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
AUG 16 2017
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

NAB1722953239

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: RDU 54 tank battery	Facility Type: Well Pad

Surface Owner: Federal	Mineral Owner: Federal	API No. 30- 015-41975

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	27	26S	30E	778	FNL	1448	FWL	Eddy

Latitude: 32.018376N **Longitude:** -103.872455W

NATURE OF RELEASE

Type of Release. Produced Water	Volume of Release: 15 Bbls	Volume Recovered: 3 Bbls
Source of Release Flowline	Date and Hour of Occurrence 8/1/2017	Date and Hour of Discovery 8/1/2017 - 1400 hrs MT
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? NMOCD Crystal Weaver & Michael Bratcher, BLM Shelly Tucker	
By Whom? Karolina Blaney	Date and Hour: 8/2/17– 7:30 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.*

The cause of this spill is equipment failure. The Section 5 injection facility went down and there is no automatic shut in system in place that would trigger the transfer pumps from individual facility to shut down. The water transfer line from the RDU 54 tank battery got over pressured and ruptured a hole on the side of the line (southwest of the tank battery location). Approximately 15 bbls of produced water migrated for about 70 yards into the pasture.

Describe Area Affected and Cleanup Action Taken.*

The impacted area was immediately mapped with a Trimble to establish horizontal extent of impacts. The impacted area was 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 these 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

Printed Name: Karolina Blaney

Title: Environmental Specialist

E-mail Address: Karolina.blaney@wpxenergy.com

Date: 8-16-17 Phone: 970-589-0743

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Signed By

Approval Date: 8/17/17 Expiration Date: N/A

Conditions of Approval: See attached

Attached ☐ 2RP-4349

* Attach Additional Sheets If Necessary

www.emnrd.state.nm.us
Current forms are available on our website and should be used when filing regulatory documents.

Incident ID	NAB1722953239
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>110 (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.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1722953239
District RP	
Facility ID	
Application ID	

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

Printed Name: Jim Raley Title: Environmental Professional

Signature: Jim Raley Date: 9/23/2021

email: jim.raley@dvn.com Telephone: 575-689-7597

OCD Only

Received by: _____ Date: _____

Incident ID	NAB1722953239
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☑ Detailed description of proposed remediation technique
- ☑ Scaled sitemap with GPS coordinates showing delineation points
- ☑ Estimated volume of material to be remediated
- ☑ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☑ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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 Professional

Signature: Jim Raley Date: 9/23/2021

email: jim.raley@dvn.com Telephone: 575-689-7597

OCD Only

Received by: _____ Date: _____

☐ Approved ☑ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Brittany Hall Date: 10/5/2022

1. Sample results at S1 and S2 are listed in inches on the lab report. The results are listed in feet on the table, maps, and in the body of the report. Additional delineation may be needed at these points due to discrepancies. Vertical delineation at S2 is incomplete as the sample collected at the terminal depth was above the reclamation standard for chloride (600 mg/kg).
2. Delineation will need to be completed south of S2 and east of spill outline in addition to the proposed soil sample depicted on the enclosed Figure 2.
3. Include a figure with the soil boring's (MW-1) location illustrated.

WSP USA
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

June 8, 2021

District II
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: Remediation Work Plan
RDU 54 Tank Battery
Incident Number nAB1722953239 (2RP-4349)
Eddy County, New Mexico

To Whom it May Concern:

WSP USA (WSP), on behalf of WPX Energy Permian, LLC. (WPX), presents the following Remediation Work Plan detailing site assessment, previous soil sampling activities and an excavation plan at the RDU 54 Tank Battery (Site), located in Unit C, Section 27 Township 26 South, Range 30 East, Eddy County, New Mexico, as depicted on Figure 1. Based on field observations, field screening activities, and laboratory analytical results from soil sampling activities, WPX is submitting this Remediation Work Plan, describing the site assessment and soil sampling that has occurred and proposing remediation activities.

RELEASE BACKGROUND

On August 1, 2017, the over-pressurization of a water transfer line caused the release of approximately 15 barrels (bbls) of produced water into the adjacent pasture. A vacuum truck was dispatched to the Site to recover free-standing fluid; approximately 3 bbls of fluids were recovered. WPX reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on August 16, 2017 and was subsequently assigned Incident Number nAB1722953239 and Remediation Permit (RP) Number 2RP-4349.

SITE CHARACTERIZATION

WSP characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based a soil boring drilled by WPX on December 9, 2020, located approximately ½ mile south of the Site. Using a truck mounted drill rig equipped with hollow stem auger, the soil boring was advanced to a total depth of 110 feet bgs. Groundwater was not observed within the soil boring after at least 72 hours. Following the observation period, the boring was properly

plugged and abandoned. All wells used for depth to groundwater determination are depicted on Figure 1. The referenced well record is included as Attachment 1.

The closest continuously flowing or significant watercourse to the Site is an intermittent stream, located approximately 420 feet southeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). Site receptors are identified on Figure 1.

CLOSURE CRITERIA

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

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

The reclamation requirement for removal of waste containing soil with chloride and TPH concentrations of 600 mg/kg and 100 mg/kg, respectively, applies to the top 4 feet of the pasture to be reclaimed following remediation, per NMAC 19.15.29.13.D (1).

DELINEATION SOIL SAMPLING ACTIVITIES

On August 15, 2017, WPX personnel visited the Site to evaluate the extent of impacts from the release event. The release extent was mapped using a handheld Global Positioning System (GPS) unit, which is depicted on Figure 2. Two potholes (S1 and S2) were advanced to 3 feet bgs within the release footprint. The location of the potholes was mapped using a GPS unit and is depicted on Figure 2. Based on the laboratory analytical report, four soil samples were collected from every 1-foot interval starting at ground surface from each pothole. All samples were submitted to ALS Environmental (ALS) in Holland, Michigan for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8260B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015C/D; and chloride following (NEMI) Method A4500-CL E-97. To confirm the presence or absence of hydrocarbons, WPX requested the evaluation of hydrocarbon concentrations from the ground surface only. Based on laboratory analytical reports form initial delineation activities, remediation of impacted soils appeared warranted.

On May 22, 2019, WSP personnel visited the Site for further evaluation of the release extent based on information provided on the Form C-141 and proceeded to advance four delineation boreholes (BH01 through BH04) within the mapped release extent. Delineation depths were driven by field screening soil samples for chloride utilizing Hach® chloride QuanTab® test strips. WSP collected two discrete soil samples per borehole; one at 2 feet bgs in accordance with the highest field screening concentration and the other at 4 feet bgs at the borehole terminus. The borehole locations were mapped utilizing a handheld GPS unit and are depicted on Figure 2.

The delineation soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following EPA Method 8021B; TPH-GRO, TPH-DRO, and TPH-ORO following EPA Method 8015M/D; and chloride following EPA Method 300.0.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results indicated benzene, BTEX, TPH-GRO/TPH-DRO and TPH concentrations were compliant with the reclamation standard for potholes S1 and S2. Chloride concentrations exceeded the reclamation in the top four feet for potholes S1 and S2 but exhibited a trend of decreasing of chloride concentrations with depth. Benzene, BTEX, TPH-GRO/TPH-DRO, TPH and chloride concentrations for borehole samples BH01 through BH04 were below Closure reclamation standard and/or Site standards. The laboratory analytical results are summarized on the attached Table 1 and complete laboratory analytical reports are included in Attachment 4.

VEGETATION ASSESSMENT

On April 28, 2021, WSP personnel returned to the Site to assess soil and vegetation impacts within the release extent. Vegetation appeared to be unhindered by residual soil impacts and impacted area is supporting new growth. There was no evidence of surficial staining throughout the release extent.

PROPOSED WORK PLAN

Impacts within the release have been generally defined but additional sampling is required to further explore potential impacts within the release area northwest of BH02. WPX proposes advancing one borehole in the most northern area of the release on-pad to confirm the presence or absence of remaining impacts to soil. The proposed soil sample location is depicted on Figure 2. Based on laboratory analytical results for delineation boreholes BH01 through BH04, no additional remediation efforts are required in those areas within the pasture affected by the subject release.

Remediation associated with the sample locations S1 and S2 will be achieved through excavation confirmation sampling to extents compliant with reclamation standards and Closure Criteria.

CONCLUSION

Following successful removal of residual impacts as demonstrated through laboratory analytical results, a Closure Request or Deferral Request if soil impacts associated with the proposed borehole cannot be safely removed due to the configuration of the Site, will be provided to the NMOCD.

If you have any questions or comments, please do not hesitate to contact Mr. Daniel R. Moir at (303) 887-2946.

Sincerely,

WSP USA Inc.

