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

December 10, 2019

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

RE: Closure Request
North Brushy Draw Federal 35 #009H
Remediation Permit Number 2RP-5648
Eddy County, New Mexico

Dear Mr. Bratcher,

LT Environmental, Inc. (LTE), on behalf of WPX Energy Permian, Inc. (WPX), presents the following Closure Request detailing soil sampling and excavation activities at the North Brushy Draw Federal 35 #009H (Site) in Unit A, Section 35, Township 23 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of the soil sampling and excavation activities was to address impacts to soil following a produced water release at the Site. Based on the excavation activities and results of the soil sampling events, WPX is submitting this Closure Request, describing remediation that has occurred and requesting no further action for this release event.

RELEASE BACKGROUND

On September 12, 2019, a produced water transfer line failed allowing 6 barrels (bbls) of produced water to be released to the Site surface. No fluids were recovered. The spill volume was calculated by averaging the saturated soil depth and estimating the percentage of liquids based on soil type. Any free liquids were added to the total volume. The average saturation depth of the soil was observed to be equal to or less than 1 inch and no free liquids were present. The soil type was determined to be sand, which was estimated to have an available space (i.e. porosity) of 40 percent (%) total volume. Based on these assumptions, the following equation was used to calculate total volume:

saturated soil volume (cubic feet) x (4.21 cubic feet per bbl of liquid) x estimated soil porosity (%).

WPX 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 September 16, 2019, and was assigned Remediation Permit (RP) Number 2RP-5648 (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 320719103584601, located approximately 2.75 miles north of the Site. The

water well has a depth to groundwater of 165 feet and a total depth of 200 feet bgs. Ground surface elevation at the water well location is 3,042 feet above mean sea level (AMSL), which is approximately 10 feet higher in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is a tributary to the Pecos River located approximately 120 feet south 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. The Site is less than 300 feet from a wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is within a 100-year floodplain or overlying a subsurface mine. The Site is located in a high potential karst area. Based on these criteria, the following NMOCD Table 1 closure criteria apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 100 mg/kg total petroleum hydrocarbons (TPH); and 600 mg/kg chloride.

SITE ASSESSMENT, DELINEATION, AND EXCAVATION SOIL SAMPLING ACTIVITIES

On September 12, 2019, LTE personnel inspected the Site to evaluate the release extent. LTE personnel collected one preliminary soil sample (SS01) within the release extent at a depth of approximately 0.5 feet bgs to assess the soil impacts. The release extent and preliminary soil sample location were mapped utilizing a handheld Global Positing System (GPS) unit and are depicted on Figure 2. The preliminary soil sample was placed directly into a pre-cleaned glass jar, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil sample was 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 chloride following United States Environmental Protection Agency (USEPA) Method 300.0. Laboratory analytical results indicated chloride in the preliminary soil sample was not in compliance with the Closure Criteria. Photographic documentation was conducted during the Site visit. Photographs are included in Attachment 2.

On September 17, 2019, LTE was on site to conduct delineation activities within the release area. One pothole (PH01) was advanced to a depth of 5.5 feet bgs. Soil samples were field screened for volatile aromatic hydrocarbons using a photo-ionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Soil samples were collected at 3.5 feet bgs and 5.5 feet bgs. The soil samples were handled as previously described and shipped at or below 4 degrees °C under strict COC procedures to Xenco in Midland, Texas, for analysis of BTEX following USEPA Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0. Laboratory analytical results of soil samples collected from the pothole and SS01 indicated excavation of the release area was warranted due to elevated chloride concentrations. The pothole location is depicted on Figure 2.

On September 26, 2019, LTE was on site to oversee excavation activities within the release area. Excavation activities were directed by field screening soil samples for volatile aromatic hydrocarbons using a PID and chloride using Hach® chloride QuanTab® test strips. Following completion of excavation activities, 5-point composite confirmation soil samples were collected from the floor (samples labeled as “FS”) and sidewalls (samples labeled as “SW”) of the excavation area. Each soil sample represented at most 200 square feet. Soil samples were handled and analyzed as previously described. Laboratory analytical results indicated that additional excavation was warranted to address residual chloride impacts to soil in the area of excavation floor sample FS02.

On October 18, 2019, LTE returned to the Site after additional excavation activities in the area of soil sample FS02. The excavation had been advanced to 5 feet bgs and one 5-point composite confirmation soil sample (FS02A) was collected from the floor the excavation area. The soil sample was handled and analyzed as previously described. Approximately 100 cubic yards of impacted soil were removed from the excavation area and transported to the R360 Red Bluff Facility in Orla, Texas for disposal. The excavation area measured approximately 700 square feet in area and 4 to 5 feet bgs in depth. The excavation area and soil sample locations are depicted on Figure 3.

ANALYTICAL RESULTS

Laboratory analytical results indicated chloride concentrations in preliminary soil sample SS01 were greater than the Closure Criteria of 600 mg/kg with a concentration of 5,930 mg/kg. Laboratory analytical results of the pothole soil samples indicated BTEX and TPH concentrations were below the laboratory detection limits. Chloride concentrations within the pothole ranged from 480 mg/kg in soil sample PH01 collected at 5.5 feet bgs to 1,220 mg/kg in soil sample PH01A collected at 3.5 feet bgs.

Impacted soil was excavated as indicated by laboratory analytical results. Following excavation of impacted soil, confirmation soil samples were collected from the sidewalls and floor of the excavation. Laboratory analytical results of final excavation conformation soil samples indicated that BTEX, TPH, and chloride concentrations were either below the laboratory detection limit or compliant with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

A total of approximately 100 cubic yards of impacted soil were excavated from the Site. Laboratory analytical results of final excavation conformation soil samples indicated that BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria and no further excavation was warranted.

Initial response efforts and excavation of impacted soil have mitigated chloride impacts at this Site. WPX requests no further action for release number 2RP-5648. Upon approval of this closure request, WPX will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. An updated NMOCD Form C-141 is included as Attachment 1.

If you have any questions or comments, please do not hesitate to contact Mr. Chris McKisson at (970) 285-9985.

Sincerely,

LT ENVIRONMENTAL, INC.

Chris McKisson
Project Environmental Scientist

Ashley L. Ager, P.G.
Senior Geologist

cc: Jim Raley, WPX
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD
Bureau of Land Management

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary and Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Analytical Reports
Attachment 1	Initial/Final NMOCD Form C-141
Attachment 2	Photographic Log
Attachment 3	Lithologic / Soil Sample Logs
Attachment 4	Laboratory Analytical Reports

