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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NRM2017643736
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: WPX Energy Permian, LLC.	OGRID: 246289
Contact Name: Lynda Laumbach	Contact Telephone: (575) 725-1647
Contact email: Lynda.Laumbach@wpxenergy.com	Incident # *(assigned by OCD)* NRM2017643736
Contact mailing address: 5315 Buena Vista Drive, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.049734 Longitude -103.9102662
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: RDX 17 Federal #36H	Site Type: Production Facility
Date Release Discovered: 06/16/2020	API# *(if applicable)*: 30-015-43636

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

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls):	Volume Recovered (bbls):
☒ Produced Water	Volume Released (bbls): 22	Volume Recovered (bbls): 22
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release:
Pinhole leak developed on water line causing 22bbl of produced water to be released into the lined secondary containment. All fluids were recovered with a vacuum truck.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NRM2017643736
District RP	
Facility ID	
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

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

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

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

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

Printed Name: Lynda Laumbach Title: Environmental Specialist

Signature: Lynda Laumbach Date: 06/25/2020

email: Lynda.Laumbach@wpxenergy.com Telephone: (575)725-1647

OCD Only

Received by: Ramona Marcus Date: 6/26/2020

State of New Mexico
Oil Conservation Division

Incident ID	NRM2017643736
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?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☑ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☑ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☑ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☑ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☑ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☑ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☑ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☑ No

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

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

- ☑ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☑ Field data
- ☑ Data table of soil contaminant concentration data
- ