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

August 22, 2018

Ms. Olivia Yu
New Mexico Oil Conservation District
1625 North French Drive
Hobbs, New Mexico 88240

RE: Closure Request
Sharp Nose Federal #001 Tank Battery
Remediation Permit Number 1RP-4815
Lea County, New Mexico

Dear Ms. Yu:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following letter report detailing excavation of impacted soil and confirmation soil sampling activities at the Sharp Nose Federal #001 (Site) located in Unit Letter J, Section 13, Township 20 South, Range 33 East, in Lea County, New Mexico (Figure 1). The purpose of the excavation activities was to address impact to soil after the bourdon tube on the pressure gauge ruptured causing 0.79 barrels (bbls) of crude oil and 11.81 bbls of produced water to release onto the surface of the well pad. The release was discovered on September 3, 2017. The valve below the failed gauge was closed and approximately 0.75 bbl of oil and 11.25 bbls of produced water were recovered using a vacuum truck. The release affected approximately 1,500 square feet of the caliche well pad. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on September 18, 2017, and was assigned Remediation Permit Number (RP) 1RP-4815 (Attachment 1). Based on the results of the confirmation sampling event conducted after impacted soil was removed, XTO is requesting no further action for this release.

BACKGROUND

Depth to groundwater at the Site is estimated to be approximately 110 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 CP 00798, located approximately 3,551 feet southwest of the Site with a total depth of 850 feet. Depth to water is not listed for CP 00798; however; the groundwater potentiometric map used by NMOCD for Lea County indicates groundwater is greater than 100 feet deep at the Site. The closest surface water to the Site is a seasonal playa lake located approximately 4.47 miles west 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 proposes a site-specific chloride action level of 600 mg/kg or within 10 percent (%) of the background concentrations.

SOIL SAMPLING

On February 16, 2018, an LTE scientist collected 10 soil samples (SS01 through SS10) from depths of 1 foot bgs to 2 feet bgs to assess the lateral and vertical extent of soil impacts. The soil sample locations, depicted on Figure 2, were based on information provided in the initial Form C-141 and field observations. 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. The soil samples were collected and placed directly into pre-cleaned glass jars, labeled with 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 Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico, 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.

Laboratory analytical results for soil samples SS06 and SS07 indicated that TPH concentrations exceeded the remediation action level at concentrations of 13,000 mg/kg and 12,000 mg/kg, respectively. Laboratory analytical results for soil samples SS01 through SS05 and SS08 through SS10 indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD site-specific remediation action levels. Laboratory analytical results are presented on Figure 2, summarized in Table 1, and the laboratory analytical report is included as Attachment 2.

EXCAVATION ACTIVITIES

On May 8 through June 26, 2018, LTE personnel returned to the Site to oversee excavation of impacted soil as indicated by visual surface staining, field screening, and laboratory analytical results exceeding the NMOCD remediation action level for TPH in initial soil samples SS06 and SS07. 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. Excavation activities commenced west of the well head on May 8, 2018. Impacted soil was excavated from the release area to a depth of 1 foot bgs to 2 feet bgs. LTE collected eight confirmation soil samples (SS01A through SS08A) from the excavation on May 8 and May 9, 2018. Excavation activities concluded east of the well head on June 26, 2018. Impacted soil was excavated from the release area to a depth of 2 feet bgs. LTE collected four confirmation soil samples (SS11 through SS14) from the excavation on June 26, 2018. The soil samples were collected, handled, and analyzed as described above and submitted to Xenco Laboratories in Midland, Texas.

The final excavation measured approximately 7,597 square feet in area with a depth of approximately 1-2 feet bgs throughout the excavation. The horizontal extent of the excavation is illustrated on Figure 2. Approximately 1,320 cubic yards of impacted soil were removed using a skidsteer. Impacted soil was transported and properly disposed of at The Lea Land Landfill, in Eunice, 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 initial soil samples SS06 and SS07 exceeded the remediation action level for TPH. The soil around initial samples SS06 and SS07 was excavated and subsequent soil samples SS13@2' and SS11@2' indicated that TPH concentrations were compliant with the remediation action level. Laboratory analytical results are presented on Figure 2, summarized in Table 1, and the complete laboratory analytical reports are included as Attachment 2.

Please note that additional soil samples included in the laboratory analytical reports are associated with a second release at this site (1RP-4771) that was being excavated and sampled simultaneously. A separate closure request is being submitted for this release.

CONCLUSIONS

The impacted soil was excavated from the release area and laboratory analytical results for the confirmation soil samples collected from the final excavation extent 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

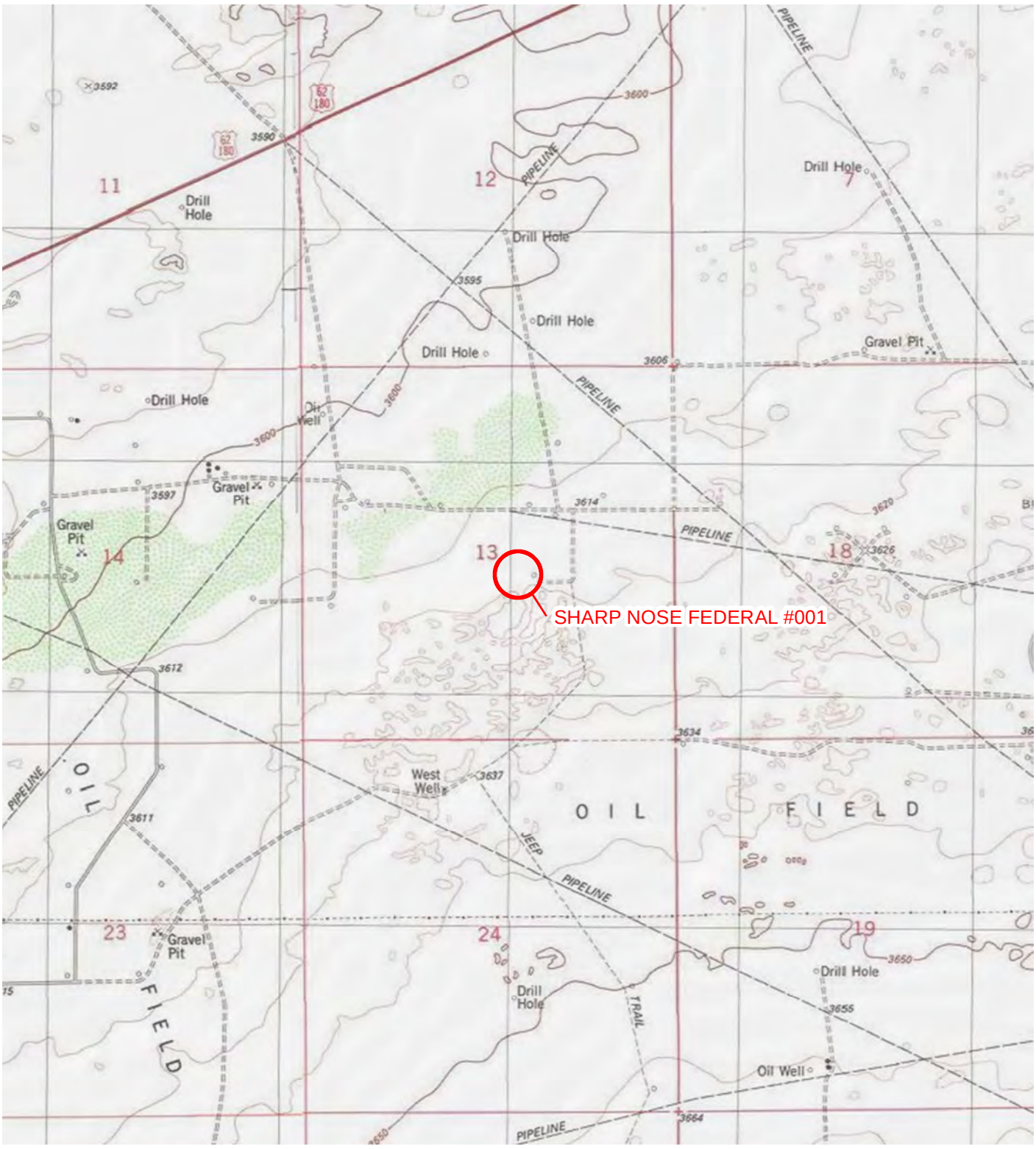
Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Mark Naranjo, State Land Office
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 (1RP-4815)
Attachment 2	Laboratory Analytical Reports