FIGURES

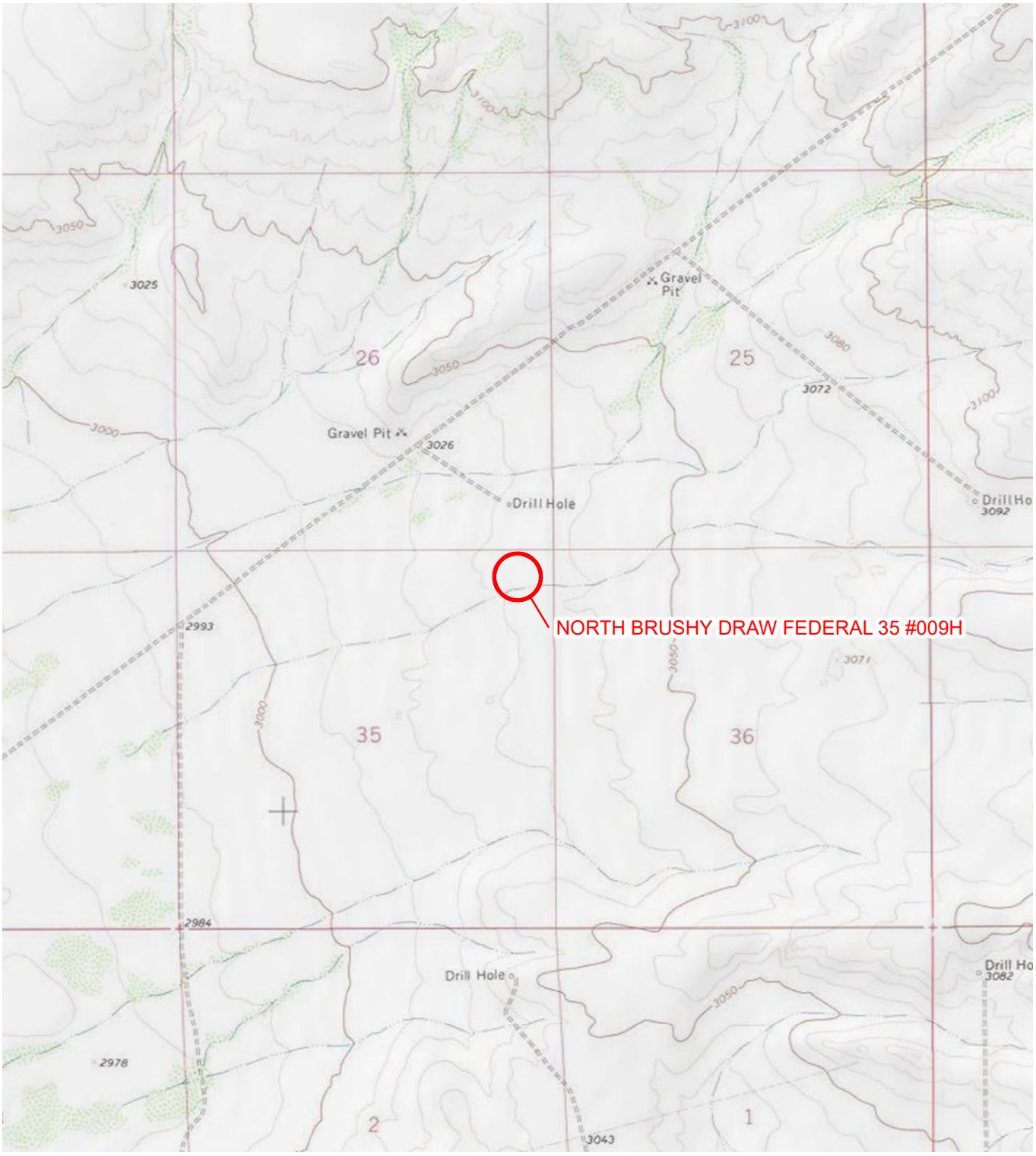


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

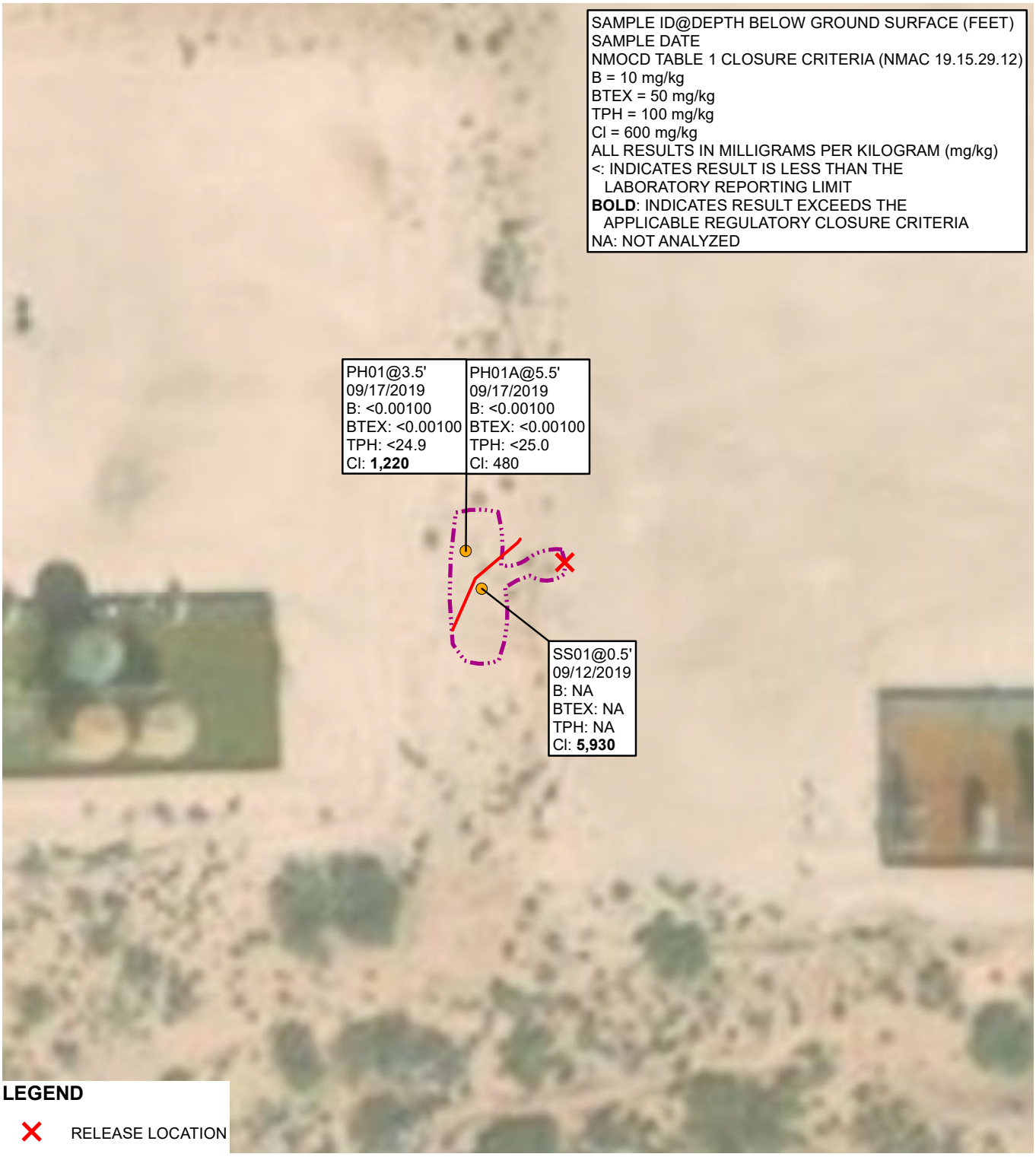
Feet

N

NEW MEXICO

FIGURE 1
SITE LOCATION MAP
NORTH BRUSHY DRAW FEDERAL 35 #009H
UNIT A SEC 35 T25S R29E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

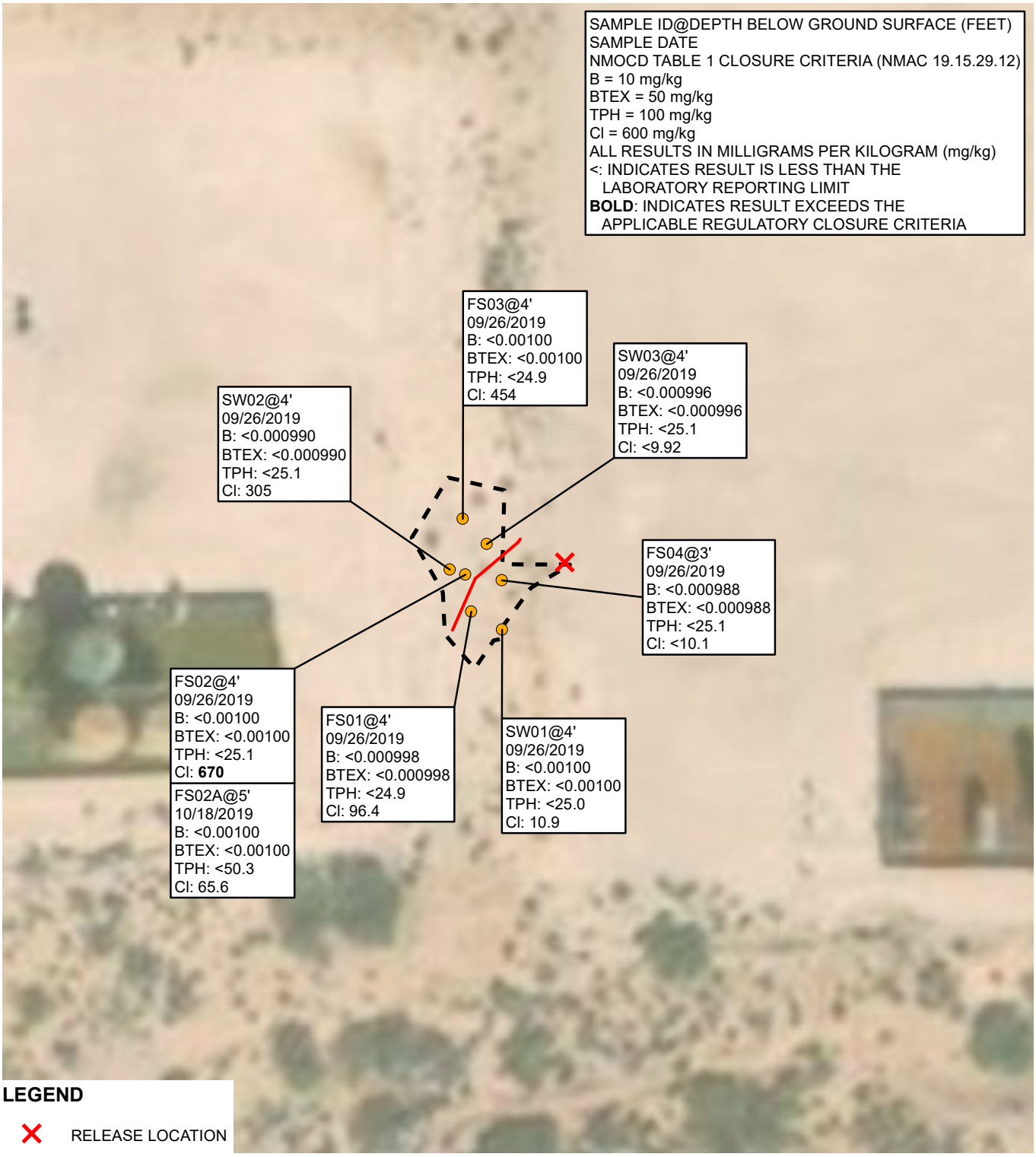
P:\WPX\GIS\MXD\034819050_NORTH BRUSHY DRAW FEDERAL 35-9H\034819050_FIG01_SL_2019.mxd



