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	NCE2002750164
District RP	
Facility ID	
Application ID	

J4Q15-191126-C-1410

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.019604 Longitude -103.938731
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Ross Draw 25-36 Federal Com 103H	Site Type Well Location
Date Release Discovered 11/13/2019	API# *(if applicable)* 30-015-45595 (Ross Draw 25-36 Federal Com 103H)

Unit Letter	Section	Township	Range	County
C	25	26S	29E	EDDY

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls) 0.0	Volume Recovered (bbls) 0.0
☐ Produced Water	Volume Released (bbls) 0.0	Volume Recovered (bbls) 0.0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☒ Other (describe) Treated Water w/scale 10390A 0.01% ; Bioc 16779A(PAA) 0.005% ; Bioc 16952A 0.005%	Volume/Weight Released (provide units) 10 bbls	Volume/Weight Recovered (provide units) 5 bbls

Cause of Release: A 3 inch lateral "Y" line was cut open while pumping sand down hole. The lateral line released approximately 10 bbls of treated water partially into a lined containment. Approximately 5 bbls were recovered by onsite vacuum truck from containment.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NCE2002750164
District RP	
Facility ID	
Application ID	

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

Initial Response

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

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

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

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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 11/26/2019

email: Kyle_Littrell@xtoenergy.com Telephone:

OCD Only

Received by: Cristina Eads Date: 01/27/2020

State of New Mexico
Oil Conservation Division

Incident ID	NCE2002750164
District RP	
Facility ID	
Application ID	

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?	50-100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ 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)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ 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?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☒ Yes ☐ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ 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 ½-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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NCE2002750164
District RP	
Facility ID	
Application ID	

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: 06/23/2020

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NCE2002750164
District RP	
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: 06/23/2020

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:

Printed Name: Title:

A proud member of WSP

LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

June 23, 2020

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

RE: Closure Request
Ross Draw 25-36 Federal Com 103H
Incident Number NCE2002750164
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment and soil sampling activities at the Ross Draw 25-36 Federal Com 103H (Site) in Unit C, Section 25, Township 26 South, Range 29 East, in Eddy 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 to soil following the release of treated fresh water at the Site. Based on field observations, field screening, and laboratory analytical results from soil sampling activities, XTO is submitting this Closure Request and requesting no further action (NFA) for Incident Number NCE2002750164.

RELEASE BACKGROUND

On November 13, 2019 during drilling activities, a three-inch lateral line was cut open while pumping sand down hole, which caused approximately 10 barrels (bbls) of treated fresh water to be released. The release was partially contained within the temporary lined containment. A vacuum truck was dispatched to the Site to recover the free-standing fluids; approximately 5 bbls of released fluids were recovered from within the lined containment. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on November 26, 2019, and subsequently assigned Incident Number NCE2002750164.

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 between 50 and 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 320154103562301, located approximately 4,391 feet north of the Site. The groundwater well has

a reported depth to groundwater of 66 feet bgs, and the total depth is 200 feet bgs. Ground surface elevation at the groundwater well location is 2,985 feet above mean sea level (amsl), which is approximately 21 feet higher in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is an intermittent riverine, located approximately 933 feet south-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 potentially underlain by unstable geology (high potential karst designation area). The Site receptors are identified on Figure 1.

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
- Total petroleum hydrocarbons (TPH): 100 mg/kg
- Chloride: 600 mg/kg

SITE ASSESSMENT AND DELINEATION SOIL SAMPLING ACTIVITIES

On December 12, 2019, LTE personnel inspected the Site to evaluate the release extent based on information provided in the Form C-141 and visual observations. Hydraulic fracturing operations were in process at the well pad at the time of the inspection. The release extent was mapped utilizing a handheld Global Positing System (GPS) and is depicted on Figure 2. Further delineation and remediation efforts were postponed as ongoing hydraulic fracturing operations at the well pad near the release resulted in activity restrictions imposed due to safety concerns at the Site. Per 19.15.29.12.B.(1) NMAC, an extension for submission of a Remediation Plan or Closure Request was requested on February 10, 2020 and approved February 11, 2020, by the NMOCD District II office extending the deadline to June 30, 2020.

LTE personnel returned to the Site on May 4, 2020, once hydraulic fracturing operations were complete, to oversee site assessment activities as indicated by the documented release area, information provided on the Form C-141, and visual observations. Potholes were advanced via track mounted backhoe at four locations within the release extent. Potholes PH01 through PH04 were advanced to a depth of 2 feet bgs. Two delineation soil samples were collected from each pothole at depths of 1 foot and 2 feet bgs to assess for the presence or absence of impacted soil. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips,

respectively. The potholes and delineation soil sample locations are depicted on Figure 2. Photo documentation of the release was conducted, and a photographic log of the Site is included as Attachment 1. Field screening results and observations for each pothole were logged on lithologic/soil sampling logs, which are included in Attachment 2.

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 transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

ANALYTICAL RESULTS

Laboratory analytical results indicated benzene, BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria in soil samples PH01/PH01A through PH04/PH04A collected within the release extent from depths of 1 foot and 2 feet bgs. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical report is included as Attachment 3.

