



LT Environmental, Inc.

3300 North "A" Street
Building 1, Unit 103
Midland, Texas 79705
432.704.5178

October 28, 2019

Mr. Bradford Billings
New Mexico Oil Conservation Division
1220 South St. Francis Drive, #3
Santa Fe, New Mexico 87505

**RE: Closure Request
Severus 31 Federal Com 3H
Remediation Permit Numbers 1RP-5108
Lea County, New Mexico**

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request report detailing site assessment and soil sampling activities at the Severus 31 Federal Com 3H (Site), located in Unit N, Section 30, Township 20 South, Range 34 East, in Lea County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacted soil resulting from a release of crude oil and produced water at the Site.

The release is included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the New Mexico Oil Conservation Division (NMOCD) effective November 13, 2018. The purpose of the Compliance Agreement is to ensure reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The release is categorized as a Tier IV site in the Compliance Agreement, meaning the release occurred prior to August 14, 2018, the effective date of 19.15.29 NMAC; however, remediation was ongoing. Based on the laboratory analytical results for soil samples collected at the Site, XTO is submitting this Closure Request, describing site assessment activities that have occurred and requesting no further action for the release event.

RELEASE BACKGROUND

On June 14, 2018, a trucking contractor was at the Site to pull fluid down from the gas buster. The driver mistakenly set the pump to pressure up the trailer instead of pull a vacuum. The trailer pressured up, and when the valve was opened pressure was sent into the gas buster causing fluid to exit out the top. Approximately 10.22 barrels (bbls) of oil and less than 0.5 barrels of produced water were released. The release impacted the lined temporary frac tank containment and a small area of well pad south of the containment. A vacuum recovered approximately 9.8 bbls of free-standing fluid from the containment. XTO reported the release to the NMOCD on a Release





Notification and Corrective Action Form C-141 (Form C-141) on June 22, 2018, and was assigned Remediation Permit (RP) Number 1RP-5108 (Attachment 1).

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is United States Geological Survey (USGS) well 323335103370601, located approximately 9,604 feet north of the Site. The water well has a depth to groundwater of 174 feet and a total depth of 676 feet. Ground surface elevation at the water well location is 3,644 feet above mean sea level (AMSL), which is approximately 51 feet lower in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is an OSE water body located approximately 6,862 feet southeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a low-potential karst area.

CLOSURE CRITERIA

Based on the results of the Site Characterization, the following NMOCD Table 1 Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg);
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg;
- TPH-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg;
- Total petroleum hydrocarbons (TPH): 2,500 mg/kg; and
- Chloride: 20,000 mg/kg.

SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On July 4, 2018, LTE personnel inspected the Site to evaluate the release and document the release location. The frac tanks and lined containment remained on-site.

On July 11, 2019, LTE personnel collected six preliminary soil samples (SS01 through SS06) within the release area to assess for potential soil impacts. The frac tanks and lined containment were removed, and no visible signs of the release were identified. The soil sample locations, depicted on Figure 2, were selected based on information provided on the initial Form C-141 and the





documented release location. To eliminate the effects from weathering and natural degradation of contaminants at the ground surface, the soil samples were collected from each sample location from a depth of 0.5 feet bgs.

On October 11, 2019, LTE personnel returned to the Site to collect vertical delineation soil samples via hand auger to confirm the absence of impacted soil in the release area. Soil samples SS01A through SS06A were collected from a depth of 2 feet bgs at the SS01 through SS06 preliminary soil sample locations. Soil was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each sample location were logged on lithologic/soil sampling logs, which are included in Attachment 2. The soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was conducted during the Site visits. Photographs are included in Attachment 3.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (USEPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0.

ANALYTICAL RESULTS

Laboratory analytical results indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in soil samples SS01/SS01A through SS06/SS06A. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Site assessment and soil sampling activities were conducted to assess for potential soil impacts resulting from the June 14, 2018, crude oil and produced water release at the Site. Laboratory analytical results for soil samples SS01/SS01A through SS06/SS06A, collected from depths ranging from 0.5 feet to 2 feet bgs, indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and no further remediation was required.

The majority of the released fluids were contained within the lined containment and recovered during initial response activities. Based on visual observations, field screening, and laboratory analytical results, no impacted soil was identified as a result of the release. XTO requests no





Billings, B.
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further action for RP Number 1RP-5108. An updated NMOCD Form C-141 is included as Attachment 1.

If you have any questions or comments, please do not hesitate to contact Ms. Ashley Ager at (970) 385-1096.

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink that reads 'Aimee Cole'.

Aimee Cole
Project Environmental Scientist

A handwritten signature in black ink that reads 'Ashley L. Ager'.

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
NMOCD District 1
Bureau of Land Management

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-5108)
- Attachment 2 Lithologic/Soil Sample Logs
- Attachment 3 Photographic Log
- Attachment 4 Laboratory Analytical Reports



FIGURES



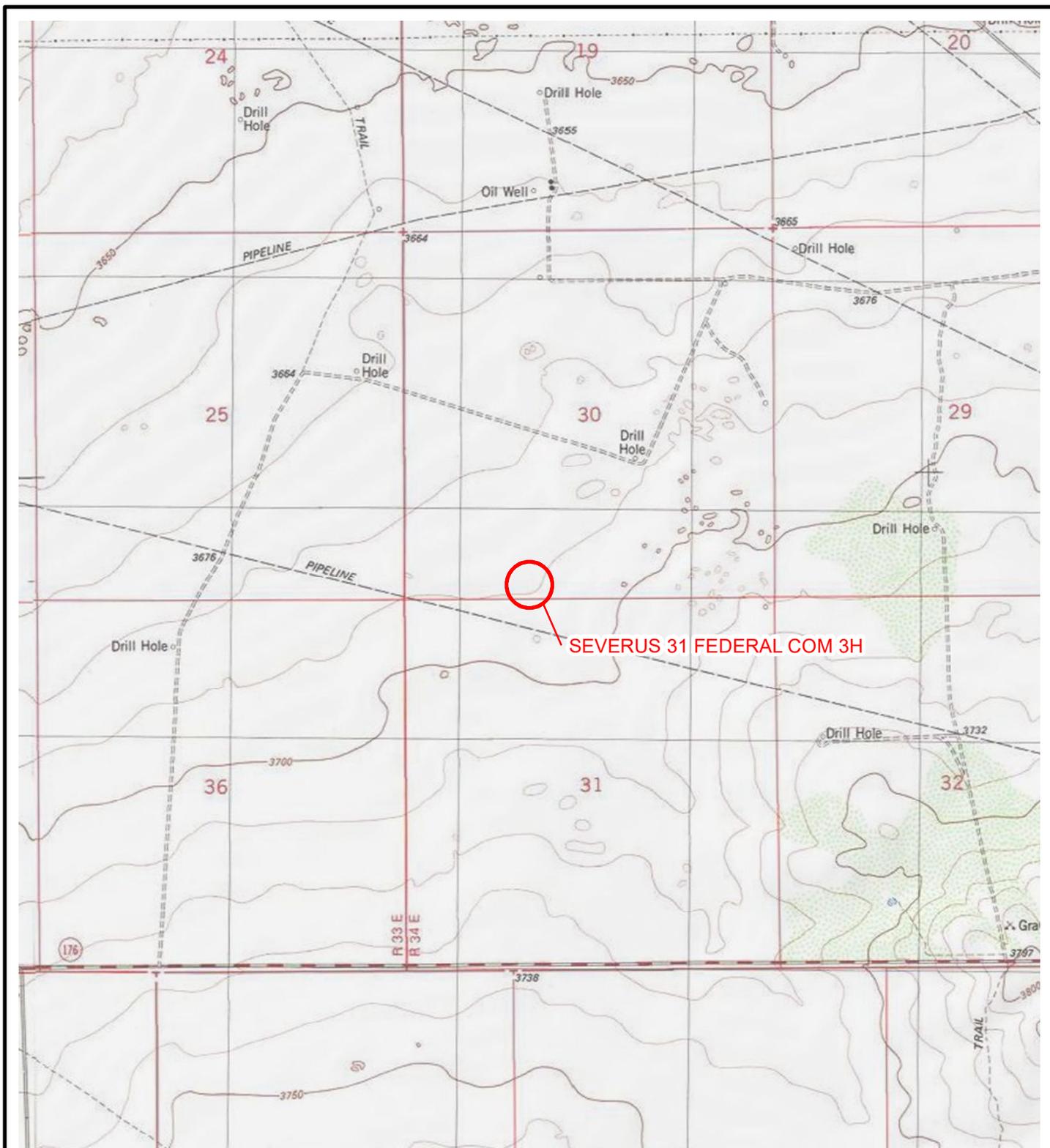
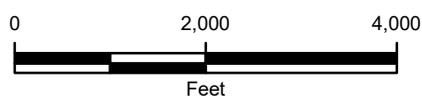