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

FIGURE 2
PRELIMINARY AND DELINEATION
SOIL SAMPLE LOCATIONS
NORTH BRUSHY DRAW FEDERAL 35 #009H
UNIT A SEC 35 T25S R29E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

P:\WPX\GIS\MXD\034819050_NORTH BRUSHY DRAW FEDERAL 35-9H\034819050_FIG02_PRE_DEL_2019.mxd



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

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
NORTH BRUSHY DRAW FEDERAL 35 #009H
UNIT A SEC 35 T25S R29E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

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TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

NORTH BRUSHY DRAW FEDERAL 35 #009H
REMEDIATION PERMIT NUMBER 2RP-5648
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, 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)	MRO (mg/kg)	Sum of GRO + DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	09/12/2019	-	-	-	-	-	-	-	-	-	-	**5,930**
PH01	3.5	09/17/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<24.9	<24.9	<24.9	<24.9	<24.9	**1,220**
PH01A	5.5	09/17/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<25.0	<25.0	<25.0	<25.0	<25.0	480
SW01	4	09/26/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<25.0	<25.0	<25.0	<25.0	<25.0	10.9
FS01	4	09/26/2019	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<24.9	<24.9	<24.9	<24.9	<24.9	96.4
SW02	4	09/26/2019	<0.000990	<0.000990	<0.000990	<0.000990	<0.000990	<25.1	<25.1	<25.1	<25.1	<25.1	305
SW03	4	09/26/2019	<0.000996	<0.000996	<0.000996	<0.000996	<0.000996	<25.1	<25.1	<25.1	<25.1	<25.1	<9.92
FS02	4	09/26/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<25.1	<25.1	<25.1	<25.1	<25.1	**670**
FS02A	5	10/18/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.3	<50.3	<50.3	<50.3	<50.3	65.6
FS03	4	09/26/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<24.9	<24.9	<24.9	<24.9	<24.9	454
FS04	3	09/26/2019	<0.000988	<0.000988	<0.000988	<0.000988	<0.000988	<25.1	<25.1	<25.1	<25.1	<25.1	<10.1
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**NE**	**100**	**600**

Notes:

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

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141

District 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	*NAB1927729912*
District RP	2RP-5648
Facility ID	
Application ID	pAB1927729610

Release Notification 6MFTO-190916-C-1410

Responsible Party

Responsible Party: WPX Energy Permian, LLC.	OGRID: 246289
Contact Name: Jim Raley	Contact Telephone: 575-689-7597
Contact email: james.raley@wpxenergy.com	Incident # *(assigned by OCD)* NAB1927729912
Contact mailing address: 5315 Buena Vista Dr., Carlsbad, NM 88220	

Location of Release Source

Latitude 32.0927086 Longitude -103.947319
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: NORTH BRUSHY DRAW FEDERAL 35 #009H	Site Type: Production Facility
Date Release Discovered: 9/12/2019	API# *(if applicable):* 30-015-42220

Unit Letter	Section	Township	Range	County
A	35	23S	29E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name: Bureau of Land Management*)

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)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 6	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release: A produced water transfer line failed allowing 6 bbls of produced water to impact pad surface, no fluids were recovered.		

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAB1927729912
District RP	2RP-5648
Facility ID	
Application ID	pAB1927729610

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

Initial Response

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

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

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

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

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

Printed Name: Jim Raley
Title: Environmental Specialist

Signature: Jim D Raley
Date: 9/12/2019

email: james.raley@wpxenergy.com
Telephone: 575-689-7597

OCD Only

Received by: Amalia Bustamante
Date: 10/4/2019

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	**2RP-5648**
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?	**>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.

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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	**2RP-5648**
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: **Jim Raley** Title: **Environmental Specialist**

Signature: _____ Date: **12/6/2019**

email: **James.Raley@wpxenergy.com** Telephone: **575-689-7597**

OCD Only

Received by: _____ Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	**2RP-5648**
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: **Jim Raley** Title: **Environmental Specialist**

Signature: Jim Raley Date: **12/6/2019**

email: **James.Raley@wpxenergy.com** Telephone: **575-689-7597**

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: _____

ATTACHMENT 2: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Photograph 1: Release footprint – View north.

Photograph 2: Release footprint – View west.

Photograph 3: Excavation area – View north.

Photograph 4: Excavation area – View west.

North Brushy Draw Federal 35 #009
Photographs 1-2 taken September 12, 2019
Photographs 3-4 taken September 26, 2019

ATTACHMENT 3: LITHOLOGIC SOIL SAMPLE LOGS

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
PH01	9/17/19
Project Name: North Brushy ~~Draw~~ 35-9	**RP Number:**
Logged By: Lynda	**Method:** Back Hoe
Lat/Long: Collector	**Field Screening:** PID & Hach Chloride
Hole Diameter: N/A	**Total Depth:** 5.5'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: Chlorides calculated w/ HACH LR Batch 9281, no correction error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
12:00 M	(4.9) 888	408	No	PH01	0–12	3.5'	SP	brown poorly-graded sand (c.), no odor
						5.5'	SP	
12:05 M	(2.6) 304	276	No	PH01A	6			TOT DEPTH

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

Analytical Report 636931

for

LT Environmental, Inc.

Project Manager: Chris McKisson

North Brushy Draw Federal 35-9H

18-SEP-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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-Tampa: Florida (E87429), North Carolina (483)

18-SEP-19

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

Reference: XENCO Report No(s): **636931**
North Brushy Draw Federal 35-9H
Project Address:

Chris McKisson:

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) 636931. 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. 636931 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

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

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

Sample Cross Reference 636931

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	09-12-19 11:35	0.5 ft	636931-001

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: North Brushy Draw Federal 35-9H

Project ID:
Work Order Number(s): *636931*

Report Date: *18-SEP-19*
Date Received: *09/13/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 636931

LT Environmental, Inc., Arvada, CO

Project Name: North Brushy Draw Federal 35-9H

Project Id:

Contact: Chris McKisson

Project Location:

Date Received in Lab: Fri Sep-13-19 02:53 pm

Report Date: 18-SEP-19

Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	636931-001					
	Field Id:	SS01					
	Depth:	0.5- ft					
	Matrix:	SOIL					
	Sampled:	Sep-12-19 11:35					
Chloride by EPA 300	***Extracted:***	Sep-16-19 08:09					
	Analyzed:	Sep-16-19 17:37					
	Units/RL:	mg/kg	RL				
Chloride		5930 D	498				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 636931

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	09.13.19 14.53
Lab Sample Id:	636931-001	Date Collected:	09.12.19 11.35	Sample Depth:	0.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.16.19 08.09	Basis:	Wet Weight
Seq Number:	3101626				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5930**	498	mg/kg	09.17.19 13.25	D	50

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 636931

LT Environmental, Inc.