CONCLUSIONS

Delineation soil samples PH01/PH01A through PH04/PH04A were collected within the release extent from depths of 1 foot and 2 feet bgs, to assess for the presence or absence of soil impacts as a result of the November 13, 2019 fresh water release at the Site. Laboratory analytical results for the delineation soil samples indicated that benzene, BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria. Additionally, field screening of soil indicated volatile aromatic hydrocarbons and chloride concentrations were not elevated and soil staining and petroleum hydrocarbon odors were not identified within the release area.

Based on initial response efforts, absence of elevated field screening results, and soil sample laboratory analytical results compliant with the Closure Criteria, no impacted soil was identified, and no soil excavation was required as a result of the treated fresh water release. XTO requests no further action for this release event and requests closure of Incident Number NCE2002750164.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Carol Ann Whaley
Staff Geoscientist

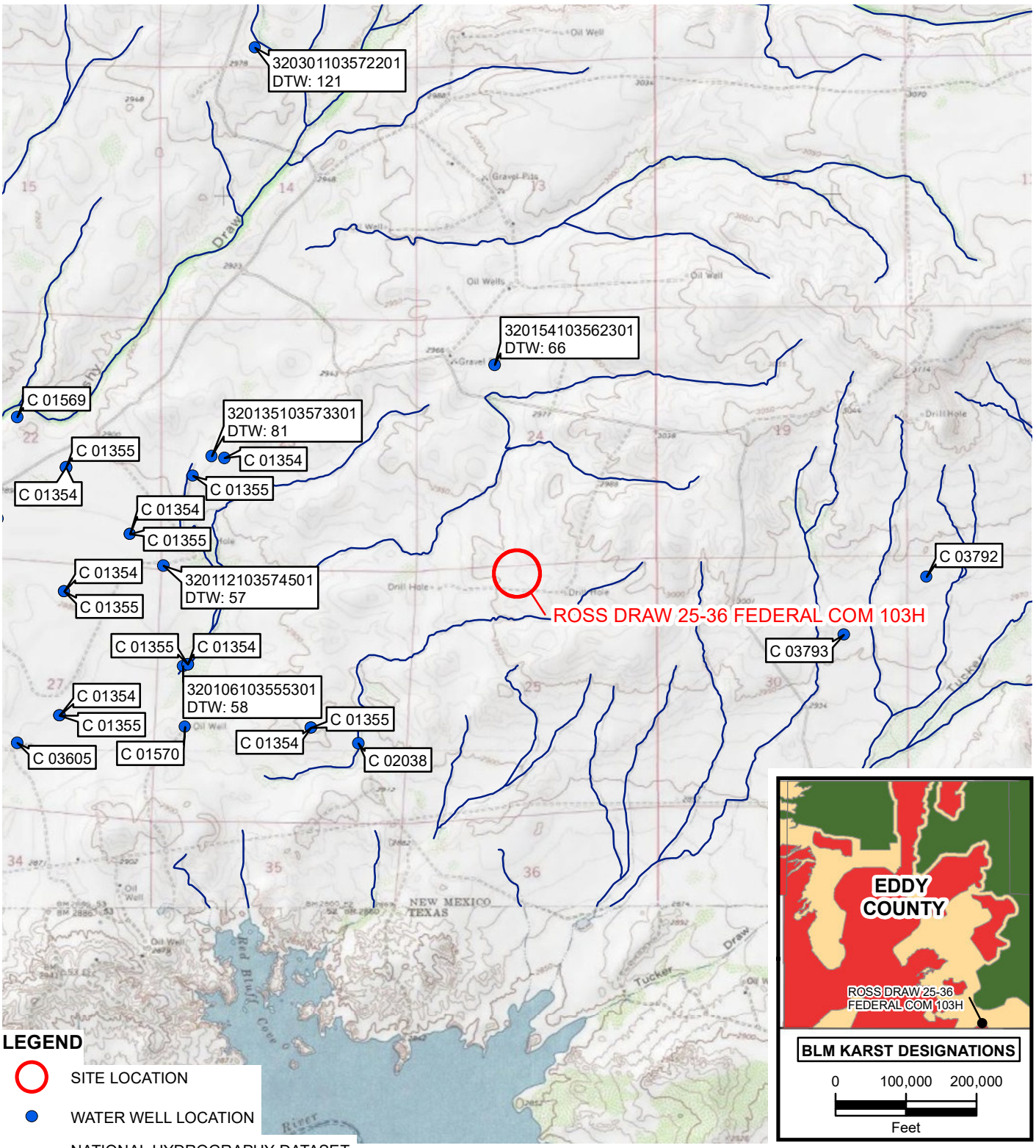
Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
U.S. Bureau of Land Management – New Mexico
Robert Hamlet, NMOCD
Cristina Eads, NMOCD
Victoria Venegas, NMOCD

Appendices:

Figure 1	Site Location Map
Figure 2	Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Photographic Logs
Attachment 2	Lithologic/Soil Sampling Logs
Attachment 3	Laboratory Analytical Reports