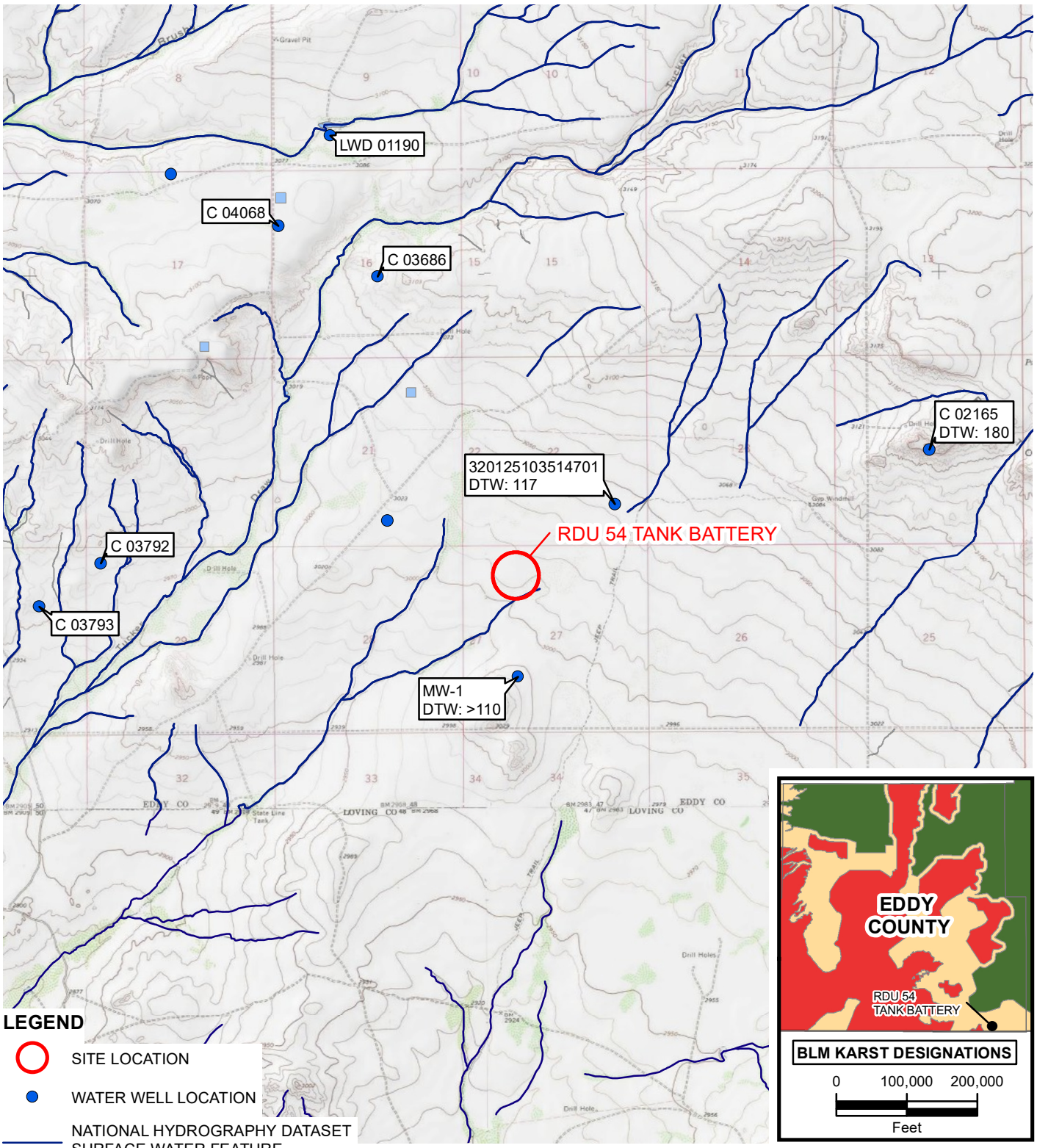
Anna Byers
Consultant, Geologist

Daniel R. Moir
Lead Consultant, Geologist

cc: Jim Raley, Devon
Bureau of Land Management

Attachments:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Referenced Well Record
Attachment 2	Photographic Log
Attachment 3	Lithologic/Soil Sampling Log
Attachment 4	Laboratory Analytical Reports



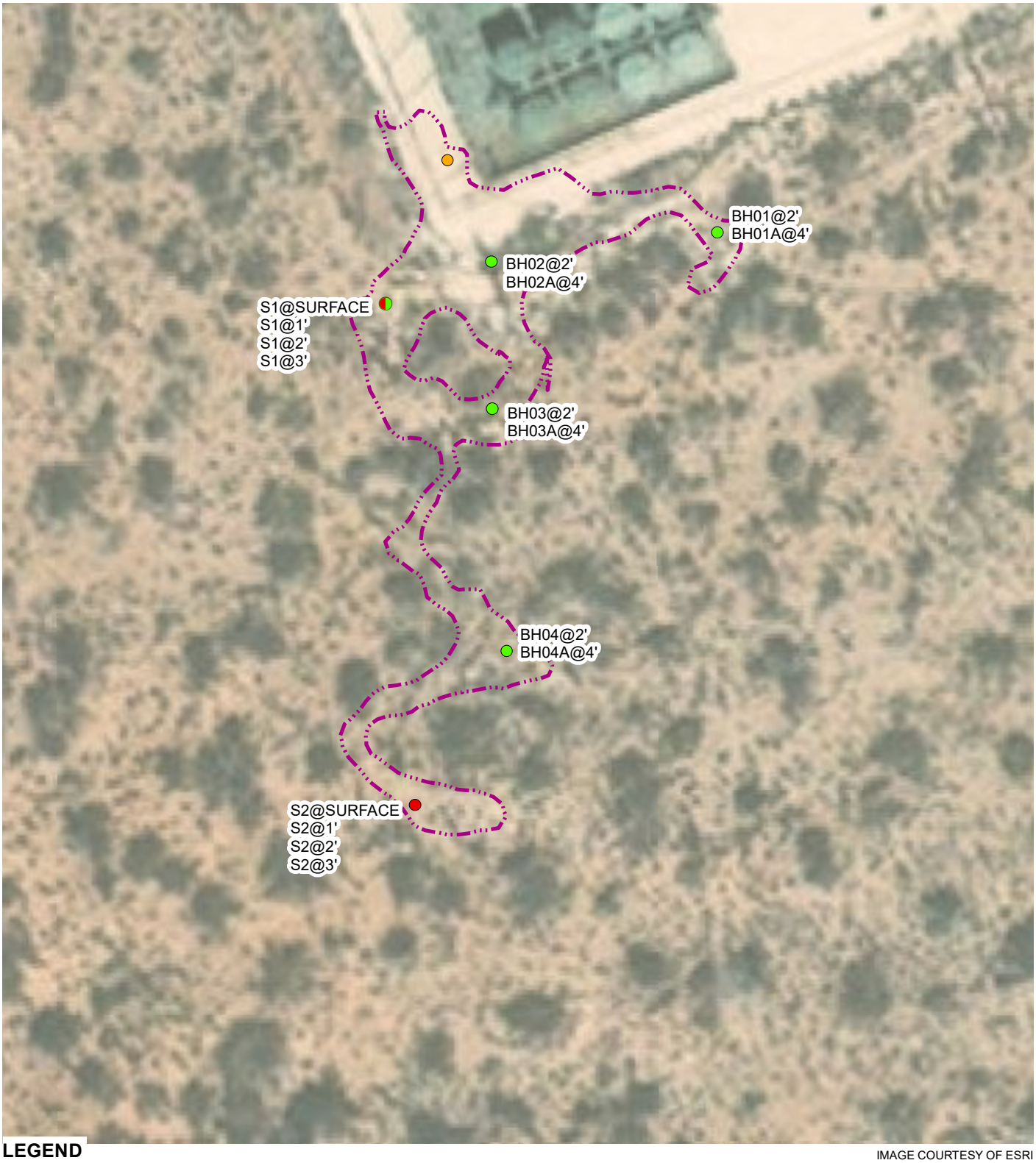
LEGEND

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

DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT
TD: TOTAL DEPTH IN FEET
NOTE: INCIDENT NUMBER NAB1722953239

FIGURE 1
SITE LOCATION MAP
RDU 54 TANK BATTERY
UNIT C SEC 22 T26S R30E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

P:\WPX-Devon\GIS\MXD\034821010_RDU 54\034821010_FIG01_SL_RECEPTOR_2021.mxd



LEGEND

- DELINEATION SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- DELINEATION SOIL SAMPLE WITH CONCENTRATIONS PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA
- PRELIMINARY SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE STANDARDS
- PROPOSED SOIL SAMPLE
- RELEASE EXTENT (8,443 SQUARE FEET)

NOTE: REMEDIATION PERMIT NUMBER NAB1722953239
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

IMAGE COURTESY OF ESRI

0 50 100
Feet

N

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
RDU 54 TANK BATTERY
UNIT C SEC 22 T26S R30E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

P:\WPX-Devon\GIS\MXD\034821010_RDU 54\034821010_FIG02_DELINEATION_2021.mxd

TABLES

Table 1

Soil Analytical Results
RDU 54 Tank Battery
Incident Number nAB1722953239
WPX Energy Permian, LLC.
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Delineation Samples										
S1	08/15/2017	0	<0.034	<0.034	9.2	<5.6	23	9.2	32.2	5,300*
S1	08/15/2017	1	-	-	-	-	-	-	-	20,000*
S1	08/15/2017	2	-	-	-	-	-	-	-	2,500*
S1	08/15/2017	3	-	-	-	-	-	-	-	330*
S2	08/15/2017	0	<0.032	<0.032	8.9	<5.3	16	8.9	24.9	240
S2	08/15/2017	1	-	-	-	-	-	-	-	14,000*
S2	08/15/2017	2	-	-	-	-	-	-	-	11,000*
S2	08/15/2017	3	-	-	-	-	-	-	-	1,400*
BH01	05/22/2019	2	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	25.1
BH01A	05/22/2019	4	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	<49.6
BH02	05/22/2019	2	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.02
BH02A	05/22/2019	4	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	183