FIGURES



LEGEND

SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000

Feet

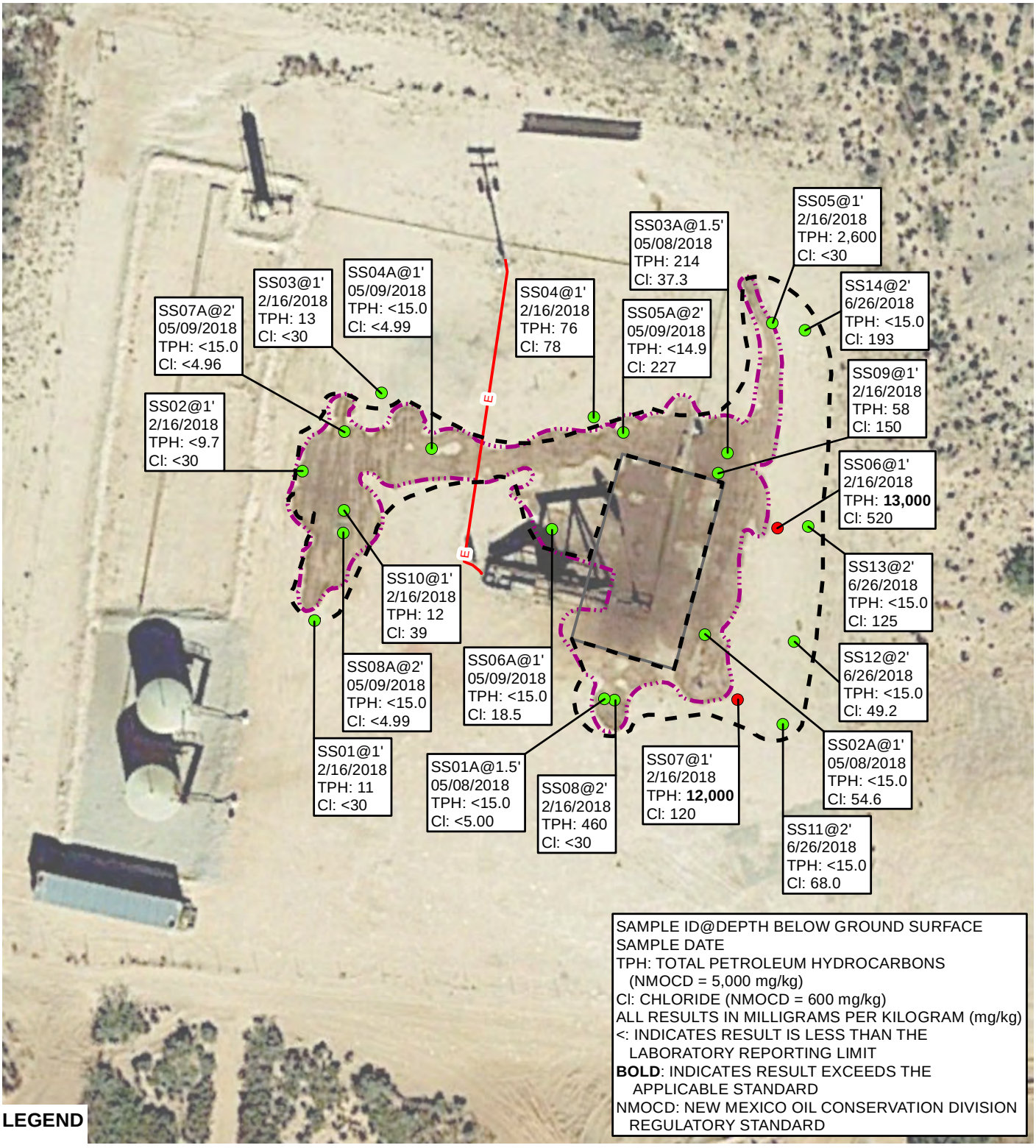
N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 1RP-4815

FIGURE 1
SITE LOCATION MAP
SHARP NOSE FEDERAL #001
UNIT J SEC 13 T20S R33E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012917046_SHARP NOSE FEDERAL #1\012917046_FIG01_SL.mxd



SAMPLE ID@DEPTH BELOW GROUND SURFACE
SAMPLE DATE
TPH: TOTAL PETROLEUM HYDROCARBONS (NMOCD = 5,000 mg/kg)
Cl: CHLORIDE (NMOCD = 600 mg/kg)
ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
<: INDICATES RESULT IS LESS THAN THE LABORATORY REPORTING LIMIT
BOLD: INDICATES RESULT EXCEEDS THE APPLICABLE STANDARD
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION REGULATORY STANDARD

LEGEND

- PRELIMINARY SOIL SAMPLE
- FINAL CONFIRMATION SOIL SAMPLE
- E — ELECTRICAL LINE
- VISIBLE SURFACE STAINING
- EXCAVATION EXTENT
- CONCRETE PAD

NOTE: REMEDIATION PERMIT NUMBER 1RP-4815

IMAGE COURTESY OF GOOGLE EARTH 2017

0 40 80
Feet

N

FIGURE 2
SOIL SAMPLE LOCATIONS
SHARP NOSE FEDERAL #001
UNIT J SEC 13 T20S R33E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012917046_SHARP NOSE FEDERAL #1\012917046_FIG03_SITE_SOIL_2018_4815.mxd

TABLE

TABLE 1
SOIL ANALYTICAL RESULTS
SHARP NOSE FEDERAL #001
REMEDIATION PERMIT NUMBER 1RP-4815
LEA 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)
SS01	1	2/16/2018	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	11	<47	11	<30
SS02	1	2/16/2018	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<9.7	<48	<9.7	<30
SS03	1	2/16/2018	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	13	<48	13	<30
SS04	1	2/16/2018	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	16	60	76	78
SS05	1	2/16/2018	<0.023	0.051	0.20	0.87	1.1	32	1,600	1,000	2,600	<30
SS06	1	2/16/2018	<0.025	<0.050	0.21	1.4	1.6	63	8,300	4,300	**13,000**	520
SS07	1	2/16/2018	<0.023	<0.046	<0.046	0.26	0.26	31	7,600	4,300	**12,000**	120
SS08	2	2/16/2018	<0.024	<0.047	<0.047	<0.095	<0.095	<4.7	270	190	460	<30
SS09	1	2/16/2018	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	58	<47	58	150
SS10	1	2/16/2018	<0.023	<0.046	<0.046	<0.093	<0.093	<4.6	12	<46	12	39
SS01A @ 1.5'	1.5	5/8/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<5.00
SS02A @ 1'	1	5/8/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	54.6
SS03A @ 1.5'	1.5	5/8/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	182	31.6	214	37.3
SS04A @ 1'	1	5/9/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<4.99
SS05A @ 2'	2	5/9/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<14.9	<14.9	<14.9	<14.9	227
SS06A @ 1'	1	5/9/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	18.5
SS07A @ 2'	2	5/9/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<4.96
SS08A @ 2'	2	5/9/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<4.99
SS11	2	6/26/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	68.0
SS12	2	6/26/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	49.2
SS13	2	6/26/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	125
SS14	2	6/26/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	193
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: NMOCD FORM C-141

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy	Contact: Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: Sharp Nose Federal #001	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-025-31397

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	13	20S	33E	2360	South	2065	East	Lea

Latitude 32.572377° **Longitude** -103.614886°

NATURE OF RELEASE

Type of Release: Produced Water and Crude Oil	Volume of Release: 0.79 BO, 11.81 BPW	Volume Recovered: 0.75 BO, 11.25 BPW
Source of Release: Bourdon tube in wellhead area	Date and Hour of Occurrence: 9/3/2017 time unknown	Date and Hour of Discovery: 9/3/2017 1:00 pm
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour N/A	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

RECEIVED
By Olivia Yu at 3:30 pm, Sep 20, 2017

Describe Cause of Problem and Remedial Action Taken.*
The bourdon tube on the pressure gauge ruptured and the fluid pressure released the rubber grommet out of the top of the gauge allowing fluid to escape to the location. The valve below the failed gauge was closed to contain the release, and the failed gauge was replaced.

Describe Area Affected and Cleanup Action Taken.*
The leak affected approximately 1,500 square feet of caliche pad within the fenced area. All standing fluids were recovered.

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

Signature:

Printed Name: Amy C. Ruth

Title: Environmental Supervisor

E-mail Address: Amy_Ruth@xtoenergy.com

Date: 9/18/2017 Phone: 432-661-0571

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 9/20/2017 Expiration Date:

Conditions of Approval: see attached directive

Attached ☑

* Attach Additional Sheets If Necessary

1RP-4815 nOY1726356779 pOY1726357247

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company XTO Energy	Contact: Kyle Littrell
Address 3104 E Greene Street, Carlsbad, NM 88220	Telephone No: 432-221-7331
Facility Name: Sharp Nose Federal #001	Facility Type: Exploration and Production

Surface Owner Federal	Mineral Owner: Federal	API No. 30-025-31397

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	13	20S	33E	2360	South	2065	East	Lea

Latitude 32.572377 **Longitude** -103.614886 NAD83

NATURE OF RELEASE

Type of Release Crude and produced water	Volume of Release: 0.79 bbls oil 11.81 bbls produced water	Volume Recovered: 0.75 bbls oil 11.25 bbls produced water
Source of Release: Bourdon tube in wellhead area	Date and Hour of Occurrence 9/3/2017 time unknown	Date and Hour of Discovery 9/3/2017 1:00 pm
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour: N/A	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse: N/A	

If a Watercourse was Impacted, Describe Fully.* NA

Describe Cause of Problem and Remedial Action Taken.* The bourdon tube on the pressure gauge ruptured and the fluid pressure released the rubber grommet out of the top of the gauge allowing fluid to escape to the location. The valve below the failed gauge was closed to contain the release, and the failed gauge was replaced.