FIGURES



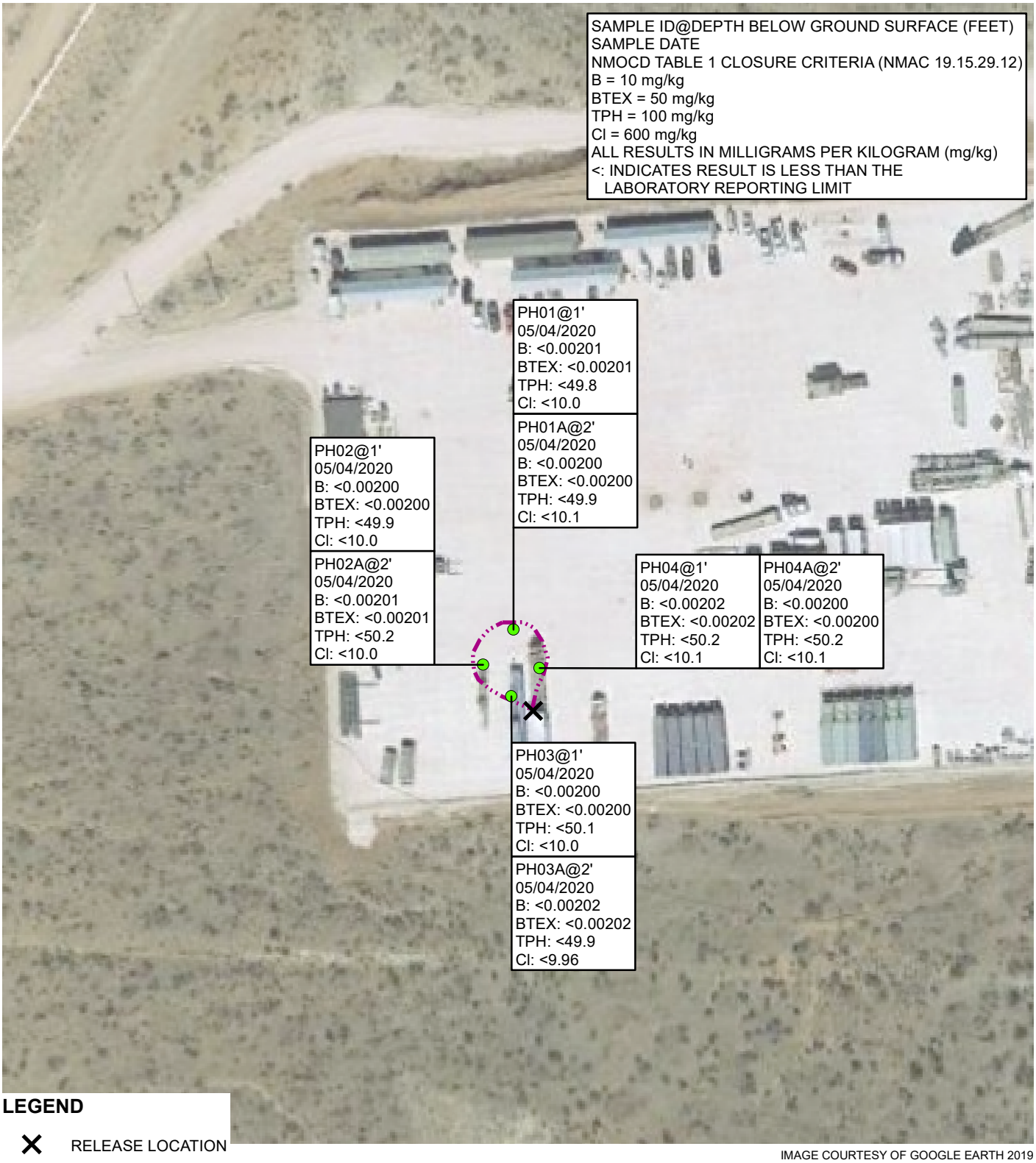
LEGEND

- SITE LOCATION
- WATER WELL LOCATION
- NATIONAL HYDROGRAPHY DATASET SURFACE WATER FEATURE
- NATIONAL WETLANDS INVENTORY SURFACE WATER FEATURE
- LOW KARST
- MEDIUM KARST
- HIGH KARST

NOTE: INCIDENT NUMBER NCE2002750164
DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT

FIGURE 1
SITE LOCATION MAP
ROSS DRAW 25-36 FEDERAL COM 103H
UNIT C SEC 25 T26S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919288_ROSS DRAW 25-36 FEDERAL COM 103H\012919288_FIG01_SL_RECEPTOR_2020.mxd



LEGEND

- RELEASE LOCATION
- SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- RELEASE EXTENT

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: INCIDENT NUMBER NCE2002750164

IMAGE COURTESY OF GOOGLE EARTH 2019

0 100 200
Feet

N

FIGURE 2
SOIL SAMPLE LOCATIONS
ROSS DRAW 25-36 FEDERAL COM 103H
UNIT C SEC 25 T26S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919288_ROSS DRAW 25-36 FEDERAL COM 103H\012919288_FIG02_SS_LOC_2019.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

ROSS DRAW 25-36 FEDERAL COM 103H
INCIDENT NUMBER NCE2002750164
EDDY 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)
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	NE	**100**	**600**
PH01	1	05/04/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	<10.0
PH01A	2	05/04/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	<10.1
PH02	1	05/04/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	<10.0
PH02A	2	05/04/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	<10.0
PH03	1	05/04/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	<10.0
PH03A	2	05/04/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	<9.96
PH04	1	05/04/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	<10.1
PH04A	2	05/04/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	<10.1

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

NMOCD - 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

A proud member of WSP

ATTACHMENT 1: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

View of PH01 during site assessment activities.