IMAGE COURTESY OF ESRI/USGS

LEGEND

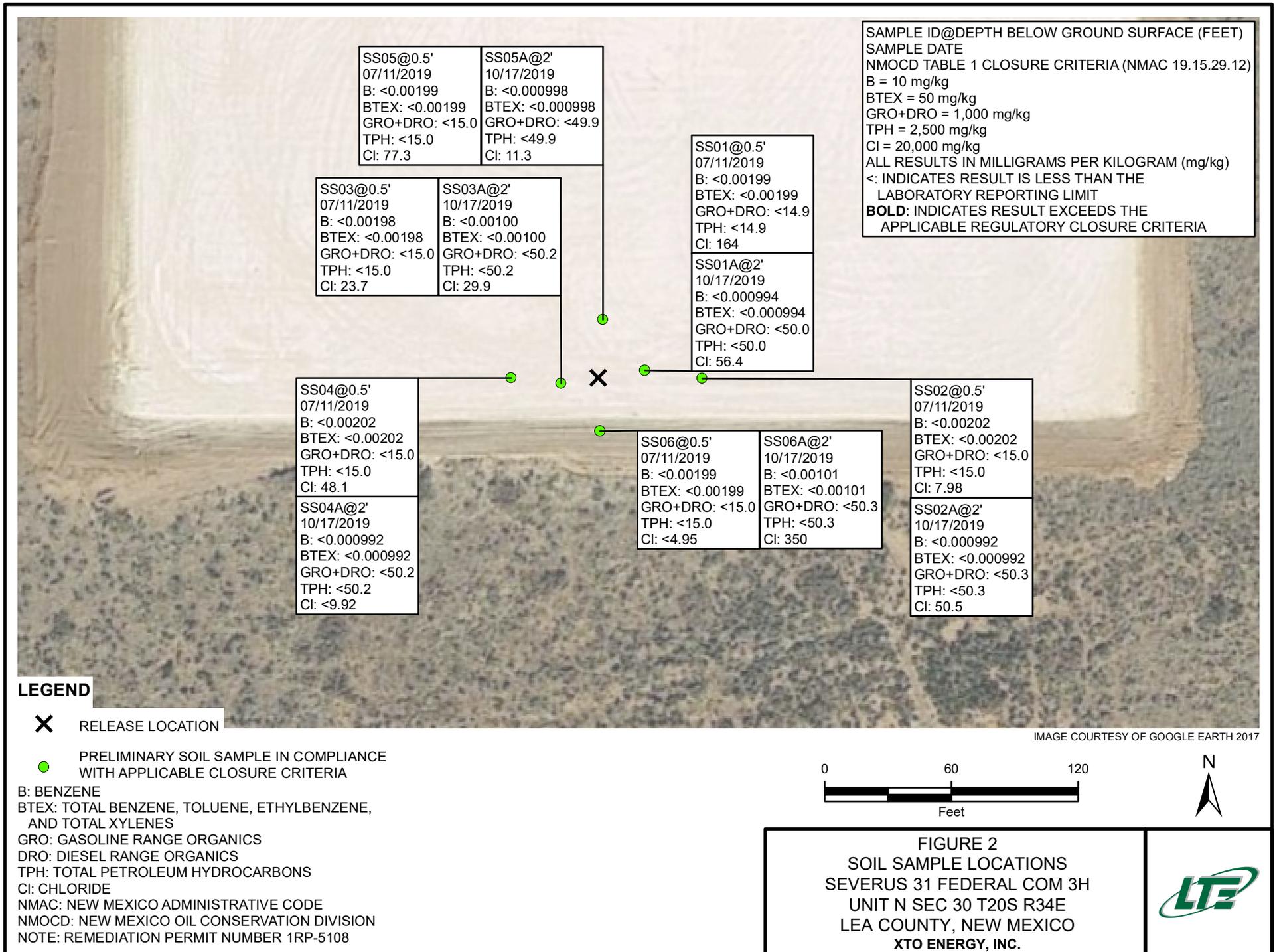
○ SITE LOCATION



NOTE: REMEDIATION PERMIT NUMBER 1RP-5108

FIGURE 1
SITE LOCATION MAP
SEVERUS 31 FEDERAL COM 3H
UNIT N SEC 30 T20S R34E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.





TABLES



**TABLE 1
SOIL ANALYTICAL RESULTS
SEVERUS 31 FEDERAL COM 3H
REMEDIATION PERMIT NUMBER 1RP-5108
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.**

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	07/11/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	164
SS01A	2	10/17/2019	<0.000994	<0.000994	<0.000994	<0.000994	<0.000994	<50.0	<50.0	<50.0	<50.0	<50.0	56.4
SS02	0.5	07/11/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	7.98
SS02A	2	10/17/2019	<0.000992	<0.000992	<0.000992	<0.000992	<0.000992	<50.3	<50.3	<50.3	<50.3	<50.3	50.5
SS03	0.5	07/11/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	23.7
SS03A	2	10/17/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.2	<50.2	<50.2	<50.2	<50.2	29.9
SS04	0.5	07/11/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	48.1
SS04A	2	10/17/2019	<0.000992	<0.000992	<0.000992	<0.000992	<0.000992	<50.2	<50.2	<50.2	<50.2	<50.2	<9.92
SS05	0.5	07/11/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	77.3
SS05A	2	10/17/2019	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<49.9	<49.9	<49.9	<49.9	<49.9	11.3
SS06	0.5	07/11/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	<4.95
SS06A	2	10/17/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.3	<50.3	<50.3	<50.3	<50.3	350
NMOCDC Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000

Notes:

bgs - below ground surface
 BTEX - benzene, toluene, ethylbenzene, and total xylenes
 DRO - diesel range organics
 GRO - gasoline range organics
 mg/kg - milligrams per kilogram

MRO - motor oil range organics
 NMAC - New Mexico Administrative Code
 NMOCDC - New Mexico Oil Conservation Division
 NE - not established
 TPH - total petroleum hydrocarbons

Bold - indicates result exceeds the applicable regulatory standard
 < - indicates result is below laboratory reporting limits
 Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018



ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (IRP-5108)

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

Form C-141
Revised April 3, 2017

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

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 St., Carlsbad, N.M. 88220	Telephone No: 432-221-7331
Facility Name: Severus 31 Federal Com 3H	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No: 30-025-43417
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	30	20S	34E	250	South	1670	West	Eddy

Latitude 32.537538° Longitude -103.602584° NAD83

NATURE OF RELEASE

Type of Release	Crude Oil and Produced Water	Volume of Release	10.22 BO <1/2 BPW	Volume Recovered	9.8 BO <1/2 BPW
Source of Release	Gas Buster	Date and Hour of Occurrence	6/14/2018 9 am	Date and Hour of Discovery	6/14/2018 9 am
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	N/A		
By Whom?	N/A	Date and Hour:	N/A		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	N/A		

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

RECEIVED
By Olivia Yu at 3:02 pm, Jun 29, 2018

Describe Cause of Problem and Remedial Action Taken.*

A contract trucking unit arrived to pull fluid down from the gas buster. The driver accidentally put his pump setting to pressure up the trailer instead of pulling a vacuum. While he hooked up his hoses, the trailer had pressured up. When the driver opened his valve, pressure was sent into the gas buster causing fluid to exit the top. An XTO flow back hand instructed the driver to close the valve.

