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

May 3, 2019

Mr. Bradford Billings
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: Request for Closure
WPX Energy Permian, Inc.
Remediation Permit Number 2RP-4000 - NAB1633449255
RDX 17-2
Eddy County, New Mexico

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of WPX Energy Permian, Inc. (WPX), is pleased to present the following letter report detailing characterization soil sampling activities at the RDX 17-2 well pad (Site) located in Unit G, Section 17, Township 26 South, Range 30 East, in Eddy County, New Mexico, as shown in Figure 1. Soil sampling activities were conducted in response to a release of approximately 10 barrels (bbls) of produced water containing traces of crude oil due to a mechanical failure in a connector on a four-inch poly line connection. The release was discovered on November 2, 2016. Approximately 5 bbls of fluids were recovered using a vacuum truck. The release affected approximately 2,600 square feet of the well pad surface and pipeline right-of-way (ROW) south of the well pad. The release footprint was mapped and the impacted area within the well pad perimeter was scraped and collected for disposal. WPX reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on November 16, 2016 and was assigned Remediation Permit (RP) Number 2RP-4000 (Attachment 1). Please note that the location of release information submitted on the original Form C-141 is incorrect and has been rectified on the final closure Form C-141. Based on the initial response efforts and the results of the characterization soil sampling, WPX is requesting no further action for this release event.

BACKGROUND

The final site characterization occurred after August 14, 2018; therefore, LTE determined closure criteria according to Table 1, the Closure Criteria for Soils Impacted by a Release, of the New Mexico Administrative Code (NMAC) 19.15.29.12. Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on known aquifer properties and the elevation difference between the Site and an identified water well. The nearest permitted water well that has depth to water information is C04068, located approximately 1,750 feet east of the Site and at an identical elevation. Water well C04068 was an exploratory borehole to

determine depth to groundwater, drilled to a total depth of 125 feet bgs with no groundwater encountered. Due to the proximity and similar elevation of this dry borehole, LTE assumes the depth to groundwater is greater than 125 feet. The nearest permitted water well with depth to water data is C01361, located approximately 7,357 feet north of the Site. Water well C01361 has a reported depth to water of 184 feet bgs and is approximately 18 feet higher in elevation than the Site. The closest surface water to the Site is a pond located approximately 685 feet northeast of the Site. The Site is greater than 300 feet from any occupied residence, school, hospital, institution, church or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within an unstable area, 100-year floodplain, or overlying a subsurface mine. The Site is located in a medium 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); 2,500 mg/kg total petroleum hydrocarbons (TPH); 1,000 mg/kg TPH-gasoline range organics (GRO) and TPH-diesel range organics (DRO); and 20,000 mg/kg chloride.

INITIAL SOIL SAMPLING

On September 24, 2018, LTE was on site to collect characterization soil samples from the former release area to confirm that impacted soil was successfully removed during initial spill response activities or to assess the lateral and vertical extent of any potential remaining soil impacts. The soil sample locations (Figure 2) were selected based on information provided in the initial Form C-141, a map of the release extent completed by WPX shortly after the release occurred, and field observations. Soil samples were collected using a hand auger and backhoe within the former release footprint on the pad surface from four locations (SS01, SS02, SS03, and SS04). Soil samples were collected at depths of 0.5 feet bgs and 1 foot bgs at each location. Photographs of the Site during sampling activities are included as Attachment 2. The soil samples were field screened for volatile aromatic hydrocarbons using a photo-ionization detector (PID) and chlorides using Hach® chloride QuanTab® test strips. Field screening did not indicate impacts to soil, and no soil staining was observed. PID results ranged from 0.0 parts per million (ppm) in SS03 at 0.5 feet bgs to 3.7 ppm in SS04 at 1 foot bgs. The soil samples were placed directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis and immediately placed on ice. The samples were shipped at 4 degrees Celsius (°C) to Xenco Laboratories in Midland, Texas, under strict chain-of-custody procedures for analysis of BTEX by United States Environmental Protection Agency (USEPA) Method 8021B, TPH-GRO, TPH-DRO, and TPH-MRO by USEPA Method 8015M, and chloride by USEPA Method 300.0.

Laboratory analytical results of soil sample collected at locations SS01 through SS04 at 0.5 feet bgs and 1 foot bgs indicated BTEX, TPH, and chloride concentrations were either below the laboratory detection limit or compliant with the NMOCD Table 1 closure criteria. However, WPX proceeded with excavation in the top four feet of the subsruface to address chloride concentrations exceeding 600 mg/kg. Chloride concentrations ranged from 83.3 mg/kg in soil

sample SS03 at 1 foot bgs to 2,230 mg/kg in soil sample SS01 at 1 foot bgs. Laboratory analytical results are presented on Figure 2 and summarized in Table 1. The complete laboratory analytical reports are included as Attachment 3.

EXCAVATION

From March 4 through March 28, 2019, LTE directed excavation activities to address chloride concentrations in soil sample locations SS01, SS02 and SS04. The excavation area south of the tank battery measured approximately 156 square feet in area and 1.5 feet bgs deep. The excavation area to the east of the tank battery measured approximately 414 square feet with depths ranging from 0.5 feet bgs to 2 feet bgs. Following the competition of excavation activities, 5-point composite confirmation soil samples were collected from the floors (samples labeled as "FS") and sidewalls (samples labeled as "SW") of the excavation areas. Each soil sample represented 200 square feet and the samples were handled as previously described. Approximately 90 cubic yards of impacted soil were removed from the excavation areas. The excavation areas and soil sample locations area depicted on Figure 3.

ANALYTICAL RESULTS

Laboratory analytical results of excavation soil samples indicate BTEX, TPH, and chloride concentrations are compliant with the NMOCD Table 1 closure criteria and chloride concentrations are below 600 mg/kg. Laboratory analytical results are presented on Figure 3 and summarized in Table 1. The complete laboratory analytical reports are included as Attachment 3.

CONCLUSIONS

Laboratory analytical results for the eight excavation conformation soil samples indicate BTEX, TPH, and chloride concentrations are compliant with NMOCD Table 1 closure criteria and and chloride concentrations are below 600 mg/kg. Initial response efforts including immediate recovery of free-standing liquids and excavation of impacted material within the release footprint have mitigated impacts at the Site. WPX requests no further action for this release. An updated Form C-141 is included in Attachment 1.

If you have any questions or comments, please do not hesitate to contact Chris McKisson at (970) 285-9986 or cmckisson@ltenv.com.

Sincerely,

LT ENVIRONMENTAL, INC.