Describe Area Affected and Cleanup Action Taken.* The leak affected approximately 1,500 square feet for caliche pad within the fenced area. All standing fluids were recovered. LT Environmental, Inc. collected 22 soil samples from 22 locations between February 16, 2018 and May 26, 2018. Laboratory analytical results for final confirmation soil samples indicated BTEX, TPH, and chloride concentrations were in compliance with NMOCD site-specific standards. A Closure Request Report is attached describing all field activities. XTO requests no further action for this release.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Kyle Littrell	Approved by Environmental Specialist: Brittany Hall	
Title: SH&E Coordinator	Approval Date: 3/20/2023	Expiration Date: N/A
E-mail Address: Kyle_Littrell@xtoenergy.com	Conditions of Approval:	Attached ☐
Date: 08/27/2018 Phone: 432-221-7331	N/A	

* Attach Additional Sheets If Necessary

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

February 26, 2018

Kyle Littlrell
LTE
3300 N A St Bldg 1 #103
Midland, TX 79705
TEL: (432) 704-5178
FAX

RE: Sharp Nose Federal 1 OrderNo.: 1802A22

Dear Kyle Littlrell:

Hall Environmental Analysis Laboratory received 10 sample(s) on 2/17/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1802A22**
Date Reported: **2/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE **Client Sample ID:** SS01
Project: Sharp Nose Federal 1 **Collection Date:** 2/16/2018 11:00:00 AM
Lab ID: 1802A22-001 **Matrix:** SOIL **Received Date:** 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	11	9.4		mg/Kg	1	2/21/2018 1:12:03 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/21/2018 1:12:03 PM
Surr: DNOP	76.4	70-130		%Rec	1	2/21/2018 1:12:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/21/2018 1:24:20 PM
Surr: BFB	88.3	15-316		%Rec	1	2/21/2018 1:24:20 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/21/2018 1:24:20 PM
Toluene	ND	0.049		mg/Kg	1	2/21/2018 1:24:20 PM
Ethylbenzene	ND	0.049		mg/Kg	1	2/21/2018 1:24:20 PM
Xylenes, Total	ND	0.097		mg/Kg	1	2/21/2018 1:24:20 PM
Surr: 4-Bromofluorobenzene	84.2	80-120		%Rec	1	2/21/2018 1:24:20 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	ND	30		mg/Kg	20	2/23/2018 3:14:12 AM

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

Qualifiers:

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

Analytical Report
Lab Order **1802A22**
Date Reported: **2/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE **Client Sample ID:** SS02
Project: Sharp Nose Federal 1 **Collection Date:** 2/16/2018 11:10:00 AM
Lab ID: 1802A22-002 **Matrix:** SOIL **Received Date:** 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	2/21/2018 1:39:48 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/21/2018 1:39:48 PM
Surr: DNOP	89.4	70-130		%Rec	1	2/21/2018 1:39:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/21/2018 1:48:07 PM
Surr: BFB	86.7	15-316		%Rec	1	2/21/2018 1:48:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	2/21/2018 1:48:07 PM
Toluene	ND	0.049		mg/Kg	1	2/21/2018 1:48:07 PM
Ethylbenzene	ND	0.049		mg/Kg	1	2/21/2018 1:48:07 PM
Xylenes, Total	ND	0.099		mg/Kg	1	2/21/2018 1:48:07 PM
Surr: 4-Bromofluorobenzene	80.4	80-120		%Rec	1	2/21/2018 1:48:07 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	ND	30		mg/Kg	20	2/23/2018 3:26:36 AM

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

Qualifiers:

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

Analytical Report
Lab Order **1802A22**
Date Reported: **2/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE **Client Sample ID:** SS03
Project: Sharp Nose Federal 1 **Collection Date:** 2/16/2018 11:20:00 AM
Lab ID: 1802A22-003 **Matrix:** SOIL **Received Date:** 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	13	9.6		mg/Kg	1	2/21/2018 2:07:23 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/21/2018 2:07:23 PM
Surr: DNOP	76.2	70-130		%Rec	1	2/21/2018 2:07:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/21/2018 2:11:56 PM
Surr: BFB	90.7	15-316		%Rec	1	2/21/2018 2:11:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	2/21/2018 2:11:56 PM
Toluene	ND	0.049		mg/Kg	1	2/21/2018 2:11:56 PM
Ethylbenzene	ND	0.049		mg/Kg	1	2/21/2018 2:11:56 PM
Xylenes, Total	ND	0.098		mg/Kg	1	2/21/2018 2:11:56 PM
Surr: 4-Bromofluorobenzene	85.0	80-120		%Rec	1	2/21/2018 2:11:56 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	ND	30		mg/Kg	20	2/23/2018 4:28:41 AM

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

Qualifiers:

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

Analytical Report
Lab Order **1802A22**
Date Reported: **2/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE **Client Sample ID:** SS04
Project: Sharp Nose Federal 1 **Collection Date:** 2/16/2018 11:30:00 AM
Lab ID: 1802A22-004 **Matrix:** SOIL **Received Date:** 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	16	9.6		mg/Kg	1	2/22/2018 9:00:01 AM
Motor Oil Range Organics (MRO)	60	48		mg/Kg	1	2/22/2018 9:00:01 AM
Surr: DNOP	79.0	70-130		%Rec	1	2/22/2018 9:00:01 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/21/2018 2:35:34 PM
Surr: BFB	88.6	15-316		%Rec	1	2/21/2018 2:35:34 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/21/2018 2:35:34 PM
Toluene	ND	0.048		mg/Kg	1	2/21/2018 2:35:34 PM
Ethylbenzene	ND	0.048		mg/Kg	1	2/21/2018 2:35:34 PM
Xylenes, Total	ND	0.095		mg/Kg	1	2/21/2018 2:35:34 PM
Surr: 4-Bromofluorobenzene	83.4	80-120		%Rec	1	2/21/2018 2:35:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	78	30		mg/Kg	20	2/23/2018 4:41:06 AM

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

Qualifiers:

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

Analytical Report
Lab Order **1802A22**
Date Reported: **2/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE **Client Sample ID:** SS05
Project: Sharp Nose Federal 1 **Collection Date:** 2/16/2018 11:40:00 AM
Lab ID: 1802A22-005 **Matrix:** SOIL **Received Date:** 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	1600	92		mg/Kg	10	2/21/2018 3:31:00 PM
Motor Oil Range Organics (MRO)	1000	460		mg/Kg	10	2/21/2018 3:31:00 PM
Surr: DNOP	0	70-130	S	%Rec	10	2/21/2018 3:31:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	32	4.6		mg/Kg	1	2/21/2018 2:59:14 PM
Surr: BFB	447	15-316	S	%Rec	1	2/21/2018 2:59:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	2/21/2018 2:59:14 PM
Toluene	0.051	0.046		mg/Kg	1	2/21/2018 2:59:14 PM
Ethylbenzene	0.20	0.046		mg/Kg	1	2/21/2018 2:59:14 PM
Xylenes, Total	0.87	0.093		mg/Kg	1	2/21/2018 2:59:14 PM
Surr: 4-Bromofluorobenzene	114	80-120		%Rec	1	2/21/2018 2:59:14 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	ND	30		mg/Kg	20	2/23/2018 4:53:30 AM

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

Qualifiers:

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

Analytical Report
Lab Order **1802A22**
Date Reported: **2/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE **Client Sample ID:** SS06
Project: Sharp Nose Federal 1 **Collection Date:** 2/16/2018 11:50:00 AM
Lab ID: 1802A22-006 **Matrix:** SOIL **Received Date:** 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	8300	180		mg/Kg	20	2/22/2018 9:54:59 AM
Motor Oil Range Organics (MRO)	4300	920		mg/Kg	20	2/22/2018 9:54:59 AM
Surr: DNOP	0	70-130	S	%Rec	20	2/22/2018 9:54:59 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	63	5.0		mg/Kg	1	2/21/2018 4:57:21 PM
Surr: BFB	713	15-316	S	%Rec	1	2/21/2018 4:57:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	2/21/2018 4:57:21 PM
Toluene	ND	0.050		mg/Kg	1	2/21/2018 4:57:21 PM
Ethylbenzene	0.21	0.050		mg/Kg	1	2/21/2018 4:57:21 PM
Xylenes, Total	1.4	0.099		mg/Kg	1	2/21/2018 4:57:21 PM
Surr: 4-Bromofluorobenzene	131	80-120	S	%Rec	1	2/21/2018 4:57:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	520	30		mg/Kg	20	2/23/2018 5:05:55 AM

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

Qualifiers:

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

Analytical Report
Lab Order **1802A22**
Date Reported: **2/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE **Client Sample ID:** SS07
Project: Sharp Nose Federal 1 **Collection Date:** 2/16/2018 12:00:00 PM
Lab ID: 1802A22-007 **Matrix:** SOIL **Received Date:** 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	7600	200		mg/Kg	20	2/22/2018 10:22:02 AM
Motor Oil Range Organics (MRO)	4300	1000		mg/Kg	20	2/22/2018 10:22:02 AM
Surr: DNOP	0	70-130	S	%Rec	20	2/22/2018 10:22:02 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	31	4.6		mg/Kg	1	2/21/2018 5:21:05 PM
Surr: BFB	443	15-316	S	%Rec	1	2/21/2018 5:21:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	2/21/2018 5:21:05 PM
Toluene	ND	0.046		mg/Kg	1	2/21/2018 5:21:05 PM
Ethylbenzene	ND	0.046		mg/Kg	1	2/21/2018 5:21:05 PM
Xylenes, Total	0.26	0.092		mg/Kg	1	2/21/2018 5:21:05 PM
Surr: 4-Bromofluorobenzene	120	80-120		%Rec	1	2/21/2018 5:21:05 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	120	30		mg/Kg	20	2/23/2018 5:18:19 AM

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

Qualifiers:

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

Analytical Report
Lab Order **1802A22**
Date Reported: **2/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE **Client Sample ID:** SS08
Project: Sharp Nose Federal 1 **Collection Date:** 2/16/2018 12:10:00 PM
Lab ID: 1802A22-008 **Matrix:** SOIL **Received Date:** 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	270	9.5		mg/Kg	1	2/22/2018 9:27:32 AM
Motor Oil Range Organics (MRO)	190	48		mg/Kg	1	2/22/2018 9:27:32 AM
Surr: DNOP	95.3	70-130		%Rec	1	2/22/2018 9:27:32 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/21/2018 5:44:54 PM
Surr: BFB	117	15-316		%Rec	1	2/21/2018 5:44:54 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/21/2018 5:44:54 PM
Toluene	ND	0.047		mg/Kg	1	2/21/2018 5:44:54 PM
Ethylbenzene	ND	0.047		mg/Kg	1	2/21/2018 5:44:54 PM
Xylenes, Total	ND	0.095		mg/Kg	1	2/21/2018 5:44:54 PM
Surr: 4-Bromofluorobenzene	99.0	80-120		%Rec	1	2/21/2018 5:44:54 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	ND	30		mg/Kg	20	2/23/2018 5:30:44 AM