Describe Area Affected and Cleanup Action Taken.*

The release affected the lined temporary frac tank containment and a small area of well pad caliche south of the containment. Fluids were recovered from the containment. The lined containment will be washed and inspected and an environmental contractor will be retained to address the spill area on the well pad.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Amy C. Ruth	Approved by Environmental Specialist:	
Title: Environmental Coordinator	Approval Date: 6/29/2018	Expiration Date:
E-mail Address: Amy_Ruth@xtoenergy.com	Conditions of Approval: see attached directive	Attached <input checked="" type="checkbox"/>
Date: 6/22/2018 Phone: 575-689-3380		

* Attach Additional Sheets If Necessary

nOY1818054280

pOY1818054842

1RP-5108

Please inspect liner in question. Provide NMOCD with a concise report of the inspection with affirmation the liner has and will continue to contain liquids.

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
District RP	1RP-5108
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432)-221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 1RP-5108
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude N 32.537538 Longitude W -103.602584
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Severus 31 Federal Com 3H	Site Type: Production Well Facility
Date Release Discovered: 6/14/2018	API# (if applicable): 30-025-43417

Unit Letter	Section	Township	Range	County
N	30	20S	34E	Lea

Surface Owner: State Federal Tribal Private (Name: _____)

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls): 10.22	Volume Recovered (bbls): 9.8
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls): <0.5	Volume Recovered (bbls): <0.5
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A contract trucking unit arrived to pull fluid down from the gas buster. The driver accidentally put his pump setting to pressure up the trailer instead of pulling a vacuum. While he hooked up his hoses, the trailer had pressured up. When the driver opened his valve, pressure was sent into the gas buster causing fluid to exit the top. The release affected the lined temporary frac tank containment and a small area of well pad south of the containment.

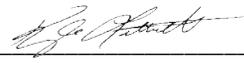
State of New Mexico
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Release volume was less than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? NA	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <u>not</u> been undertaken, explain why: N/A
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name: <u>Kyle Littrell</u> Title: <u>SH&E Supervisor</u> Signature:  Date: <u>10-28-2019</u> email: <u>Kyle.Littrell@xtoenergy.com</u> Telephone: <u>432-221-7331</u>
<p><u>OCD Only</u></p> Received by: _____ Date: _____

Incident ID	
District RP	1RP-5108
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Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

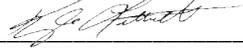
State of New Mexico
Oil Conservation Division

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 10-28-2019

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

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	1RP-5108
Facility ID	
Application ID	

Closure

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

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

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 10-28-2019

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by:  Date: 2/21/2023

Printed Name: Brittany Hall Title: Environmental Specialist

ATTACHMENT 2: LITHOLOGIC / SOIL SAMPLE LOGS



LT Environmental, Inc.
 508 West Stevens Street
 Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier: **SS02A**

Date: **10-17-19**

Project Name: **Sarvus 3H**

RP Number: **2RP-5108**

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: **L.A.D.**

Method: **Auger**

Lat/Long:

Field Screening: **CHLORIDES, PID.**

Hole Diameter:

Total Depth: **2'**

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Slight	0.8	0.0	N.	1	0	2'		Dark brown, no odor, slightly moist, slight clumping, low plasticity, poorly graded, silty sand, no organics
					1			
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.
 508 West Stevens Street
 Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier: <i>SS02A</i>	Date: <i>10-17-19</i>
Project Name: <i>Severus 3H</i>	RP Number: <i>2RP-5108</i>

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: <i>L.A.D.</i>	Method: <i>Auger</i>
Hole Diameter:	Total Depth: <i>2'</i>

Lat/Long: _____ Field Screening: CHLORIDES, PID.

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
<i>Slight</i>	<i>0.8</i>	<i>0.0</i>	<i>N.</i>	<i>1</i>	0	<i>2'</i>		<i>Dark brown, no odor, slightly moist, slight clumping, low plasticity, poorly graded, silty sand</i>
					1			
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



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 Carlsbad, New Mexico 88220

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Identifier: SS03A	Date: 10-17-19
Project Name: Sevens 3H	RP Number: 2RP-5108

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: L.A.D.	Method: Auger
Hole Diameter:	Total Depth: 2'

Lat/Long: Field Screening: CHLORIDES, PID.

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Slight	0.6	0.0	No	1	0	2'		Dark brown, no odor, slightly moist, slightly clumpy, low plasticity, poorly graded, silty sand, no organics
					1			
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



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Compliance · Engineering · Remediation

Identifier: SS09A

Date: 10-17-19

Project Name: Sevens 3H

RP Number: 2RP-5108

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: L.A.D.

Method: Auger

Lat/Long:

Field Screening: CHLORIDES, PID.

Hole Diameter:

Total Depth: 2'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
<u>Slight</u>	<u>0.4</u>	<u>0.0</u>	<u>None</u>	<u>1</u>	0			<p><u>Dark brown, no odor, slightly moist, slight clumping, low plasticity, poorly graded, silty sand, no organics</u></p>
					1			
					2	<u>2'</u>		
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



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Compliance · Engineering · Remediation

Identifier: SS05A	Date: 10-17-19
Project Name: Sevens 3H	RP Number: 2RP-5108

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: L.A.D.	Method: Auger
--------------------------	----------------------

Lat/Long:	Field Screening: CHLORIDES, PID.	Hole Diameter:	Total Depth: 2'
-----------	---	----------------	------------------------

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
<i>Slight</i>	<i>0.4</i>	<i>0.0</i>	<i>N₂</i>	<i>1</i>	0	<i>2'</i>		<i>Dark brown, no odor, slightly moist, slight clumping, low plasticity, poorly graded, silty sand, no organics</i>
					1			
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



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Identifier: **SS06A** Date: **10-17-19**
 Project Name: **Severez 3H** RP Number: **2RP-~~5108~~ LAD 5108**

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: **L.A.D.** Method: **Auger**

Lat/Long: Field Screening: **CHLORIDES, PID.** Hole Diameter: Total Depth: **2'**

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Slight	2.6	6.0	Nu	1	0	2'		Dark brown, no odor, slightly moist, slight clumpy, low clumpy, poorly graded, silty sand
					1			
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

ATTACHMENT 3: PHOTOGRAPHIC LOG





North facing view of release area during site assessment activities.

Project: 012918134	XTO Energy, Inc. Severus 31 Federal Com 3H	 Advancing Opportunity
July 11, 2019	Photographic Log	



South facing view of release area during site assessment activities.

Project: 012918134	XTO Energy, Inc. Severus 31 Federal Com 3H	 Advancing Opportunity
July 11, 2019	Photographic Log	

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS



Analytical Report 631117

for
LT Environmental, Inc.

Project Manager: Dan Moir

Severus 31 Fed Com 3H

012918134

02-AUG-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)



02-AUG-19

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

Reference: XENCO Report No(s): **631117**
Severus 31 Fed Com 3H
Project Address: Delaware Basin

Dan Moir:

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) 631117. 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. 631117 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
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 631117

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	07-11-19 14:00	6 In	631117-001
SS02	S	07-11-19 14:15	6 In	631117-002
SS03	S	07-11-19 14:25	6 In	631117-003
SS04	S	07-11-19 14:40	6 In	631117-004
SS05	S	07-11-19 14:55	6 In	631117-005
SS06	S	07-11-19 15:00	6 In	631117-006



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Severus 31 Fed Com 3H

Project ID: 012918134
Work Order Number(s): 631117

Report Date: 02-AUG-19
Date Received: 07/17/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095726 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 631117-006.