Chris McKisson
Project Environmental Scientist

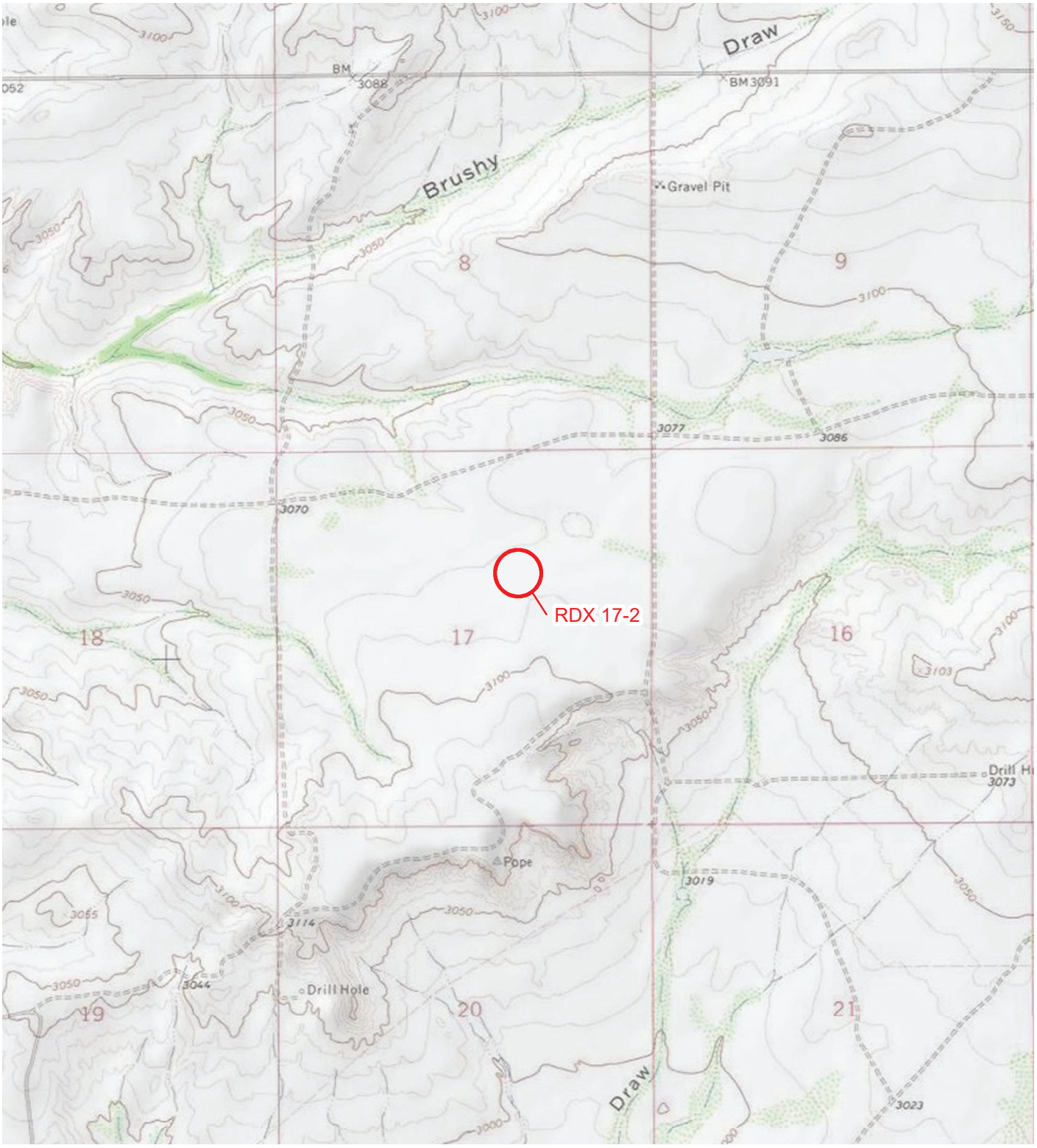
Ashley L. Ager, M.S., P.G.
Senior Geologist

cc: Jim Raley, WPX
Robert Hamlet, NMOCD
Jim Amos, BLM
Crystal Weaver, BLM

Attachments:

Figure 1 - Site Location Map
Figure 2 – Preliminary Soil Sample Locations
Figure 3 – Excavation Soil Sample Locations
Table 1 - Soil Analytical Results
Attachment 1 – Form C-141
Attachment 2 – Photographic Log
Attachment 3 - Laboratory Analytical Reports

FIGURES



LEGEND

SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-4000

FIGURE 1
SITE LOCATION MAP
RDX 17-2
UNIT G SEC 17 T26S R30E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

P:\WPX\GIS\MXD\034818003_RDX 17-2\034818003_FIG01_SL_2018_4000.mxd

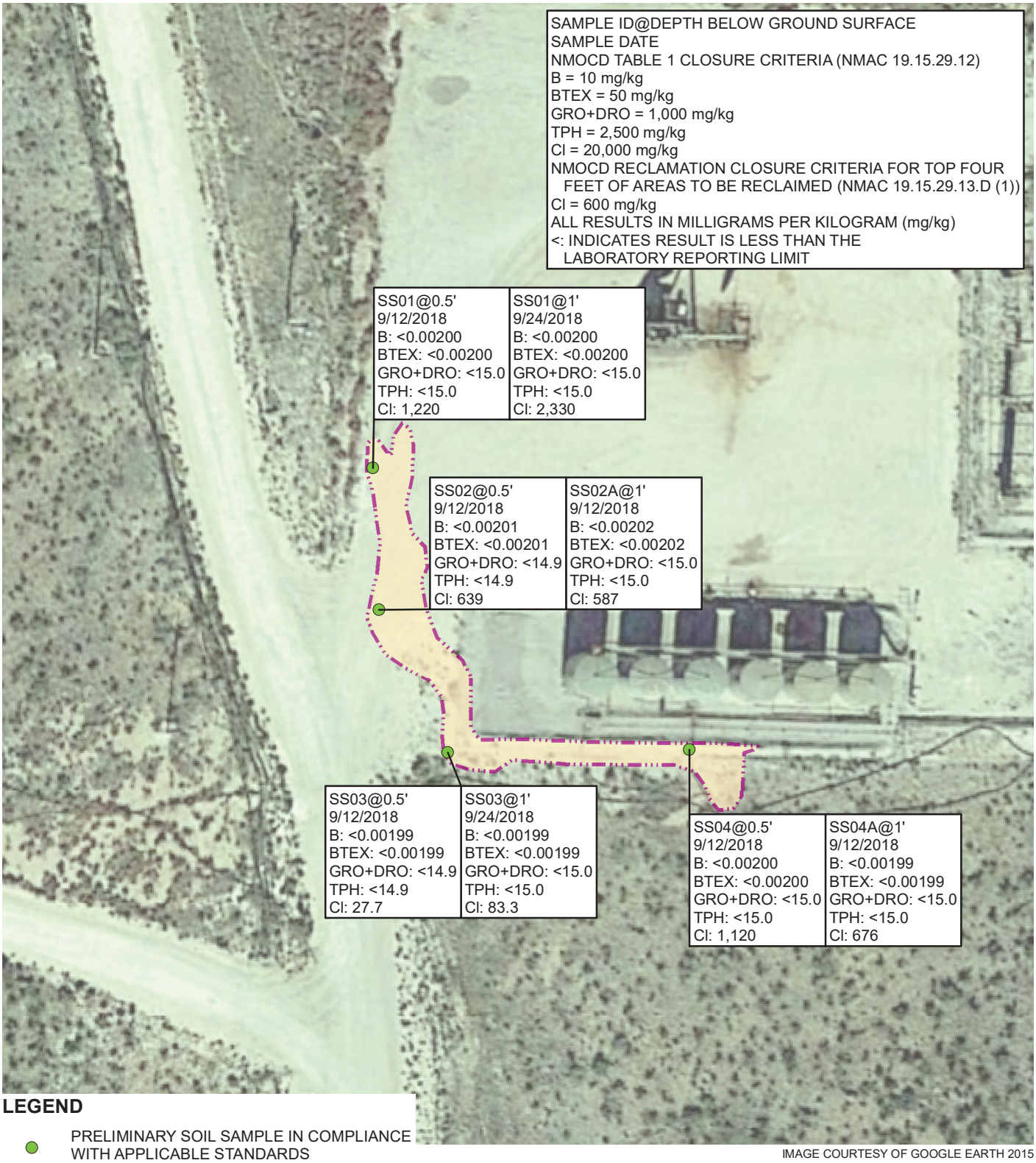


IMAGE COURTESY OF GOOGLE EARTH 2015

LEGEND

PRELIMINARY SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE STANDARDS

RELEASE EXTENT
(GPS OF RELEASE EXTENT MAPPED BY WPX IN 12-2016)