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

Qualifiers:

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

Analytical Report
Lab Order **1802A22**
Date Reported: **2/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE **Client Sample ID:** SS09
Project: Sharp Nose Federal 1 **Collection Date:** 2/16/2018 12:20:00 PM
Lab ID: 1802A22-009 **Matrix:** SOIL **Received Date:** 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	58	9.5		mg/Kg	1	2/21/2018 5:41:16 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/21/2018 5:41:16 PM
Surr: DNOP	99.5	70-130		%Rec	1	2/21/2018 5:41:16 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/21/2018 6:08:34 PM
Surr: BFB	94.8	15-316		%Rec	1	2/21/2018 6:08:34 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	2/21/2018 6:08:34 PM
Toluene	ND	0.050		mg/Kg	1	2/21/2018 6:08:34 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/21/2018 6:08:34 PM
Xylenes, Total	ND	0.10		mg/Kg	1	2/21/2018 6:08:34 PM
Surr: 4-Bromofluorobenzene	93.8	80-120		%Rec	1	2/21/2018 6:08:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	150	30		mg/Kg	20	2/23/2018 5:43:09 AM

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

Qualifiers:

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

Analytical Report
Lab Order **1802A22**
Date Reported: **2/26/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE **Client Sample ID:** SS10
Project: Sharp Nose Federal 1 **Collection Date:** 2/16/2018 12:30:00 PM
Lab ID: 1802A22-010 **Matrix:** SOIL **Received Date:** 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	12	9.3		mg/Kg	1	2/21/2018 6:08:44 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/21/2018 6:08:44 PM
Surr: DNOP	84.4	70-130		%Rec	1	2/21/2018 6:08:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/21/2018 6:32:18 PM
Surr: BFB	92.1	15-316		%Rec	1	2/21/2018 6:32:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	2/21/2018 6:32:18 PM
Toluene	ND	0.046		mg/Kg	1	2/21/2018 6:32:18 PM
Ethylbenzene	ND	0.046		mg/Kg	1	2/21/2018 6:32:18 PM
Xylenes, Total	ND	0.093		mg/Kg	1	2/21/2018 6:32:18 PM
Surr: 4-Bromofluorobenzene	91.6	80-120		%Rec	1	2/21/2018 6:32:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	39	30		mg/Kg	20	2/23/2018 5:55:33 AM

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1802A22**
26-Feb-18

Client: LTE
Project: Sharp Nose Federal 1

Sample ID	**MB-36684**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**36684**	RunNo:	**49353**					
Prep Date:	**2/22/2018**	Analysis Date:	**2/23/2018**	SeqNo:	**1593362**	Units:	**mg/Kg**			

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

Sample ID	**LCS-36684**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**36684**	RunNo:	**49353**					
Prep Date:	**2/22/2018**	Analysis Date:	**2/23/2018**	SeqNo:	**1593363**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.4	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802A22**

26-Feb-18

Client: LTE

Project: Sharp Nose Federal 1

Sample ID	**LCS-36618**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**36618**		RunNo:	**49270**				
Prep Date:	**2/20/2018**	Analysis Date:	**2/21/2018**		SeqNo:	**1590096**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	83.0	70	130			
Surr: DNOP	4.6		5.000		92.2	70	130			

Sample ID	**MB-36618**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**36618**		RunNo:	**49270**				
Prep Date:	**2/20/2018**	Analysis Date:	**2/21/2018**		SeqNo:	**1590097**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.1		10.00		91.2	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1802A22**
26-Feb-18

Client: LTE
Project: Sharp Nose Federal 1

Sample ID	**MB-36607**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**36607**	RunNo:	**49303**					
Prep Date:	**2/20/2018**	Analysis Date:	**2/21/2018**	SeqNo:	**1590999**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	860		1000		86.4	15	316			

Sample ID	**LCS-36607**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**36607**	RunNo:	**49303**					
Prep Date:	**2/20/2018**	Analysis Date:	**2/21/2018**	SeqNo:	**1591000**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.7	75.9	131			
Surr: BFB	1100		1000		107	15	316			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802A22**

26-Feb-18

Client: LTE

Project: Sharp Nose Federal 1

Sample ID	**MB-36607**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**36607**	RunNo:	**49303**					
Prep Date:	**2/20/2018**	Analysis Date:	**2/21/2018**	SeqNo:	**1591037**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.83		1.000		82.8	80	120			

Sample ID	**LCS-36607**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**36607**	RunNo:	**49303**					
Prep Date:	**2/20/2018**	Analysis Date:	**2/21/2018**	SeqNo:	**1591038**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.025	1.000	0	79.4	77.3	128			
Toluene	0.88	0.050	1.000	0	87.9	79.2	125			
Ethylbenzene	0.96	0.050	1.000	0	95.7	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	95.2	81.6	129			
Surr: 4-Bromofluorobenzene	0.92		1.000		91.6	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: LTE MIDLAND Work Order Number: 1802A22 RcptNo: 1

Received By: Ashley Gallegos 2/17/2018 10:00:00 AM

Completed By: Ashley Gallegos 2/19/2018 2:35:10 PM

Reviewed By: 02/19/18 Labeled by: see 02/19/18

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: ____ (<2 or >12 unless noted)
Adjusted? ____
Checked by: ____

Special Handling (if applicable)

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

Person Notified: ____ Date: ____
By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: ____
Client Instructions: ____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Yes			

Chain-of-Custody Record

Client: LTE Permian

Mailing Address: 3300 N. A St. Bldg 1 #103 Midland TX 79705

Phone #: 432-704-5178

email or Fax#: Abaker@ltenv.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☒ EDD (Type) EDT

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Sharp Nose Federal #1

Project #: 30-025-31397

Project Manager: XTO Energy - Kyle Littrell Direct Bill

Sampler: Danny Burns 701 570 4727

On Ice: ☒ Yes ☐ No

Sample Temperature 1.9+0.1=2.0

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1) + MRO	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.1)	Air Bubbles (Y or N)
2-16	1100	S	SS01	1-4oz	cool	1802492-001	X		X									X	
	1110		SS02			-002													
	1120		SS03			-003													
	1130		SS04			-004													
	1140		SS05			-005													
	1150		SS06			-006													
	1200		SS07			-007													
	1210		SS08			-008													
	1220		SS09			-009													
	1230		SS10			-010													

Date	Time	Relinquished by	Received by	Date	Time
2/16/18	1530			2/16/18	1530
2/16/18	1900			02/17/18	10:00

Remarks:
API: 30-025-31397
IRP-4771/4815

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

Analytical Report 585760

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Sharpnose Federal #1

3002531397

14-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)

14-AUG-18

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

Reference: XENCO Report No(s): **585760**
Sharpnose Federal #1
Project Address: 1RP-4815, 1RP-4771

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) 585760. 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. 585760 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 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01A @1.5'	S	05-08-18 12:45	1.5 ft	585760-001
SS02A @1'	S	05-08-18 13:00	1 ft	585760-002
SS03A @1.5'	S	05-08-18 13:45	1.5 ft	585760-003
SS04A @1'	S	05-09-18 09:00	1 ft	585760-004
SS05A @2'	S	05-09-18 09:30	2 ft	585760-005
SS06A @1'	S	05-09-18 09:40	1 ft	585760-006
SS07A @2'	S	05-09-18 09:45	2 ft	585760-007
SS08A @2'	S	05-09-18 09:50	2 ft	585760-008
SS09A @1'	S	05-09-18 10:00	1 ft	585760-009

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Sharpnose Federal #1

Project ID: *3002531397*
Work Order Number(s): *585760*

Report Date: *14-AUG-18*
Date Received: *05/11/2018*

Sample receipt non conformances and comments:

Per clients email request, corrected samples 001-009 to add the letter A. JKR 08/14/18 Version _1_001 Generated

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3050168 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 585760

LT Environmental, Inc., Arvada, CO

Project Name: Sharpnose Federal #1

Project Id: 3002531397
Contact: Adrian Baker
Project Location: 1RP-4815, 1RP-4771

Date Received in Lab: Fri May-11-18 10:55 am
Report Date: 14-AUG-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	585760-001		585760-002		585760-003		585760-004		585760-005		585760-006	
	Field Id:	SS01A @1.5'		SS02A @1'		SS03A @1.5'		SS04A @1'		SS05A @2'		SS06A @1'	
	Depth:	1.5- ft		1- ft		1.5- ft		1- ft		2- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-08-18 12:45		May-08-18 13:00		May-08-18 13:45		May-09-18 09:00		May-09-18 09:30		May-09-18 09:40	
BTEX by EPA 8021B	***Extracted:***	May-15-18 16:00		May-15-18 16:00		May-15-18 16:00		May-15-18 16:00		May-15-18 16:00		May-15-18 16:00	
	Analyzed:	May-16-18 00:59		May-16-18 01:20		May-16-18 02:24		May-16-18 02:46		May-16-18 03:07		May-16-18 03:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199
m,p-Xylenes		<0.00401	0.00401	<0.00402	0.00402	<0.00397	0.00397	<0.00403	0.00403	<0.00403	0.00403	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	May-14-18 15:30		May-14-18 15:30		May-14-18 15:30		May-14-18 15:30		May-14-18 15:30		May-14-18 15:30	
	Analyzed:	May-14-18 16:38		May-14-18 16:20		May-14-18 16:44		May-14-18 16:50		May-14-18 16:56		May-14-18 17:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<5.00	5.00	54.6	5.00	37.3	5.00	<4.99	4.99	227	4.99	18.5	5.00
TPH by SW8015 Mod	***Extracted:***	May-11-18 16:00		May-11-18 16:00		May-11-18 16:00		May-11-18 16:00		May-11-18 16:00		May-11-18 16:00	
	Analyzed:	May-12-18 02:36		May-12-18 03:03		May-12-18 03:30		May-12-18 03:56		May-12-18 04:24		May-12-18 04:51	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	182	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	31.6	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	214	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0