View of PH02 during site assessment activities.

ATTACHMENT 2: LITHOLOGIC/SOIL SAMPLING LOGS

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: PH01	Date: 05/04/2020
Site Name: Ross Draw 25-36 Fed Com 103H	
RP or Incident Number: NCE2002750164	
LTE Job Number: 012919288	
Logged By: Robert M	Method: trackhoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: 4'	Total Depth: 2'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D	420 <121 RW	1.5	N		0.5'	0	S	CHCE white tan no odor
M	<121	7.0	N	PH01	1'	1	S	SP-SM small round grain Brown no odor
M	<124	3.6	N	PH01A	2'	2	S	
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

RM

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: PH02	Date: 05/04/2020
Site Name: Ross Draw 25-36 Fed Com 103H	
RP or Incident Number: NCE2002750164	
LTE Job Number: 012919288	
Logged By: Robert M	Method: Track Hoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: 4'	Total Depth: 2'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D	240	0.2	N		0.5'	0	S	CHCE white tan no odor
M	<124	1.6	N	PH02	1'	1	S	SP-SM small round grain no odor Brown
M	<124	1.2	N	PH02A	2'	2	S	
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: PH03	Date: 05/04/2020
Site Name: Ross Draw 25-36 Fed Com 103H	
RP or Incident Number: NCE200750164	
LTE Job Number: 012919288	
Logged By: Robert M	Method: Trackhoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: 4'	Total Depth: 2'

Comments:

LITHOLOGIC / SOIL SAMPLING LOG

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D	320	0.3	N		0.5'	0	S	CHCE white/tan no odor
M	<124	0.6	N	PH03	1'	1	S	SP-SM small round grain Brown no odor
M	<124	0.4	N	PH03A	2'	2	S	
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: PH04	Date: 05/04/2020
Site Name: Ross Draw 25-36 Fed Com 103H	
RP or Incident Number: NCE200750164	
LTE Job Number: 012919288	
Logged By: Robert M	Method: Trackhoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: 4'	Total Depth: 2'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D		0.3	N		0.5'	0	S	CHCE white/tan no odor
M	<124	0.5	N	PH04	1'	1	S	SP-SM small round grain Brown no odor
M	<124	0.2	N	PH04A	2'	2	S	
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

BSM

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS

Analytical Report 660566

for

LT Environmental, Inc.

Project Manager: Dan Moir

Ross Draw 25-36 Fed Com 103H

012919288

05.07.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
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)

05.07.2020

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

Reference: XENCO Report No(s): **660566**
Ross Draw 25-36 Fed Com 103H
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) 660566. 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. 660566 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

Sample Cross Reference 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	05.04.2020 11:20	1 ft	660566-001
PH01A	S	05.04.2020 11:22	2 ft	660566-002
PH02	S	05.04.2020 11:45	1 ft	660566-003
PH02A	S	05.04.2020 11:47	2 ft	660566-004
PH03	S	05.04.2020 12:05	1 ft	660566-005
PH03A	S	05.04.2020 12:08	2 ft	660566-006
PH04	S	05.04.2020 12:22	1 ft	660566-007
PH04A	S	05.04.2020 12:25	2 ft	660566-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Ross Draw 25-36 Fed Com 103H

Project ID:	*012919288*	Report Date:	*05.07.2020*
Work Order Number(s):	*660566*	Date Received:	*05.05.2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 660566

LT Environmental, Inc., Arvada, CO

Project Name: Ross Draw 25-36 Fed Com 103H

Project Id: 012919288
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue 05.05.2020 09:33
Report Date: 05.07.2020 11:40
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	660566-001		660566-002		660566-003		660566-004		660566-005		660566-006	
	Field Id:	PH01		PH01A		PH02		PH02A		PH03		PH03A	
	Depth:	1- ft		2- ft		1- ft		2- ft		1- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	05.04.2020 11:20		05.04.2020 11:22		05.04.2020 11:45		05.04.2020 11:47		05.04.2020 12:05		05.04.2020 12:08	
BTEX by EPA 8021B	***Extracted:***	05.05.2020 20:00		05.05.2020 20:00		05.05.2020 20:00		05.06.2020 14:00		05.05.2020 20:00		05.05.2020 20:00	
	Analyzed:	05.06.2020 09:53		05.06.2020 10:14		05.06.2020 10:36		05.06.2020 15:59		05.06.2020 10:57		05.06.2020 11:19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202
Toluene		<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202
Ethylbenzene		<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202
m,p-Xylenes		<0.00402	0.00402	<0.00399	0.00399	<0.00399	0.00399	<0.00402	0.00402	<0.00400	0.00400	<0.00403	0.00403
o-Xylene		<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202
Total Xylenes		<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202
Total BTEX		<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202
Chloride by EPA 300	***Extracted:***	05.05.2020 10:09		05.05.2020 10:09		05.05.2020 10:09		05.05.2020 10:09		05.05.2020 15:13		05.05.2020 15:13	
	Analyzed:	05.05.2020 15:17		05.05.2020 15:24		05.05.2020 15:30		05.05.2020 15:37		05.05.2020 16:29		05.05.2020 16:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<10.0	10.0	<10.1	10.1	<10.0	10.0	<10.0	10.0	<10.0	10.0	<9.96	9.96
TPH by SW8015 Mod	***Extracted:***	05.05.2020 17:30		05.05.2020 17:30		05.05.2020 17:30		05.05.2020 17:30		05.05.2020 17:30		05.05.2020 17:30	
	Analyzed:	05.06.2020 11:58		05.06.2020 12:19		05.06.2020 12:39		05.06.2020 12:59		05.06.2020 13:20		05.06.2020 13:40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<49.9	49.9	<49.9	49.9	<50.2	50.2	<50.1	50.1	<49.9	49.9
Diesel Range Organics (DRO)		<49.8	49.8	<49.9	49.9	<49.9	49.9	<50.2	50.2	<50.1	50.1	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<49.9	49.9	<49.9	49.9	<50.2	50.2	<50.1	50.1	<49.9	49.9
Total GRO-DRO		<49.8	49.8	<49.9	49.9	<49.9	49.9	<50.2	50.2	<50.1	50.1	<49.9	49.9
Total TPH		<49.8	49.8	<49.9	49.9	<49.9	49.9	<50.2	50.2	<50.1	50.1	<49.9	49.9