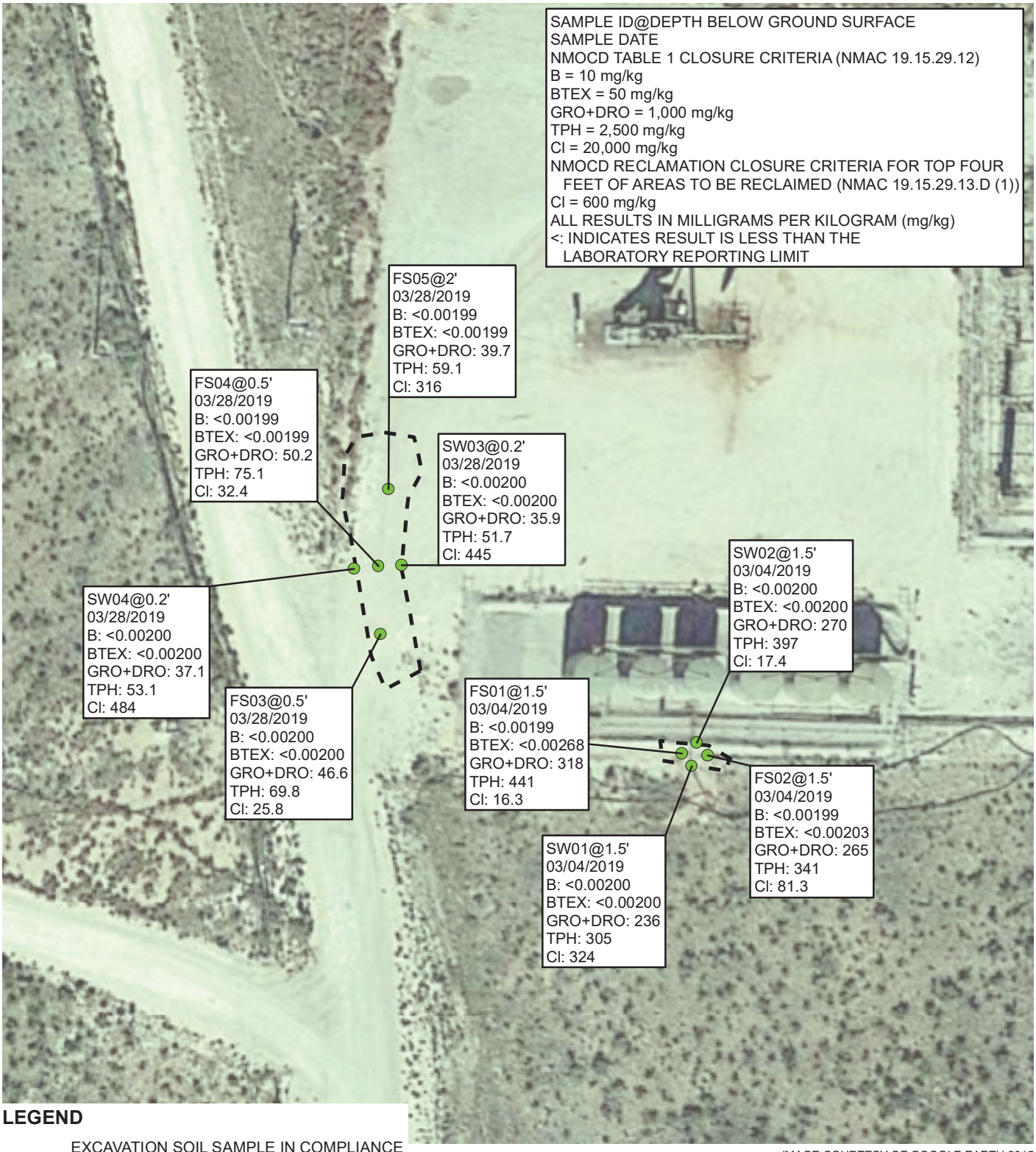
B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-4000

0 50 100
Feet

N

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
RDX 17-2
UNIT G SEC 17 T26S R30E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

P:\WPX\GIS\MXD\034818003_RDX 17-2\034818003_FIG02_PRELIMINARY SS_2019_4000_1.mxd



LEGEND

EXCAVATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE STANDARDS

EXCAVATION EXTENT

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-4000

IMAGE COURTESY OF GOOGLE EARTH 2015

0 50 100
Feet

N

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
RDX 17-2
UNIT G SEC 17 T26S R30E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

P:\WPX\GIS\MXD\034818003_RDX 17-2\034818003_FIG03_EXC_SS_2019_4000_1.mxd

TABLE

TABLE 1
SOIL ANALYTICAL RESULTS

RDX 17-2
REMEDIATION PERMIT NUMBER 2RP-4000
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	09/24/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	1,220
SS02	0.5	09/24/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	639
SS03	0.5	09/24/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	27.7
SS04	0.5	09/24/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	1,120
SS02A	1	09/24/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	587
SS04A	1	09/24/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	676
SS01	1	09/24/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	2,230
SS03	1	09/24/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	83.3
FS01	1.5	03/04/2019	<0.00199	0.00268	<0.00199	<0.00199	0.00268	<15.0	318	123	318	441	16.3
FS02	1.5	03/04/2019	<0.00199	0.00268	<0.00199	<0.00199	0.00203	<14.9	265	75.7	265	341	81.3
FS03	0.5	03/28/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	46.6	23.2	46.6	69.8	25.8
FS04	0.5	03/28/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	50.2	24.9	50.2	75.1	32.4
FS05	2	03/28/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	39.7	19.4	39.7	59.1	316
SW01	0-1.5	03/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	236	69.4	236	305	324
SW02	0-1.5	03/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	270	127	270	397	17.4
SW03	0.2	03/28/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	35.9	15.8	35.9	51.7	445
SW04	0.2	03/28/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	37.1	16	37.1	53.1	484
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**

Notes:

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
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
* - indicates sample was collected in area to be reclaimed after remediation is complete; closure criteria for chloride concentrationin the top 4 feet of soil is 600 mg/kg
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018 NMAC -New Mexico Administrative Code

ATTACHMENT 1: FORM C-141

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

State of New Mexico
Energy Minerals and Natural Resources

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

NM OIL CONSERVATION
ARTESIA DISTRICT
NOV 29 2016
RECEIVED

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1633449255

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company WPX Energy Inc/RKI 246289	Contact Karolina Blaney
Address 5315 Buena Vista Dr.	Telephone No. 970 589 0743
Facility Name: RDX 17-2	Facility Type: Well Pad

Surface Owner: Federal	Mineral Owner: Federal	API No. 30- 015-36464

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	17	26S	30E	330	FSL	790	FEL	Eddy

Latitude: 32.030564 N **Longitude**: -103.8912511 W

NATURE OF RELEASE

Type of Release. Produced Water and Oil	Volume of Release: 10 Bbls	Volume Recovered: 5 Bbls
Source of Release Wellhead	Date and Hour of Occurrence 11/2/2016	Date and Hour of Discovery 11/2/2016 – 10:30 hrs MT
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? NMOCD Heather Patterson & Michael Bratcher, BLM Shelly Tucker	
By Whom? Karolina Blaney	Date and Hour: 11/10/16– 17:00 hrs MT	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*

This spill was caused by mechanical failure. A T connection on a 4" poly line failed which resulted in a produced water spill; approximately 10 bbls was spilled with 5 bbls recovered. The spill was contained within the pipeline ROW and the well pad area.

Describe Area Affected and Cleanup Action Taken.*

The impacted area was mapped. The impacted area within the pad's perimeter was scraped off and stored on location pending disposal. The area within the pipeline ROW was mixed with a bioremediation product. The impacted areas will be sampled for BTEX, TPH, and chlorides in accordance with NM OCD Guidelines for Remediation of Leaks, Spills, and Releases. Further remediation will be based on the delineation results.

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

Signature: Karolina Blaney	OIL CONSERVATION DIVISION
Printed Name: Karolina Blaney	Approved by Environmental Specialist:
Title: Environmental Specialist	Approval Date: 11/30/16 Expiration Date: NA
E-mail Address: Karolina.blaney@wpxenergy.com	Conditions of Approval: Attached ☑
Date: 11/16/2016 Phone: 970-589-0743	

* Attach Additional Sheets If Necessary

2RP-4000

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	**2RP-4000**
Facility ID	**N/A**
Application ID	

Release Notification

Responsible Party

Responsible Party	**WPX Energy, Inc.**	OGRID	**246289**
Contact Name	**Jim Raley**	Contact Telephone	**575-689-7597**
Contact email	**James.Raley@wpxenergy.com**	Incident # *(assigned by OCD)*	2RP-4000
Contact mailing address	**5315 Buena Vista Dr., Carlsbad, NM 88220**		

Location of Release Source

Latitude **32.030564 N** Longitude **-103.8912511 W**
(NAD 83 in decimal degrees to 5 decimal places)

Site Name **RDX 17-2**	Site Type **Well Pad**
Date Release Discovered 11/**2/2016 – 10:30 hrs MT**	API# *(if applicable)* **30-015-36464**

Unit Letter	Section	Township	Range	County
A	**17**	**26S**	**30E**	**Eddy**

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 10 bbls	Volume Recovered (bbls) 5 bbls
	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
This spill was caused by mechanical failure. A T connection on a 4" poly line failed which resulted in a produced water spill; approximately 10 bbls were spilled with 5 bbls recovered. The spill was contained within the pipeline ROW and the well pad area.