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

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 585760

LT Environmental, Inc., Arvada, CO

Project Name: Sharpnose Federal #1

Project Id: 3002531397
Contact: Adrian Baker
Project Location: 1RP-4815, 1RP-4771

Date Received in Lab: Fri May-11-18 10:55 am
Report Date: 14-AUG-18
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	585760-007		585760-008		585760-009			
	Field Id:	SS07A @2'		SS08A @2'		SS09A @1'			
	Depth:	2- ft		2- ft		1- ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	May-09-18 09:45		May-09-18 09:50		May-09-18 10:00			
BTEX by EPA 8021B	***Extracted:***	May-15-18 16:00		May-15-18 16:00		May-15-18 16:00			
	Analyzed:	May-16-18 03:50		May-16-18 04:11		May-16-18 04:33			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201		
Toluene		<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201		
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201		
m,p-Xylenes		<0.00400	0.00400	<0.00402	0.00402	<0.00402	0.00402		
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201		
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201		
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201		
Inorganic Anions by EPA 300	***Extracted:***	May-14-18 15:30		May-14-18 15:30		May-14-18 15:30			
	Analyzed:	May-14-18 17:20		May-14-18 17:26		May-14-18 17:32			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		<4.96	4.96	<4.99	4.99	732	4.97		
TPH by SW8015 Mod	***Extracted:***	May-11-18 16:00		May-11-18 16:00		May-11-18 16:00			
	Analyzed:	May-12-18 05:18		May-12-18 05:44		May-12-18 06:10			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0		

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

Jessica Kramer
Project Assistant

Certificate of Analytical Results 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS01A @1.5'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-001	Date Collected:	05.08.18 12.45	Sample Depth:	1.5 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	05.14.18 16.38	U	1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.18 02.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.18 02.36	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.12.18 02.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.18 02.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	05.12.18 02.36	
o-Terphenyl	84-15-1	101	%	70-135	05.12.18 02.36	

Certificate of Analytical Results 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS01A @1.5'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-001	Date Collected:	05.08.18 12.45	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.15.18 16.00	Basis:	Wet Weight
Seq Number:	3050168				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.18 00.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.18 00.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.18 00.59	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.16.18 00.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.18 00.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.18 00.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.18 00.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.16.18 00.59	
1,4-Difluorobenzene	540-36-3	95	%	70-130	05.16.18 00.59	

Certificate of Analytical Results 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS02A @1'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-002	Date Collected:	05.08.18 13.00	Sample Depth:	1 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**54.6**	5.00	mg/kg	05.14.18 16.20		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.18 03.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.18 03.03	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.12.18 03.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.18 03.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.12.18 03.03	
o-Terphenyl	84-15-1	99	%	70-135	05.12.18 03.03	

Certificate of Analytical Results 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS02A @1'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-002	Date Collected:	05.08.18 13.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.15.18 16.00	Basis:	Wet Weight
Seq Number:	3050168				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.16.18 01.20	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.16.18 01.20	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.16.18 01.20	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.16.18 01.20	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.16.18 01.20	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.16.18 01.20	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.16.18 01.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	84	%	70-130	05.16.18 01.20	
1,4-Difluorobenzene	540-36-3	85	%	70-130	05.16.18 01.20	

Certificate of Analytical Results 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS03A @1.5'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-003	Date Collected:	05.08.18 13.45	Sample Depth:	1.5 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**37.3**	5.00	mg/kg	05.14.18 16.44		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.18 03.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	**182**	15.0	mg/kg	05.12.18 03.30		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**31.6**	15.0	mg/kg	05.12.18 03.30		1
Total TPH	PHC635	**214**	15.0	mg/kg	05.12.18 03.30		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	05.12.18 03.30	
o-Terphenyl	84-15-1	91	%	70-135	05.12.18 03.30	

Certificate of Analytical Results 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS03A @1.5'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-003	Date Collected:	05.08.18 13.45	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.15.18 16.00	Basis:	Wet Weight
Seq Number:	3050168				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.16.18 02.24	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.16.18 02.24	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.16.18 02.24	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.16.18 02.24	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.16.18 02.24	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.16.18 02.24	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.16.18 02.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.16.18 02.24	
4-Bromofluorobenzene	460-00-4	96	%	70-130	05.16.18 02.24	

Certificate of Analytical Results 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS04A @1'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-004	Date Collected:	05.09.18 09.00	Sample Depth:	1 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	05.14.18 16.50	U	1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.18 03.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.18 03.56	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.12.18 03.56	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.18 03.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	05.12.18 03.56	
o-Terphenyl	84-15-1	91	%	70-135	05.12.18 03.56	

Certificate of Analytical Results 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS04A @1'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-004	Date Collected:	05.09.18 09.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.15.18 16.00	Basis:	Wet Weight
Seq Number:	3050168				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.16.18 02.46	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.16.18 02.46	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.16.18 02.46	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.16.18 02.46	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.16.18 02.46	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.16.18 02.46	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.16.18 02.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	70-130	05.16.18 02.46	
1,4-Difluorobenzene	540-36-3	92	%	70-130	05.16.18 02.46	

Certificate of Analytical Results 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS05A @2'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-005	Date Collected:	05.09.18 09.30	Sample Depth:	2 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**227**	4.99	mg/kg	05.14.18 16.56		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.12.18 04.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	05.12.18 04.24	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	05.12.18 04.24	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.12.18 04.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.12.18 04.24	
o-Terphenyl	84-15-1	98	%	70-135	05.12.18 04.24	

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LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS05A @2'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-005	Date Collected:	05.09.18 09.30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.15.18 16.00	Basis:	Wet Weight
Seq Number:	3050168				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.16.18 03.07	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.16.18 03.07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.16.18 03.07	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.16.18 03.07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.16.18 03.07	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.16.18 03.07	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.16.18 03.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	05.16.18 03.07	
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.16.18 03.07	

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LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS06A @1'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-006	Date Collected:	05.09.18 09.40	Sample Depth:	1 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.5**	5.00	mg/kg	05.14.18 17.14		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.18 04.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.18 04.51	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.12.18 04.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.18 04.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.12.18 04.51	
o-Terphenyl	84-15-1	93	%	70-135	05.12.18 04.51	

Certificate of Analytical Results 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS06A @1'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-006	Date Collected:	05.09.18 09.40	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.15.18 16.00	Basis:	Wet Weight
Seq Number:	3050168				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.16.18 03.29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.16.18 03.29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.16.18 03.29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.16.18 03.29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.16.18 03.29	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.16.18 03.29	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.16.18 03.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	05.16.18 03.29	
4-Bromofluorobenzene	460-00-4	94	%	70-130	05.16.18 03.29	

Certificate of Analytical Results 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS07A @2'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-007	Date Collected:	05.09.18 09.45	Sample Depth:	2 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	05.14.18 17.20	U	1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.18 05.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.18 05.18	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.12.18 05.18	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.18 05.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.12.18 05.18	
o-Terphenyl	84-15-1	95	%	70-135	05.12.18 05.18	

Certificate of Analytical Results 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS07A @2'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-007	Date Collected:	05.09.18 09.45	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.15.18 16.00	Basis:	Wet Weight
Seq Number:	3050168				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.18 03.50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.18 03.50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.18 03.50	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.16.18 03.50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.18 03.50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.18 03.50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.18 03.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.16.18 03.50	
1,4-Difluorobenzene	540-36-3	97	%	70-130	05.16.18 03.50	

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LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS08A @2'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-008	Date Collected:	05.09.18 09.50	Sample Depth:	2 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	05.14.18 17.26	U	1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.18 05.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.18 05.44	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.12.18 05.44	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.18 05.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.12.18 05.44	
o-Terphenyl	84-15-1	97	%	70-135	05.12.18 05.44	

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LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS08A @2'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-008	Date Collected:	05.09.18 09.50	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.15.18 16.00	Basis:	Wet Weight
Seq Number:	3050168				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.16.18 04.11	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.16.18 04.11	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.16.18 04.11	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.16.18 04.11	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.16.18 04.11	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.16.18 04.11	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.16.18 04.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	05.16.18 04.11	
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.16.18 04.11	

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LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS09A @1'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-009	Date Collected:	05.09.18 10.00	Sample Depth:	1 ft

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**732**	4.97	mg/kg	05.14.18 17.32		1

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

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.12.18 06.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.12.18 06.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.12.18 06.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.12.18 06.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	05.12.18 06.10	
o-Terphenyl	84-15-1	93	%	70-135	05.12.18 06.10	

Certificate of Analytical Results 585760

LT Environmental, Inc., Arvada, CO

Sharpnose Federal #1

Sample Id:	**SS09A @1'**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585760-009	Date Collected:	05.09.18 10.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.15.18 16.00	Basis:	Wet Weight
Seq Number:	3050168				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.16.18 04.33	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.16.18 04.33	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.16.18 04.33	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.16.18 04.33	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.16.18 04.33	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.16.18 04.33	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.16.18 04.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.16.18 04.33	
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.16.18 04.33	

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 585760

LT Environmental, Inc.