Table 1

Soil Analytical Results
RDU 54 Tank Battery
Incident Number nAB1722953239
WPX Energy Permian, LLC.
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
BH03	05/22/2019	2	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	<4.99
BH03A	05/22/2019	4	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	5.37
BH04	05/22/2019	2	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	7.82
BH04A	05/22/2019	4	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	2,950

Notes

ft - feet/foot
mg/kg - milligrams per kilograms
BTEX - benzene, toluene, ethylbenzene, and total xylenes
TPH - total petroleum hydrocarbons
DRO - diesel range organics
GRO - gasoline range organics
ORO - motor oil range organics
NMOCD - New Mexico Oil Conservation Division
NMAC - New Mexico Administrative Code
< - indicates result is less than the stated laboratory method practical quantitation limit
NE - Not Established
BOLD - indicates results exceed the higher of the background sample result or applicable regulatory standard
* - indicates sample was collected in area to be reclaimed after remediation is complete;
closure criteria for chloride concentration in the top 4 feet of soil is 600 mg/kg and 100 mg/kg for TPH

ATTACHMENT 1: REFERENCED WELL RECORD

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW-1		Location: Ross Draw Unit #57	
Date: 12/9/2020		Client: WPX Energy	
Drilling Method: Air Rotary	Sampling Method: None	Logged By: J. Linn, PG	Drilled By: Talon LPE
Gravel Pack Type: 10/20 Sand	Gravel Pack Depth Interval: 3 Bags	Seal Type: None / Seal Depth Interval: None	Latitude: 32.01032
Casing Type: PVC / Diameter: 2-inch / Depth Interval: 0-105 feet bgs		Boring Total Depth (ft. BGS): 110	Longitude: -103.87246
Screen Type: PVC / Slot: 0.010-inch / Diameter: 2-inch / Depth Interval: 105-110 ft		Well Total Depth (ft. BGS): 110	Depth to Water (ft. BTOC): > 110 / DTW Date: 12/16/2020

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0	NM	L/M	D	N	N	NM	SM	NS	Tan/pale orange/pale brown poorly graded fine sand	
5										
10										
15										
20										
25										
30										
35										
40	NM	M	D	N	N	NM	SW	NS	Hard, dry pale pink orange well graded sand with gravel	
45										
50	NM	M	D	N	N	NM	SM	NS	Pale orange red tan silty fine sand	
55										
60	NM	L	D	N	N	NM	SW	NS	Dark brown greyish well graded sand	
65										
70	NM	L/M	D to SL M	N	N	NM	SW	NS	Grey well graded sand	
75										
80										
85										
90										
95										
100	NM	L/M	D	N	N	NM	SM	NS	Tan/pale orange/pale brown poorly graded fine sand - TD 110' bgs	
105										

ATTACHMENT 2: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG		
WPX Energy Permian, LLC.	RDU 54 Tank Battery Eddy County, NM	TE034821010

Photo No.	Date
1	August 1, 2017

Initial release within pasture facing northeast.

Photo No.	Date
2	August 1, 2017

Initial release within pasture facing north

PHOTOGRAPHIC LOG		
WPX Energy Permian, LLC.	RDU 54 Tank Battery Eddy County, NM	TE034821010

Photo No.	Date
3	April 28, 2021

Vegetation Assessment viewing northeast.

Photo No.	Date
4	April 28, 2021

Vegetation Assessment viewing northeast.

ATTACHMENT 3: LITHOLOGIC/SOIL SAMPLING LOG

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH01	Date: 05/22/2019
Site Name: RDU 54	
RP or Incident Number: 2RP-4349	
WSP Job Number: TE034821010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: LL	Method: Hand auger		
Lat/Long: 32.018277, -103.872926	Field Screening: Hach chloride strips	Hole Diameter: 2.5 inches	Total Depth: 4 feet bgs

Comments: All chloride field screenings include a 40% correction factor
M-moist; D-dry; Y-yes; N-no; NA-not applicable

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	SP	SAND, moist, brown, poorly graded, fine-very fine grain, no stain, no odor
M	<192	NA	N	BH01	2	2	SP	color change change to light tan, slightly damp
M	<192	NA	N	BH01A	4	4	SP	trace caliche gravel 1/8 inch diameter, poorly consolidated

TD @ 4 feet bgs

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH02	Date: 05/22/2019
Site Name: RDU 54	
RP or Incident Number: 2RP-4349	
WSP Job Number: TE034821010	
Logged By: LL	Method: Hand auger
Hole Diameter: 2.5 inches	Total Depth: 4 feet bgs

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.018236, -103.873159

Field Screening: Hach chloride strips

Comments: All chloride field screenings include a 40% correction factor
M-moist; D-dry; Y-yes; N-no; NA-not applicable

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	SP	SAND, moist, brown, poorly graded, fine-very fine grain, no stain, no odor
D	<192	NA	N	BH02	2	2	SP	trace caliche gravel 0.5 - 1 inch diameter, poorly consolidated
D	<192	NA	N	BH02A	4	4	SP	trace caliche gravel 1/8 inch diameter, poorly consolidated

TD @ 4 feet bgs

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH03	Date: 05/22/2019
Site Name: RDU 54	
RP or Incident Number: 2RP-4349	
WSP Job Number: TE034821010	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LL / Method: Hand auger
Lat/Long: 32.018106, -103.873181	Field Screening: Hach chloride strips / Hole Diameter: 2.5 inches / Total Depth: 4 feet bgs

Comments: All chloride field screenings include a 40% correction factor
M-moist; D-dry; Y-yes; N-no; SAA-same as above; NA-not applicable

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	SP	SAND, moist, brown, poorly graded, fine-very fine grain, no stain, no odor
D	<192	NA	N	BH03	2	2	SP	SAA
D	<192	NA	N	BH03A	4	4	SP	SAA

TD @ 4 feet bgs

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH04	Date: 05/22/2019
Site Name: RDU 54	
RP or Incident Number: 2RP-4349	
WSP Job Number: TE034821010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: LL	Method: Hand auger		
Lat/Long: 32.017874, -103.873167	Field Screening: Hach chloride strips	Hole Diameter: 2.5 inches	Total Depth: 4 feet bgs

Comments: All chloride field screenings include a 40% correction factor
M-moist; D-dry; Y-yes; N-no; SAA-same as above; NA-not applicable

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	SP	SAND, moist, brown, poorly graded, fine-very fine grain, no stain, no odor
D	<192	NA	N	BH04	2	2	SP	trace caliche gravel, off-white, poorly consolidated
D	<192	NA	N	BH04A	4	4	SP	SAA

TD @ 4 feet bgs

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS

25-Aug-2017

Karolina Blaney
WPX Energy
5315 Buena Vista Dr.
Carlsbad, NM 88220

Re: **RDU 54** Work Order: **17081042**

Dear Karolina,

ALS Environmental received 8 samples on 16-Aug-2017 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 20.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

Report of Laboratory Analysis

ALS Group, USA

Date: 25-Aug-17

Client: WPX Energy
Project: RDU 54
Work Order: **17081042**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
17081042-01	RDU 54 S1 0"	Soil		8/15/2017 12:00	8/16/2017 09:00	☐
17081042-02	RDU 54 S1 1"	Soil		8/15/2017 12:05	8/16/2017 09:00	☐
17081042-03	RDU 54 S1 2"	Soil		8/15/2017 12:10	8/16/2017 09:00	☐
17081042-04	RDU 54 S1 3"	Soil		8/15/2017 12:20	8/16/2017 09:00	☐
17081042-05	RDU 54 S2 0"	Soil		8/15/2017 12:30	8/16/2017 09:00	☐
17081042-06	RDU 54 S2 1"	Soil		8/15/2017 12:35	8/16/2017 09:00	☐
17081042-07	RDU 54 S2 2"	Soil		8/15/2017 12:40	8/16/2017 09:00	☐
17081042-08	RDU 54 S2 3"	Soil		8/15/2017 12:45	8/16/2017 09:00	☐

ALS Group, USA

Date: 25-Aug-17

Client: WPX Energy
Project: RDU 54
WorkOrder: **17081042**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group, USA