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Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4000
Facility ID	N/A
Application ID	

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

Initial Response

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

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

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

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

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

Printed Name: **Jim Raley** Title: **Environmental Specialist**

Signature: Jim Raley Date: **5/3/2019**

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

OCD Only

Received by: _____ Date: _____

Incident ID	NAB1633449255
District RP	**2RP-4000**
Facility ID	**N/A**
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	NAB1633449255
District RP	2RP-4000
Facility ID	N/A
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: **5/3/2019**

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

OCD Only

Received by: Jocelyn Harimon Date: 08/11/2022

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NAB1633449255
District RP	2RP-4000
Facility ID	N/A
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: **5/3/2019**

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

OCD Only

Received by: Jocelyn Harimon Date: 08/11/2022

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

Closure Approved by: Brittany Hall Date: 11/2/2022

Printed Name: Brittany Hall Title: Environmental Specialist

ATTACHMENT 2: PHOTORAPHIC LOG

Release area, view looking east.

Project: 034818003	WPX Energy, Inc. RDX 17-2	LTE Advancing Opportunity
September 7, 2018	Photographic Log	

Release area, view looking south.

Project: 034818003	WPX Energy, Inc. RDX 17-2	LTE Advancing Opportunity
September 7, 2018	Photographic Log	

Release area, view looking southeast.

Project: 034818003	WPX Energy, Inc. RDX 17-2	LTE Advancing Opportunity
September 7, 2018	Photographic Log	

Southern excavation area, view looking west

Project: 034818003	WPX Energy, Inc. RDX 17-2	LTE Advancing Opportunity
September 7, 2018	Photographic Log	

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS

Analytical Report 599233

for

LT Environmental, Inc.

Project Manager: Adrian Baker

RDX-17-2

25-SEP-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-16)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

25-SEP-18

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

Reference: XENCO Report No(s): **599233**
RDX-17-2
Project Address: Eddy

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 599233. 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. 599233 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 599233

LT Environmental, Inc., Arvada, CO

RDX-17-2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	09-12-18 14:45	6 In	599233-001
SS02	S	09-12-18 14:55	6 In	599233-002
SS03	S	09-12-18 15:00	6 In	599233-003
SS04	S	09-12-18 15:05	6 In	599233-004
SS02A	S	09-12-18 15:40	12 In	599233-005
SS04A	S	09-12-18 16:00	12 In	599233-006

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: RDX-17-2

Project ID:
Work Order Number(s): *599233*

Report Date: *25-SEP-18*
Date Received: *09/16/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3063623 BTEX by EPA 8021B

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

Certificate of Analysis Summary 599233

LT Environmental, Inc., Arvada, CO

Project Name: RDX-17-2

Project Id:
Contact: Adrian Baker
Project Location: Eddy

Date Received in Lab: Sun Sep-16-18 09:00 am
Report Date: 25-SEP-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	599233-001		599233-002		599233-003		599233-004		599233-005		599233-006	
	Field Id:	SS01		SS02		SS03		SS04		SS02A		SS04A	
	Depth:	6- In		6- In		6- In		6- In		12- In		12- In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-12-18 14:45		Sep-12-18 14:55		Sep-12-18 15:00		Sep-12-18 15:05		Sep-12-18 15:40		Sep-12-18 16:00	
BTEX by EPA 8021B	***Extracted:***	Sep-18-18 08:00		Sep-18-18 08:00		Sep-18-18 08:00		Sep-18-18 08:00		Sep-18-18 08:00		Sep-18-18 08:00	
	Analyzed:	Sep-18-18 15:49		Sep-18-18 16:11		Sep-18-18 16:32		Sep-18-18 16:53		Sep-18-18 17:14		Sep-18-18 17:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
m,p-Xylenes		<0.00401	0.00401	<0.00402	0.00402	<0.00398	0.00398	<0.00399	0.00399	<0.00403	0.00403	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	Sep-20-18 09:00		Sep-20-18 09:00		Sep-20-18 09:00		Sep-20-18 09:00		Sep-20-18 09:00		Sep-20-18 09:00	
	Analyzed:	Sep-20-18 13:41		Sep-20-18 13:46		Sep-20-18 12:39		Sep-20-18 13:52		Sep-20-18 13:58		Sep-20-18 14:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1220	5.00	639	5.00	27.7	4.95	1120	5.00	587	4.97	676	5.05
TPH by SW8015 Mod	***Extracted:***	Sep-17-18 11:00		Sep-17-18 11:00		Sep-17-18 11:00		Sep-17-18 11:00		Sep-17-18 11:00		Sep-17-18 11:00	
	Analyzed:	Sep-17-18 17:35		Sep-17-18 17:56		Sep-17-18 18:16		Sep-17-18 18:36		Sep-17-18 18:56		Sep-17-18 19:16	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0

Jessica Kramer
Project Assistant

Certificate of Analytical Results 599233

LT Environmental, Inc., Arvada, CO

RDX-17-2

Sample Id: **SS01** Matrix: Soil Date Received:09.16.18 09.00

Lab Sample Id: 599233-001 Date Collected: 09.12.18 14.45 Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: SCM % Moisture:

Analyst: SCM Date Prep: 09.20.18 09.00 Basis: Wet Weight

Seq Number: 3063936

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1220**	5.00	mg/kg	09.20.18 13.41		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 09.17.18 11.00 Basis: Wet Weight

Seq Number: 3063509

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.17.18 17.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.17.18 17.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	09.17.18 17.35	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.17.18 17.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	09.17.18 17.35	
o-Terphenyl	84-15-1	93	%	70-135	09.17.18 17.35	

Certificate of Analytical Results 599233

LT Environmental, Inc., Arvada, CO

RDX-17-2

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	09.16.18 09.00
Lab Sample Id:	599233-001	Date Collected:	09.12.18 14.45	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.18.18 08.00	Basis:	Wet Weight
Seq Number:	3063623				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.18.18 15.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.18.18 15.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.18.18 15.49	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.18.18 15.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.18.18 15.49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.18.18 15.49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.18.18 15.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	09.18.18 15.49	
1,4-Difluorobenzene	540-36-3	109	%	70-130	09.18.18 15.49	

Certificate of Analytical Results 599233

LT Environmental, Inc., Arvada, CO

RDX-17-2

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	09.16.18 09.00
Lab Sample Id:	599233-002	Date Collected:	09.12.18 14.55	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	09.20.18 09.00	Basis:	Wet Weight
Seq Number:	3063936				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**639**	5.00	mg/kg	09.20.18 13.46		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.17.18 11.00	Basis:	Wet Weight
Seq Number:	3063509				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.17.18 17.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	09.17.18 17.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	09.17.18 17.56	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	09.17.18 17.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	09.17.18 17.56	
o-Terphenyl	84-15-1	95	%	70-135	09.17.18 17.56	

Certificate of Analytical Results 599233

LT Environmental, Inc., Arvada, CO

RDX-17-2

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	09.16.18 09.00
Lab Sample Id:	599233-002	Date Collected:	09.12.18 14.55	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.18.18 08.00	Basis:	Wet Weight
Seq Number:	3063623				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.18.18 16.11	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.18.18 16.11	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.18.18 16.11	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.18.18 16.11	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.18.18 16.11	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.18.18 16.11	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.18.18 16.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	70-130	09.18.18 16.11	
1,4-Difluorobenzene	540-36-3	105	%	70-130	09.18.18 16.11	

Certificate of Analytical Results 599233

LT Environmental, Inc., Arvada, CO

RDX-17-2

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	09.16.18 09.00
Lab Sample Id:	599233-003	Date Collected:	09.12.18 15.00	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	09.20.18 09.00	Basis:	Wet Weight
Seq Number:	3063936				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**27.7**	4.95	mg/kg	09.20.18 12.39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.17.18 11.00	Basis:	Wet Weight
Seq Number:	3063509				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.17.18 18.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	09.17.18 18.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	09.17.18 18.16	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	09.17.18 18.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	09.17.18 18.16	
o-Terphenyl	84-15-1	96	%	70-135	09.17.18 18.16	

Certificate of Analytical Results 599233

LT Environmental, Inc., Arvada, CO

RDX-17-2

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	09.16.18 09.00
Lab Sample Id:	599233-003	Date Collected:	09.12.18 15.00	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.18.18 08.00	Basis:	Wet Weight
Seq Number:	3063623				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.18.18 16.32	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.18.18 16.32	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.18.18 16.32	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.18.18 16.32	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.18.18 16.32	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.18.18 16.32	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.18.18 16.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	09.18.18 16.32	
1,4-Difluorobenzene	540-36-3	110	%	70-130	09.18.18 16.32	