Batch: LBA-3095938 BTEX by EPA 8021B

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



Certificate of Analysis Summary 631117

LT Environmental, Inc., Arvada, CO

Project Name: Severus 31 Fed Com 3H

Project Id: 012918134
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Wed Jul-17-19 11:30 am
Report Date: 02-AUG-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	631117-001	631117-002	631117-003	631117-004	631117-005	631117-006						
	<i>Field Id:</i>	SS01	SS02	SS03	SS04	SS05	SS06						
	<i>Depth:</i>	6- In											
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL						
	<i>Sampled:</i>	Jul-11-19 14:00	Jul-11-19 14:15	Jul-11-19 14:25	Jul-11-19 14:40	Jul-11-19 14:55	Jul-11-19 15:00						
BTEX by EPA 8021B	<i>Extracted:</i>	*****		*****		*****		*****		*****			
	<i>Analyzed:</i>	Jul-19-19 05:15		Jul-19-19 05:35		Jul-19-19 05:55		Jul-19-19 15:51		Jul-19-19 06:35			
	<i>Units/RL:</i>	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
	Benzene	<0.00199	0.00199	<0.00202	0.00202	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199
	Toluene	<0.00199	0.00199	<0.00202	0.00202	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199
	Ethylbenzene	<0.00199	0.00199	<0.00202	0.00202	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199
	m,p-Xylenes	<0.00398	0.00398	<0.00403	0.00403	<0.00397	0.00397	<0.00403	0.00403	<0.00398	0.00398	<0.00398	0.00398
	o-Xylene	<0.00199	0.00199	<0.00202	0.00202	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199
Total Xylenes	<0.00199	0.00199	<0.00202	0.00202	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	
Total BTEX	<0.00199	0.00199	<0.00202	0.00202	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	
Chloride by EPA 300	<i>Extracted:</i>	Jul-17-19 16:15		Jul-17-19 16:15		Jul-17-19 16:40		Jul-17-19 16:40		Jul-17-19 16:40		Jul-17-19 16:40	
	<i>Analyzed:</i>	Jul-17-19 20:11		Jul-17-19 20:16		Jul-17-19 20:45		Jul-17-19 20:59		Jul-17-19 21:04		Jul-17-19 21:09	
	<i>Units/RL:</i>	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride	164	4.98	7.98	5.01	23.7	5.00	48.1	5.05	77.3	4.99	<4.95	4.95	
TPH by SW8015 Mod	<i>Extracted:</i>	Jul-17-19 14:00		Jul-17-19 14:00		Jul-17-19 14:00		Jul-17-19 14:00		Jul-17-19 14:00		Jul-17-19 14:00	
	<i>Analyzed:</i>	Jul-18-19 04:51		Jul-18-19 05:15		Jul-18-19 05:38		Jul-18-19 06:01		Jul-18-19 06:25		Jul-18-19 06:50	
	<i>Units/RL:</i>	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
	Gasoline Range Hydrocarbons (GRO)	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
	Diesel Range Organics (DRO)	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
	Motor Oil Range Hydrocarbons (MRO)	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
	Total TPH	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total GRO-DRO	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 631117

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: **SS01** Matrix: Soil Date Received: 07.17.19 11.30
 Lab Sample Id: 631117-001 Date Collected: 07.11.19 14.00 Sample Depth: 6 In
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.17.19 16.15 Basis: Wet Weight
 Seq Number: 3095741

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	164	4.98	mg/kg	07.17.19 20.11		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ALG % Moisture:
 Analyst: ARM Date Prep: 07.17.19 14.00 Basis: Wet Weight
 Seq Number: 3095726

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.18.19 04.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.18.19 04.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.18.19 04.51	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.18.19 04.51	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.18.19 04.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.18.19 04.51	
o-Terphenyl	84-15-1	89	%	70-135	07.18.19 04.51	



Certificate of Analytical Results 631117

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS01	Matrix: Soil	Date Received: 07.17.19 11.30
Lab Sample Id: 631117-001	Date Collected: 07.11.19 14.00	Sample Depth: 6 In
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALG		% Moisture:
Analyst: FOV	Date Prep: 07.17.19 10.32	Basis: Wet Weight
Seq Number: 3095938		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.19.19 05.15	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.19.19 05.15	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.19.19 05.15	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.19.19 05.15	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.19.19 05.15	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.19.19 05.15	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.19.19 05.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	07.19.19 05.15		
1,4-Difluorobenzene	540-36-3	107	%	70-130	07.19.19 05.15		



Certificate of Analytical Results 631117

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: **SS02** Matrix: Soil Date Received: 07.17.19 11.30
 Lab Sample Id: 631117-002 Date Collected: 07.11.19 14.15 Sample Depth: 6 In
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.17.19 16.15 Basis: Wet Weight
 Seq Number: 3095741

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.98	5.01	mg/kg	07.17.19 20.16		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ALG % Moisture:
 Analyst: ARM Date Prep: 07.17.19 14.00 Basis: Wet Weight
 Seq Number: 3095726

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.18.19 05.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.18.19 05.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.18.19 05.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.18.19 05.15	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.18.19 05.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	07.18.19 05.15	
o-Terphenyl	84-15-1	89	%	70-135	07.18.19 05.15	



Certificate of Analytical Results 631117



LT Environmental, Inc., Arvada, CO Severus 31 Fed Com 3H

Sample Id: SS02	Matrix: Soil	Date Received: 07.17.19 11.30
Lab Sample Id: 631117-002	Date Collected: 07.11.19 14.15	Sample Depth: 6 In
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALG		% Moisture:
Analyst: FOV	Date Prep: 07.17.19 10.32	Basis: Wet Weight
Seq Number: 3095938		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.19.19 05.35	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.19.19 05.35	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.19.19 05.35	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.19.19 05.35	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.19.19 05.35	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.19.19 05.35	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.19.19 05.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	07.19.19 05.35		
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.19.19 05.35		



Certificate of Analytical Results 631117

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: **SS03** Matrix: Soil Date Received: 07.17.19 11.30
 Lab Sample Id: 631117-003 Date Collected: 07.11.19 14.25 Sample Depth: 6 In
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.17.19 16.40 Basis: Wet Weight
 Seq Number: 3095750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.7	5.00	mg/kg	07.17.19 20.45		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ALG % Moisture:
 Analyst: ARM Date Prep: 07.17.19 14.00 Basis: Wet Weight
 Seq Number: 3095726

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.18.19 05.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.18.19 05.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.18.19 05.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.18.19 05.38	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.18.19 05.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	07.18.19 05.38	
o-Terphenyl	84-15-1	87	%	70-135	07.18.19 05.38	



Certificate of Analytical Results 631117

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS03	Matrix: Soil	Date Received: 07.17.19 11.30
Lab Sample Id: 631117-003	Date Collected: 07.11.19 14.25	Sample Depth: 6 In
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALG		% Moisture:
Analyst: FOV	Date Prep: 07.17.19 10.32	Basis: Wet Weight
Seq Number: 3095938		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.19.19 05.55	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.19.19 05.55	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.19.19 05.55	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.19.19 05.55	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.19.19 05.55	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.19.19 05.55	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.19.19 05.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	07.19.19 05.55		
1,4-Difluorobenzene	540-36-3	108	%	70-130	07.19.19 05.55		



Certificate of Analytical Results 631117

LT Environmental, Inc., Arvada, CO Severus 31 Fed Com 3H

Sample Id: **SS04** Matrix: Soil Date Received: 07.17.19 11.30
 Lab Sample Id: 631117-004 Date Collected: 07.11.19 14.40 Sample Depth: 6 In
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.17.19 16.40 Basis: Wet Weight
 Seq Number: 3095750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	48.1	5.05	mg/kg	07.17.19 20.59		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ALG % Moisture:
 Analyst: ARM Date Prep: 07.17.19 14.00 Basis: Wet Weight
 Seq Number: 3095726

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.18.19 06.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.18.19 06.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.18.19 06.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.18.19 06.01	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.18.19 06.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	07.18.19 06.01	
o-Terphenyl	84-15-1	82	%	70-135	07.18.19 06.01	