Date: *25-Aug-17*

Client: WPX Energy
Project: RDU 54 **Work Order:** 17081042
Sample ID: RDU 54 S1 0" **Lab ID:** 17081042-01
Collection Date: 8/15/2017 12:00 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015C**	Prep: SW3546 8/17/17 10:27		Analyst: **KB**
DRO (C10-C28)	**9.2**		**5.1**	**mg/Kg-dry**	1	8/17/2017 05:21 PM
ORO (C28-C40)	**23**		**5.1**	**mg/Kg-dry**	1	8/17/2017 05:21 PM
Surr: 4-Terphenyl-d14	*93.6*		*34-130*	*%REC*	1	8/17/2017 05:21 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**	Prep: SW5035 8/17/17 09:43		Analyst: **KB**
GRO (C6-C10)	ND		5.6	mg/Kg-dry	1	8/17/2017 06:40 PM
Surr: Toluene-d8	*97.6*		*71-123*	*%REC*	1	8/17/2017 06:40 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**	Prep: SW5035 8/17/17 12:12		Analyst: **EMR**
Benzene	ND		0.034	mg/Kg-dry	1	8/20/2017 03:50 PM
Ethylbenzene	ND		0.034	mg/Kg-dry	1	8/20/2017 03:50 PM
m,p-Xylene	ND		0.068	mg/Kg-dry	1	8/20/2017 03:50 PM
o-Xylene	ND		0.034	mg/Kg-dry	1	8/20/2017 03:50 PM
Toluene	ND		0.034	mg/Kg-dry	1	8/20/2017 03:50 PM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	8/20/2017 03:50 PM
Surr: 1,2-Dichloroethane-d4	*97.8*		*70-130*	*%REC*	1	8/20/2017 03:50 PM
Surr: 4-Bromofluorobenzene	*101*		*70-130*	*%REC*	1	8/20/2017 03:50 PM
Surr: Dibromofluoromethane	*85.8*		*70-130*	*%REC*	1	8/20/2017 03:50 PM
Surr: Toluene-d8	*96.8*		*70-130*	*%REC*	1	8/20/2017 03:50 PM
CHLORIDE			**A4500-CL E-97**	Prep: EXTRACT 8/23/17 23:30		Analyst: **ED**
Chloride	**5,300**		**110**	**mg/Kg-dry**	10	8/24/2017 02:00 PM
MOISTURE			**SW3550C**			Analyst: **BTG**
Moisture	**6.0**		**0.050**	**% of sample**	1	8/20/2017 06:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *25-Aug-17*

Client: WPX Energy
Project: RDU 54 **Work Order:** 17081042
Sample ID: RDU 54 S1 1" **Lab ID:** 17081042-02
Collection Date: 8/15/2017 12:05 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			**A4500-CL E-97**	Prep: EXTRACT 8/23/17 23:30		Analyst: **ED**
Chloride	**20,000**		**330**	**mg/Kg-dry**	30	8/24/2017 02:00 PM
MOISTURE			**SW3550C**			Analyst: **BTG**
Moisture	**11**		**0.050**	**% of sample**	1	8/20/2017 06:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *25-Aug-17*

Client: WPX Energy
Project: RDU 54
Sample ID: RDU 54 S1 2"
Collection Date: 8/15/2017 12:10 PM

Work Order: 17081042
Lab ID: 17081042-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			**A4500-CL E-97**	Prep: EXTRACT 8/23/17 23:30		Analyst: **ED**
Chloride	**2,500**		**51**	**mg/Kg-dry**	4	8/24/2017 02:00 PM
MOISTURE			**SW3550C**			Analyst: **BTG**
Moisture	**22**		**0.050**	**% of sample**	1	8/20/2017 06:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *25-Aug-17*

Client: WPX Energy
Project: RDU 54
Sample ID: RDU 54 S1 3"
Collection Date: 8/15/2017 12:20 PM

Work Order: 17081042
Lab ID: 17081042-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			**A4500-CL E-97**	Prep: EXTRACT 8/23/17 23:30		Analyst: **ED**
Chloride	**330**		**13**	**mg/Kg-dry**	1	8/24/2017 02:00 PM
MOISTURE			**SW3550C**			Analyst: **BTG**
Moisture	**24**		**0.050**	**% of sample**	1	8/20/2017 06:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *25-Aug-17*

Client: WPX Energy
Project: RDU 54 **Work Order:** 17081042
Sample ID: RDU 54 S2 0" **Lab ID:** 17081042-05
Collection Date: 8/15/2017 12:30 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015C**	Prep: SW3546 8/17/17 10:27		Analyst: **KB**
DRO (C10-C28)	**8.9**		**5.1**	**mg/Kg-dry**	1	8/17/2017 05:50 PM
ORO (C28-C40)	**16**		**5.1**	**mg/Kg-dry**	1	8/17/2017 05:50 PM
Surr: 4-Terphenyl-d14	*91.1*		*34-130*	*%REC*	1	8/17/2017 05:50 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**	Prep: SW5035 8/17/17 09:43		Analyst: **KB**
GRO (C6-C10)	ND		5.3	mg/Kg-dry	1	8/17/2017 07:10 PM
Surr: Toluene-d8	*99.3*		*71-123*	*%REC*	1	8/17/2017 07:10 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**	Prep: SW5035 8/17/17 12:12		Analyst: **EMR**
Benzene	ND		0.032	mg/Kg-dry	1	8/20/2017 04:13 PM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	8/20/2017 04:13 PM
m,p-Xylene	ND		0.064	mg/Kg-dry	1	8/20/2017 04:13 PM
o-Xylene	ND		0.032	mg/Kg-dry	1	8/20/2017 04:13 PM
Toluene	ND		0.032	mg/Kg-dry	1	8/20/2017 04:13 PM
Xylenes, Total	ND		0.096	mg/Kg-dry	1	8/20/2017 04:13 PM
Surr: 1,2-Dichloroethane-d4	*99.2*		*70-130*	*%REC*	1	8/20/2017 04:13 PM
Surr: 4-Bromofluorobenzene	*102*		*70-130*	*%REC*	1	8/20/2017 04:13 PM
Surr: Dibromofluoromethane	*87.0*		*70-130*	*%REC*	1	8/20/2017 04:13 PM
Surr: Toluene-d8	*93.3*		*70-130*	*%REC*	1	8/20/2017 04:13 PM
CHLORIDE			**A4500-CL E-97**	Prep: EXTRACT 8/23/17 23:30		Analyst: **ED**
Chloride	**240**		**10**	**mg/Kg-dry**	1	8/24/2017 02:00 PM
MOISTURE			**SW3550C**			Analyst: **BTG**
Moisture	**3.0**		**0.050**	**% of sample**	1	8/20/2017 06:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *25-Aug-17*

Client: WPX Energy
Project: RDU 54
Sample ID: RDU 54 S2 1"
Collection Date: 8/15/2017 12:35 PM

Work Order: 17081042
Lab ID: 17081042-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			**A4500-CL E-97**	Prep: EXTRACT 8/23/17 23:30		Analyst: **ED**
Chloride	**14,000**		**320**	**mg/Kg-dry**	30	8/24/2017 02:00 PM
MOISTURE			**SW3550C**			Analyst: **BTG**
Moisture	**8.0**		**0.050**	**% of sample**	1	8/20/2017 06:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *25-Aug-17*

Client: WPX Energy
Project: RDU 54
Sample ID: RDU 54 S2 2"
Collection Date: 8/15/2017 12:40 PM

Work Order: 17081042
Lab ID: 17081042-07
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			**A4500-CL E-97**	Prep: EXTRACT 8/23/17 23:30		Analyst: **ED**
Chloride	**11,000**		**120**	**mg/Kg-dry**	10	8/24/2017 02:00 PM
MOISTURE			**SW3550C**			Analyst: **BTG**
Moisture	**15**		**0.050**	**% of sample**	1	8/20/2017 06:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *25-Aug-17*

Client: WPX Energy
Project: RDU 54 **Work Order:** 17081042
Sample ID: RDU 54 S2 3" **Lab ID:** 17081042-08
Collection Date: 8/15/2017 12:45 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			**A4500-CL E-97**	Prep: EXTRACT 8/23/17 23:30		Analyst: **ED**
Chloride	**1,400**		**45**	**mg/Kg-dry**	4	8/24/2017 02:00 PM
MOISTURE			**SW3550C**			Analyst: **BTG**
Moisture	**13**		**0.050**	**% of sample**	1	8/20/2017 06:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 25-Aug-17

Client: WPX Energy
Work Order: 17081042
Project: RDU 54

QC BATCH REPORT

Batch ID: **106027** Instrument ID **GC8** Method: **SW8015C**

MBLK	Sample ID: **DBLKS1-106027-106027**			Units: **mg/Kg**			Analysis Date: **8/17/2017 11:40 AM**			
Client ID:	Run ID: **GC8_170816A**			SeqNo: **4588571**			Prep Date: **8/17/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
ORO (C28-C40)	ND	5.0								
Surr: 4-Terphenyl-d14	*1.917*	0	*3.33*	0	*57.6*	*34-130*	0			

LCS	Sample ID: **DLCSS1-106027-106027**			Units: **mg/Kg**			Analysis Date: **8/17/2017 12:09 PM**			
Client ID:	Run ID: **GC8_170816A**			SeqNo: **4588572**			Prep Date: **8/17/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	366.4	5.0	333	0	110	65-122	0			
ORO (C28-C40)	374.7	5.0	333	0	113	81-116	0			
Surr: 4-Terphenyl-d14	*3.233*	0	*3.33*	0	*97.1*	*34-130*	0			