Certificate of Analytical Results 599233

LT Environmental, Inc., Arvada, CO

RDX-17-2

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	09.16.18 09.00
Lab Sample Id:	599233-004	Date Collected:	09.12.18 15.05	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	09.20.18 09.00	Basis:	Wet Weight
Seq Number:	3063936				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1120**	5.00	mg/kg	09.20.18 13.52		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.17.18 11.00	Basis:	Wet Weight
Seq Number:	3063509				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.17.18 18.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.17.18 18.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	09.17.18 18.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.17.18 18.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.17.18 18.36	
o-Terphenyl	84-15-1	98	%	70-135	09.17.18 18.36	

Certificate of Analytical Results 599233

LT Environmental, Inc., Arvada, CO

RDX-17-2

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	09.16.18 09.00
Lab Sample Id:	599233-004	Date Collected:	09.12.18 15.05	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.18.18 08.00	Basis:	Wet Weight
Seq Number:	3063623				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.18.18 16.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.18.18 16.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.18.18 16.53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.18.18 16.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.18.18 16.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.18.18 16.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.18.18 16.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	09.18.18 16.53	
4-Bromofluorobenzene	460-00-4	95	%	70-130	09.18.18 16.53	

Certificate of Analytical Results 599233

LT Environmental, Inc., Arvada, CO

RDX-17-2

Sample Id:	**SS02A**	Matrix:	Soil	Date Received:	09.16.18 09.00
Lab Sample Id:	599233-005	Date Collected:	09.12.18 15.40	Sample Depth:	12 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	09.20.18 09.00	Basis:	Wet Weight
Seq Number:	3063936				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**587**	4.97	mg/kg	09.20.18 13.58		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.17.18 11.00	Basis:	Wet Weight
Seq Number:	3063509				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.17.18 18.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.17.18 18.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	09.17.18 18.56	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.17.18 18.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	09.17.18 18.56	
o-Terphenyl	84-15-1	96	%	70-135	09.17.18 18.56	

Certificate of Analytical Results 599233

LT Environmental, Inc., Arvada, CO

RDX-17-2

Sample Id:	**SS02A**	Matrix:	Soil	Date Received:	09.16.18 09.00
Lab Sample Id:	599233-005	Date Collected:	09.12.18 15.40	Sample Depth:	12 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.18.18 08.00	Basis:	Wet Weight
Seq Number:	3063623				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.18.18 17.14	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.18.18 17.14	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.18.18 17.14	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.18.18 17.14	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.18.18 17.14	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.18.18 17.14	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.18.18 17.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	09.18.18 17.14	
4-Bromofluorobenzene	460-00-4	91	%	70-130	09.18.18 17.14	

Certificate of Analytical Results 599233

LT Environmental, Inc., Arvada, CO

RDX-17-2

Sample Id:	**SS04A**	Matrix:	Soil	Date Received:	09.16.18 09.00
Lab Sample Id:	599233-006	Date Collected:	09.12.18 16.00	Sample Depth:	12 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	09.20.18 09.00	Basis:	Wet Weight
Seq Number:	3063936				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**676**	5.05	mg/kg	09.20.18 14.04		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.17.18 11.00	Basis:	Wet Weight
Seq Number:	3063509				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.17.18 19.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.17.18 19.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	09.17.18 19.16	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.17.18 19.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.17.18 19.16	
o-Terphenyl	84-15-1	97	%	70-135	09.17.18 19.16	

Certificate of Analytical Results 599233

LT Environmental, Inc., Arvada, CO

RDX-17-2

Sample Id:	**SS04A**	Matrix:	Soil	Date Received:	09.16.18 09.00
Lab Sample Id:	599233-006	Date Collected:	09.12.18 16.00	Sample Depth:	12 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.18.18 08.00	Basis:	Wet Weight
Seq Number:	3063623				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.18.18 17.34	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.18.18 17.34	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.18.18 17.34	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.18.18 17.34	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.18.18 17.34	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.18.18 17.34	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.18.18 17.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	09.18.18 17.34	
4-Bromofluorobenzene	460-00-4	85	%	70-130	09.18.18 17.34	

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 599233

LT Environmental, Inc.

RDX-17-2

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3063936 — Matrix: Solid — Date Prep: 09.20.18
MB Sample Id: 7662680-1-BLK — LCS Sample Id: 7662680-1-BKS — LCSD Sample Id: 7662680-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	252	101	251	100	90-110	0	20	mg/kg	09.20.18 11:09	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3063936 — Matrix: Soil — Date Prep: 09.20.18
Parent Sample Id: 599233-003 — MS Sample Id: 599233-003 S — MSD Sample Id: 599233-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	27.7	248	283	103	283	103	90-110	0	20	mg/kg	09.20.18 12:45	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3063936 — Matrix: Soil — Date Prep: 09.20.18
Parent Sample Id: 599236-002 — MS Sample Id: 599236-002 S — MSD Sample Id: 599236-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	132	249	382	100	383	101	90-110	0	20	mg/kg	09.20.18 11:26	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3063509 — Matrix: Solid — Date Prep: 09.17.18
MB Sample Id: 7662483-1-BLK — LCS Sample Id: 7662483-1-BKS — LCSD Sample Id: 7662483-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	918	92	926	93	70-135	1	20	mg/kg	09.17.18 11:33	
Diesel Range Organics (DRO)	<8.13	1000	933	93	942	94	70-135	1	20	mg/kg	09.17.18 11:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		123		126		70-135	%	09.17.18 11:33
o-Terphenyl	117		101		108		70-135	%	09.17.18 11:33

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 599233

LT Environmental, Inc.

RDX-17-2

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3063509 | Matrix: Soil | Date Prep: 09.17.18
Parent Sample Id: 599220-001 | MS Sample Id: 599220-001 S | MSD Sample Id: 599220-001 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)	7.99	999	913	91	920	91	70-135	1	20	mg/kg	09.17.18 12:33	
Diesel Range Organics (DRO)	132	999	1050	92	1060	93	70-135	1	20	mg/kg	09.17.18 12:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		126		70-135	%	09.17.18 12:33
o-Terphenyl	108		103		70-135	%	09.17.18 12:33

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3063623 | Matrix: Solid | Date Prep: 09.18.18
MB Sample Id: 7662561-1-BLK | LCS Sample Id: 7662561-1-BKS | LCSD Sample Id: 7662561-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0931	93	0.0896	90	70-130	4	35	mg/kg	09.18.18 08:38	
Toluene	<0.00200	0.0998	0.0939	94	0.0882	88	70-130	6	35	mg/kg	09.18.18 08:38	
Ethylbenzene	<0.00200	0.0998	0.101	101	0.0948	95	70-130	6	35	mg/kg	09.18.18 08:38	
m,p-Xylenes	<0.00399	0.200	0.192	96	0.180	90	70-130	6	35	mg/kg	09.18.18 08:38	
o-Xylene	<0.00200	0.0998	0.0994	100	0.0942	94	70-130	5	35	mg/kg	09.18.18 08:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		100		100		70-130	%	09.18.18 08:38
4-Bromofluorobenzene	99		94		93		70-130	%	09.18.18 08:38

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3063623 | Matrix: Soil | Date Prep: 09.18.18
Parent Sample Id: 598983-013 | MS Sample Id: 598983-013 S | MSD Sample Id: 598983-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0740	73	0.0850	85	70-130	14	35	mg/kg	09.18.18 09:20	
Toluene	<0.00201	0.101	0.0747	74	0.0841	84	70-130	12	35	mg/kg	09.18.18 09:20	
Ethylbenzene	<0.00201	0.101	0.0802	79	0.0893	89	70-130	11	35	mg/kg	09.18.18 09:20	
m,p-Xylenes	<0.00402	0.201	0.152	76	0.170	85	70-130	11	35	mg/kg	09.18.18 09:20	
o-Xylene	<0.00201	0.101	0.0798	79	0.0874	87	70-130	9	35	mg/kg	09.18.18 09:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		98		70-130	%	09.18.18 09:20
4-Bromofluorobenzene	94		99		70-130	%	09.18.18 09:20

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

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

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

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

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200) | San Antonio, Texas (210-509-3334) | Phoenix, Arizona (480-355-0900)

Dallas Texas (214-902-0300) | Midland, Texas (432-704-5251)

www.xenco.com

Xenco Quote # | Xenco Job # 599233

Client / Reporting Information

Company Name / Branch: LT Environmental, Inc. Permian Office

Company Address: 3300 N "A" St. Building 1 unit 103 Midland, TX 79705

Email: abaker@ltenv.com Phone No: (432) 704-5178

Project Contact: Adrian Baker

Samplers's Name: L. Lanbach

Project Information

Project Name/Number: RDX-17-2

Project Location: EDDY

Invoice To: LT Environmental, Inc - Adrian Baker

PO Number: # 0348 18003

Analytical Information

TPH (MRO, DRO, GRO) SOILS

BTEX 8021 (only BTEX)

Chlorides (300.0)

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	SS01	6"	09/12/18	14:45	S	1									
2	SS02	6"		14:55	S										
3	SS03	6"		15:00	S										
4	SS04	6"		15:05	S										
5	SS02A	12"		15:40	S										
6	SS04A	12"		16:00	S										
7															
8															
9															
10															

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		09/12/18 07:15	Pac Man Pathfinder		9/13 15:30	9/14/18
2						0900
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice: X

Cooler Temp. 0.7 | Therm. Corr. Factor 2.0

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

Analytical Report 600267

for

LT Environmental, Inc.