Sharpnose Federal #1

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3050071 Matrix: Solid Date Prep: 05.14.18
MB Sample Id: 7644694-1-BLK LCS Sample Id: 7644694-1-BKS LCSD Sample Id: 7644694-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	230	92	225	90	90-110	2	20	mg/kg	05.14.18 16:08	

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

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

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

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

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3049896 Matrix: Solid Date Prep: 05.11.18
MB Sample Id: 7644584-1-BLK LCS Sample Id: 7644584-1-BKS LCSD Sample Id: 7644584-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	956	96	1120	112	70-135	16	20	mg/kg	05.12.18 00:26	
Diesel Range Organics (DRO)	<15.0	1000	1060	106	1180	118	70-135	11	20	mg/kg	05.12.18 00:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		105		122		70-135	%	05.12.18 00:26
o-Terphenyl	114		100		117		70-135	%	05.12.18 00:26

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 585760

LT Environmental, Inc.

Sharpnose Federal #1

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3049896 — Matrix: Soil — Date Prep: 05.11.18
Parent Sample Id: 585756-001 — MS Sample Id: 585756-001 S — MSD Sample Id: 585756-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	976	98	967	97	70-135	1	20	mg/kg	05.12.18 01:44	
Diesel Range Organics (DRO)	<15.0	1000	1110	111	1100	110	70-135	1	20	mg/kg	05.12.18 01:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		104		70-135	%	05.12.18 01:44
o-Terphenyl	101		99		70-135	%	05.12.18 01:44

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3050168 — Matrix: Solid — Date Prep: 05.15.18
MB Sample Id: 7644770-1-BLK — LCS Sample Id: 7644770-1-BKS — LCSD Sample Id: 7644770-1-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	0.106	106	0.100	100	70-130	6	35	mg/kg	05.15.18 20:03	
Toluene	<0.00201	0.100	0.102	102	0.0970	97	70-130	5	35	mg/kg	05.15.18 20:03	
Ethylbenzene	<0.00201	0.100	0.105	105	0.101	101	70-130	4	35	mg/kg	05.15.18 20:03	
m,p-Xylenes	<0.00402	0.201	0.219	109	0.212	106	70-130	3	35	mg/kg	05.15.18 20:03	
o-Xylene	<0.00201	0.100	0.110	110	0.103	103	70-130	7	35	mg/kg	05.15.18 20:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		98		100		70-130	%	05.15.18 20:03
4-Bromofluorobenzene	92		92		92		70-130	%	05.15.18 20:03

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3050168 — Matrix: Soil — Date Prep: 05.15.18
Parent Sample Id: 585932-001 — MS Sample Id: 585932-001 S — MSD Sample Id: 585932-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0804	81	0.0881	88	70-130	9	35	mg/kg	05.15.18 20:46	
Toluene	<0.00200	0.0998	0.0706	71	0.0808	81	70-130	13	35	mg/kg	05.15.18 20:46	
Ethylbenzene	<0.00200	0.0998	0.0577	58	0.0707	71	70-130	20	35	mg/kg	05.15.18 20:46	X
m,p-Xylenes	<0.00399	0.200	0.117	59	0.145	73	70-130	21	35	mg/kg	05.15.18 20:46	X
o-Xylene	<0.00200	0.0998	0.0605	61	0.0727	73	70-130	18	35	mg/kg	05.15.18 20:46	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	05.15.18 20:46
4-Bromofluorobenzene	98		96		70-130	%	05.15.18 20:46

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

XENCO LABORATORIES
Setting the Standard since 1990

CHAIN OF CUSTODY

Page 1 Of 1

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

www.xenco.com

Xenco Quote #: | Xenco Job #: 585760

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:

Project Information

Project Name/Number: Sharpnose Federal #1 / 3002531397
Project Location: 1RP-~~3612~~ 4815, 1RP-4771
Invoice To: XTO Energy - Kyle Littrell
PO Number:

Analytical Information: BTEX 8021 (only BTEX); TPH (MRO, DRO, GRO) 8015; Chloride (300.0)

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

No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX 8021 (only BTEX)	TPH (MRO, DRO, GRO) 8015	Chloride (300.0)	Field Comments
1	SS01 @ 1.5'	1.5'	5-8-18	12:45	S	1								X	X	X	X	
2	SS02 @ 1'	1'	↓	13:00	↓	1								X	X	X	X	
3	SS03 @ 1.5'	1.5'	↓	13:45	↓	1								X	X	X	X	
4	SS04 @ 1'	1'	5-9-18	9:00	↓	1								X	X	X	X	
5	SS05 @ 2'	2'	↓	9:30	↓	1								X	X	X	X	
6	SS06 @ 1'	1'	↓	9:40	↓	1								X	X	X	X	
7	SS07 @ 2'	2'	↓	9:45	↓	1								X	X	X	X	
8	SS08 @ 2'	2'	↓	9:50	↓	1								X	X	X	X	
9	SS09 @ 1' ✱	1'	↓	10:00	↓	1								X	X	X	X	
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

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

FED-EX / UPS: Tracking #

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

Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1 Relinquished by Sampler: [signature]	5/10/18 13:40	1 [signature]	2 [signature]	5-10-18 3:30	2 [signature] KRAMER 5.11.18 1055
3 Relinquished by:	Date Time:	3 Received By:	4 Relinquished By:	Date Time:	4 Received By:
5 Relinquished by:	Date Time:	5 Received By:	Custody Seal #	Preserved where applicable	On Ice ☒ Cooler Temp. Thermo. Corr. Factor

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/11/2018 10:55:00 AM

Work Order #: 585760

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/11/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/11/2018
Jessica Kramer

Analytical Report 590701

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Sharp Nose Federal #1

API 30-025-31397

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): **590701**
Sharp Nose Federal #1
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) 590701. 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. 590701 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 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01@4'	S	06-26-18 10:45	4 ft	590701-001
SS11	S	06-26-18 12:00	2 ft	590701-002
SS12	S	06-26-18 12:05	2 ft	590701-003
SS13	S	06-26-18 12:10	2 ft	590701-004
SS14	S	06-26-18 12:15	2 ft	590701-005
SW01	S	06-26-18 11:00	4 ft	590701-006
SW02	S	06-26-18 11:05	4 ft	590701-007
SW03	S	06-26-18 11:10	4 ft	590701-008
SW04	S	06-26-18 11:15	4 ft	590701-009

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Sharp Nose Federal #1

Project ID: *API 30-025-31397*
Work Order Number(s): *590701*

Report Date: *13-JUL-18*
Date Received: *06/28/2018*

Sample receipt non conformances and comments:

NEW VERSION GENERATED 07/13/18. per client email, removed DB from samples 006-009 JKR

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3055548 BTEX by EPA 8021B
Lab Sample ID 590701-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Ethylbenzene Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.
Samples in the analytical batch are: 590701-001, -002, -003, -004, -005, -006, -007, -009
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Outlier/s are due to possible matrix interference.

Batch: LBA-3055640 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 590701

LT Environmental, Inc., Arvada, CO

Project Name: Sharp Nose Federal #1

Project Id: API 30-025-31397
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Thu Jun-28-18 10:10 am
Report Date: 13-JUL-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	590701-001		590701-002		590701-003		590701-004		590701-005		590701-006	
	Field Id:	FS01@4'		SS11		SS12		SS13		SS14		SW01	
	Depth:	4- ft		2- ft		2- ft		2- ft		2- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-26-18 10:45		Jun-26-18 12:00		Jun-26-18 12:05		Jun-26-18 12:10		Jun-26-18 12:15		Jun-26-18 11:00	
BTEX by EPA 8021B	***Extracted:***	Jul-05-18 08:00		Jul-05-18 08:00		Jul-05-18 08:00		Jul-05-18 08:00		Jul-05-18 08:00		Jul-05-18 08:00	
	Analyzed:	Jul-05-18 10:10		Jul-05-18 10:28		Jul-05-18 11:24		Jul-05-18 11:06		Jul-05-18 11:42		Jul-05-18 12:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199
m,p-Xylenes		<0.00398	0.00398	<0.00399	0.00399	<0.00401	0.00401	<0.00402	0.00402	<0.00404	0.00404	<0.00398	0.00398
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	Jul-02-18 14:30		Jul-02-18 14:30		Jul-02-18 14:30		Jul-02-18 14:30		Jul-02-18 14:30		Jul-02-18 14:30	
	Analyzed:	Jul-02-18 21:45		Jul-02-18 21:50		Jul-02-18 21:56		Jul-02-18 22:01		Jul-02-18 22:17		Jul-02-18 22:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		256	4.97	68.0	5.00	49.2	4.95	125	4.99	193	5.00	218	4.99
TPH by SW8015 Mod	***Extracted:***	Jun-29-18 17:00		Jun-29-18 17:00		Jun-29-18 17:00		Jun-29-18 17:00		Jun-29-18 17:00		Jun-29-18 17:00	
	Analyzed:	Jun-29-18 22:38		Jun-29-18 22:59		Jun-29-18 23:19		Jun-29-18 23:40		Jun-30-18 00:41		Jun-30-18 01:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

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Jessica Kramer
Project Assistant