North Brushy Draw Federal 35-9H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3101626 Matrix: Solid Date Prep: 09.16.19
MB Sample Id: 7686203-1-BLK LCS Sample Id: 7686203-1-BKS LCSD Sample Id: 7686203-1-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	267	107	268	107	90-110	0	20	mg/kg	09.16.19 14:53	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3101626 Matrix: Solid Date Prep: 09.16.19
Parent Sample Id: 636900-023 MS Sample Id: 636900-023 S MSD Sample Id: 636900-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	37.0	200	244	104	265	115	90-110	8	20	mg/kg	09.16.19 15:13	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3101626 Matrix: Solid Date Prep: 09.16.19
Parent Sample Id: 636927-009 MS Sample Id: 636927-009 S MSD Sample Id: 636927-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	395	403	935	134	948	138	90-110	1	20	mg/kg	09.16.19 17:24	X

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

Chain of Custody

XENCO LABORATORIES

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: 1036931

www.xenco.com Page 1 of 1

Project Manager:	Chris McKisson	Bill to: (if different)	Chris McKisson
Company Name:	LT Environmental, Inc.	Company Name:	LT Environmental
Address:	820 Megan Avenue, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	(970) 285-9985	Email:	llaumbach@ltenv.com, cmckisson@ltenv.com, asmith@ltenv.com

Work Order Comments

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

Project Name:	North Brushy Draw Federal 35-9H	Turn Around	
Project Number:		Routine	X
P.O. Number:		Rush:	
Sampler's Name:	Lynda Laumbach	Due Date:	

SAMPLE RECEIPT			
Temperature (°C):	4.4	Temp Blank:	Yes No
Received Intact:	Yes No	Wet Ice:	Yes No
Cooler Custody Seals:	Yes No N/A	Thermometer ID	T-NM-007
Sample Custody Seals:	Yes No N/A	Correction Factor:	-0.2
		Total Containers:	1

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS01	S	09/12/2019	17:45	0.5'	1			X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			14:53 9/13/19	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Analytical Report 637312

for

LT Environmental, Inc.

Project Manager: Chris McKisson

North Brushy Draw Federal 35 9H

034819050

23-SEP-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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-Tampa: Florida (E87429), North Carolina (483)

23-SEP-19

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

Reference: XENCO Report No(s): **637312**
North Brushy Draw Federal 35 9H
Project Address:

Chris McKisson:

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) 637312. 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.

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

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

Sample Cross Reference 637312

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35 9H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	09-17-19 12:00	3.5 ft	637312-001
PH01A	S	09-17-19 12:05	5.5 ft	637312-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: North Brushy Draw Federal 35 9H

Project ID:	*034819050*	Report Date:	*23-SEP-19*
Work Order Number(s):	*637312*	Date Received:	*09/18/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3101899 Chloride by EPA 300

Lab Sample ID 637312-001 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: 637312-001, -002.

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

Batch: LBA-3101958 BTEX by EPA 8021B

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

Batch: LBA-3102031 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7686459-1-BSD,637191-021 S.

Certificate of Analysis Summary 637312

LT Environmental, Inc., Arvada, CO

Project Name: North Brushy Draw Federal 35 9H

Project Id: 034819050
Contact: Chris McKisson
Project Location:

Date Received in Lab: Wed Sep-18-19 01:45 pm
Report Date: 23-SEP-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	637312-001		637312-002					
	Field Id:	PH01		PH01A					
	Depth:	3.5- ft		5.5- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Sep-17-19 12:00		Sep-17-19 12:05					
BTEX by EPA 8021B	***Extracted:***	Sep-18-19 16:09		Sep-18-19 16:09					
	Analyzed:	Sep-19-19 05:16		Sep-19-19 05:36					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00100	0.00100	<0.00100	0.00100				
Toluene		<0.00100	0.00100	<0.00100	0.00100				
Ethylbenzene		<0.00100	0.00100	<0.00100	0.00100				
m,p-Xylenes		<0.00200	0.00200	<0.00200	0.00200				
o-Xylene		<0.00100	0.00100	<0.00100	0.00100				
Total Xylenes		<0.00100	0.00100	<0.00100	0.00100				
Total BTEX		<0.00100	0.00100	<0.00100	0.00100				
Chloride by EPA 300	***Extracted:***	Sep-18-19 16:00		Sep-18-19 16:00					
	Analyzed:	Sep-18-19 21:25		Sep-18-19 21:31					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		1220 D	101	480 D	50.3				
TPH by SW8015 Mod	***Extracted:***	Sep-18-19 16:45		Sep-18-19 16:45					
	Analyzed:	Sep-19-19 17:49		Sep-19-19 18:10					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<24.9	24.9	<25.0	25.0				
Diesel Range Organics (DRO)		<24.9	24.9	<25.0	25.0				
Motor Oil Range Hydrocarbons (MRO)		<24.9	24.9	<25.0	25.0				
Total TPH		<24.9	24.9	<25.0	25.0				
Total GRO-DRO		<24.9	24.9	<25.0	25.0				

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

Jessica Kramer
Project Assistant

Certificate of Analytical Results 637312

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35 9H

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	09.18.19 13.45
Lab Sample Id:	637312-001	Date Collected:	09.17.19 12.00	Sample Depth:	3.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.18.19 16.00	Basis:	Wet Weight
Seq Number:	3101899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1220**	101	mg/kg	09.19.19 14.03	D	10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.18.19 16.45	Basis:	Wet Weight
Seq Number:	3102031				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.19.19 17.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	09.19.19 17.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.19.19 17.49	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	09.19.19 17.49	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	09.19.19 17.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	131	%	70-135	09.19.19 17.49	
o-Terphenyl	84-15-1	108	%	70-135	09.19.19 17.49	

Certificate of Analytical Results 637312

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35 9H

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	09.18.19 13.45
Lab Sample Id:	637312-001	Date Collected:	09.17.19 12.00	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.18.19 16.09	Basis:	Wet Weight
Seq Number:	3101958				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	09.19.19 05.16	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	09.19.19 05.16	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	09.19.19 05.16	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	09.19.19 05.16	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	09.19.19 05.16	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	09.19.19 05.16	U	1
Total BTEX		<0.00100	0.00100	mg/kg	09.19.19 05.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	09.19.19 05.16	
1,4-Difluorobenzene	540-36-3	98	%	70-130	09.19.19 05.16	

Certificate of Analytical Results 637312

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35 9H

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	09.18.19 13.45
Lab Sample Id:	637312-002	Date Collected:	09.17.19 12.05	Sample Depth:	5.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.18.19 16.00	Basis:	Wet Weight
Seq Number:	3101899				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**480**	50.3	mg/kg	09.19.19 14.10	D	5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.18.19 16.45	Basis:	Wet Weight
Seq Number:	3102031				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.19.19 18.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.19.19 18.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.19.19 18.10	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.19.19 18.10	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.19.19 18.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	09.19.19 18.10	
o-Terphenyl	84-15-1	105	%	70-135	09.19.19 18.10	

Certificate of Analytical Results 637312

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35 9H

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	09.18.19 13.45
Lab Sample Id:	637312-002	Date Collected:	09.17.19 12.05	Sample Depth:	5.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.18.19 16.09	Basis:	Wet Weight
Seq Number:	3101958				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	09.19.19 05.36	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	09.19.19 05.36	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	09.19.19 05.36	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	09.19.19 05.36	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	09.19.19 05.36	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	09.19.19 05.36	U	1
Total BTEX		<0.00100	0.00100	mg/kg	09.19.19 05.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	09.19.19 05.36	
4-Bromofluorobenzene	460-00-4	105	%	70-130	09.19.19 05.36	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 637312

LT Environmental, Inc.

North Brushy Draw Federal 35 9H

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3101899 — Matrix: Solid — Date Prep: 09.18.19
MB Sample Id: 7686418-1-BLK — LCS Sample Id: 7686418-1-BKS — LCSD Sample Id: 7686418-1-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	260	104	258	103	90-110	1	20	mg/kg	09.18.19 18:50	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3101899 — Matrix: Soil — Date Prep: 09.18.19
Parent Sample Id: 637191-020 — MS Sample Id: 637191-020 S — MSD Sample Id: 637191-020 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4.71	200	204	100	216	106	90-110	6	20	mg/kg	09.18.19 19:10	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3101899 — Matrix: Solid — Date Prep: 09.18.19
Parent Sample Id: 637312-001 — MS Sample Id: 637312-001 S — MSD Sample Id: 637312-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1220	1010	2390	116	2400	117	90-110	0	20	mg/kg	09.18.19 21:44	X

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3102031 — Matrix: Solid — Date Prep: 09.18.19
MB Sample Id: 7686459-1-BLK — LCS Sample Id: 7686459-1-BKS — LCSD Sample Id: 7686459-1-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)	<25.0	1000	951	95	986	99	70-135	4	35	mg/kg	09.19.19 15:45	
Diesel Range Organics (DRO)	<25.0	1000	914	91	942	94	70-135	3	35	mg/kg	09.19.19 15:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	135		133		138	**	70-135	%	09.19.19 15:45
o-Terphenyl	105		104		107		70-135	%	09.19.19 15:45

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 637312

LT Environmental, Inc.