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

Jessica Kramer
Project Manager

Certificate of Analysis Summary 660566

LT Environmental, Inc., Arvada, CO

Project Name: Ross Draw 25-36 Fed Com 103H

Project Id: 012919288
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue 05.05.2020 09:33
Report Date: 05.07.2020 11:40
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	660566-007		660566-008					
	Field Id:	PH04		PH04A					
	Depth:	1- ft		2- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	05.04.2020 12:22		05.04.2020 12:25					
BTEX by EPA 8021B	***Extracted:***	05.05.2020 20:00		05.06.2020 14:00					
	Analyzed:	05.06.2020 11:40		05.06.2020 18:07					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00202	0.00202	<0.00200	0.00200				
Toluene		<0.00202	0.00202	<0.00200	0.00200				
Ethylbenzene		<0.00202	0.00202	<0.00200	0.00200				
m,p-Xylenes		<0.00405	0.00405	<0.00399	0.00399				
o-Xylene		<0.00202	0.00202	<0.00200	0.00200				
Total Xylenes		<0.00202	0.00202	<0.00200	0.00200				
Total BTEX		<0.00202	0.00202	<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	05.05.2020 15:13		05.05.2020 15:13					
	Analyzed:	05.05.2020 16:56		05.05.2020 17:02					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		<10.1	10.1	<10.1	10.1				
TPH by SW8015 Mod	***Extracted:***	05.05.2020 17:30		05.05.2020 17:00					
	Analyzed:	05.06.2020 14:01		05.05.2020 19:42					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<50.2	50.2				
Diesel Range Organics (DRO)		<50.2	50.2	<50.2	50.2				
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<50.2	50.2				
Total GRO-DRO		<50.2	50.2	<50.2	50.2				
Total TPH		<50.2	50.2	<50.2	50.2				