Certificate of Analysis Summary 590701

LT Environmental, Inc., Arvada, CO

Project Name: Sharp Nose Federal #1

Project Id: API 30-025-31397
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Thu Jun-28-18 10:10 am
Report Date: 13-JUL-18
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	590701-007		590701-008		590701-009					
	Field Id:	SW02		SW03		SW04					
	Depth:	4- ft		4- ft		4- ft					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Jun-26-18 11:05		Jun-26-18 11:10		Jun-26-18 11:15					
BTEX by EPA 8021B	***Extracted:***	Jul-05-18 08:00		Jul-06-18 11:30		Jul-05-18 08:00					
	Analyzed:	Jul-05-18 12:19		Jul-06-18 13:57		Jul-05-18 12:53					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00198	0.00198	<0.00201	0.00201	<0.00201	0.00201				
Toluene		<0.00198	0.00198	<0.00201	0.00201	<0.00201	0.00201				
Ethylbenzene		<0.00198	0.00198	<0.00201	0.00201	<0.00201	0.00201				
m,p-Xylenes		<0.00397	0.00397	<0.00402	0.00402	<0.00402	0.00402				
o-Xylene		<0.00198	0.00198	<0.00201	0.00201	<0.00201	0.00201				
Total Xylenes		<0.00198	0.00198	<0.00201	0.00201	<0.00201	0.00201				
Total BTEX		<0.00198	0.00198	<0.00201	0.00201	<0.00201	0.00201				
Inorganic Anions by EPA 300	***Extracted:***	Jul-02-18 14:30		Jul-02-18 14:30		Jul-02-18 14:30					
	Analyzed:	Jul-02-18 22:39		Jul-02-18 22:44		Jul-02-18 22:50					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		256	5.00	107	5.00	267	4.98				
TPH by SW8015 Mod	***Extracted:***	Jun-29-18 17:00		Jun-29-18 17:00		Jun-29-18 17:00					
	Analyzed:	Jun-30-18 01:23		Jun-30-18 01:43		Jun-30-18 02:04					
	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	<15.0	15.0	<15.0	15.0				
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0				

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Jessica Kramer
Project Assistant

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**FS01@4'**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-001	Date Collected:	06.26.18 10.45	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.02.18 14.30	Basis:	Wet Weight
Seq Number:	3055272				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**256**	4.97	mg/kg	07.02.18 21.45		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 17.00	Basis:	Wet Weight
Seq Number:	3055312				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.29.18 22.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.29.18 22.38	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.29.18 22.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.29.18 22.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	06.29.18 22.38	
o-Terphenyl	84-15-1	107	%	70-135	06.29.18 22.38	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**FS01@4'**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-001	Date Collected:	06.26.18 10.45	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.05.18 08.00	Basis:	Wet Weight
Seq Number:	3055548				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.05.18 10.10	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.05.18 10.10	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.05.18 10.10	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.05.18 10.10	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.05.18 10.10	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.05.18 10.10	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.05.18 10.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.05.18 10.10	
4-Bromofluorobenzene	460-00-4	77	%	70-130	07.05.18 10.10	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SS11**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-002	Date Collected:	06.26.18 12.00	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.02.18 14.30	Basis:	Wet Weight
Seq Number:	3055272				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**68.0**	5.00	mg/kg	07.02.18 21.50		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 17.00	Basis:	Wet Weight
Seq Number:	3055312				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.29.18 22.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.29.18 22.59	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.29.18 22.59	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.29.18 22.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	06.29.18 22.59	
o-Terphenyl	84-15-1	98	%	70-135	06.29.18 22.59	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SS11**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-002	Date Collected:	06.26.18 12.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.05.18 08.00	Basis:	Wet Weight
Seq Number:	3055548				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.05.18 10.28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.05.18 10.28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.05.18 10.28	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.05.18 10.28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.05.18 10.28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.05.18 10.28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.05.18 10.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	07.05.18 10.28	
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.05.18 10.28	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SS12**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-003	Date Collected:	06.26.18 12.05	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.02.18 14.30	Basis:	Wet Weight
Seq Number:	3055272				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**49.2**	4.95	mg/kg	07.02.18 21.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 17.00	Basis:	Wet Weight
Seq Number:	3055312				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.29.18 23.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.29.18 23.19	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.29.18 23.19	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.29.18 23.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	06.29.18 23.19	
o-Terphenyl	84-15-1	103	%	70-135	06.29.18 23.19	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SS12**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-003	Date Collected:	06.26.18 12.05	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.05.18 08.00	Basis:	Wet Weight
Seq Number:	3055548				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.05.18 11.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.05.18 11.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.05.18 11.24	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.05.18 11.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.05.18 11.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.05.18 11.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.05.18 11.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	70-130	07.05.18 11.24	
1,4-Difluorobenzene	540-36-3	104	%	70-130	07.05.18 11.24	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SS13**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-004	Date Collected:	06.26.18 12.10	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.02.18 14.30	Basis:	Wet Weight
Seq Number:	3055272				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**125**	4.99	mg/kg	07.02.18 22.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 17.00	Basis:	Wet Weight
Seq Number:	3055312				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.29.18 23.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.29.18 23.40	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.29.18 23.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.29.18 23.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	06.29.18 23.40	
o-Terphenyl	84-15-1	101	%	70-135	06.29.18 23.40	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SS13**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-004	Date Collected:	06.26.18 12.10	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.05.18 08.00	Basis:	Wet Weight
Seq Number:	3055548				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.05.18 11.06	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.05.18 11.06	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.05.18 11.06	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.05.18 11.06	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.05.18 11.06	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.05.18 11.06	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.05.18 11.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	07.05.18 11.06	
1,4-Difluorobenzene	540-36-3	124	%	70-130	07.05.18 11.06	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SS14**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-005	Date Collected:	06.26.18 12.15	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.02.18 14.30	Basis:	Wet Weight
Seq Number:	3055272				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**193**	5.00	mg/kg	07.02.18 22.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 17.00	Basis:	Wet Weight
Seq Number:	3055312				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.30.18 00.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.30.18 00.41	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.30.18 00.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.30.18 00.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	06.30.18 00.41	
o-Terphenyl	84-15-1	96	%	70-135	06.30.18 00.41	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SS14**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-005	Date Collected:	06.26.18 12.15	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.05.18 08.00	Basis:	Wet Weight
Seq Number:	3055548				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.05.18 11.42	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.05.18 11.42	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.05.18 11.42	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	07.05.18 11.42	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.05.18 11.42	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.05.18 11.42	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.05.18 11.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.05.18 11.42	
4-Bromofluorobenzene	460-00-4	92	%	70-130	07.05.18 11.42	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-006	Date Collected:	06.26.18 11.00	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.02.18 14.30	Basis:	Wet Weight
Seq Number:	3055272				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**218**	4.99	mg/kg	07.02.18 22.23		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 17.00	Basis:	Wet Weight
Seq Number:	3055312				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.30.18 01.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.30.18 01.02	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.30.18 01.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.30.18 01.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	06.30.18 01.02	
o-Terphenyl	84-15-1	100	%	70-135	06.30.18 01.02	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-006	Date Collected:	06.26.18 11.00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.05.18 08.00	Basis:	Wet Weight
Seq Number:	3055548				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.05.18 12.01	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.05.18 12.01	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.05.18 12.01	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.05.18 12.01	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.05.18 12.01	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.05.18 12.01	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.05.18 12.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.05.18 12.01	
4-Bromofluorobenzene	460-00-4	88	%	70-130	07.05.18 12.01	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-007	Date Collected:	06.26.18 11.05	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.02.18 14.30	Basis:	Wet Weight
Seq Number:	3055272				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**256**	5.00	mg/kg	07.02.18 22.39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 17.00	Basis:	Wet Weight
Seq Number:	3055312				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.30.18 01.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.30.18 01.23	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.30.18 01.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.30.18 01.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	06.30.18 01.23	
o-Terphenyl	84-15-1	104	%	70-135	06.30.18 01.23	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-007	Date Collected:	06.26.18 11.05	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.05.18 08.00	Basis:	Wet Weight
Seq Number:	3055548				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.05.18 12.19	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.05.18 12.19	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.05.18 12.19	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.05.18 12.19	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.05.18 12.19	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.05.18 12.19	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.05.18 12.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	07.05.18 12.19	
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.05.18 12.19	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-008	Date Collected:	06.26.18 11.10	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.02.18 14.30	Basis:	Wet Weight
Seq Number:	3055272				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**107**	5.00	mg/kg	07.02.18 22.44		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 17.00	Basis:	Wet Weight
Seq Number:	3055312				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.30.18 01.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.30.18 01.43	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.30.18 01.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.30.18 01.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	06.30.18 01.43	
o-Terphenyl	84-15-1	103	%	70-135	06.30.18 01.43	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-008	Date Collected:	06.26.18 11.10	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.06.18 11.30	Basis:	Wet Weight
Seq Number:	3055640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.06.18 13.57	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.06.18 13.57	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.06.18 13.57	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.06.18 13.57	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.06.18 13.57	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.06.18 13.57	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.06.18 13.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	07.06.18 13.57	
1,4-Difluorobenzene	540-36-3	95	%	70-130	07.06.18 13.57	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-009	Date Collected:	06.26.18 11.15	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.02.18 14.30	Basis:	Wet Weight
Seq Number:	3055272				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**267**	4.98	mg/kg	07.02.18 22.50		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 17.00	Basis:	Wet Weight
Seq Number:	3055312				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.30.18 02.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.30.18 02.04	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.30.18 02.04	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.30.18 02.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	06.30.18 02.04	
o-Terphenyl	84-15-1	99	%	70-135	06.30.18 02.04	

Certificate of Analytical Results 590701

LT Environmental, Inc., Arvada, CO

Sharp Nose Federal #1

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590701-009	Date Collected:	06.26.18 11.15	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.05.18 08.00	Basis:	Wet Weight
Seq Number:	3055548				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.05.18 12.53	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.05.18 12.53	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.05.18 12.53	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.05.18 12.53	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.05.18 12.53	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.05.18 12.53	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.05.18 12.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	07.05.18 12.53	
4-Bromofluorobenzene	460-00-4	112	%	70-130	07.05.18 12.53	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 590701

LT Environmental, Inc.