North Brushy Draw Federal 35 9H

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3102031 — Matrix: Soil — Date Prep: 09.18.19
Parent Sample Id: 637191-021 — MS Sample Id: 637191-021 S — MSD Sample Id: 637191-021 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)	<25.1	1000	917	92	948	94	70-135	3	35	mg/kg	09.19.19 16:47	
Diesel Range Organics (DRO)	<25.1	1000	874	87	907	90	70-135	4	35	mg/kg	09.19.19 16:47	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	137	**	130		70-135	%	09.19.19 16:47
o-Terphenyl	102		110		70-135	%	09.19.19 16:47

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3101958 — Matrix: Solid — Date Prep: 09.18.19
MB Sample Id: 7686555-1-BLK — LCS Sample Id: 7686555-1-BKS — LCSD Sample Id: 7686555-1-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	0.0813	81	0.0900	90	70-130	10	35	mg/kg	09.19.19 02:00	
Toluene	<0.00100	0.100	0.0977	98	0.0936	94	70-130	4	35	mg/kg	09.19.19 02:00	
Ethylbenzene	<0.00100	0.100	0.119	119	0.116	116	71-129	3	35	mg/kg	09.19.19 02:00	
m,p-Xylenes	<0.00200	0.200	0.242	121	0.233	117	70-135	4	35	mg/kg	09.19.19 02:00	
o-Xylene	<0.00100	0.100	0.120	120	0.116	116	71-133	3	35	mg/kg	09.19.19 02:00	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		107		102		70-130	%	09.19.19 02:00
4-Bromofluorobenzene	104		121		112		70-130	%	09.19.19 02:00

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3101958 — Matrix: Soil — Date Prep: 09.18.19
Parent Sample Id: 637191-021 — MS Sample Id: 637191-021 S — MSD Sample Id: 637191-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.0795	79	0.0831	82	70-130	4	35	mg/kg	09.19.19 03:18	
Toluene	<0.00101	0.101	0.0856	85	0.0825	82	70-130	4	35	mg/kg	09.19.19 03:18	
Ethylbenzene	<0.00101	0.101	0.0929	92	0.102	101	71-129	9	35	mg/kg	09.19.19 03:18	
m,p-Xylenes	<0.00201	0.201	0.189	94	0.206	102	70-135	9	35	mg/kg	09.19.19 03:18	
o-Xylene	<0.00101	0.101	0.0954	94	0.103	102	71-133	8	35	mg/kg	09.19.19 03:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	115		114		70-130	%	09.19.19 03:18
4-Bromofluorobenzene	127		130		70-130	%	09.19.19 03:18

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

Chain of Custody

Work Order No: e37312

XENCO LABORATORIES

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:	Chris McKisson	Bill to: (if different)	Chris McKisson
Company Name:	LT Environmental, Inc.	Company Name:	LT Environmental
Address:	820 Megan Avenue, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	(970) 285-9985	Email:	llaumbach@ltenv.com, cmckisson@ltenv.com, asmith@ltenv.com

Work Order Comments

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

Project Name:	North Brushy Draw Federal 35 9H	Turn Around	
Project Number:	34819050	Routine	X
P.O. Number:		Rush:	
Sampler's Name:	Lynda Laumbach	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	0.0	Thermometer ID	T-NM-007
Received Intact:	(Yes) No	Correction Factor:	-0.2
Cooler Custody Seals:	Yes No N/A	Total Containers:	2
Sample Custody Seals:	Yes No N/A		

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
PH01	S	09/17/19	12:00	3.5'	1	X	X	X
PH01A	S	09/17/19	12:05	5.5'	1	X	X	X

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
1631 / 245.1 / 7470 / 7471 : Hg

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time		Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			09/18/2019 13:45	2			
3				4			
5				6			

Revised Date 051418 Rev. 2

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/18/2019 01:45:00 PM

Work Order #: 637312

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)?	0
#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: 09/18/2019

Checklist reviewed by: Jessica Kramer Date: 09/20/2019

Jessica Kramer

Analytical Report 638307

for

LT Environmental, Inc.

Project Manager: Chris McKisson

North Brushy Draw Federal 35-9H

034819050

01-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)

01-OCT-19

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

Reference: XENCO Report No(s): **638307**
North Brushy Draw Federal 35-9H
Project Address: Eddy County, NM

Chris McKisson:

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) 638307. 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. 638307 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

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

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

Sample Cross Reference 638307

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	09-26-19 10:15	0 - 4 ft	638307-001
FS01	S	09-26-19 11:40	4 ft	638307-002
SW02	S	09-26-19 11:55	0 - 4 ft	638307-003
SW03	S	09-26-19 12:10	0 - 4 ft	638307-004
FS02	S	09-26-19 12:20	4 ft	638307-005
FS03	S	09-26-19 12:30	4 ft	638307-006
FS04	S	09-26-19 12:40	2 - 3 ft	638307-007

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: North Brushy Draw Federal 35-9H

Project ID: *034819050*
Work Order Number(s): *638307*

Report Date: *01-OCT-19*
Date Received: *09/27/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3102821 BTEX by EPA 8021B

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

Certificate of Analysis Summary 638307

LT Environmental, Inc., Arvada, CO

Project Name: North Brushy Draw Federal 35-9H

Project Id: 034819050
Contact: Chris McKisson
Project Location: Eddy County, NM

Date Received in Lab: Fri Sep-27-19 09:35 am
Report Date: 01-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	638307-001		638307-002		638307-003		638307-004		638307-005		638307-006	
	Field Id:	SW01		FS01		SW02		SW03		FS02		FS03	
	Depth:	0-4 ft		4- ft		0-4 ft		0-4 ft		4- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-26-19 10:15		Sep-26-19 11:40		Sep-26-19 11:55		Sep-26-19 12:10		Sep-26-19 12:20		Sep-26-19 12:30	
BTEX by EPA 8021B	Extracted:	Sep-27-19 18:00		Sep-27-19 18:00		Sep-27-19 18:00		Sep-27-19 18:00		Sep-27-19 18:00		Sep-27-19 18:00	
	Analyzed:	Sep-28-19 13:43		Sep-28-19 15:03		Sep-28-19 15:23		Sep-28-19 15:42		Sep-28-19 16:03		Sep-28-19 16:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00100	0.00100	<0.000998	0.000998	<0.000990	0.000990	<0.000996	0.000996	<0.00100	0.00100	<0.00100	0.00100
Toluene		<0.00100	0.00100	<0.000998	0.000998	<0.000990	0.000990	<0.000996	0.000996	<0.00100	0.00100	<0.00100	0.00100
Ethylbenzene		<0.00100	0.00100	<0.000998	0.000998	<0.000990	0.000990	<0.000996	0.000996	<0.00100	0.00100	<0.00100	0.00100
m,p-Xylenes		<0.00201	0.00201	<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
o-Xylene		<0.00100	0.00100	<0.000998	0.000998	<0.000990	0.000990	<0.000996	0.000996	<0.00100	0.00100	<0.00100	0.00100
Total Xylenes		<0.00100	0.00100	<0.000998	0.000998	<0.000990	0.000990	<0.000996	0.000996	<0.00100	0.00100	<0.00100	0.00100
Total BTEX		<0.00100	0.00100	<0.000998	0.000998	<0.000990	0.000990	<0.000996	0.000996	<0.00100	0.00100	<0.00100	0.00100
Chloride by EPA 300	Extracted:	Sep-27-19 16:09		Sep-27-19 16:09		Sep-27-19 16:09		Sep-27-19 16:09		Sep-27-19 16:09		Sep-27-19 16:09	
	Analyzed:	Sep-27-19 16:54		Sep-27-19 17:00		Sep-27-19 17:07		Sep-27-19 17:14		Sep-27-19 17:35		Sep-27-19 17:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		10.9	10.0	96.4	10.0	305	9.98	<9.92	9.92	670	49.1	454	50.0
TPH by SW8015 Mod	Extracted:	Sep-27-19 17:00		Sep-27-19 17:00		Sep-27-19 17:00		Sep-30-19 10:09		Sep-27-19 17:00		Sep-30-19 10:09	
	Analyzed:	Sep-28-19 06:09		Sep-28-19 06:30		Sep-28-19 06:50		Sep-30-19 18:27		Sep-28-19 07:10		Oct-01-19 08:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<25.0	25.0	<24.9	24.9	<25.1	25.1	<25.1	25.1	<25.1	25.1	<24.9	24.9
Diesel Range Organics (DRO)		<25.0	25.0	<24.9	24.9	<25.1	25.1	<25.1	25.1	<25.1	25.1	<24.9	24.9
Motor Oil Range Hydrocarbons (MRO)		<25.0	25.0	<24.9	24.9	<25.1	25.1	<25.1	25.1	<25.1	25.1	<24.9	24.9
Total TPH		<25.0	25.0	<24.9	24.9	<25.1	25.1	<25.1	25.1	<25.1	25.1	<24.9	24.9
Total GRO-DRO		<25.0	25.0	<24.9	24.9	<25.1	25.1	<25.1	25.1	<25.1	25.1	<24.9	24.9

