72	%	70-130	07.11.18 16.34	

Certificate of Analytical Results 591483

LT Environmental, Inc., Arvada, CO

PLU 330H/012918009

Sample Id:	**SS8**	Matrix:	Soil	Date Received:	07.07.18 09.00
Lab Sample Id:	591483-002	Date Collected:	07.03.18 14.45	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.12.18 17.30	Basis:	Wet Weight
Seq Number:	3056289				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	07.13.18 00.38	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.11.18 07.00	Basis:	Wet Weight
Seq Number:	3056201				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**24.8**	15.0	mg/kg	07.11.18 14.46		1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.11.18 14.46	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.11.18 14.46	U	1
Total TPH	PHC635	**24.8**	15.0	mg/kg	07.11.18 14.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	07.11.18 14.46	
o-Terphenyl	84-15-1	91	%	70-135	07.11.18 14.46	

Certificate of Analytical Results 591483

LT Environmental, Inc., Arvada, CO

PLU 330H/012918009

Sample Id:	**SS8**	Matrix:	Soil	Date Received:	07.07.18 09.00
Lab Sample Id:	591483-002	Date Collected:	07.03.18 14.45	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.11.18 10.00	Basis:	Wet Weight
Seq Number:	3056210				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.11.18 16.52	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.11.18 16.52	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.11.18 16.52	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.11.18 16.52	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.11.18 16.52	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.11.18 16.52	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.11.18 16.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.11.18 16.52	
4-Bromofluorobenzene	460-00-4	85	%	70-130	07.11.18 16.52	

Certificate of Analytical Results 591483

LT Environmental, Inc., Arvada, CO

PLU 330H/012918009

Sample Id:	**SS9**	Matrix:	Soil	Date Received:	07.07.18 09.00
Lab Sample Id:	591483-003	Date Collected:	07.03.18 14.50	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.12.18 17.30	Basis:	Wet Weight
Seq Number:	3056289				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.94	4.94	mg/kg	07.13.18 00.54	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.11.18 07.00	Basis:	Wet Weight
Seq Number:	3056201				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**22.3**	15.0	mg/kg	07.11.18 15.07		1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.11.18 15.07	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.11.18 15.07	U	1
Total TPH	PHC635	**22.3**	15.0	mg/kg	07.11.18 15.07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	07.11.18 15.07	
o-Terphenyl	84-15-1	95	%	70-135	07.11.18 15.07	

Certificate of Analytical Results 591483

LT Environmental, Inc., Arvada, CO

PLU 330H/012918009

Sample Id:	**SS9**	Matrix:	Soil	Date Received:	07.07.18 09.00
Lab Sample Id:	591483-003	Date Collected:	07.03.18 14.50	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.11.18 10.00	Basis:	Wet Weight
Seq Number:	3056210				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.11.18 17.10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.11.18 17.10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.11.18 17.10	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.11.18 17.10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.11.18 17.10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.11.18 17.10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.11.18 17.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.11.18 17.10	
4-Bromofluorobenzene	460-00-4	76	%	70-130	07.11.18 17.10	

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 591483

LT Environmental, Inc.

PLU 330H/012918009

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3056289 Matrix: Solid Date Prep: 07.12.18
MB Sample Id: 7658309-1-BLK LCS Sample Id: 7658309-1-BKS LCSD Sample Id: 7658309-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.99	250	247	99	255	102	90-110	3	20	mg/kg	07.12.18 23:12	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3056289 Matrix: Soil Date Prep: 07.12.18
Parent Sample Id: 591483-001 MS Sample Id: 591483-001 S MSD Sample Id: 591483-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.51	250	269	104	270	105	90-110	0	20	mg/kg	07.12.18 23:28	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3056289 Matrix: Soil Date Prep: 07.12.18
Parent Sample Id: 591483-002 MS Sample Id: 591483-002 S MSD Sample Id: 591483-002 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	247	99	248	100	90-110	0	20	mg/kg	07.13.18 00:44	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3056201 Matrix: Solid Date Prep: 07.11.18
MB Sample Id: 7658219-1-BLK LCS Sample Id: 7658219-1-BKS LCSD Sample Id: 7658219-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	997	100	982	98	70-135	2	20	mg/kg	07.11.18 09:21	
Diesel Range Organics (DRO)	<15.0	1000	1040	104	1020	102	70-135	2	20	mg/kg	07.11.18 09:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		119		127		70-135	%	07.11.18 09:21
o-Terphenyl	121		125		115		70-135	%	07.11.18 09:21

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 591483

LT Environmental, Inc.