MS	Sample ID: **17081003-01B MS**			Units: **mg/Kg**			Analysis Date: **8/17/2017 03:54 PM**			
Client ID:	Run ID: **GC8_170817A**			SeqNo: **4590276**			Prep Date: **8/17/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	233.6	4.8	322.8	21.64	65.7	65-122	0			
ORO (C28-C40)	301.8	4.8	322.8	0	93.5	81-116	0			
Surr: 4-Terphenyl-d14	*1.891*	0	*3.228*	0	*58.6*	*34-130*	0			

MSD	Sample ID: **17081003-01B MSD**			Units: **mg/Kg**			Analysis Date: **8/17/2017 04:23 PM**			
Client ID:	Run ID: **GC8_170817A**			SeqNo: **4590278**			Prep Date: **8/17/2017**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	232.1	4.8	322	21.64	65.4	65-122	233.6	0.653	30	
ORO (C28-C40)	293.9	4.8	322	0	91.3	81-116	301.8	2.65	30	
Surr: 4-Terphenyl-d14	*1.724*	0	*3.22*	0	*53.6*	*34-130*	1.891	*9.19*	*30*	

The following samples were analyzed in this batch: 17081042-01A, 17081042-05A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
Work Order: 17081042
Project: RDU 54

QC BATCH REPORT

Batch ID: **106043** Instrument ID **GC9** Method: **SW8015D**

MBLK Sample ID: **MBLK-106043-106043** Units: **µg/Kg-dry** Analysis Date: **8/17/2017 04:10 PM**
Client ID: Run ID: **GC9_170817A** SeqNo: **4589877** Prep Date: **8/17/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	5,000								
Surr: Toluene-d8	*4866*	0	*5000*	0	*97.3*	*71-123*	0			

LCS Sample ID: **LCS-106043-106043** Units: **µg/Kg-dry** Analysis Date: **8/17/2017 03:11 PM**
Client ID: Run ID: **GC9_170817A** SeqNo: **4589874** Prep Date: **8/17/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	567600	5,000	500000	0	114	71-123	0			
Surr: Toluene-d8	*5172*	0	*5000*	0	*103*	*71-123*	0			

MS Sample ID: **17081045-01A MS** Units: **µg/Kg-dry** Analysis Date: **8/17/2017 10:40 PM**
Client ID: Run ID: **GC9_170817A** SeqNo: **4589900** Prep Date: **8/17/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	1567000	9,500	949300	342300	129	71-123	0			S
Surr: Toluene-d8	*12350*	0	*9493*	0	*130*	*71-123*	0			*S*

MSD Sample ID: **17081045-01A MSD** Units: **µg/Kg-dry** Analysis Date: **8/17/2017 11:10 PM**
Client ID: Run ID: **GC9_170817A** SeqNo: **4589902** Prep Date: **8/17/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	1704000	9,500	949300	342300	143	71-123	1567000	8.34	30	S
Surr: Toluene-d8	*12630*	0	*9493*	0	*133*	*71-123*	12350	*2.27*	*30*	*S*

The following samples were analyzed in this batch: 17081042-01A 17081042-05A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
Work Order: 17081042
Project: RDU 54

QC BATCH REPORT

Batch ID: **106054** Instrument ID **VMS8** Method: **SW8260B**

MBLK Sample ID: **MBLK-106054-106054** Units: **µg/Kg-dry** Analysis Date: **8/18/2017 12:09 PM**
Client ID: Run ID: **VMS8_170818A** SeqNo: **4592188** Prep Date: **8/17/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30	0	0	0	0-0	0			
Ethylbenzene	ND	30	0	0	0	0-0	0			
m,p-Xylene	ND	60	0	0	0	0-0	0			
o-Xylene	ND	30	0	0	0	0-0	0			
Toluene	ND	30	0	0	0	0-0	0			
Xylenes, Total	ND	90	0	0	0	0-0	0			
Surr: 1,2-Dichloroethane-d4	*991.5*	0	*1000*	0	*99.2*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*947*	0	*1000*	0	*94.7*	*70-130*	0			
Surr: Dibromofluoromethane	*800*	0	*1000*	0	*80*	*70-130*	0			
Surr: Toluene-d8	*969*	0	*1000*	0	*96.9*	*70-130*	0			

MBLK Sample ID: **MBLK-106054-106054** Units: **µg/Kg-dry** Analysis Date: **8/18/2017 11:39 PM**
Client ID: Run ID: **VMS10_170818A** SeqNo: **4592319** Prep Date: **8/17/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30	0	0	0	0-0	0			
Ethylbenzene	ND	30	0	0	0	0-0	0			
m,p-Xylene	ND	60	0	0	0	0-0	0			
o-Xylene	ND	30	0	0	0	0-0	0			
Toluene	ND	30	0	0	0	0-0	0			
Xylenes, Total	ND	90	0	0	0	0-0	0			
Surr: 1,2-Dichloroethane-d4	*1020*	0	*1000*	0	*102*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*929*	0	*1000*	0	*92.9*	*70-130*	0			
Surr: Dibromofluoromethane	*944.5*	0	*1000*	0	*94.4*	*70-130*	0			
Surr: Toluene-d8	*990.5*	0	*1000*	0	*99*	*70-130*	0			

LCS Sample ID: **LCS-106054-106054** Units: **µg/Kg-dry** Analysis Date: **8/18/2017 10:59 AM**
Client ID: Run ID: **VMS8_170818A** SeqNo: **4592187** Prep Date: **8/17/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	941.5	30	1000	0	94.2	75-125	0			
Ethylbenzene	919	30	1000	0	91.9	75-125	0			
m,p-Xylene	1854	60	2000	0	92.7	80-125	0			
o-Xylene	923.5	30	1000	0	92.4	75-125	0			
Toluene	900	30	1000	0	90	70-125	0			
Xylenes, Total	2778	90	3000	0	92.6	75-125	0			
Surr: 1,2-Dichloroethane-d4	*978*	0	*1000*	0	*97.8*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1006*	0	*1000*	0	*101*	*70-130*	0			
Surr: Dibromofluoromethane	*1000*	0	*1000*	0	*100*	*70-130*	0			
Surr: Toluene-d8	*1012*	0	*1000*	0	*101*	*70-130*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
Work Order: 17081042
Project: RDU 54

QC BATCH REPORT

Batch ID: **106054** Instrument ID **VMS8** Method: **SW8260B**

LCS Sample ID: **LCS-106054-106054** Units: **µg/Kg-dry** Analysis Date: **8/18/2017 09:39 PM**
Client ID: Run ID: **VMS10_170818A** SeqNo: **4592318** Prep Date: **8/17/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	993	30	1000	0	99.3	75-125	0			
Ethylbenzene	1008	30	1000	0	101	75-125	0			
m,p-Xylene	2120	60	2000	0	106	80-125	0			
o-Xylene	1058	30	1000	0	106	75-125	0			
Toluene	990.5	30	1000	0	99	70-125	0			
Xylenes, Total	3178	90	3000	0	106	75-125	0			
Surr: 1,2-Dichloroethane-d4	*985.5*	0	*1000*	0	*98.6*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1045*	0	*1000*	0	*104*	*70-130*	0			
Surr: Dibromofluoromethane	*1006*	0	*1000*	0	*101*	*70-130*	0			
Surr: Toluene-d8	*1020*	0	*1000*	0	*102*	*70-130*	0			

MS Sample ID: **17081044-04A MS** Units: **µg/Kg-dry** Analysis Date: **8/20/2017 06:33 AM**
Client ID: Run ID: **VMS9_170819A** SeqNo: **4593188** Prep Date: **8/17/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	907.5	30	1000	0	90.8	75-125	0			
Ethylbenzene	872	30	1000	0	87.2	75-125	0			
m,p-Xylene	1767	60	2000	0	88.4	80-125	0			
o-Xylene	896	30	1000	0	89.6	75-125	0			
Toluene	872	30	1000	0	87.2	70-125	0			
Xylenes, Total	2663	90	3000	0	88.8	75-125	0			
Surr: 1,2-Dichloroethane-d4	*983*	0	*1000*	0	*98.3*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1028*	0	*1000*	0	*103*	*70-130*	0			
Surr: Dibromofluoromethane	*980*	0	*1000*	0	*98*	*70-130*	0			
Surr: Toluene-d8	*970*	0	*1000*	0	*97*	*70-130*	0			

MSD Sample ID: **17081044-04A MSD** Units: **µg/Kg-dry** Analysis Date: **8/20/2017 06:55 AM**
Client ID: Run ID: **VMS9_170819A** SeqNo: **4593189** Prep Date: **8/17/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1024	30	1000	0	102	75-125	907.5	12.1	30	
Ethylbenzene	970	30	1000	0	97	75-125	872	10.6	30	
m,p-Xylene	1960	60	2000	0	98	80-125	1767	10.3	30	
o-Xylene	998	30	1000	0	99.8	75-125	896	10.8	30	
Toluene	977.5	30	1000	0	97.8	70-125	872	11.4	30	
Xylenes, Total	2958	90	3000	0	98.6	75-125	2663	10.5	30	
Surr: 1,2-Dichloroethane-d4	*999.5*	0	*1000*	0	*100*	*70-130*	983	*1.66*	*30*	
Surr: 4-Bromofluorobenzene	*1052*	0	*1000*	0	*105*	*70-130*	1028	*2.36*	*30*	
Surr: Dibromofluoromethane	*1004*	0	*1000*	0	*100*	*70-130*	980	*2.47*	*30*	
Surr: Toluene-d8	*975.5*	0	*1000*	0	*97.6*	*70-130*	970	*0.565*	*30*	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
Work Order: 17081042
Project: RDU 54