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 638307

LT Environmental, Inc., Arvada, CO

Project Name: North Brushy Draw Federal 35-9H

Project Id: 034819050
Contact: Chris McKisson
Project Location: Eddy County, NM

Date Received in Lab: Fri Sep-27-19 09:35 am
Report Date: 01-OCT-19
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	638307-007					
	Field Id:	FS04					
	Depth:	2-3 ft					
	Matrix:	SOIL					
	Sampled:	Sep-26-19 12:40					
BTEX by EPA 8021B	***Extracted:***	Sep-27-19 18:00					
	Analyzed:	Sep-28-19 16:42					
	Units/RL:	mg/kg RL					
Benzene		<0.000988 0.000988					
Toluene		<0.000988 0.000988					
Ethylbenzene		<0.000988 0.000988					
m,p-Xylenes		<0.00198 0.00198					
o-Xylene		<0.000988 0.000988					
Total Xylenes		<0.000988 0.000988					
Total BTEX		<0.000988 0.000988					
Chloride by EPA 300	***Extracted:***	Sep-27-19 16:09					
	Analyzed:	Sep-27-19 17:48					
	Units/RL:	mg/kg RL					
Chloride		<10.1 10.1					
TPH by SW8015 Mod	***Extracted:***	Sep-30-19 10:09					
	Analyzed:	Sep-30-19 19:27					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<25.1 25.1					
Diesel Range Organics (DRO)		<25.1 25.1					
Motor Oil Range Hydrocarbons (MRO)		<25.1 25.1					
Total TPH		<25.1 25.1					
Total GRO-DRO		<25.1 25.1					

Jessica Kramer
Project Assistant

Certificate of Analytical Results 638307

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-001	Date Collected:	09.26.19 10.15	Sample Depth:	0 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.27.19 16.09	Basis:	Wet Weight
Seq Number:	3102737				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10.9**	10.0	mg/kg	09.27.19 16.54		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 17.00	Basis:	Wet Weight
Seq Number:	3102809				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.0	25.0	mg/kg	09.28.19 06.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	09.28.19 06.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	09.28.19 06.09	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	09.28.19 06.09	U	1
Total GRO-DRO	PHC628	<25.0	25.0	mg/kg	09.28.19 06.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	09.28.19 06.09	
o-Terphenyl	84-15-1	103	%	70-135	09.28.19 06.09	

Certificate of Analytical Results 638307

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-001	Date Collected:	09.26.19 10.15	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 18.00	Basis:	Wet Weight
Seq Number:	3102821				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	09.28.19 13.43	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	09.28.19 13.43	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	09.28.19 13.43	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	09.28.19 13.43	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	09.28.19 13.43	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	09.28.19 13.43	U	1
Total BTEX		<0.00100	0.00100	mg/kg	09.28.19 13.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	09.28.19 13.43	
4-Bromofluorobenzene	460-00-4	94	%	70-130	09.28.19 13.43	

Certificate of Analytical Results 638307

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-002	Date Collected:	09.26.19 11.40	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.27.19 16.09	Basis:	Wet Weight
Seq Number:	3102737				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**96.4**	10.0	mg/kg	09.27.19 17.00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 17.00	Basis:	Wet Weight
Seq Number:	3102809				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	09.28.19 06.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	09.28.19 06.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	09.28.19 06.30	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	09.28.19 06.30	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	09.28.19 06.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	09.28.19 06.30	
o-Terphenyl	84-15-1	78	%	70-135	09.28.19 06.30	

Certificate of Analytical Results 638307

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-002	Date Collected:	09.26.19 11.40	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 18.00	Basis:	Wet Weight
Seq Number:	3102821				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	09.28.19 15.03	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	09.28.19 15.03	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	09.28.19 15.03	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	09.28.19 15.03	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	09.28.19 15.03	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	09.28.19 15.03	U	1
Total BTEX		<0.000998	0.000998	mg/kg	09.28.19 15.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	09.28.19 15.03	
4-Bromofluorobenzene	460-00-4	91	%	70-130	09.28.19 15.03	

Certificate of Analytical Results 638307

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-003	Date Collected:	09.26.19 11.55	Sample Depth:	0 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.27.19 16.09	Basis:	Wet Weight
Seq Number:	3102737				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**305**	9.98	mg/kg	09.27.19 17.07		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 17.00	Basis:	Wet Weight
Seq Number:	3102809				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.28.19 06.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.28.19 06.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.28.19 06.50	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.28.19 06.50	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.28.19 06.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	09.28.19 06.50	
o-Terphenyl	84-15-1	107	%	70-135	09.28.19 06.50	

Certificate of Analytical Results 638307

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-003	Date Collected:	09.26.19 11.55	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 18.00	Basis:	Wet Weight
Seq Number:	3102821				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	09.28.19 15.23	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	09.28.19 15.23	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	09.28.19 15.23	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	09.28.19 15.23	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	09.28.19 15.23	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	09.28.19 15.23	U	1
Total BTEX		<0.000990	0.000990	mg/kg	09.28.19 15.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	70-130	09.28.19 15.23	
1,4-Difluorobenzene	540-36-3	95	%	70-130	09.28.19 15.23	

Certificate of Analytical Results 638307

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-004	Date Collected:	09.26.19 12.10	Sample Depth:	0 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.27.19 16.09	Basis:	Wet Weight
Seq Number:	3102737				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	09.27.19 17.14	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.30.19 10.09	Basis:	Wet Weight
Seq Number:	3102943				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.30.19 18.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.30.19 18.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.30.19 18.27	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.30.19 18.27	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.30.19 18.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	09.30.19 18.27	
o-Terphenyl	84-15-1	105	%	70-135	09.30.19 18.27	

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LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-004	Date Collected:	09.26.19 12.10	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 18.00	Basis:	Wet Weight
Seq Number:	3102821				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	09.28.19 15.42	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	09.28.19 15.42	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	09.28.19 15.42	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	09.28.19 15.42	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	09.28.19 15.42	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	09.28.19 15.42	U	1
Total BTEX		<0.000996	0.000996	mg/kg	09.28.19 15.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	09.28.19 15.42	
4-Bromofluorobenzene	460-00-4	95	%	70-130	09.28.19 15.42	

Certificate of Analytical Results 638307

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-005	Date Collected:	09.26.19 12.20	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.27.19 16.09	Basis:	Wet Weight
Seq Number:	3102737				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**670**	49.1	mg/kg	09.27.19 17.35		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 17.00	Basis:	Wet Weight
Seq Number:	3102809				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.28.19 07.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.28.19 07.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.28.19 07.10	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.28.19 07.10	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.28.19 07.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.28.19 07.10	
o-Terphenyl	84-15-1	85	%	70-135	09.28.19 07.10	

Certificate of Analytical Results 638307

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-005	Date Collected:	09.26.19 12.20	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 18.00	Basis:	Wet Weight
Seq Number:	3102821				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	09.28.19 16.03	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	09.28.19 16.03	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	09.28.19 16.03	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	09.28.19 16.03	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	09.28.19 16.03	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	09.28.19 16.03	U	1
Total BTEX		<0.00100	0.00100	mg/kg	09.28.19 16.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	09.28.19 16.03	
4-Bromofluorobenzene	460-00-4	92	%	70-130	09.28.19 16.03	