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

Jessica Kramer
Project Manager

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-001	Date Collected:	05.04.2020 11:20	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 10:09	Basis:	Wet Weight
Seq Number:	3125106				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	05.05.2020 15:17	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	05.05.2020 17:30	Basis:	Wet Weight
Seq Number:	3125221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.06.2020 11:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.06.2020 11:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.06.2020 11:58	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.06.2020 11:58	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.06.2020 11:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	05.06.2020 11:58	
o-Terphenyl	84-15-1	86	%	70-135	05.06.2020 11:58	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-001	Date Collected:	05.04.2020 11:20	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 20:00	Basis:	Wet Weight
Seq Number:	3125198				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.06.2020 09:53	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.06.2020 09:53	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.06.2020 09:53	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.06.2020 09:53	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.06.2020 09:53	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.06.2020 09:53	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.06.2020 09:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.06.2020 09:53	
4-Bromofluorobenzene	460-00-4	107	%	70-130	05.06.2020 09:53	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-002	Date Collected:	05.04.2020 11:22	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 10:09	Basis:	Wet Weight
Seq Number:	3125106				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	05.05.2020 15:24	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	05.05.2020 17:30	Basis:	Wet Weight
Seq Number:	3125221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.06.2020 12:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.06.2020 12:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.06.2020 12:19	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.06.2020 12:19	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.06.2020 12:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	05.06.2020 12:19	
o-Terphenyl	84-15-1	85	%	70-135	05.06.2020 12:19	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-002	Date Collected:	05.04.2020 11:22	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 20:00	Basis:	Wet Weight
Seq Number:	3125198				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.06.2020 10:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.06.2020 10:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.06.2020 10:14	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.06.2020 10:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.06.2020 10:14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.06.2020 10:14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.06.2020 10:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	05.06.2020 10:14	
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.06.2020 10:14	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-003	Date Collected:	05.04.2020 11:45	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 10:09	Basis:	Wet Weight
Seq Number:	3125106				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	05.05.2020 15:30	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	05.05.2020 17:30	Basis:	Wet Weight
Seq Number:	3125221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.06.2020 12:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.06.2020 12:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.06.2020 12:39	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.06.2020 12:39	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.06.2020 12:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	05.06.2020 12:39	
o-Terphenyl	84-15-1	84	%	70-135	05.06.2020 12:39	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-003	Date Collected:	05.04.2020 11:45	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 20:00	Basis:	Wet Weight
Seq Number:	3125198				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.06.2020 10:36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.06.2020 10:36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.06.2020 10:36	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.06.2020 10:36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.06.2020 10:36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.06.2020 10:36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.06.2020 10:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	05.06.2020 10:36	
1,4-Difluorobenzene	540-36-3	115	%	70-130	05.06.2020 10:36	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-004	Date Collected:	05.04.2020 11:47	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 10:09	Basis:	Wet Weight
Seq Number:	3125106				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	05.05.2020 15:37	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	05.05.2020 17:30	Basis:	Wet Weight
Seq Number:	3125221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.06.2020 12:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.06.2020 12:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.06.2020 12:59	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.06.2020 12:59	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.06.2020 12:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	05.06.2020 12:59	
o-Terphenyl	84-15-1	84	%	70-135	05.06.2020 12:59	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-004	Date Collected:	05.04.2020 11:47	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.06.2020 14:00	Basis:	Wet Weight
Seq Number:	3125244				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.06.2020 15:59	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.06.2020 15:59	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.06.2020 15:59	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.06.2020 15:59	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.06.2020 15:59	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.06.2020 15:59	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.06.2020 15:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.06.2020 15:59	
1,4-Difluorobenzene	540-36-3	113	%	70-130	05.06.2020 15:59	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-005	Date Collected:	05.04.2020 12:05	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 15:13	Basis:	Wet Weight
Seq Number:	3125108				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	05.05.2020 16:29	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	05.05.2020 17:30	Basis:	Wet Weight
Seq Number:	3125221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.06.2020 13:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.06.2020 13:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.06.2020 13:20	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.06.2020 13:20	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.06.2020 13:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	05.06.2020 13:20	
o-Terphenyl	84-15-1	98	%	70-135	05.06.2020 13:20	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-005	Date Collected:	05.04.2020 12:05	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 20:00	Basis:	Wet Weight
Seq Number:	3125198				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.06.2020 10:57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.06.2020 10:57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.06.2020 10:57	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.06.2020 10:57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.06.2020 10:57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.06.2020 10:57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.06.2020 10:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.06.2020 10:57	
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.06.2020 10:57	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-006	Date Collected:	05.04.2020 12:08	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 15:13	Basis:	Wet Weight
Seq Number:	3125108				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	05.05.2020 16:49	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	05.05.2020 17:30	Basis:	Wet Weight
Seq Number:	3125221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.06.2020 13:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.06.2020 13:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.06.2020 13:40	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.06.2020 13:40	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.06.2020 13:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	05.06.2020 13:40	
o-Terphenyl	84-15-1	85	%	70-135	05.06.2020 13:40	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-006	Date Collected:	05.04.2020 12:08	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 20:00	Basis:	Wet Weight
Seq Number:	3125198				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.06.2020 11:19	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.06.2020 11:19	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.06.2020 11:19	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.06.2020 11:19	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.06.2020 11:19	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.06.2020 11:19	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.06.2020 11:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	05.06.2020 11:19	
4-Bromofluorobenzene	460-00-4	107	%	70-130	05.06.2020 11:19	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-007	Date Collected:	05.04.2020 12:22	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 15:13	Basis:	Wet Weight
Seq Number:	3125108				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	05.05.2020 16:56	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	05.05.2020 17:30	Basis:	Wet Weight
Seq Number:	3125221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.06.2020 14:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.06.2020 14:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.06.2020 14:01	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.06.2020 14:01	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.06.2020 14:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	05.06.2020 14:01	
o-Terphenyl	84-15-1	87	%	70-135	05.06.2020 14:01	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-007	Date Collected:	05.04.2020 12:22	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 20:00	Basis:	Wet Weight
Seq Number:	3125198				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.06.2020 11:40	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.06.2020 11:40	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.06.2020 11:40	U	1
m,p-Xylenes	179601-23-1	<0.00405	0.00405	mg/kg	05.06.2020 11:40	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.06.2020 11:40	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.06.2020 11:40	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.06.2020 11:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.06.2020 11:40	
1,4-Difluorobenzene	540-36-3	113	%	70-130	05.06.2020 11:40	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-008	Date Collected:	05.04.2020 12:25	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.05.2020 15:13	Basis:	Wet Weight
Seq Number:	3125108				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	05.05.2020 17:02	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	05.05.2020 17:00	Basis:	Wet Weight
Seq Number:	3125163				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.05.2020 19:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.05.2020 19:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.05.2020 19:42	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.05.2020 19:42	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.05.2020 19:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	05.05.2020 19:42	
o-Terphenyl	84-15-1	127	%	70-135	05.05.2020 19:42	

Certificate of Analytical Results 660566

LT Environmental, Inc., Arvada, CO

Ross Draw 25-36 Fed Com 103H

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	05.05.2020 09:33
Lab Sample Id:	660566-008	Date Collected:	05.04.2020 12:25	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.06.2020 14:00	Basis:	Wet Weight
Seq Number:	3125244				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.06.2020 18:07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.06.2020 18:07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.06.2020 18:07	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.06.2020 18:07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.06.2020 18:07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.06.2020 18:07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.06.2020 18:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.06.2020 18:07	
4-Bromofluorobenzene	460-00-4	107	%	70-130	05.06.2020 18:07	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 660566

LT Environmental, Inc.