QC BATCH REPORT

Batch ID: **106054** Instrument ID **VMS8** Method: **SW8260B**

The following samples were analyzed in this batch:

17081042-01A	17081042-05A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
Work Order: 17081042
Project: RDU 54

QC BATCH REPORT

Batch ID: **106424** Instrument ID **GALLERY** Method: **A4500-Cl E-97**

MBLK Sample ID: **MBLK-106424-106424** Units: **mg/Kg** Analysis Date: **8/24/2017 02:00 PM**
Client ID: Run ID: **GALLERY_170824A** SeqNo: **4601525** Prep Date: **8/23/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	10								

MS Sample ID: **17081038-01A MS** Units: **mg/Kg** Analysis Date: **8/24/2017 02:00 PM**
Client ID: Run ID: **GALLERY_170824A** SeqNo: **4601528** Prep Date: **8/23/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	475.2	10	499	12.46	92.7	75-125	0			

MSD Sample ID: **17081038-01A MSD** Units: **mg/Kg** Analysis Date: **8/24/2017 02:00 PM**
Client ID: Run ID: **GALLERY_170824A** SeqNo: **4601529** Prep Date: **8/23/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	473.4	9.9	496	12.46	92.9	75-125	475.2	0.387	25	

LCS1 Sample ID: **LCS1-106424-106424** Units: **mg/Kg** Analysis Date: **8/24/2017 02:00 PM**
Client ID: Run ID: **GALLERY_170824A** SeqNo: **4601545** Prep Date: **8/23/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	96.83	10	100	0	96.8	80-120	0			

LCS2 Sample ID: **LCS2-106424-106424** Units: **mg/Kg** Analysis Date: **8/24/2017 02:00 PM**
Client ID: Run ID: **GALLERY_170824A** SeqNo: **4601546** Prep Date: **8/23/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	442	10	500	0	88.4	80-120	0			

The following samples were analyzed in this batch:

17081042-01A	17081042-02A	17081042-03A
17081042-04A	17081042-05A	17081042-06A
17081042-07A	17081042-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
Work Order: 17081042
Project: RDU 54

QC BATCH REPORT

Batch ID: **R218228** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R218228** Units: **% of sample** Analysis Date: **8/20/2017 06:45 PM**
Client ID: Run ID: **MOIST_170820B** SeqNo: **4593715** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.050								

LCS Sample ID: **LCS-R218228** Units: **% of sample** Analysis Date: **8/20/2017 06:45 PM**
Client ID: Run ID: **MOIST_170820B** SeqNo: **4593714** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **17081036-05A DUP** Units: **% of sample** Analysis Date: **8/20/2017 06:45 PM**
Client ID: Run ID: **MOIST_170820B** SeqNo: **4593700** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	16.5	0.050	0	0	0	0-0	17.7	7.02	5	R

DUP Sample ID: **17081042-07A DUP** Units: **% of sample** Analysis Date: **8/20/2017 06:45 PM**
Client ID: **RDU 54 S2 2"** Run ID: **MOIST_170820B** SeqNo: **4593709** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	15.1	0.050	0	0	0	0-0	15.32	1.45	5	

The following samples were analyzed in this batch:

17081042-01A	17081042-02A	17081042-03A
17081042-04A	17081042-05A	17081042-06A
17081042-07A	17081042-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Laboratory Group
HOLLAND, Michigan 49424

Chain-of-Custody

Form 202r5

WORKORDER # 17081042

		SAMPLER		DATE	8/15/2017	PAGE	1 of 1
PROJECT NAME	RDU 54	SITE ID	RDU 54	TURNAROUND	5 days	DISPOSAL	By Lab or Return to Client
PROJECT No.		EDD FORMAT					
		PURCHASE ORDER					
COMPANY NAME	WPX Energy	BILL TO COMPANY	WPX Energy				
SEND REPORT TO	Blaney	INVOICE ATTN TO	Karolina Blaney				
ADDRESS		ADDRESS	5315 Buena Vista Dr				
CITY / STATE / ZIP		CITY / STATE / ZIP	Carlsbad, NM 88220				
PHONE		PHONE	970 589 0743				
FAX		FAX					
E-MAIL	Karolina.blaney@wpxenergy.com; james.raley@wpxenergy.com	E-MAIL	Karolina.blaney@wpxenergy.com; James.Raley@wpxenergy.com				

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	DRO GRO ORO	BTEX	Chloride
1	RDU 54 S1 0"	S	8/15/2017	12:00	2	8	x	x	x	x
2	RDU 54 S1 1"	S	8/15/2017	12:05	1	8	x			x
3	RDU 54 S1 2"	S	8/15/2017	12:10	1	8	x			x
4	RDU 54 S1 3"	S	8/15/2017	12:20	1	8	x			x
5	RDU 54 S2 0"	S	8/15/2017	12:30	2	8	x	x	x	x
6	RDU 54 S2 1"	S	8/15/2017	12:35	1	8	x			x
7	RDU 54 S2 2"	S	8/15/2017	12:40	1	8	x			x
8	RDU 54 S2 3"	S	8/15/2017	12:45	1	8	x			x

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments:	QC PACKAGE (check below)	
SR2 4.0 C	X	LEVEL II (Standard QC)
		LEVEL III (Std QC + forms)
		LEVEL IV (Std QC + forms + raw data)

Preservative: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-MeOH 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	Karolina Blaney	Karolina Blaney	8/15/2017	15:00
RECEIVED BY		Diane F. Shea	8/16/17	0900
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Group, USA

Sample Receipt Checklist

Client Name: **WPX - NM** Date/Time Received: **16-Aug-17 09:00**

Work Order: **17081042** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 16-Aug-17 (Date) Reviewed by: Chad Whelton (eSignature) 17-Aug-17 (Date)

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.0/4.0 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	8/16/2017 4:32:32 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	_		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

SRC Page 1 of 1

Analytical Report 625484

for

LT Environmental, Inc.

Project Manager: Chris McKisson

RDU 54

34819016

03-JUN-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

03-JUN-19

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

Reference: XENCO Report No(s): **625484**
RDU 54
Project Address:

Chris McKisson:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 625484. 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. 625484 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 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	05-22-19 14:10	2 ft	625484-001
BH01A	S	05-22-19 14:20	4 ft	625484-002
BH02	S	05-22-19 14:40	2 ft	625484-003
BH02A	S	05-22-19 15:00	4 ft	625484-004
BH03	S	05-22-19 15:20	2 ft	625484-005
BH03A	S	05-22-19 15:40	4 ft	625484-006
BH04	S	05-22-19 16:00	2 ft	625484-007
BH04A	S	05-22-19 16:20	4 ft	625484-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: RDU 54

Project ID: *34819016*
Work Order Number(s): *625484*

Report Date: *03-JUN-19*
Date Received: *05/24/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3090883 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 625484-001.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3090887 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 625484

LT Environmental, Inc., Arvada, CO

Project Name: RDU 54

Project Id: 34819016
Contact: Chris McKisson
Project Location:

Date Received in Lab: Fri May-24-19 10:50 am
Report Date: 03-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	625484-001		625484-002		625484-003		625484-004		625484-005		625484-006	
	Field Id:	BH01		BH01A		BH02		BH02A		BH03		BH03A	
	Depth:	2- ft		4- ft		2- ft		4- ft		2- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-22-19 14:10		May-22-19 14:20		May-22-19 14:40		May-22-19 15:00		May-22-19 15:20		May-22-19 15:40	
BTEX by EPA 8021B	***Extracted:***	May-31-19 14:20		May-31-19 14:20		May-31-19 14:20		May-31-19 14:20		May-31-19 14:20		May-31-19 15:00	
	Analyzed:	Jun-01-19 01:43		Jun-01-19 02:02		Jun-01-19 02:21		Jun-01-19 02:40		Jun-01-19 02:59		Jun-01-19 05:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199
Toluene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398	<0.00401	0.00401	<0.00397	0.00397	<0.00403	0.00403	<0.00398	0.00398
o-Xylene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199
Total Xylenes		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199
Total BTEX		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	May-24-19 16:30		May-24-19 16:30		May-24-19 16:30		May-25-19 12:45		May-25-19 12:45		May-25-19 12:45	
	Analyzed:	May-25-19 17:49		May-25-19 17:56		May-25-19 18:03		May-25-19 14:48		May-25-19 14:27		May-25-19 18:55	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		25.1	5.05	<49.6	49.6	<5.02	5.02	183	50.4	<4.99	4.99	5.37	5.01
TPH by SW8015 Mod	***Extracted:***	May-27-19 08:00		May-27-19 08:00		May-27-19 08:00		May-27-19 08:00		May-27-19 08:00		May-27-19 08:00	
	Analyzed:	May-27-19 21:47		May-27-19 22:37		May-27-19 23:01		May-27-19 23:26		May-27-19 23:51		May-28-19 00:16	
	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	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total GRO-DRO		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