Sharp Nose Federal #1

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3055272 Matrix: Solid Date Prep: 07.02.18
MB Sample Id: 7657698-1-BLK LCS Sample Id: 7657698-1-BKS LCSD Sample Id: 7657698-1-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	246	98	244	98	90-110	1	20	mg/kg	07.02.18 20:35	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3055272 Matrix: Soil Date Prep: 07.02.18
Parent Sample Id: 590700-003 MS Sample Id: 590700-003 S MSD Sample Id: 590700-003 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	230	92	234	94	90-110	2	20	mg/kg	07.02.18 20:51	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3055272 Matrix: Soil Date Prep: 07.02.18
Parent Sample Id: 590701-004 MS Sample Id: 590701-004 S MSD Sample Id: 590701-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	125	250	368	97	372	99	90-110	1	20	mg/kg	07.02.18 22:07	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3055312 Matrix: Solid Date Prep: 06.29.18
MB Sample Id: 7657730-1-BLK LCS Sample Id: 7657730-1-BKS LCSD Sample Id: 7657730-1-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	1070	107	1220	122	70-135	13	20	mg/kg	06.29.18 19:12	
Diesel Range Organics (DRO)	<15.0	1000	1150	115	1290	129	70-135	11	20	mg/kg	06.29.18 19:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		119		81		70-135	%	06.29.18 19:12
o-Terphenyl	105		128		74		70-135	%	06.29.18 19:12

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 590701

LT Environmental, Inc.

Sharp Nose Federal #1

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3055312 — Matrix: Soil — Date Prep: 06.29.18
Parent Sample Id: 590699-001 — MS Sample Id: 590699-001 S — MSD Sample Id: 590699-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1090	109	1070	107	70-135	2	20	mg/kg	06.29.18 20:15	
Diesel Range Organics (DRO)	<15.0	1000	1230	123	1200	120	70-135	2	20	mg/kg	06.29.18 20:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		118		70-135	%	06.29.18 20:15
o-Terphenyl	105		103		70-135	%	06.29.18 20:15

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3055548 — Matrix: Solid — Date Prep: 07.05.18
MB Sample Id: 7657860-1-BLK — LCS Sample Id: 7657860-1-BKS — LCSD Sample Id: 7657860-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0921	91	0.0988	98	70-130	7	35	mg/kg	07.05.18 08:01	
Toluene	<0.00201	0.101	0.0979	97	0.102	101	70-130	4	35	mg/kg	07.05.18 08:01	
Ethylbenzene	<0.00201	0.101	0.0946	94	0.101	100	70-130	7	35	mg/kg	07.05.18 08:01	
m,p-Xylenes	<0.00402	0.201	0.203	101	0.211	104	70-130	4	35	mg/kg	07.05.18 08:01	
o-Xylene	<0.00201	0.101	0.0951	94	0.0960	95	70-130	1	35	mg/kg	07.05.18 08:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		82		108		70-130	%	07.05.18 08:01
4-Bromofluorobenzene	74		77		95		70-130	%	07.05.18 08:01

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3055640 — Matrix: Solid — Date Prep: 07.06.18
MB Sample Id: 7657902-1-BLK — LCS Sample Id: 7657902-1-BKS — LCSD Sample Id: 7657902-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0927	93	0.0849	84	70-130	9	35	mg/kg	07.06.18 10:53	
Toluene	<0.00200	0.100	0.0996	100	0.0891	88	70-130	11	35	mg/kg	07.06.18 10:53	
Ethylbenzene	<0.00200	0.100	0.0951	95	0.0868	86	70-130	9	35	mg/kg	07.06.18 10:53	
m,p-Xylenes	<0.00401	0.200	0.195	98	0.182	90	70-130	7	35	mg/kg	07.06.18 10:53	
o-Xylene	<0.00200	0.100	0.0930	93	0.0845	84	70-130	10	35	mg/kg	07.06.18 10:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		94		86		70-130	%	07.06.18 10:53
4-Bromofluorobenzene	88		83		77		70-130	%	07.06.18 10:53

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 590701

LT Environmental, Inc.

Sharp Nose Federal #1

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3055548 | Matrix: Soil | Date Prep: 07.05.18
Parent Sample Id: 590701-001 | MS Sample Id: 590701-001 S | MSD Sample Id: 590701-001 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	0.0782	78	0.109	109	70-130	33	35	mg/kg	07.05.18 08:38	
Toluene	<0.00201	0.100	0.0812	81	0.116	116	70-130	35	35	mg/kg	07.05.18 08:38	
Ethylbenzene	<0.00201	0.100	0.0763	76	0.112	112	70-130	38	35	mg/kg	07.05.18 08:38	F
m,p-Xylenes	<0.00402	0.201	0.161	80	0.230	115	70-130	35	35	mg/kg	07.05.18 08:38	
o-Xylene	<0.00201	0.100	0.0793	79	0.102	102	70-130	25	35	mg/kg	07.05.18 08:38	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	127		93		70-130	%	07.05.18 08:38
4-Bromofluorobenzene	114		79		70-130	%	07.05.18 08:38

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3055640 | Matrix: Soil | Date Prep: 07.06.18
Parent Sample Id: 590757-001 | MS Sample Id: 590757-001 S | MSD Sample Id: 590757-001 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	0.0869	87	0.0796	79	70-130	9	35	mg/kg	07.06.18 11:27	
Toluene	<0.00201	0.100	0.0862	86	0.0787	78	70-130	9	35	mg/kg	07.06.18 11:27	
Ethylbenzene	<0.00201	0.100	0.0824	82	0.0765	76	70-130	7	35	mg/kg	07.06.18 11:27	
m,p-Xylenes	<0.00402	0.201	0.174	87	0.157	78	70-130	10	35	mg/kg	07.06.18 11:27	
o-Xylene	<0.00201	0.100	0.0745	75	0.0760	75	70-130	2	35	mg/kg	07.06.18 11:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		94		70-130	%	07.06.18 11:27
4-Bromofluorobenzene	84		80		70-130	%	07.06.18 11:27

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

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CHAIN OF CUSTODY

Page 1 Of 1

Xenco Quote # | Xenco Job # 590701

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: Danny Burns, Ben Belill

Project Information

Project Name/Number: Sharp Nose Federal #1
Project Location:
Invoice To: XTO Energy - Kyle Littrell
API: 30-025-31397
PO Number: IRP-4771, IRP-4815

Matrix Codes

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

No.	Field ID / Point of Collection		Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: BTEX EPA 8020	TPH EPA 8015	Chlorides 300.1	Field Comments
1	FS01@4'		4'	6.26	10:45	S	1								X	X	X	X		
2	SS11		2'		1200															
3	SS12		2'		1205															
4	SS13		2'		1210															
5	SS14		2'		1215															
6	DB ~~SS15~~	SW01	4'		1100															
7	DB ~~SS16~~	SW02	4'		1105															
8	DB ~~SS17~~	SW03	4'		1110															
9	DB ~~SS18~~	SW04	4'		1115															
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

- [x] 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 # 782584593635

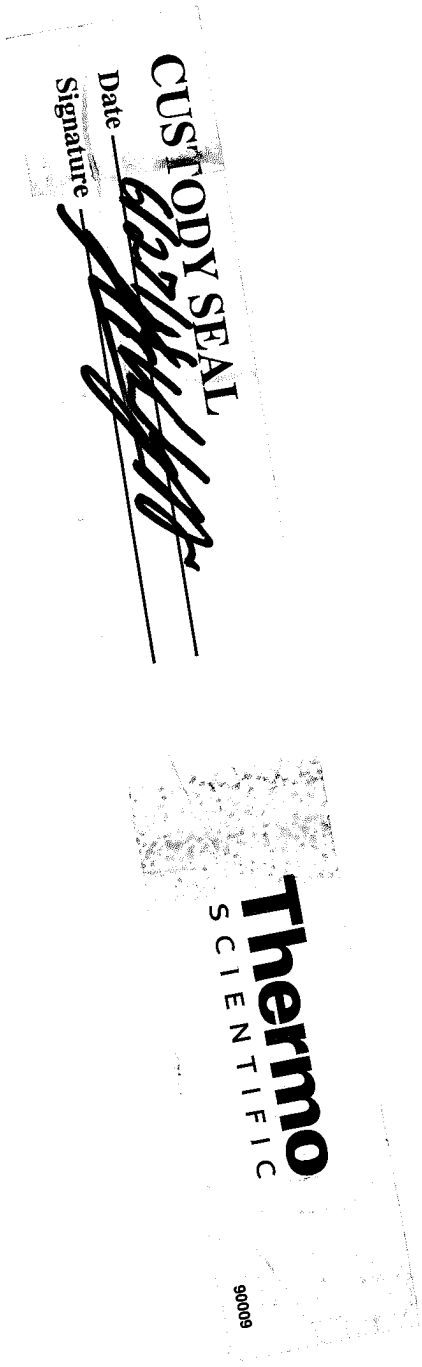
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date/Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		6/27/18		2	06/27/2018 1033	2 Timothy F. Elliott
3	Relinquished by:	Date Time: 0842 6/27 15:30	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: X Cooler Temp.: 3.2 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.


CUSTODY SEAL
Date
Signature
Thermo
SCIENTIFIC
90009

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 06/28/2018 10:10:00 AM

Work Order #: 590701

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
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**Yes**
#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: 06/28/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 06/28/2018
Jessica Kramer

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 198845

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 198845
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	3/20/2023