Certificate of Analytical Results 638307

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-006	Date Collected:	09.26.19 12.30	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.27.19 16.09	Basis:	Wet Weight
Seq Number:	3102737				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**454**	50.0	mg/kg	09.27.19 17.42		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.30.19 10.09	Basis:	Wet Weight
Seq Number:	3102943				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<24.9	24.9	mg/kg	10.01.19 08.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<24.9	24.9	mg/kg	10.01.19 08.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	10.01.19 08.56	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	10.01.19 08.56	U	1
Total GRO-DRO	PHC628	<24.9	24.9	mg/kg	10.01.19 08.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	10.01.19 08.56	
o-Terphenyl	84-15-1	99	%	70-135	10.01.19 08.56	

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LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-006	Date Collected:	09.26.19 12.30	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 18.00	Basis:	Wet Weight
Seq Number:	3102821				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	09.28.19 16.22	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	09.28.19 16.22	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	09.28.19 16.22	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	09.28.19 16.22	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	09.28.19 16.22	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	09.28.19 16.22	U	1
Total BTEX		<0.00100	0.00100	mg/kg	09.28.19 16.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	70-130	09.28.19 16.22	
1,4-Difluorobenzene	540-36-3	100	%	70-130	09.28.19 16.22	

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LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-007	Date Collected:	09.26.19 12.40	Sample Depth:	2 - 3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	09.27.19 16.09	Basis:	Wet Weight
Seq Number:	3102737				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	09.27.19 17.48	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	09.30.19 10.09	Basis:	Wet Weight
Seq Number:	3102943				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<25.1	25.1	mg/kg	09.30.19 19.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.1	25.1	mg/kg	09.30.19 19.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	09.30.19 19.27	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	09.30.19 19.27	U	1
Total GRO-DRO	PHC628	<25.1	25.1	mg/kg	09.30.19 19.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	09.30.19 19.27	
o-Terphenyl	84-15-1	97	%	70-135	09.30.19 19.27	

Certificate of Analytical Results 638307

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9H

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	09.27.19 09.35
Lab Sample Id:	638307-007	Date Collected:	09.26.19 12.40	Sample Depth:	2 - 3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	DTH	Date Prep:	09.27.19 18.00	Basis:	Wet Weight
Seq Number:	3102821				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000988	0.000988	mg/kg	09.28.19 16.42	U	1
Toluene	108-88-3	<0.000988	0.000988	mg/kg	09.28.19 16.42	U	1
Ethylbenzene	100-41-4	<0.000988	0.000988	mg/kg	09.28.19 16.42	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	09.28.19 16.42	U	1
o-Xylene	95-47-6	<0.000988	0.000988	mg/kg	09.28.19 16.42	U	1
Total Xylenes	1330-20-7	<0.000988	0.000988	mg/kg	09.28.19 16.42	U	1
Total BTEX		<0.000988	0.000988	mg/kg	09.28.19 16.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	09.28.19 16.42	
1,4-Difluorobenzene	540-36-3	103	%	70-130	09.28.19 16.42	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 638307

LT Environmental, Inc.

North Brushy Draw Federal 35-9H

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3102737 — Matrix: Solid — Date Prep: 09.27.19
MB Sample Id: 7687068-1-BLK — LCS Sample Id: 7687068-1-BKS — LCSD Sample Id: 7687068-1-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	254	102	255	102	90-110	0	20	mg/kg	09.27.19 16:19	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3102737 — Matrix: Soil — Date Prep: 09.27.19
Parent Sample Id: 638355-001 — MS Sample Id: 638355-001 S — MSD Sample Id: 638355-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	66.8	2000	2010	97	2020	98	90-110	0	20	mg/kg	09.27.19 16:40	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3102737 — Matrix: Solid — Date Prep: 09.27.19
Parent Sample Id: 638358-004 — MS Sample Id: 638358-004 S — MSD Sample Id: 638358-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.28	198	202	98	206	99	90-110	2	20	mg/kg	09.27.19 18:23	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3102809 — Matrix: Solid — Date Prep: 09.27.19
MB Sample Id: 7687128-1-BLK — LCS Sample Id: 7687128-1-BKS — LCSD Sample Id: 7687128-1-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)	<25.0	1000	1140	114	1140	114	70-135	0	35	mg/kg	09.27.19 22:42	
Diesel Range Organics (DRO)	<25.0	1000	1260	126	1240	124	70-135	2	35	mg/kg	09.27.19 22:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		128		126		70-135	%	09.27.19 22:42
o-Terphenyl	109		113		115		70-135	%	09.27.19 22:42

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 638307

LT Environmental, Inc.

North Brushy Draw Federal 35-9H

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3102943 — Matrix: Solid — Date Prep: 09.30.19
MB Sample Id: 7687213-1-BLK — LCS Sample Id: 7687213-1-BKS — LCSD Sample Id: 7687213-1-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)	<25.0	1000	1080	108	1070	107	70-135	1	35	mg/kg	09.30.19 14:03	
Diesel Range Organics (DRO)	<25.0	1000	1160	116	1160	116	70-135	0	35	mg/kg	09.30.19 14:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		127		124		70-135	%	09.30.19 14:03
o-Terphenyl	117		122		123		70-135	%	09.30.19 14:03

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3102809 — Matrix: Soil — Date Prep: 09.27.19
Parent Sample Id: 638392-005 — MS Sample Id: 638392-005 S — MSD Sample Id: 638392-005 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)	<25.1	1010	1100	109	1130	113	70-135	3	35	mg/kg	09.28.19 19:26	
Diesel Range Organics (DRO)	<25.1	1010	1220	121	1200	120	70-135	2	35	mg/kg	09.28.19 19:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		119		70-135	%	09.28.19 19:26
o-Terphenyl	118		111		70-135	%	09.28.19 19:26

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3102943 — Matrix: Soil — Date Prep: 09.30.19
Parent Sample Id: 638445-001 — MS Sample Id: 638445-001 S — MSD Sample Id: 638445-001 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)	<25.0	999	1110	111	1140	113	70-135	3	35	mg/kg	09.30.19 15:04	
Diesel Range Organics (DRO)	<25.0	999	1200	120	1230	122	70-135	2	35	mg/kg	09.30.19 15:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		130		70-135	%	09.30.19 15:04
o-Terphenyl	121		123		70-135	%	09.30.19 15:04

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

QC Summary 638307

LT Environmental, Inc.

North Brushy Draw Federal 35-9H

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3102821 | Matrix: Solid | Date Prep: 09.27.19
MB Sample Id: 7687140-1-BLK | LCS Sample Id: 7687140-1-BKS | LCSD Sample Id: 7687140-1-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	0.0961	96	0.0940	94	70-130	2	35	mg/kg	09.28.19 12:43	
Toluene	<0.00100	0.100	0.107	107	0.107	107	70-130	0	35	mg/kg	09.28.19 12:43	
Ethylbenzene	<0.00100	0.100	0.116	116	0.118	118	71-129	2	35	mg/kg	09.28.19 12:43	
m,p-Xylenes	<0.00200	0.200	0.233	117	0.239	120	70-135	3	35	mg/kg	09.28.19 12:43	
o-Xylene	<0.00100	0.100	0.111	111	0.115	115	71-133	4	35	mg/kg	09.28.19 12:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		97		92		70-130	%	09.28.19 12:43
4-Bromofluorobenzene	93		102		98		70-130	%	09.28.19 12:43

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3102821 | Matrix: Soil | Date Prep: 09.27.19
Parent Sample Id: 638307-001 | MS Sample Id: 638307-001 S | MSD Sample Id: 638307-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0981	98	0.0928	93	70-130	6	35	mg/kg	09.28.19 14:03	
Toluene	<0.00100	0.100	0.110	110	0.105	105	70-130	5	35	mg/kg	09.28.19 14:03	
Ethylbenzene	<0.00100	0.100	0.117	117	0.115	115	71-129	2	35	mg/kg	09.28.19 14:03	
m,p-Xylenes	<0.00200	0.200	0.238	119	0.233	117	70-135	2	35	mg/kg	09.28.19 14:03	
o-Xylene	<0.00100	0.100	0.115	115	0.113	113	71-133	2	35	mg/kg	09.28.19 14:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		101		70-130	%	09.28.19 14:03
4-Bromofluorobenzene	112		100		70-130	%	09.28.19 14:03