Certificate of Analytical Results 631117

LT Environmental, Inc., Arvada, CO Severus 31 Fed Com 3H

Sample Id: SS04	Matrix: Soil	Date Received: 07.17.19 11.30
Lab Sample Id: 631117-004	Date Collected: 07.11.19 14.40	Sample Depth: 6 In
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALG		% Moisture:
Analyst: FOV	Date Prep: 07.17.19 10.32	Basis: Wet Weight
Seq Number: 3095938		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.19.19 15.51	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.19.19 15.51	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.19.19 15.51	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.19.19 15.51	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.19.19 15.51	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.19.19 15.51	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.19.19 15.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	07.19.19 15.51		
1,4-Difluorobenzene	540-36-3	113	%	70-130	07.19.19 15.51		



Certificate of Analytical Results 631117

LT Environmental, Inc., Arvada, CO Severus 31 Fed Com 3H

Sample Id: **SS05** Matrix: Soil Date Received: 07.17.19 11.30
 Lab Sample Id: 631117-005 Date Collected: 07.11.19 14.55 Sample Depth: 6 In
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.17.19 16.40 Basis: Wet Weight
 Seq Number: 3095750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	77.3	4.99	mg/kg	07.17.19 21.04		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ALG % Moisture:
 Analyst: ARM Date Prep: 07.17.19 14.00 Basis: Wet Weight
 Seq Number: 3095726

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.18.19 06.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.18.19 06.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.18.19 06.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.18.19 06.25	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.18.19 06.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	07.18.19 06.25	
o-Terphenyl	84-15-1	92	%	70-135	07.18.19 06.25	



Certificate of Analytical Results 631117

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS05	Matrix: Soil	Date Received: 07.17.19 11.30
Lab Sample Id: 631117-005	Date Collected: 07.11.19 14.55	Sample Depth: 6 In
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALG		% Moisture:
Analyst: FOV	Date Prep: 07.17.19 10.32	Basis: Wet Weight
Seq Number: 3095938		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.19.19 06.35	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.19.19 06.35	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.19.19 06.35	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.19.19 06.35	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.19.19 06.35	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.19.19 06.35	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.19.19 06.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	07.19.19 06.35		
4-Bromofluorobenzene	460-00-4	107	%	70-130	07.19.19 06.35		



Certificate of Analytical Results 631117

LT Environmental, Inc., Arvada, CO Severus 31 Fed Com 3H

Sample Id: **SS06** Matrix: Soil Date Received: 07.17.19 11.30
 Lab Sample Id: 631117-006 Date Collected: 07.11.19 15.00 Sample Depth: 6 In
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.17.19 16.40 Basis: Wet Weight
 Seq Number: 3095750

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	07.17.19 21.09	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ALG % Moisture:
 Analyst: ARM Date Prep: 07.17.19 14.00 Basis: Wet Weight
 Seq Number: 3095726

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.18.19 06.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.18.19 06.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.18.19 06.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.18.19 06.50	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.18.19 06.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	07.18.19 06.50	
o-Terphenyl	84-15-1	66	%	70-135	07.18.19 06.50	**



Certificate of Analytical Results 631117

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS06	Matrix: Soil	Date Received: 07.17.19 11.30
Lab Sample Id: 631117-006	Date Collected: 07.11.19 15.00	Sample Depth: 6 In
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALG		% Moisture:
Analyst: FOV	Date Prep: 07.17.19 10.32	Basis: Wet Weight
Seq Number: 3095938		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.19.19 06.55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.19.19 06.55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.19.19 06.55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.19.19 06.55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.19.19 06.55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.19.19 06.55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.19.19 06.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	07.19.19 06.55		
1,4-Difluorobenzene	540-36-3	111	%	70-130	07.19.19 06.55		



LT Environmental, Inc.
Severus 31 Fed Com 3H

Analytical Method: Chloride by EPA 300

Seq Number: 3095741

MB Sample Id: 7682248-1-BLK

Matrix: Solid

LCS Sample Id: 7682248-1-BKS

Prep Method: E300P

Date Prep: 07.17.19

LCSD Sample Id: 7682248-1-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	242	97	241	96	90-110	0	20	mg/kg	07.17.19 17:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3095750

MB Sample Id: 7682250-1-BLK

Matrix: Solid

LCS Sample Id: 7682250-1-BKS

Prep Method: E300P

Date Prep: 07.17.19

LCSD Sample Id: 7682250-1-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	239	96	239	96	90-110	0	20	mg/kg	07.17.19 20:35	

Analytical Method: Chloride by EPA 300

Seq Number: 3095741

Parent Sample Id: 631114-025

Matrix: Soil

MS Sample Id: 631114-025 S

Prep Method: E300P

Date Prep: 07.17.19

MSD Sample Id: 631114-025 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.865	252	248	98	248	98	90-110	0	20	mg/kg	07.17.19 18:10	

Analytical Method: Chloride by EPA 300

Seq Number: 3095741

Parent Sample Id: 631116-005

Matrix: Soil

MS Sample Id: 631116-005 S

Prep Method: E300P

Date Prep: 07.17.19

MSD Sample Id: 631116-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	247	99	247	99	90-110	0	20	mg/kg	07.17.19 19:17	

Analytical Method: Chloride by EPA 300

Seq Number: 3095750

Parent Sample Id: 631114-008

Matrix: Soil

MS Sample Id: 631114-008 S

Prep Method: E300P

Date Prep: 07.17.19

MSD Sample Id: 631114-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	371	251	584	85	584	85	90-110	0	20	mg/kg	07.17.19 21:57	X

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



LT Environmental, Inc.
Severus 31 Fed Com 3H

Analytical Method: Chloride by EPA 300

Seq Number: 3095750

Parent Sample Id: 631117-003

Matrix: Soil

MS Sample Id: 631117-003 S

Prep Method: E300P

Date Prep: 07.17.19

MSD Sample Id: 631117-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.7	250	270	99	270	99	90-110	0	20	mg/kg	07.17.19 20:49	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095726

MB Sample Id: 7682239-1-BLK

Matrix: Solid

LCS Sample Id: 7682239-1-BKS

Prep Method: TX1005P

Date Prep: 07.17.19

LCSD Sample Id: 7682239-1-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)	<8.00	1000	1040	104	925	93	70-135	12	20	mg/kg	07.17.19 21:45	
Diesel Range Organics (DRO)	<8.13	1000	1140	114	1050	105	70-135	8	20	mg/kg	07.17.19 21:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		98		87		70-135	%	07.17.19 21:45
o-Terphenyl	91		108		97		70-135	%	07.17.19 21:45

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095726

Parent Sample Id: 631114-003

Matrix: Soil

MS Sample Id: 631114-003 S

Prep Method: TX1005P

Date Prep: 07.17.19

MSD Sample Id: 631114-003 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)	8.42	999	937	93	1020	101	70-135	8	20	mg/kg	07.17.19 22:57	
Diesel Range Organics (DRO)	82.4	999	1020	94	1100	102	70-135	8	20	mg/kg	07.17.19 22:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		93		70-135	%	07.17.19 22:57
o-Terphenyl	82		86		70-135	%	07.17.19 22:57

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



LT Environmental, Inc.
Severus 31 Fed Com 3H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095938

MB Sample Id: 7682225-1-BLK

Matrix: Solid

LCS Sample Id: 7682225-1-BKS

Prep Method: SW5030B

Date Prep: 07.17.19

LCSD Sample Id: 7682225-1-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	0.120	120	0.116	116	70-130	3	35	mg/kg	07.18.19 21:02	
Toluene	<0.000456	0.100	0.0975	98	0.0982	98	70-130	1	35	mg/kg	07.18.19 21:02	
Ethylbenzene	<0.00200	0.100	0.0897	90	0.0920	92	70-130	3	35	mg/kg	07.18.19 21:02	
m,p-Xylenes	<0.00101	0.200	0.179	90	0.184	92	70-130	3	35	mg/kg	07.18.19 21:02	
o-Xylene	<0.00200	0.100	0.0882	88	0.0901	90	70-130	2	35	mg/kg	07.18.19 21:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		115		112		70-130	%	07.18.19 21:02
4-Bromofluorobenzene	82		83		87		70-130	%	07.18.19 21:02