Ross Draw 25-36 Fed Com 103H

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125106 — Matrix: Solid — Date Prep: 05.05.2020
MB Sample Id: 7702708-1-BLK — LCS Sample Id: 7702708-1-BKS — LCSD Sample Id: 7702708-1-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	251	100	250	100	90-110	0	20	mg/kg	05.05.2020 12:15	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125108 — Matrix: Solid — Date Prep: 05.05.2020
MB Sample Id: 7702710-1-BLK — LCS Sample Id: 7702710-1-BKS — LCSD Sample Id: 7702710-1-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	251	100	250	100	90-110	0	20	mg/kg	05.05.2020 16:16	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125106 — Matrix: Solid — Date Prep: 05.05.2020
Parent Sample Id: 660561-001 — MS Sample Id: 660561-001 S — MSD Sample Id: 660561-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	70.9	199	259	95	257	94	90-110	1	20	mg/kg	05.05.2020 12:33	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125106 — Matrix: Solid — Date Prep: 05.05.2020
Parent Sample Id: 660561-011 — MS Sample Id: 660561-011 S — MSD Sample Id: 660561-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	141	200	331	95	326	93	90-110	2	20	mg/kg	05.05.2020 14:18	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125108 — Matrix: Soil — Date Prep: 05.05.2020
Parent Sample Id: 660566-005 — MS Sample Id: 660566-005 S — MSD Sample Id: 660566-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	200	193	97	193	97	90-110	0	20	mg/kg	05.05.2020 16:36	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125108 — Matrix: Soil — Date Prep: 05.05.2020
Parent Sample Id: 660675-003 — MS Sample Id: 660675-003 S — MSD Sample Id: 660675-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	19.4	199	205	93	205	93	90-110	0	20	mg/kg	05.05.2020 18:00	

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

QC Summary 660566

LT Environmental, Inc.

Ross Draw 25-36 Fed Com 103H

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3125163 — Matrix: Solid — Date Prep: 05.05.2020
MB Sample Id: 7702792-1-BLK — LCS Sample Id: 7702792-1-BKS — LCSD Sample Id: 7702792-1-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	942	94	891	89	70-135	6	35	mg/kg	05.05.2020 19:01	
Diesel Range Organics (DRO)	<50.0	1000	1070	107	1000	100	70-135	7	35	mg/kg	05.05.2020 19:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		120		128		70-135	%	05.05.2020 19:01
o-Terphenyl	133		120		113		70-135	%	05.05.2020 19:01

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3125221 — Matrix: Solid — Date Prep: 05.05.2020
MB Sample Id: 7702804-1-BLK — LCS Sample Id: 7702804-1-BKS — LCSD Sample Id: 7702804-1-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	912	91	875	88	70-135	4	35	mg/kg	05.06.2020 04:12	
Diesel Range Organics (DRO)	<50.0	1000	939	94	887	89	70-135	6	35	mg/kg	05.06.2020 04:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	85		97		104		70-135	%	05.06.2020 04:12
o-Terphenyl	82		85		81		70-135	%	05.06.2020 04:12

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3125163 — Matrix: Solid — Date Prep: 05.05.2020
MB Sample Id: 7702792-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.05.2020 18:41	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3125221 — Matrix: Solid — Date Prep: 05.05.2020
MB Sample Id: 7702804-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.06.2020 03:52	

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

QC Summary 660566

LT Environmental, Inc.

Ross Draw 25-36 Fed Com 103H

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3125163 Matrix: Soil Date Prep: 05.05.2020
Parent Sample Id: 660566-008 MS Sample Id: 660566-008 S MSD Sample Id: 660566-008 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)	<49.9	997	1120	112	1090	109	70-135	3	35	mg/kg	05.05.2020 20:02	
Diesel Range Organics (DRO)	<49.9	997	1200	120	1120	112	70-135	7	35	mg/kg	05.05.2020 20:02	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	131		126		70-135	%	05.05.2020 20:02
o-Terphenyl	133		129		70-135	%	05.05.2020 20:02

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3125221 Matrix: Solid Date Prep: 05.05.2020
Parent Sample Id: 660561-001 MS Sample Id: 660561-001 S MSD Sample Id: 660561-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	1150	114	1120	112	70-135	3	35	mg/kg	05.06.2020 05:14	
Diesel Range Organics (DRO)	<50.3	1010	1110	110	1200	120	70-135	8	35	mg/kg	05.06.2020 05:14	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		114		70-135	%	05.06.2020 05:14
o-Terphenyl	104		102		70-135	%	05.06.2020 05:14

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3125198 Matrix: Solid Date Prep: 05.05.2020
MB Sample Id: 7702756-1-BLK LCS Sample Id: 7702756-1-BKS LCSD Sample Id: 7702756-1-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	0.113	113	0.107	107	70-130	5	35	mg/kg	05.06.2020 01:53	
Toluene	<0.00200	0.100	0.101	101	0.0945	95	70-130	7	35	mg/kg	05.06.2020 01:53	
Ethylbenzene	<0.00200	0.100	0.0937	94	0.0860	86	71-129	9	35	mg/kg	05.06.2020 01:53	
m,p-Xylenes	<0.00400	0.200	0.180	90	0.164	82	70-135	9	35	mg/kg	05.06.2020 01:53	
o-Xylene	<0.00200	0.100	0.0943	94	0.0878	88	71-133	7	35	mg/kg	05.06.2020 01:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	116		109		109		70-130	%	05.06.2020 01:53
4-Bromofluorobenzene	105		99		98		70-130	%	05.06.2020 01:53

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
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

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

QC Summary 660566

LT Environmental, Inc.