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

Chain of Custody

Work Order No: 638307

XENCO LABORATORIES

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:	Chris McKisson	Bill to: (if different)	Chris McKisson
Company Name:	LT Environmental, Inc.	Company Name:	LT Environmental
Address:	820 Megan Avenue, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	(970) 285-9985	Email:	llaumbach@ltenv.com, cmckisson@ltenv.com, asmith@ltenv.com

Work Order Comments

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

Project Name:	North Brushy Draw Federal 35-9H	Turn Around	
Project Number:	034819050	Routine	X
P.O. Number:	Eddy County, NM/ Task #002	Rush:	
Sampler's Name:	Lynda Laumbach	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	1.4	Thermometer ID		
Received Intact:	Yes No	T-NM-007		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:	7	

ANALYSIS REQUEST

Work Order Notes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SW01	S	09/26/019	10:15	0-4'	1	X	X	X
FS01	S		11:40	4'	1	X	X	X
SW02	S		11:55	0-4'	1	X	X	X
SW03	S		12:10	0-4'	1	X	X	X
FS02	S		12:20	4'	1	X	X	X
FS03	S		12:30	4'	1	X	X	X
FS04	S		12:40	2-3'	1	X	X	X

Sample Comments

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		09/27/2019 9:35	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/27/2019 09:35:00 AM

Work Order #: 638307

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)?	1.6
#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: 09/27/2019

Checklist reviewed by: Jessica Kramer Date: 09/28/2019

Jessica Kramer

Analytical Report 640499

for

LT Environmental, Inc.

Project Manager: Chris McKisson

North Brushy Draw Federal 35-9

034819050

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: **Chris McKisson**
LT Environmental, Inc.
4600 W. 60th Avenue
Arvada, CO 80003

Reference: XENCO Report No(s): **640499**
North Brushy Draw Federal 35-9
Project Address: Eddy County, NM/Task#002

Chris McKisson:

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) 640499. 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. 640499 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 640499

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS02A	S	10-18-19 15:25	5 ft	640499-001

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: North Brushy Draw Federal 35-9

Project ID:	*034819050*	Report Date:	*24-OCT-19*
Work Order Number(s):	*640499*	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.

Certificate of Analysis Summary 640499

LT Environmental, Inc., Arvada, CO

Project Name: North Brushy Draw Federal 35-9

Project Id: 034819050
Contact: Chris McKisson
Project Location: Eddy County, NM/Task#002

Date Received in Lab: Mon Oct-21-19 09:10 am
Report Date: 24-OCT-19
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	640499-001					
	Field Id:	FS02A					
	Depth:	5- ft					
	Matrix:	SOIL					
	Sampled:	Oct-18-19 15:25					
BTEX by EPA 8021B	***Extracted:***	Oct-21-19 14:10					
	Analyzed:	Oct-22-19 07:25					
	Units/RL:	mg/kg	RL				
Benzene		<0.00100	0.00100				
Toluene		<0.00100	0.00100				
Ethylbenzene		<0.00100	0.00100				
m,p-Xylenes		<0.00201	0.00201				
o-Xylene		<0.00100	0.00100				
Total Xylenes		<0.00100	0.00100				
Total BTEX		<0.00100	0.00100				
Chloride by EPA 300	***Extracted:***	Oct-21-19 20:10					
	Analyzed:	Oct-22-19 15:32					
	Units/RL:	mg/kg	RL				
Chloride		65.6	9.98				
TPH by SW8015 Mod	***Extracted:***	Oct-21-19 16:00					
	Analyzed:	Oct-21-19 19:29					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.3	50.3				
Diesel Range Organics (DRO)		<50.3	50.3				
Motor Oil Range Hydrocarbons (MRO)		<50.3	50.3				
Total TPH		<50.3	50.3				
Total GRO-DRO		<50.3	50.3				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 640499

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9

Sample Id:	**FS02A**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640499-001	Date Collected:	10.18.19 15.25	Sample Depth:	5 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	**65.6**	9.98	mg/kg	10.22.19 15.32		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	10.21.19 16.00	Basis:	Wet Weight
Seq Number:	3104978				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	10.21.19 19.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	10.21.19 19.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	10.21.19 19.29	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	10.21.19 19.29	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	10.21.19 19.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	72	%	70-135	10.21.19 19.29	
o-Terphenyl	84-15-1	72	%	70-135	10.21.19 19.29	

Certificate of Analytical Results 640499

LT Environmental, Inc., Arvada, CO

North Brushy Draw Federal 35-9

Sample Id:	**FS02A**	Matrix:	Soil	Date Received:	10.21.19 09.10
Lab Sample Id:	640499-001	Date Collected:	10.18.19 15.25	Sample Depth:	5 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 07.25	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	10.22.19 07.25	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	10.22.19 07.25	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	10.22.19 07.25	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	10.22.19 07.25	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	10.22.19 07.25	U	1
Total BTEX		<0.00100	0.00100	mg/kg	10.22.19 07.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	10.22.19 07.25	
4-Bromofluorobenzene	460-00-4	115	%	70-130	10.22.19 07.25	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 640499

LT Environmental, Inc.

North Brushy Draw Federal 35-9

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3105170 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688575-1-BLK — LCS Sample Id: 7688575-1-BKS — 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 — Prep Method: E300P
Seq Number: 3105170 — Matrix: Solid — Date Prep: 10.21.19
Parent Sample Id: 640497-001 — MS Sample Id: 640497-001 S — 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 — Prep Method: E300P
Seq Number: 3105170 — Matrix: Solid — Date Prep: 10.21.19
Parent Sample Id: 640502-004 — MS Sample Id: 640502-004 S — 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 — Prep Method: SW8015P
Seq Number: 3104978 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688582-1-BLK — LCS Sample Id: 7688582-1-BKS — LCSD Sample Id: 7688582-1-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	888	89	913	91	70-135	3	35	mg/kg	10.21.19 18:30	
Diesel Range Organics (DRO)	<50.0	1000	816	82	825	83	70-135	1	35	mg/kg	10.21.19 18:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	90		118		109		70-135	%	10.21.19 18:30
o-Terphenyl	94		112		106		70-135	%	10.21.19 18:30

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3104978 — Matrix: Solid — Date Prep: 10.21.19
MB Sample Id: 7688582-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.21.19 18:30	

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 640499

LT Environmental, Inc.

North Brushy Draw Federal 35-9

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3104978 | Matrix: Soil | Date Prep: 10.21.19
Parent Sample Id: 640498-002 | MS Sample Id: 640498-002 S | MSD Sample Id: 640498-002 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)	<50.6	1010	852	84	866	86	70-135	2	35	mg/kg	10.21.19 19:09	
Diesel Range Organics (DRO)	<50.6	1010	774	77	799	79	70-135	3	35	mg/kg	10.21.19 19:09	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	84		100		70-135	%	10.21.19 19:09
o-Terphenyl	81		86		70-135	%	10.21.19 19:09

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3104977 | Matrix: Solid | Date Prep: 10.21.19
MB Sample Id: 7688601-1-BLK | LCS Sample Id: 7688601-1-BKS | 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 | Prep Method: SW5030B
Seq Number: 3104977 | Matrix: Soil | Date Prep: 10.21.19
Parent Sample Id: 640495-008 | MS Sample Id: 640495-008 S | 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 [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

Work Order No: 640499

XENCO LABORATORIES

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)

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Project Manager:	Chris McKisson	Bill to: (if different)	Chris McKisson
Company Name:	LT Environmental, Inc.	Company Name:	LT Environmental
Address:	820 Megan Avenue, Unit B	Address:	
City, State ZIP:	Rifle, CO 81650	City, State ZIP:	
Phone:	(970) 285-9985	Email:	llaumbach@ltenv.com, cmckisson@ltenv.com, asmith@ltenv.com

Work Order Comments

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

Project Name:	North Brushy Draw Federal 35-9	Turn Around	
Project Number:	34819050	Routine	X
P.O. Number:	Eddy County, NM/ Task #002	Rush:	
Sampler's Name:	Lynda Laumbach	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	2.4	Thermometer ID	
Received Intact:	Yes No	T-NM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:	1

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS02A	S	10/18/2019	15:25	5'	1	X	X	X

Work Order Notes

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

Sample Comments

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10/21/2019 09:10	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

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

Work Order #: 640499

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?	**Yes**
#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

Jessica Kramer