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095938

Parent Sample Id: 630895-001

Matrix: Soil

MS Sample Id: 630895-001 S

Prep Method: SW5030B

Date Prep: 07.17.19

MSD Sample Id: 630895-001 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	0.0774	77	0.0846	85	70-130	9	35	mg/kg	07.19.19 10:00	
Toluene	<0.000457	0.100	0.0555	56	0.0563	57	70-130	1	35	mg/kg	07.19.19 10:00	X
Ethylbenzene	<0.00201	0.100	0.0420	42	0.0413	42	70-130	2	35	mg/kg	07.19.19 10:00	X
m,p-Xylenes	<0.00102	0.201	0.0838	42	0.0787	40	70-130	6	35	mg/kg	07.19.19 10:00	X
o-Xylene	<0.00201	0.100	0.0419	42	0.0422	43	70-130	1	35	mg/kg	07.19.19 10:00	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	116		119		70-130	%	07.19.19 10:00
4-Bromofluorobenzene	87		85		70-130	%	07.19.19 10:00

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

ORIGIN:DCACA (281) 240-4200
SAMPLE CUSTODY
XENCO LABORATORIES NM
1089 N CANAL ST
CARLSBAD, NM 88220
UNITED STATES US

SHIP DATE: 18 JUL 19
ACTWGT: 56.00 LB
CAD: 114488676/N/E/4160
DIMS: 13x9x9 IN
BILL SENDER

TO SAMPLE RECEIVING

3600 S COUNTY ROAD 1276

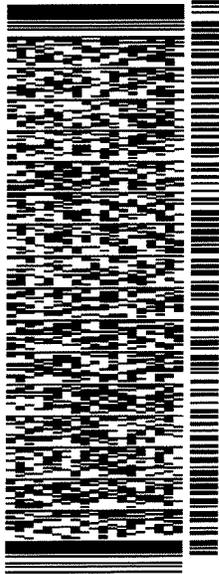
MIDLAND TX 79706

REF: (432) 704-5440

PO:

DEPT:

567J2IA6F9I05A2



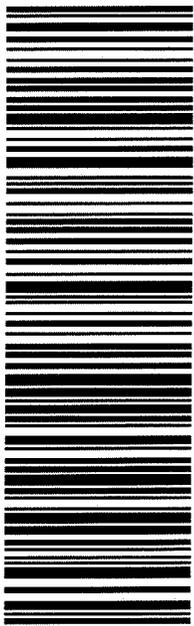
J18201862401ur

TRK# 7757 5590 9428
#0201

WED - 17 JUL HOLD
PRIORITY OVERNIGHT

41 MAFA

HLD 79706
TX-US LBB



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XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 07/17/2019 11:30:00 AM

Work Order #: 631117

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R8

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

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

Analyst:

PH Device/Lot#:

Checklist completed by: Brianna Teel
Brianna Teel Date: 07/17/2019

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks Date: 07/18/2019

Analytical Report 640497

for

LT Environmental, Inc.

Project Manager: Dan Moir

Severus 31 Fed Com 3H

012918134

24-OCT-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



24-OCT-19

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

Reference: XENCO Report No(s): **640497**
Severus 31 Fed Com 3H
Project Address:

Dan Moir:

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) 640497. 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. 640497 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,

A handwritten signature in black ink that reads '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 640497

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01A	S	10-17-19 14:34	2 ft	640497-001
SS02A	S	10-17-19 14:59	2 ft	640497-002
SS03A	S	10-17-19 16:12	2 ft	640497-003
SS04A	S	10-17-19 16:32	2 ft	640497-004
SS05A	S	10-17-19 13:50	2 ft	640497-005
SS06A	S	10-17-19 15:41	2 ft	640497-006



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Severus 31 Fed Com 3H

Project ID: 012918134
Work Order Number(s): 640497

Report Date: 24-OCT-19
Date Received: 10/21/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104977 BTEX by EPA 8021B

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

Batch: LBA-3105170 Chloride by EPA 300

Lab Sample ID 640502-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 640497-001, -002, -003, -004, -005, -006.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.



Certificate of Analysis Summary 640497

LT Environmental, Inc., Arvada, CO

Project Name: Severus 31 Fed Com 3H

Project Id: 012918134

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Oct-21-19 09:10 am

Report Date: 24-OCT-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	640497-001	640497-002	640497-003	640497-004	640497-005	640497-006
	<i>Field Id:</i>	SS01A	SS02A	SS03A	SS04A	SS05A	SS06A
	<i>Depth:</i>	2- ft	2- ft				
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-17-19 14:34	Oct-17-19 14:59	Oct-17-19 16:12	Oct-17-19 16:32	Oct-17-19 13:50	Oct-17-19 15:41
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-21-19 14:10	Oct-21-19 14:10				
	<i>Analyzed:</i>	Oct-22-19 04:27	Oct-22-19 04:48	Oct-22-19 06:03	Oct-22-19 06:23	Oct-22-19 06:44	Oct-22-19 07:04
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
	Benzene	<0.000994 0.000994	<0.000992 0.000992	<0.00100 0.00100	<0.000992 0.000992	<0.000998 0.000998	<0.00101 0.00101
	Toluene	<0.000994 0.000994	<0.000992 0.000992	<0.00100 0.00100	<0.000992 0.000992	<0.000998 0.000998	<0.00101 0.00101
	Ethylbenzene	<0.000994 0.000994	<0.000992 0.000992	<0.00100 0.00100	<0.000992 0.000992	<0.000998 0.000998	<0.00101 0.00101
	m,p-Xylenes	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
	o-Xylene	<0.000994 0.000994	<0.000992 0.000992	<0.00100 0.00100	<0.000992 0.000992	<0.000998 0.000998	<0.00101 0.00101
Total Xylenes	<0.000994 0.000994	<0.000992 0.000992	<0.00100 0.00100	<0.000992 0.000992	<0.000998 0.000998	<0.00101 0.00101	
Total BTEX	<0.000994 0.000994	<0.000992 0.000992	<0.00100 0.00100	<0.000992 0.000992	<0.000998 0.000998	<0.00101 0.00101	
Chloride by EPA 300	<i>Extracted:</i>	Oct-21-19 20:10	Oct-21-19 20:10				
	<i>Analyzed:</i>	Oct-22-19 14:16	Oct-22-19 14:35	Oct-22-19 14:41	Oct-22-19 14:47	Oct-22-19 14:54	Oct-22-19 15:13
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Chloride	56.4 9.98	50.5 9.96	29.9 9.98	<9.92 9.92	11.3 9.98	350 10.0	
TPH by SW8015 Mod	<i>Extracted:</i>	Oct-21-19 14:10	Oct-21-19 14:10				
	<i>Analyzed:</i>	Oct-21-19 17:10	Oct-21-19 17:10	Oct-21-19 17:30	Oct-21-19 17:30	Oct-21-19 17:50	Oct-21-19 17:50
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<50.0 50.0	<50.3 50.3	<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.3 50.3
	Diesel Range Organics (DRO)	<50.0 50.0	<50.3 50.3	<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.3 50.3
	Motor Oil Range Hydrocarbons (MRO)	<50.0 50.0	<50.3 50.3	<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.3 50.3
	Total GRO-DRO	<50.0 50.0	<50.3 50.3	<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.3 50.3
	Total TPH	<50.0 50.0	<50.3 50.3	<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.3 50.3

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Assistant



Certificate of Analytical Results 640497

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS01A	Matrix: Soil	Date Received: 10.21.19 09.10
Lab Sample Id: 640497-001	Date Collected: 10.17.19 14.34	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 10.21.19 20.10	Basis: Wet Weight
Seq Number: 3105170		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	56.4	9.98	mg/kg	10.22.19 14.16		1