Project Manager: Adrian Baker

RDX 17-2

04-OCT-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
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-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

04-OCT-18

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

Reference: XENCO Report No(s): **600267**
RDX 17-2
Project Address: Eddy 2RP-4000

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 600267. 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. 600267 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

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

Sample Cross Reference 600267

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	09-24-18 12:50	1 ft	600267-001
SS03	S	09-24-18 13:10	1 ft	600267-002

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: RDX 17-2

Project ID:
Work Order Number(s): *600267*

Report Date: *04-OCT-18*
Date Received: *09/26/2018*

Sample receipt non conformances and comments:

Per clients email requested correct sample 002 to read SS03 instead of SS02 per the COC. NEW VERSION GENERATED. JKR 10/04/18

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3064546 Inorganic Anions by EPA 300
Lab Sample ID 600267-002 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: 600267-001, -002.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3065147 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 600267

LT Environmental, Inc., Arvada, CO

Project Name: RDX 17-2

Project Id:
Contact: Adrian Baker
Project Location: Eddy 2RP-4000

Date Received in Lab: Wed Sep-26-18 09:40 am
Report Date: 04-OCT-18
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	600267-001		600267-002					
	Field Id:	SS01		SS03					
	Depth:	1- ft		1- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Sep-24-18 12:50		Sep-24-18 13:10					
BTEX by EPA 8021B	***Extracted:***	Oct-02-18 15:00		Oct-02-18 15:00					
	Analyzed:	Oct-02-18 23:43		Oct-03-18 00:46					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00199	0.00199				
Toluene		<0.00200	0.00200	<0.00199	0.00199				
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199				
m,p-Xylenes		<0.00401	0.00401	<0.00398	0.00398				
o-Xylene		<0.00200	0.00200	<0.00199	0.00199				
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199				
Total BTEX		<0.00200	0.00200	<0.00199	0.00199				
Inorganic Anions by EPA 300	***Extracted:***	Sep-26-18 16:00		Sep-26-18 16:00					
	Analyzed:	Sep-26-18 18:37		Sep-26-18 17:52					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		2230	31.7	83.3	6.35				
TPH by SW8015 Mod	***Extracted:***	Sep-28-18 16:00		Sep-28-18 16:00					
	Analyzed:	Sep-28-18 22:01		Sep-28-18 22:20					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0				

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 600267

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id: **SS01** Matrix: Soil Date Received:09.26.18 09.40

Lab Sample Id: 600267-001 Date Collected: 09.24.18 12.50 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 09.26.18 16.00 Basis: Wet Weight

Seq Number: 3064546

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2230**	31.7	mg/kg	09.26.18 18.37		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 09.28.18 16.00 Basis: Wet Weight

Seq Number: 3064912

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.28.18 22.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.28.18 22.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	09.28.18 22.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.28.18 22.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	09.28.18 22.01	
o-Terphenyl	84-15-1	92	%	70-135	09.28.18 22.01	

Certificate of Analytical Results 600267

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	09.26.18 09.40
Lab Sample Id:	600267-001	Date Collected:	09.24.18 12.50	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.02.18 15.00	Basis:	Wet Weight
Seq Number:	3065147				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.02.18 23.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.02.18 23.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.02.18 23.43	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.02.18 23.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.02.18 23.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.02.18 23.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.02.18 23.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	10.02.18 23.43	
1,4-Difluorobenzene	540-36-3	96	%	70-130	10.02.18 23.43	

Certificate of Analytical Results 600267

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	09.26.18 09.40
Lab Sample Id:	600267-002	Date Collected:	09.24.18 13.10	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.26.18 16.00	Basis:	Wet Weight
Seq Number:	3064546				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**83.3**	6.35	mg/kg	09.26.18 17.52		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.28.18 16.00	Basis:	Wet Weight
Seq Number:	3064912				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.28.18 22.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.28.18 22.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	09.28.18 22.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.28.18 22.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.28.18 22.20	
o-Terphenyl	84-15-1	94	%	70-135	09.28.18 22.20	

Certificate of Analytical Results 600267

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	09.26.18 09.40
Lab Sample Id:	600267-002	Date Collected:	09.24.18 13.10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.02.18 15.00	Basis:	Wet Weight
Seq Number:	3065147				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.03.18 00.46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.03.18 00.46	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.03.18 00.46	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.03.18 00.46	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.03.18 00.46	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.03.18 00.46	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.03.18 00.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	10.03.18 00.46	
1,4-Difluorobenzene	540-36-3	93	%	70-130	10.03.18 00.46	

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 600267

LT Environmental, Inc.

RDX 17-2

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3064546 — Matrix: Solid — Date Prep: 09.26.18
MB Sample Id: 7663046-1-BLK — LCS Sample Id: 7663046-1-BKS — LCSD Sample Id: 7663046-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	251	100	256	102	90-110	2	20	mg/kg	09.26.18 16:10	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3064546 — Matrix: Soil — Date Prep: 09.26.18
Parent Sample Id: 600111-002 — MS Sample Id: 600111-002 S — MSD Sample Id: 600111-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	772	317	1060	91	1060	91	90-110	0	20	mg/kg	09.26.18 16:27	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3064546 — Matrix: Soil — Date Prep: 09.26.18
Parent Sample Id: 600267-002 — MS Sample Id: 600267-002 S — MSD Sample Id: 600267-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	83.3	317	435	111	434	111	90-110	0	20	mg/kg	09.26.18 17:57	X

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3064912 — Matrix: Solid — Date Prep: 09.28.18
MB Sample Id: 7663248-1-BLK — LCS Sample Id: 7663248-1-BKS — LCSD Sample Id: 7663248-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	987	99	1080	108	70-135	9	20	mg/kg	09.28.18 19:29	
Diesel Range Organics (DRO)	<8.13	1000	1000	100	1080	108	70-135	8	20	mg/kg	09.28.18 19:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		120		125		70-135	%	09.28.18 19:29
o-Terphenyl	100		114		115		70-135	%	09.28.18 19:29

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

QC Summary 600267

LT Environmental, Inc.

RDX 17-2

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3064912 | Matrix: Soil | Date Prep: 09.28.18
Parent Sample Id: 600266-005 | MS Sample Id: 600266-005 S | MSD Sample Id: 600266-005 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)	<7.99	999	965	97	981	98	70-135	2	20	mg/kg	09.28.18 20:26	
Diesel Range Organics (DRO)	<8.12	999	987	99	1010	101	70-135	2	20	mg/kg	09.28.18 20:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		116		70-135	%	09.28.18 20:26
o-Terphenyl	102		104		70-135	%	09.28.18 20:26

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3065147 | Matrix: Solid | Date Prep: 10.02.18
MB Sample Id: 7663421-1-BLK | LCS Sample Id: 7663421-1-BKS | LCSD Sample Id: 7663421-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0806	80	0.0858	85	70-130	6	35	mg/kg	10.02.18 18:24	
Toluene	<0.00202	0.101	0.0762	75	0.0825	82	70-130	8	35	mg/kg	10.02.18 18:24	
Ethylbenzene	<0.00202	0.101	0.0860	85	0.0947	94	70-130	10	35	mg/kg	10.02.18 18:24	
m,p-Xylenes	<0.00102	0.202	0.167	83	0.189	94	70-130	12	35	mg/kg	10.02.18 18:24	
o-Xylene	<0.00202	0.101	0.0856	85	0.0948	94	70-130	10	35	mg/kg	10.02.18 18:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		106		100		70-130	%	10.02.18 18:24
4-Bromofluorobenzene	90		102		105		70-130	%	10.02.18 18:24