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Jessica Kramer
Project Assistant

Certificate of Analysis Summary 625484

LT Environmental, Inc., Arvada, CO

Project Name: RDU 54

Project Id: 34819016
Contact: Chris McKisson
Project Location:

Date Received in Lab: Fri May-24-19 10:50 am
Report Date: 03-JUN-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	625484-007		625484-008					
	Field Id:	BH04		BH04A					
	Depth:	2- ft		4- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	May-22-19 16:00		May-22-19 16:20					
BTEX by EPA 8021B	***Extracted:***	May-31-19 15:00		May-31-19 15:00					
	Analyzed:	Jun-01-19 06:06		Jun-01-19 06:25					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00201	0.00201	<0.00200	0.00200				
Toluene		<0.00201	0.00201	<0.00200	0.00200				
Ethylbenzene		<0.00201	0.00201	<0.00200	0.00200				
m,p-Xylenes		<0.00402	0.00402	<0.00401	0.00401				
o-Xylene		<0.00201	0.00201	<0.00200	0.00200				
Total Xylenes		<0.00201	0.00201	<0.00200	0.00200				
Total BTEX		<0.00201	0.00201	<0.00200	0.00200				
Inorganic Anions by EPA 300	***Extracted:***	May-25-19 12:45		May-25-19 12:45					
	Analyzed:	May-25-19 19:00		May-25-19 15:13					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		7.82	4.97	2950	50.4				
TPH by SW8015 Mod	***Extracted:***	May-27-19 08:00		May-27-19 08:00					
	Analyzed:	May-28-19 00:41		May-28-19 01:06					
	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				
Total GRO-DRO		<15.0	15.0	<15.0	15.0				

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Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-001	Date Collected:	05.22.19 14.10	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.24.19 16.30	Basis:	Wet Weight
Seq Number:	3090217				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**25.1**	5.05	mg/kg	05.25.19 17.49		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.27.19 08.00	Basis:	Wet Weight
Seq Number:	3090429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.27.19 21.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.27.19 21.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.27.19 21.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.27.19 21.47	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.27.19 21.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	05.27.19 21.47	
o-Terphenyl	84-15-1	113	%	70-135	05.27.19 21.47	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-001	Date Collected:	05.22.19 14.10	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.31.19 14.20	Basis:	Wet Weight
Seq Number:	3090883				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.01.19 01.43	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.01.19 01.43	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.01.19 01.43	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.01.19 01.43	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.01.19 01.43	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.01.19 01.43	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.01.19 01.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.01.19 01.43	
4-Bromofluorobenzene	460-00-4	132	%	70-130	06.01.19 01.43	**

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-002	Date Collected:	05.22.19 14.20	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.24.19 16.30	Basis:	Wet Weight
Seq Number:	3090217				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<49.6	49.6	mg/kg	05.25.19 17.56	U	10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.27.19 08.00	Basis:	Wet Weight
Seq Number:	3090429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.27.19 22.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.27.19 22.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.27.19 22.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.27.19 22.37	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.27.19 22.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	05.27.19 22.37	
o-Terphenyl	84-15-1	114	%	70-135	05.27.19 22.37	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-002	Date Collected:	05.22.19 14.20	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.31.19 14.20	Basis:	Wet Weight
Seq Number:	3090883				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.01.19 02.02	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.01.19 02.02	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.01.19 02.02	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.01.19 02.02	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.01.19 02.02	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.01.19 02.02	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.01.19 02.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	06.01.19 02.02	
4-Bromofluorobenzene	460-00-4	113	%	70-130	06.01.19 02.02	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-003	Date Collected:	05.22.19 14.40	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.24.19 16.30	Basis:	Wet Weight
Seq Number:	3090217				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.02	5.02	mg/kg	05.25.19 18.03	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.27.19 08.00	Basis:	Wet Weight
Seq Number:	3090429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.27.19 23.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.27.19 23.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.27.19 23.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.27.19 23.01	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.27.19 23.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	05.27.19 23.01	
o-Terphenyl	84-15-1	122	%	70-135	05.27.19 23.01	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-003	Date Collected:	05.22.19 14.40	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.31.19 14.20	Basis:	Wet Weight
Seq Number:	3090883				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.01.19 02.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.01.19 02.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.01.19 02.21	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.01.19 02.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.01.19 02.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.01.19 02.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.01.19 02.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	06.01.19 02.21	
4-Bromofluorobenzene	460-00-4	117	%	70-130	06.01.19 02.21	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-004	Date Collected:	05.22.19 15.00	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.25.19 12.45	Basis:	Wet Weight
Seq Number:	3090232				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**183**	50.4	mg/kg	05.25.19 14.48		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.27.19 08.00	Basis:	Wet Weight
Seq Number:	3090429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.27.19 23.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.27.19 23.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.27.19 23.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.27.19 23.26	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.27.19 23.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.27.19 23.26	
o-Terphenyl	84-15-1	112	%	70-135	05.27.19 23.26	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-004	Date Collected:	05.22.19 15.00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.31.19 14.20	Basis:	Wet Weight
Seq Number:	3090883				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.01.19 02.40	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.01.19 02.40	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.01.19 02.40	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.01.19 02.40	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.01.19 02.40	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.01.19 02.40	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.01.19 02.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	06.01.19 02.40	
1,4-Difluorobenzene	540-36-3	96	%	70-130	06.01.19 02.40	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-005	Date Collected:	05.22.19 15.20	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.25.19 12.45	Basis:	Wet Weight
Seq Number:	3090232				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	05.25.19 14.27	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.27.19 08.00	Basis:	Wet Weight
Seq Number:	3090429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.27.19 23.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.27.19 23.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.27.19 23.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.27.19 23.51	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.27.19 23.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	05.27.19 23.51	
o-Terphenyl	84-15-1	103	%	70-135	05.27.19 23.51	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH03**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-005	Date Collected:	05.22.19 15.20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.31.19 14.20	Basis:	Wet Weight
Seq Number:	3090883				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.01.19 02.59	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.01.19 02.59	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.01.19 02.59	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.01.19 02.59	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.01.19 02.59	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.01.19 02.59	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.01.19 02.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	129	%	70-130	06.01.19 02.59	
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.01.19 02.59	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH03A**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-006	Date Collected:	05.22.19 15.40	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.25.19 12.45	Basis:	Wet Weight
Seq Number:	3090232				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.37**	5.01	mg/kg	05.25.19 18.55		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.27.19 08.00	Basis:	Wet Weight
Seq Number:	3090429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.28.19 00.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.28.19 00.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.28.19 00.16	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.28.19 00.16	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.28.19 00.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	05.28.19 00.16	
o-Terphenyl	84-15-1	105	%	70-135	05.28.19 00.16	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH03A**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-006	Date Collected:	05.22.19 15.40	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.31.19 15.00	Basis:	Wet Weight
Seq Number:	3090887				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.01.19 05.47	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.01.19 05.47	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.01.19 05.47	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.01.19 05.47	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.01.19 05.47	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.01.19 05.47	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.01.19 05.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	70-130	06.01.19 05.47	
4-Bromofluorobenzene	460-00-4	120	%	70-130	06.01.19 05.47	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-007	Date Collected:	05.22.19 16.00	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.25.19 12.45	Basis:	Wet Weight
Seq Number:	3090232				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.82**	4.97	mg/kg	05.25.19 19.00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.27.19 08.00	Basis:	Wet Weight
Seq Number:	3090429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.28.19 00.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.28.19 00.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.28.19 00.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.28.19 00.41	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.28.19 00.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	05.28.19 00.41	
o-Terphenyl	84-15-1	120	%	70-135	05.28.19 00.41	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH04**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-007	Date Collected:	05.22.19 16.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.31.19 15.00	Basis:	Wet Weight
Seq Number:	3090887				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.01.19 06.06	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.01.19 06.06	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.01.19 06.06	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.01.19 06.06	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.01.19 06.06	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.01.19 06.06	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.01.19 06.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	06.01.19 06.06	
1,4-Difluorobenzene	540-36-3	97	%	70-130	06.01.19 06.06	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH04A**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-008	Date Collected:	05.22.19 16.20	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.25.19 12.45	Basis:	Wet Weight
Seq Number:	3090232				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2950**	50.4	mg/kg	05.25.19 15.13		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.27.19 08.00	Basis:	Wet Weight
Seq Number:	3090429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.28.19 01.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.28.19 01.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.28.19 01.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.28.19 01.06	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.28.19 01.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	05.28.19 01.06	
o-Terphenyl	84-15-1	98	%	70-135	05.28.19 01.06	

Certificate of Analytical Results 625484

LT Environmental, Inc., Arvada, CO

RDU 54

Sample Id:	**BH04A**	Matrix:	Soil	Date Received:	05.24.19 10.50
Lab Sample Id:	625484-008	Date Collected:	05.22.19 16.20	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.31.19 15.00	Basis:	Wet Weight
Seq Number:	3090887				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.01.19 06.25	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.01.19 06.25	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.01.19 06.25	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.01.19 06.25	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.01.19 06.25	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.01.19 06.25	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.01.19 06.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	06.01.19 06.25	
1,4-Difluorobenzene	540-36-3	97	%	70-130	06.01.19 06.25	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 625484

LT Environmental, Inc.