Analytical Method: TPH by SW8015 Mod		Prep Method: SW8015P
Tech: DTH		% Moisture:
Analyst: DTH	Date Prep: 10.21.19 14.10	Basis: Wet Weight
Seq Number: 3104972		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.21.19 17.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.21.19 17.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.21.19 17.10	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.21.19 17.10	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.21.19 17.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	10.21.19 17.10	
o-Terphenyl	84-15-1	83	%	70-135	10.21.19 17.10	



Certificate of Analytical Results 640497

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS01A	Matrix: Soil	Date Received: 10.21.19 09.10
Lab Sample Id: 640497-001	Date Collected: 10.17.19 14.34	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 10.21.19 14.10	Basis: Wet Weight
Seq Number: 3104977		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	10.22.19 04.27	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	10.22.19 04.27	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	10.22.19 04.27	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	10.22.19 04.27	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	10.22.19 04.27	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	10.22.19 04.27	U	1
Total BTEX		<0.000994	0.000994	mg/kg	10.22.19 04.27	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113		%	70-130	10.22.19 04.27	
1,4-Difluorobenzene	540-36-3	105		%	70-130	10.22.19 04.27	



Certificate of Analytical Results 640497

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS02A	Matrix: Soil	Date Received: 10.21.19 09.10
Lab Sample Id: 640497-002	Date Collected: 10.17.19 14.59	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 10.21.19 20.10	Basis: Wet Weight
Seq Number: 3105170		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	50.5	9.96	mg/kg	10.22.19 14.35		1

Analytical Method: TPH by SW8015 Mod		Prep Method: SW8015P
Tech: DTH		% Moisture:
Analyst: DTH	Date Prep: 10.21.19 14.10	Basis: Wet Weight
Seq Number: 3104972		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	10.21.19 17.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	10.21.19 17.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	10.21.19 17.10	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	10.21.19 17.10	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	10.21.19 17.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	10.21.19 17.10	
o-Terphenyl	84-15-1	81	%	70-135	10.21.19 17.10	



Certificate of Analytical Results 640497

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS02A	Matrix: Soil	Date Received: 10.21.19 09.10
Lab Sample Id: 640497-002	Date Collected: 10.17.19 14.59	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 10.21.19 14.10	Basis: Wet Weight
Seq Number: 3104977		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	10.22.19 04.48	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	10.22.19 04.48	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	10.22.19 04.48	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	10.22.19 04.48	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	10.22.19 04.48	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	10.22.19 04.48	U	1
Total BTEX		<0.000992	0.000992	mg/kg	10.22.19 04.48	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105		%	70-130	10.22.19 04.48	
4-Bromofluorobenzene	460-00-4	114		%	70-130	10.22.19 04.48	



Certificate of Analytical Results 640497

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS03A	Matrix: Soil	Date Received: 10.21.19 09.10
Lab Sample Id: 640497-003	Date Collected: 10.17.19 16.12	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 10.21.19 20.10	Basis: Wet Weight
Seq Number: 3105170		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.9	9.98	mg/kg	10.22.19 14.41		1

Analytical Method: TPH by SW8015 Mod		Prep Method: SW8015P
Tech: DTH		% Moisture:
Analyst: DTH	Date Prep: 10.21.19 14.10	Basis: Wet Weight
Seq Number: 3104972		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.21.19 17.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	10.21.19 17.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.21.19 17.30	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	10.21.19 17.30	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	10.21.19 17.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-135	10.21.19 17.30	
o-Terphenyl	84-15-1	74	%	70-135	10.21.19 17.30	



Certificate of Analytical Results 640497

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS03A	Matrix: Soil	Date Received: 10.21.19 09.10
Lab Sample Id: 640497-003	Date Collected: 10.17.19 16.12	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 10.21.19 14.10	Basis: Wet Weight
Seq Number: 3104977		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	10.22.19 06.03	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	10.22.19 06.03	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	10.22.19 06.03	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	10.22.19 06.03	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	10.22.19 06.03	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	10.22.19 06.03	U	1
Total BTEX		<0.00100	0.00100	mg/kg	10.22.19 06.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.22.19 06.03		
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.22.19 06.03		



Certificate of Analytical Results 640497

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS04A	Matrix: Soil	Date Received: 10.21.19 09.10
Lab Sample Id: 640497-004	Date Collected: 10.17.19 16.32	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 10.21.19 20.10	Basis: Wet Weight
Seq Number: 3105170		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	10.22.19 14.47	U	1

Analytical Method: TPH by SW8015 Mod		Prep Method: SW8015P
Tech: DTH		% Moisture:
Analyst: DTH	Date Prep: 10.21.19 14.10	Basis: Wet Weight
Seq Number: 3104972		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.21.19 17.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	10.21.19 17.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.21.19 17.30	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	10.21.19 17.30	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	10.21.19 17.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-135	10.21.19 17.30	
o-Terphenyl	84-15-1	77	%	70-135	10.21.19 17.30	



Certificate of Analytical Results 640497

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS04A	Matrix: Soil	Date Received: 10.21.19 09.10
Lab Sample Id: 640497-004	Date Collected: 10.17.19 16.32	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 10.21.19 14.10	Basis: Wet Weight
Seq Number: 3104977		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	10.22.19 06.23	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	10.22.19 06.23	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	10.22.19 06.23	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	10.22.19 06.23	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	10.22.19 06.23	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	10.22.19 06.23	U	1
Total BTEX		<0.000992	0.000992	mg/kg	10.22.19 06.23	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105		%	70-130	10.22.19 06.23	
4-Bromofluorobenzene	460-00-4	109		%	70-130	10.22.19 06.23	



Certificate of Analytical Results 640497

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS05A	Matrix: Soil	Date Received: 10.21.19 09.10
Lab Sample Id: 640497-005	Date Collected: 10.17.19 13.50	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 10.21.19 20.10	Basis: Wet Weight
Seq Number: 3105170		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.3	9.98	mg/kg	10.22.19 14.54		1

Analytical Method: TPH by SW8015 Mod		Prep Method: SW8015P
Tech: DTH		% Moisture:
Analyst: DTH	Date Prep: 10.21.19 14.10	Basis: Wet Weight
Seq Number: 3104972		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.21.19 17.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.21.19 17.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.21.19 17.50	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.21.19 17.50	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.21.19 17.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	74	%	70-135	10.21.19 17.50	
o-Terphenyl	84-15-1	73	%	70-135	10.21.19 17.50	



Certificate of Analytical Results 640497

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS05A	Matrix: Soil	Date Received: 10.21.19 09.10
Lab Sample Id: 640497-005	Date Collected: 10.17.19 13.50	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 10.21.19 14.10	Basis: Wet Weight
Seq Number: 3104977		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	10.22.19 06.44	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	10.22.19 06.44	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	10.22.19 06.44	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	10.22.19 06.44	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	10.22.19 06.44	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	10.22.19 06.44	U	1
Total BTEX		<0.000998	0.000998	mg/kg	10.22.19 06.44	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105		%	70-130	10.22.19 06.44	
4-Bromofluorobenzene	460-00-4	112		%	70-130	10.22.19 06.44	



Certificate of Analytical Results 640497

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS06A	Matrix: Soil	Date Received: 10.21.19 09.10
Lab Sample Id: 640497-006	Date Collected: 10.17.19 15.41	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 10.21.19 20.10	Basis: Wet Weight
Seq Number: 3105170		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	350	10.0	mg/kg	10.22.19 15.13		1

Analytical Method: TPH by SW8015 Mod		Prep Method: SW8015P
Tech: DTH		% Moisture:
Analyst: DTH	Date Prep: 10.21.19 14.10	Basis: Wet Weight
Seq Number: 3104972		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	10.21.19 17.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	10.21.19 17.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	10.21.19 17.50	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	10.21.19 17.50	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	10.21.19 17.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	73	%	70-135	10.21.19 17.50	
o-Terphenyl	84-15-1	78	%	70-135	10.21.19 17.50	