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3065147 | Matrix: Soil | Date Prep: 10.02.18
Parent Sample Id: 600989-001 | MS Sample Id: 600989-001 S | MSD Sample Id: 600989-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0724	72	0.0845	85	70-130	15	35	mg/kg	10.02.18 19:07	
Toluene	<0.00200	0.100	0.0660	66	0.0758	76	70-130	14	35	mg/kg	10.02.18 19:07	X
Ethylbenzene	<0.00200	0.100	0.0676	68	0.0785	79	70-130	15	35	mg/kg	10.02.18 19:07	X
m,p-Xylenes	<0.00401	0.200	0.131	66	0.154	77	70-130	16	35	mg/kg	10.02.18 19:07	X
o-Xylene	<0.00200	0.100	0.0672	67	0.0791	79	70-130	16	35	mg/kg	10.02.18 19:07	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		101		70-130	%	10.02.18 19:07
4-Bromofluorobenzene	106		100		70-130	%	10.02.18 19:07

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

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CHAIN OF CUSTODY

Page 1 of 1

Xenco Quote #

Xenco Job # 600267

Client / Reporting Information

Company Name / Branch: LT Environmental, Inc. Permian Office
Company Address: 3300 N "A" St. Building 1 Unit 103 Midland, TX 79705
Email: abaker@ltenv.com Phone No: (432) 704-5178
Project Contact: Adrian Baker
Samplers's Name: L. Lambreth

Project Information

Project Name/Number: RDX 17-2
Project Location: EDDY 2RP-4000
Invoice To: LT Environmental, Inc. - Adrian Baker
PO Number: 034818003

Analytical Information

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX (only BTEX) 8021	TPH (DRO, GRO, MRO) 8015	Chloride (300.00)	Field Comments
1	SS01	1'	09/24	12:50	S	1								X	X	X	X	
2	SS03	1'	09/24	13:10	S	1								X	X	X	X	
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [X] Contract TAT
- [ ] 3 Day EMERGENCY

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking # 773327752107

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		09/25/2018 6:50	PAC Mail cooler	2	9/25 15:30	2 9/26/18 0940
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice: X Cooler Temp. 0.3 Thermo. Corr. Factor 0.0

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

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09/26/2018 09:40:00 AM

Work Order #: 600267

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 09/26/2018

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 09/27/2018

Jessica Kramer

Analytical Report 616485

for

LT Environmental, Inc.

Project Manager: Adrian Baker

RDX 17-2

13-MAR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
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-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

13-MAR-19

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

Reference: XENCO Report No(s): **616485**
RDX 17-2
Project Address:

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 616485. 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. 616485 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 616485

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	03-04-19 10:45	1.5 ft	616485-001
FS02	S	03-04-19 11:20	1.5 ft	616485-002
SW01	S	03-04-19 11:30	0 - 1.5 ft	616485-003
SW02	S	03-04-19 11:45	0 - 1.5 ft	616485-004

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.
Project Name: RDX 17-2

Project ID:
Work Order Number(s): *616485*

Report Date: *13-MAR-19*
Date Received: *03/05/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3082024 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 616485

LT Environmental, Inc., Arvada, CO

Project Name: RDX 17-2

Project Id:
Contact: Adrian Baker
Project Location:

Date Received in Lab: Tue Mar-05-19 02:00 pm
Report Date: 13-MAR-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	616485-001		616485-002		616485-003		616485-004					
	Field Id:	FS01		FS02		SW01		SW02					
	Depth:	1.5- ft		1.5- ft		0-1.5 ft		0-1.5 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Mar-04-19 10:45		Mar-04-19 11:20		Mar-04-19 11:30		Mar-04-19 11:45					
BTEX by EPA 8021B	***Extracted:***	Mar-12-19 15:00		Mar-12-19 15:00		Mar-12-19 15:00		Mar-12-19 15:00					
	Analyzed:	Mar-13-19 14:02		Mar-13-19 14:21		Mar-13-19 14:40		Mar-13-19 14:59					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200				
Toluene		0.00268	0.00199	0.00203	0.00199	<0.00200	0.00200	<0.00200	0.00200				
Ethylbenzene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200				
m,p-Xylenes		<0.00398	0.00398	<0.00398	0.00398	<0.00400	0.00400	<0.00401	0.00401				
o-Xylene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200				
Total Xylenes		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200				
Total BTEX		0.00268	0.00199	0.00203	0.00199	<0.00200	0.00200	<0.00200	0.00200				
Inorganic Anions by EPA 300	***Extracted:***	Mar-06-19 14:00		Mar-06-19 14:00		Mar-06-19 14:00		Mar-06-19 14:00					
	Analyzed:	Mar-07-19 10:56		Mar-07-19 16:01		Mar-07-19 16:20		Mar-07-19 16:27					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		16.3	4.97	81.3	5.03	324	4.99	17.4	4.99				
TPH by SW8015 Mod	***Extracted:***	Mar-08-19 15:00		Mar-08-19 15:00		Mar-08-19 15:00		Mar-08-19 15:00					
	Analyzed:	Mar-09-19 12:27		Mar-09-19 07:28		Mar-09-19 08:27		Mar-09-19 12:46					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0				
Diesel Range Organics (DRO)		318	15.0	265	14.9	236	14.9	270	15.0				
Motor Oil Range Hydrocarbons (MRO)		123	15.0	75.7	14.9	69.4	14.9	127	15.0				
Total TPH		441	15.0	341	14.9	305	14.9	397	15.0				

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 616485

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id: **FS01** Matrix: Soil Date Received:03.05.19 14.00

Lab Sample Id: 616485-001 Date Collected: 03.04.19 10.45 Sample Depth: 1.5 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.06.19 14.00 Basis: Wet Weight

Seq Number: 3081509

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.3**	4.97	mg/kg	03.07.19 10.56		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 03.08.19 15.00 Basis: Wet Weight

Seq Number: 3081691

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.09.19 12.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	**318**	15.0	mg/kg	03.09.19 12.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**123**	15.0	mg/kg	03.09.19 12.27		1
Total TPH	PHC635	**441**	15.0	mg/kg	03.09.19 12.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	03.09.19 12.27	
o-Terphenyl	84-15-1	95	%	70-135	03.09.19 12.27	

Certificate of Analytical Results 616485

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	03.05.19 14.00
Lab Sample Id:	616485-001	Date Collected:	03.04.19 10.45	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.12.19 15.00	Basis:	Wet Weight
Seq Number:	3082024				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.13.19 14.02	U	1
Toluene	108-88-3	**0.00268**	0.00199	mg/kg	03.13.19 14.02		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.13.19 14.02	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.13.19 14.02	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.13.19 14.02	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.13.19 14.02	U	1
Total BTEX		**0.00268**	0.00199	mg/kg	03.13.19 14.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	03.13.19 14.02	
4-Bromofluorobenzene	460-00-4	108	%	70-130	03.13.19 14.02	

Certificate of Analytical Results 616485

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id: **FS02** Matrix: Soil Date Received:03.05.19 14.00

Lab Sample Id: 616485-002 Date Collected: 03.04.19 11.20 Sample Depth: 1.5 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.06.19 14.00 Basis: Wet Weight

Seq Number: 3081509

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**81.3**	5.03	mg/kg	03.07.19 16.01		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 03.08.19 15.00 Basis: Wet Weight

Seq Number: 3081691

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.09.19 07.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	**265**	14.9	mg/kg	03.09.19 07.28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**75.7**	14.9	mg/kg	03.09.19 07.28		1
Total TPH	PHC635	**341**	14.9	mg/kg	03.09.19 07.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	03.09.19 07.28	
o-Terphenyl	84-15-1	94	%	70-135	03.09.19 07.28	

Certificate of Analytical Results 616485

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	03.05.19 14.00
Lab Sample Id:	616485-002	Date Collected:	03.04.19 11.20	Sample Depth:	1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.12.19 15.00	Basis:	Wet Weight
Seq Number:	3082024				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.13.19 14.21	U	1
Toluene	108-88-3	**0.00203**	0.00199	mg/kg	03.13.19 14.21		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.13.19 14.21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.13.19 14.21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.13.19 14.21	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.13.19 14.21	U	1
Total BTEX		**0.00203**	0.00199	mg/kg	03.13.19 14.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	03.13.19 14.21	
1,4-Difluorobenzene	540-36-3	95	%	70-130	03.13.19 14.21	