PLU 330H/012918009

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3056201 | Matrix: Soil | Date Prep: 07.11.18
Parent Sample Id: 591481-001 | MS Sample Id: 591481-001 S | MSD Sample Id: 591481-001 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)	16.8	999	950	93	1000	98	70-135	5	20	mg/kg	07.11.18 10:21	
Diesel Range Organics (DRO)	<15.0	999	993	99	1060	106	70-135	7	20	mg/kg	07.11.18 10:21	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		119		70-135	%	07.11.18 10:21
o-Terphenyl	108		116		70-135	%	07.11.18 10:21

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3056210 | Matrix: Solid | Date Prep: 07.11.18
MB Sample Id: 7658214-1-BLK | LCS Sample Id: 7658214-1-BKS | LCSD Sample Id: 7658214-1-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	0.105	105	0.0999	99	70-130	5	35	mg/kg	07.11.18 09:10	
Toluene	<0.00200	0.0998	0.113	113	0.103	102	70-130	9	35	mg/kg	07.11.18 09:10	
Ethylbenzene	<0.00200	0.0998	0.109	109	0.102	101	70-130	7	35	mg/kg	07.11.18 09:10	
m,p-Xylenes	<0.00399	0.200	0.227	114	0.213	106	70-130	6	35	mg/kg	07.11.18 09:10	
o-Xylene	<0.00200	0.0998	0.101	101	0.0990	98	70-130	2	35	mg/kg	07.11.18 09:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	125		88		91		70-130	%	07.11.18 09:10
4-Bromofluorobenzene	96		77		106		70-130	%	07.11.18 09:10

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3056210 | Matrix: Soil | Date Prep: 07.11.18
Parent Sample Id: 591481-001 | MS Sample Id: 591481-001 S | MSD Sample Id: 591481-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.105	105	0.108	108	70-130	3	35	mg/kg	07.11.18 09:46	
Toluene	<0.00199	0.0996	0.0985	99	0.109	109	70-130	10	35	mg/kg	07.11.18 09:46	
Ethylbenzene	<0.00199	0.0996	0.0949	95	0.103	103	70-130	8	35	mg/kg	07.11.18 09:46	
m,p-Xylenes	<0.00398	0.199	0.195	98	0.216	108	70-130	10	35	mg/kg	07.11.18 09:46	
o-Xylene	<0.00199	0.0996	0.0917	92	0.107	107	70-130	15	35	mg/kg	07.11.18 09:46	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		114		70-130	%	07.11.18 09:46
4-Bromofluorobenzene	99		94		70-130	%	07.11.18 09:46

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

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

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

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

Final 1.000

CHAIN OF CUSTODY

XENCO LABORATORIES

Setting the Standard since 1990

Page 1 Of 1

Revision 2016.1

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

www.xenco.com

Xenco Quote # | Xenco Job # 591483

Client / Reporting Information

Company Name / Branch: XTO Environmental - Permian Office
Company Address:
Email: ABaker@ltenv.com | Phone No:
Project Contact: Adrian Baker
Samplers's Name: Daniel Thomas

Project Information

Project Name/Number: PLU 3301H / 01245009
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 2RP-3108

Analytical Information

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX	TPH	Chloride	Field Comments
1	SS1A	1'	7-3-18	1446	S	1								X	X	X	X	
2	SS8	6"	↓	1445	↓	↓								↓	↓	↓	↓	
3	SS9	6"	↓	1450	↓	↓								↓	↓	↓	↓	
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
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY
- Standard

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking # 772650918565

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		7-5-1605	Chris Pulido BTB 16:20	Chris Pulido	15:30 BTB	
2						0900 7-7-18
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
						2.0 NR 0.0

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

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

Work Order #: 591483

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2
#2 *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: 07/09/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 07/09/2018
Jessica Kramer

ATTACHMENT 3: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Photograph 1: View northeast of flowline and excavation.

Photograph 2: View northeast of release area.

Poker Lake Unit 330H
2RP-3108
Photographs Taken: July 3, 2018

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

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

CONDITIONS

Action 198308

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 198308
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	3/17/2023