Certificate of Analytical Results 640497

LT Environmental, Inc., Arvada, CO

Severus 31 Fed Com 3H

Sample Id: SS06A	Matrix: Soil	Date Received: 10.21.19 09.10
Lab Sample Id: 640497-006	Date Collected: 10.17.19 15.41	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 10.21.19 14.10	Basis: Wet Weight
Seq Number: 3104977		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	10.22.19 07.04	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	10.22.19 07.04	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	10.22.19 07.04	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	10.22.19 07.04	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	10.22.19 07.04	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	10.22.19 07.04	U	1
Total BTEX		<0.00101	0.00101	mg/kg	10.22.19 07.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	10.22.19 07.04		
4-Bromofluorobenzene	460-00-4	113	%	70-130	10.22.19 07.04		



LT Environmental, Inc.
Severus 31 Fed Com 3H

Analytical Method: Chloride by EPA 300

Seq Number: 3105170 Matrix: Solid Prep Method: E300P
 MB Sample Id: 7688575-1-BLK LCS Sample Id: 7688575-1-BKS Date Prep: 10.21.19
 LCSD Sample Id: 7688575-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	268	107	269	108	90-110	0	20	mg/kg	10.22.19 14:04	

Analytical Method: Chloride by EPA 300

Seq Number: 3105170 Matrix: Solid Prep Method: E300P
 Parent Sample Id: 640497-001 MS Sample Id: 640497-001 S Date Prep: 10.21.19
 MSD Sample Id: 640497-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	56.4	200	290	117	292	118	90-110	1	20	mg/kg	10.22.19 14:22	X

Analytical Method: Chloride by EPA 300

Seq Number: 3105170 Matrix: Solid Prep Method: E300P
 Parent Sample Id: 640502-004 MS Sample Id: 640502-004 S Date Prep: 10.21.19
 MSD Sample Id: 640502-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1640	1980	4150	127	4210	129	90-110	1	20	mg/kg	10.22.19 16:03	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3104972 Matrix: Solid Prep Method: SW8015P
 MB Sample Id: 7688557-1-BLK LCS Sample Id: 7688557-1-BKS Date Prep: 10.21.19
 LCSD Sample Id: 7688557-1-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)	<50.0	1000	937	94	938	94	70-135	0	35	mg/kg	10.21.19 14:12	
Diesel Range Organics (DRO)	<50.0	1000	828	83	862	86	70-135	4	35	mg/kg	10.21.19 14:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		113		113		70-135	%	10.21.19 14:12
o-Terphenyl	91		107		112		70-135	%	10.21.19 14:12

Analytical Method: TPH by SW8015 Mod

Seq Number: 3104972 Matrix: Solid Prep Method: SW8015P
 MB Sample Id: 7688557-1-BLK Date Prep: 10.21.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.21.19 13:52	

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



LT Environmental, Inc.

Severus 31 Fed Com 3H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3104972

Parent Sample Id: 640495-003

Matrix: Soil

MS Sample Id: 640495-003 S

Prep Method: SW8015P

Date Prep: 10.21.19

MSD Sample Id: 640495-003 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)	<50.2	1000	886	89	846	85	70-135	5	35	mg/kg	10.21.19 14:32	
Diesel Range Organics (DRO)	<50.2	1000	809	81	765	77	70-135	6	35	mg/kg	10.21.19 14:32	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		85		70-135	%	10.21.19 14:32
o-Terphenyl	87		81		70-135	%	10.21.19 14:32

Analytical Method: BTEX by EPA 8021B

Seq Number: 3104977

MB Sample Id: 7688601-1-BLK

Matrix: Solid

LCS Sample Id: 7688601-1-BKS

Prep Method: SW5030B

Date Prep: 10.21.19

LCSD Sample Id: 7688601-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0975	98	0.0993	99	70-130	2	35	mg/kg	10.21.19 23:48	
Toluene	<0.00100	0.100	0.0935	94	0.0949	95	70-130	1	35	mg/kg	10.21.19 23:48	
Ethylbenzene	<0.00100	0.100	0.0955	96	0.0960	96	71-129	1	35	mg/kg	10.21.19 23:48	
m,p-Xylenes	<0.00200	0.200	0.190	95	0.191	96	70-135	1	35	mg/kg	10.21.19 23:48	
o-Xylene	<0.00100	0.100	0.0959	96	0.0981	98	71-133	2	35	mg/kg	10.21.19 23:48	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		104		105		70-130	%	10.21.19 23:48
4-Bromofluorobenzene	106		106		110		70-130	%	10.21.19 23:48

Analytical Method: BTEX by EPA 8021B

Seq Number: 3104977

Parent Sample Id: 640495-008

Matrix: Soil

MS Sample Id: 640495-008 S

Prep Method: SW5030B

Date Prep: 10.21.19

MSD Sample Id: 640495-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0799	80	0.0751	75	70-130	6	35	mg/kg	10.22.19 00:29	
Toluene	<0.00100	0.100	0.0754	75	0.0705	71	70-130	7	35	mg/kg	10.22.19 00:29	
Ethylbenzene	<0.00100	0.100	0.0783	78	0.0744	74	71-129	5	35	mg/kg	10.22.19 00:29	
m,p-Xylenes	<0.00200	0.200	0.155	78	0.147	74	70-135	5	35	mg/kg	10.22.19 00:29	
o-Xylene	<0.00100	0.100	0.0786	79	0.0742	74	71-133	6	35	mg/kg	10.22.19 00:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		102		70-130	%	10.22.19 00:29
4-Bromofluorobenzene	110		106		70-130	%	10.22.19 00:29

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

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

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

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



Chain of Custody

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

Work Order No: 1840492

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	lidelval@ltenv.com

Program: UST/PST	<input type="checkbox"/> PRP	<input type="checkbox"/> Brownfields	<input type="checkbox"/> RC	<input type="checkbox"/> Unperfund
State of Project:				
Reporting Level II	<input type="checkbox"/>	Level III	<input type="checkbox"/>	UST/UST
Deliverables: EDD	<input type="checkbox"/>	ADAPT	<input type="checkbox"/>	Other: <input type="checkbox"/>

Project Name:	Savens 31 Fed Cum 314	Turn Around	<input checked="" type="checkbox"/>
Project Number:	012918134	Routine	<input type="checkbox"/>
P.O. Number:		Rush:	<input type="checkbox"/>
Sampler's Name:	Benjamin Bejil - Luis DelVal	Due Date:	

SAMPLE RECEIPT	Temp Blank:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Well Ice:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Temperature (°C):	24.1	Thermometer ID				
Received Intact:	Yes	<input checked="" type="checkbox"/> No	Correction Factor:		-0.2	
Cooler Custody Seals:	Yes	<input checked="" type="checkbox"/> No	Total Containers:		2	
Sample Custody Seals:	Yes	<input checked="" type="checkbox"/> No				

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
55021A	S	10/17/19	1434	2'	1	X	X	X
55022A	S	10/17/19	1459	1	1	X	X	X
55034A	S	10/17/19	1612	1	1	X	X	X
55044A	S	10/17/19	1632	1	1	X	X	X
55054A	S	10/17/19	1350	1	1	X	X	X
55064A	S	10/17/19	1542	1	1	X	X	X

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 AI Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	10/21/19 08:15	<i>[Signature]</i>	<i>[Signature]</i>	10/21/19 09:10



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/21/2019 09:10:00 AM

Work Order #: 640497

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.4
#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?	Yes
#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)?	No
#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:

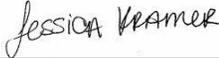
PH Device/Lot#:

Checklist completed by:


Elizabeth McClellan

Date: 10/21/2019

Checklist reviewed by:


Jessica Kramer

Date: 10/22/2019

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 188776

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 188776
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	2/21/2023