Ross Draw 25-36 Fed Com 103H

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3125244 — Matrix: Solid — Date Prep: 05.06.2020
MB Sample Id: 7702855-1-BLK — LCS Sample Id: 7702855-1-BKS — LCSD Sample Id: 7702855-1-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	0.122	122	70-130	2	35	mg/kg	05.06.2020 14:12	
Toluene	<0.00200	0.100	0.110	110	0.112	112	70-130	2	35	mg/kg	05.06.2020 14:12	
Ethylbenzene	<0.00200	0.100	0.104	104	0.107	107	71-129	3	35	mg/kg	05.06.2020 14:12	
m,p-Xylenes	<0.00400	0.200	0.203	102	0.208	104	70-135	2	35	mg/kg	05.06.2020 14:12	
o-Xylene	<0.00200	0.100	0.102	102	0.105	105	71-133	3	35	mg/kg	05.06.2020 14:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	115		107		108		70-130	%	05.06.2020 14:12
4-Bromofluorobenzene	106		100		99		70-130	%	05.06.2020 14:12

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3125198 — Matrix: Solid — Date Prep: 05.05.2020
Parent Sample Id: 660561-001 — MS Sample Id: 660561-001 S — MSD Sample Id: 660561-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.127	128	0.129	128	70-130	2	35	mg/kg	05.06.2020 02:35	
Toluene	<0.00199	0.0996	0.128	129	0.124	123	70-130	3	35	mg/kg	05.06.2020 02:35	
Ethylbenzene	<0.00199	0.0996	0.128	129	0.119	118	71-129	7	35	mg/kg	05.06.2020 02:35	
m,p-Xylenes	<0.00398	0.199	0.246	124	0.258	128	70-135	5	35	mg/kg	05.06.2020 02:35	
o-Xylene	<0.00199	0.0996	0.128	129	0.133	132	71-133	4	35	mg/kg	05.06.2020 02:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		108		70-130	%	05.06.2020 02:35
4-Bromofluorobenzene	102		101		70-130	%	05.06.2020 02:35

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3125244 — Matrix: Soil — Date Prep: 05.06.2020
Parent Sample Id: 660566-004 — MS Sample Id: 660566-004 S — MSD Sample Id: 660566-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.120	121	0.125	124	70-130	4	35	mg/kg	05.06.2020 14:54	
Toluene	<0.00198	0.0992	0.117	118	0.112	111	70-130	4	35	mg/kg	05.06.2020 14:54	
Ethylbenzene	<0.00198	0.0992	0.109	110	0.101	100	71-129	8	35	mg/kg	05.06.2020 14:54	
m,p-Xylenes	<0.00397	0.198	0.211	107	0.195	97	70-135	8	35	mg/kg	05.06.2020 14:54	
o-Xylene	<0.00198	0.0992	0.107	108	0.0990	98	71-133	8	35	mg/kg	05.06.2020 14:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		108		70-130	%	05.06.2020 14:54
4-Bromofluorobenzene	102		101		70-130	%	05.06.2020 14:54

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

XENCO LABORATORIES

Chain of Custody

Work Order No: 660566

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)

www.xenco.com Page 1 of 1

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 St. Bldg 1, Unit 222	Address:	3104 E Greene St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM
Phone:	(432) 701-2610	Email:	dmoir@ltenv.com rmcafee@ltenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project: NM
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Ross Draw 25-36 Fed Com 103H	Turn Around	
Project Number:	~~12919288~~ 012919288	Routine	x
P.O. Number:		Rush:	
Sampler's Name:	Robert McAfee	Due Date:	

SAMPLE RECEIPT

Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.6	Thermometer ID	T-NM-007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	8

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
PH01	s	5/4/2020	11:20	1'	1	x	x	x	discrete
PH01A	s	5/4/2020	11:22	2'	1	x	x	x	discrete
PH02	s	5/4/2020	11:45	1'	1	x	x	x	discrete
PH02A	s	5/4/2020	11:47	2'	1	x	x	x	discrete
PH03	s	5/4/2020	12:05	1'	1	x	x	x	discrete
PH03A	s	5/4/2020	12:08	2'	1	x	x	x	discrete
PH04	s	5/4/2020	12:22	1'	1	x	x	x	discrete
PH04A	s	5/4/2020	12:25	2'	1	x	x	x	discrete

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl 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 Tl 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
1 Robert McAfee	[signature]	5/5/2020 0855	2 [signature]	[signature]	5/6/20 0933
3			4		
5			6		

Revised Date 051418 Rev. 2018.1