RDU 54

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3090217 — Matrix: Solid — Date Prep: 05.24.19
MB Sample Id: 7678584-1-BLK — LCS Sample Id: 7678584-1-BKS — LCSD Sample Id: 7678584-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	243	97	242	97	90-110	0	20	mg/kg	05.25.19 14:17	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3090232 — Matrix: Solid — Date Prep: 05.25.19
MB Sample Id: 7678586-1-BLK — LCS Sample Id: 7678586-1-BKS — LCSD Sample Id: 7678586-1-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	256	102	257	103	90-110	0	20	mg/kg	05.25.19 13:05	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3090217 — Matrix: Soil — Date Prep: 05.24.19
Parent Sample Id: 625476-001 — MS Sample Id: 625476-001 S — MSD Sample Id: 625476-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	28.3	251	271	97	271	97	90-110	0	20	mg/kg	05.25.19 14:39	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3090217 — Matrix: Soil — Date Prep: 05.24.19
Parent Sample Id: 625483-006 — MS Sample Id: 625483-006 S — MSD Sample Id: 625483-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	29.9	252	276	98	281	100	90-110	2	20	mg/kg	05.25.19 16:20	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3090232 — Matrix: Soil — Date Prep: 05.25.19
Parent Sample Id: 625484-005 — MS Sample Id: 625484-005 S — MSD Sample Id: 625484-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.857	250	269	108	270	108	90-110	0	20	mg/kg	05.25.19 14:32	

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 625484

LT Environmental, Inc.

RDU 54

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3090232 Matrix: Soil Date Prep: 05.25.19
Parent Sample Id: 625517-001 MS Sample Id: 625517-001 S MSD Sample Id: 625517-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	233	250	494	104	495	105	90-110	0	20	mg/kg	05.25.19 13:20	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3090429 Matrix: Solid Date Prep: 05.27.19
MB Sample Id: 7678729-1-BLK LCS Sample Id: 7678729-1-BKS LCSD Sample Id: 7678729-1-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)	11.8	1000	1230	123	1250	125	70-135	2	20	mg/kg	05.27.19 16:26	
Diesel Range Organics (DRO)	11.0	1000	1210	121	1240	124	70-135	2	20	mg/kg	05.27.19 16:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		112		123		70-135	%	05.27.19 16:26
o-Terphenyl	123		123		127		70-135	%	05.27.19 16:26

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3090429 Matrix: Soil Date Prep: 05.27.19
Parent Sample Id: 625483-001 MS Sample Id: 625483-001 S MSD Sample Id: 625483-001 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)	13.4	998	1140	113	1020	101	70-135	11	20	mg/kg	05.27.19 17:39	
Diesel Range Organics (DRO)	14.6	998	1110	110	894	88	70-135	22	20	mg/kg	05.27.19 17:39	F

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		89		70-135	%	05.27.19 17:39
o-Terphenyl	110		77		70-135	%	05.27.19 17:39

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 625484

LT Environmental, Inc.

RDU 54

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3090883 — Matrix: Solid — Date Prep: 05.31.19
MB Sample Id: 7679050-1-BLK — LCS Sample Id: 7679050-1-BKS — LCSD Sample Id: 7679050-1-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	0.102	102	0.104	103	70-130	2	35	mg/kg	05.31.19 18:11	
Toluene	<0.00200	0.0998	0.104	104	0.105	104	70-130	1	35	mg/kg	05.31.19 18:11	
Ethylbenzene	<0.00200	0.0998	0.115	115	0.116	115	70-130	1	35	mg/kg	05.31.19 18:11	
m,p-Xylenes	<0.00399	0.200	0.245	123	0.247	122	70-130	1	35	mg/kg	05.31.19 18:11	
o-Xylene	<0.00200	0.0998	0.117	117	0.119	118	70-130	2	35	mg/kg	05.31.19 18:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		90		91		70-130	%	05.31.19 18:11
4-Bromofluorobenzene	101		99		102		70-130	%	05.31.19 18:11

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3090887 — Matrix: Solid — Date Prep: 05.31.19
MB Sample Id: 7679055-1-BLK — LCS Sample Id: 7679055-1-BKS — LCSD Sample Id: 7679055-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0929	94	0.0911	91	70-130	2	35	mg/kg	06.01.19 03:55	
Toluene	<0.00198	0.0992	0.0982	99	0.0974	97	70-130	1	35	mg/kg	06.01.19 03:55	
Ethylbenzene	<0.00198	0.0992	0.110	111	0.109	109	70-130	1	35	mg/kg	06.01.19 03:55	
m,p-Xylenes	<0.00397	0.198	0.232	117	0.232	115	70-130	0	35	mg/kg	06.01.19 03:55	
o-Xylene	<0.00198	0.0992	0.112	113	0.113	113	70-130	1	35	mg/kg	06.01.19 03:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		88		88		70-130	%	06.01.19 03:55
4-Bromofluorobenzene	106		103		106		70-130	%	06.01.19 03:55

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3090883 — Matrix: Soil — Date Prep: 05.31.19
Parent Sample Id: 625483-001 — MS Sample Id: 625483-001 S — MSD Sample Id: 625483-001 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	0.0738	74	0.0720	72	70-130	2	35	mg/kg	05.31.19 18:49	
Toluene	<0.00200	0.100	0.0946	95	0.0845	85	70-130	11	35	mg/kg	05.31.19 18:49	
Ethylbenzene	<0.00200	0.100	0.107	107	0.0934	94	70-130	14	35	mg/kg	05.31.19 18:49	
m,p-Xylenes	<0.00400	0.200	0.230	115	0.203	102	70-130	12	35	mg/kg	05.31.19 18:49	
o-Xylene	<0.00200	0.100	0.112	112	0.0991	99	70-130	12	35	mg/kg	05.31.19 18:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		87		70-130	%	05.31.19 18:49
4-Bromofluorobenzene	122		117		70-130	%	05.31.19 18:49

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 625484

LT Environmental, Inc.

RDU 54

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3090887 Matrix: Soil Date Prep: 05.31.19

Parent Sample Id: 625484-006 MS Sample Id: 625484-006 S MSD Sample Id: 625484-006 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	0.0862	86	0.0880	88	70-130	2	35	mg/kg	06.01.19 04:33	
Toluene	<0.00200	0.100	0.0912	91	0.0942	94	70-130	3	35	mg/kg	06.01.19 04:33	
Ethylbenzene	<0.00200	0.100	0.102	102	0.105	105	70-130	3	35	mg/kg	06.01.19 04:33	
m,p-Xylenes	<0.00400	0.200	0.217	109	0.223	112	70-130	3	35	mg/kg	06.01.19 04:33	
o-Xylene	<0.00200	0.100	0.106	106	0.108	108	70-130	2	35	mg/kg	06.01.19 04:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		89		70-130	%	06.01.19 04:33
4-Bromofluorobenzene	107		108		70-130	%	06.01.19 04:33

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	

Chain of Custody

Work Order No: E054814

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

Page 1 of 1

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

Work Order Comments

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

Project Name:	RDU 54	Turn Around	
Project Number:	34819016	Routine	X
P.O. Number:	2RP-4349	Rush:	
Sampler's Name:	Lynda Laumbach	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.5/0.3	Thermometer ID	VE
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
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)
BH01	S	05/22/19	14:10	2'	1	X	X	X
BH01A	S		14:20	4'	1	X	X	X
BH02	S		14:40	2'	1	X	X	X
BH02A	S		15:00	4'	1	X	X	X
BH03	S		15:20	2'	1	X	X	X
BH03A	S		15:40	4'	1	X	X	X
BH04	S		16:00	2'	1	X	X	X
BH04A	S		16:20	4'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time		Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			05/23/19 10:30	2			5/24/19 1030
3				4			
5				6			

Revised Date 051418 Rev. 2018.1

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

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/24/2019 10:50:00 AM

Work Order #: 625484

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: 05/24/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/27/2019
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 51536

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 51536
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	Sample results at S1 and S2 are listed in inches on the lab report. The results are listed in feet on the table, maps, and in the body of the report. Additional delineation may be needed at these points due to discrepancies. Vertical delineation at S2 is incomplete as the sample collected at the terminal depth was above the reclamation standard for chloride (600 mg/kg).	10/5/2022
bhall	Delineation will need to be completed south of S2 and east of spill outline in addition to the proposed soil sample depicted on the enclosed Figure 2.	10/5/2022
bhall	Include a figure with the soil boring's (MW-1) location illustrated.	10/5/2022
bhall	Submit a complete closure report through the OCD Permitting website by 1/6/2023.	10/5/2022