Certificate of Analytical Results 616485

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id: **SW01** Matrix: Soil Date Received:03.05.19 14.00

Lab Sample Id: 616485-003 Date Collected: 03.04.19 11.30 Sample Depth: 0 - 1.5 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.06.19 14.00 Basis: Wet Weight

Seq Number: 3081509

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**324**	4.99	mg/kg	03.07.19 16.20		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 03.08.19 15.00 Basis: Wet Weight

Seq Number: 3081691

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.09.19 08.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	**236**	14.9	mg/kg	03.09.19 08.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**69.4**	14.9	mg/kg	03.09.19 08.27		1
Total TPH	PHC635	**305**	14.9	mg/kg	03.09.19 08.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	03.09.19 08.27	
o-Terphenyl	84-15-1	95	%	70-135	03.09.19 08.27	

Certificate of Analytical Results 616485

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	03.05.19 14.00
Lab Sample Id:	616485-003	Date Collected:	03.04.19 11.30	Sample Depth:	0 - 1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.12.19 15.00	Basis:	Wet Weight
Seq Number:	3082024				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.13.19 14.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.13.19 14.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.13.19 14.40	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.13.19 14.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.13.19 14.40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.13.19 14.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.13.19 14.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	90	%	70-130	03.13.19 14.40	
4-Bromofluorobenzene	460-00-4	128	%	70-130	03.13.19 14.40	

Certificate of Analytical Results 616485

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id: **SW02** Matrix: Soil Date Received:03.05.19 14.00

Lab Sample Id: 616485-004 Date Collected: 03.04.19 11.45 Sample Depth: 0 - 1.5 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 03.06.19 14.00 Basis: Wet Weight

Seq Number: 3081509

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17.4**	4.99	mg/kg	03.07.19 16.27		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 03.08.19 15.00 Basis: Wet Weight

Seq Number: 3081691

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.09.19 12.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	**270**	15.0	mg/kg	03.09.19 12.46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**127**	15.0	mg/kg	03.09.19 12.46		1
Total TPH	PHC635	**397**	15.0	mg/kg	03.09.19 12.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	03.09.19 12.46	
o-Terphenyl	84-15-1	95	%	70-135	03.09.19 12.46	

Certificate of Analytical Results 616485

LT Environmental, Inc., Arvada, CO

RDX 17-2

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	03.05.19 14.00
Lab Sample Id:	616485-004	Date Collected:	03.04.19 11.45	Sample Depth:	0 - 1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.12.19 15.00	Basis:	Wet Weight
Seq Number:	3082024				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.13.19 14.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.13.19 14.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.13.19 14.59	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.13.19 14.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.13.19 14.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.13.19 14.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.13.19 14.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	03.13.19 14.59	
1,4-Difluorobenzene	540-36-3	95	%	70-130	03.13.19 14.59	

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 616485

LT Environmental, Inc.

RDX 17-2

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081509 — Matrix: Solid — Date Prep: 03.06.19
MB Sample Id: 7673141-1-BLK — LCS Sample Id: 7673141-1-BKS — LCSD Sample Id: 7673141-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	251	100	248	99	90-110	1	20	mg/kg	03.07.19 09:12	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081509 — Matrix: Soil — Date Prep: 03.06.19
Parent Sample Id: 616485-001 — MS Sample Id: 616485-001 S — MSD Sample Id: 616485-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	16.3	249	290	110	283	107	90-110	2	20	mg/kg	03.07.19 11:03	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3081509 — Matrix: Soil — Date Prep: 03.06.19
Parent Sample Id: 616486-003 — MS Sample Id: 616486-003 S — MSD Sample Id: 616486-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	578	248	807	92	810	94	90-110	0	20	mg/kg	03.07.19 09:32	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3081691 — Matrix: Solid — Date Prep: 03.08.19
MB Sample Id: 7673295-1-BLK — LCS Sample Id: 7673295-1-BKS — LCSD Sample Id: 7673295-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	969	97	1020	102	70-135	5	20	mg/kg	03.09.19 03:08	
Diesel Range Organics (DRO)	<8.13	1000	981	98	1050	105	70-135	7	20	mg/kg	03.09.19 03:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		114		126		70-135	%	03.09.19 03:08
o-Terphenyl	97		102		109		70-135	%	03.09.19 03:08

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 616485

LT Environmental, Inc.

RDX 17-2

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3081691 | Matrix: Soil | Date Prep: 03.08.19
Parent Sample Id: 616451-001 | MS Sample Id: 616451-001 S | MSD Sample Id: 616451-001 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)	11.5	998	1000	99	1130	112	70-135	12	20	mg/kg	03.09.19 04:08	
Diesel Range Organics (DRO)	228	998	1250	102	1400	117	70-135	11	20	mg/kg	03.09.19 04:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		127		70-135	%	03.09.19 04:08
o-Terphenyl	106		117		70-135	%	03.09.19 04:08

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3082024 | Matrix: Solid | Date Prep: 03.12.19
MB Sample Id: 7673445-1-BLK | LCS Sample Id: 7673445-1-BKS | LCSD Sample Id: 7673445-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000387	0.101	0.106	105	0.104	104	70-130	2	35	mg/kg	03.13.19 10:54	
Toluene	<0.000458	0.101	0.0936	93	0.0912	92	70-130	3	35	mg/kg	03.13.19 10:54	
Ethylbenzene	<0.000568	0.101	0.0899	89	0.0873	88	70-130	3	35	mg/kg	03.13.19 10:54	
m,p-Xylenes	<0.00102	0.201	0.179	89	0.174	87	70-130	3	35	mg/kg	03.13.19 10:54	
o-Xylene	<0.000346	0.101	0.0879	87	0.0864	87	70-130	2	35	mg/kg	03.13.19 10:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		103		104		70-130	%	03.13.19 10:54
4-Bromofluorobenzene	97		91		94		70-130	%	03.13.19 10:54

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3082024 | Matrix: Soil | Date Prep: 03.12.19
Parent Sample Id: 616483-001 | MS Sample Id: 616483-001 S | MSD Sample Id: 616483-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000393	0.100	0.0980	98	0.0955	96	70-130	3	35	mg/kg	03.13.19 11:32	
Toluene	0.000988	0.100	0.0857	85	0.0854	85	70-130	0	35	mg/kg	03.13.19 11:32	
Ethylbenzene	0.000575	0.100	0.0792	79	0.0809	81	70-130	2	35	mg/kg	03.13.19 11:32	
m,p-Xylenes	0.00127	0.200	0.158	78	0.161	80	70-130	2	35	mg/kg	03.13.19 11:32	
o-Xylene	0.000696	0.100	0.0783	78	0.0795	79	70-130	2	35	mg/kg	03.13.19 11:32	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		105		70-130	%	03.13.19 11:32
4-Bromofluorobenzene	99		101		70-130	%	03.13.19 11:32

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

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

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

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

Chain of Custody

Work Order No: 6116485

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:	Adrian Baker	Bill to: (if different)	Adrian Baker
Company Name:	LT Environmental, Inc., Permian Office	Company Name:	LT Environmental
Address:	3300 North "A" St.	Address:	3300 N "A" St
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	Midland Tx 79705
Phone:	432.704.5178	Email:	abaker@ltenv.com, llamb@ltenv.com

Work Order Comments

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

Project Name:	RDX 17-2	Turn Around	
Project Number:		Routine	☒
P.O. Number:	ERP-4000	Rush:	
Sampler's Name:	L. Lamb	Due Date:	03/12/2019

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	5.5/5.4	Thermometer ID	R8	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1	
Sample Custody Seals:	Yes No (N/A)	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA - 8015)	BTEX (EPA - 8021)	Chloride (EPA 300.0)
FS01	S	03/04/2019	10:45	1.5'	1	X	X	X
FS02	S		11:20	1.5'	1	X	X	X
SW01	S		11:30	0-1.5'	1	X	X	X
SW02	S		11:45	0-1.5'	1	X	X	X
	S							

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			3/5/19 1400	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: 03/05/2019 02:00:00 PM

Work Order #: 616485

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.4
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**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: Katie Lowe Date: 03/05/2019

Checklist reviewed by: Jessica Kramer Date: 03/05/2019

Jessica Kramer

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

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

CONDITIONS

Action 133225

CONDITIONS

Operator:	OGRID:
WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	246289
	Action Number: 133225
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	When the site is no longer being used for oil and gas operations it must meet the requirements of 19.15.29.13 NMAC.	11/2/2022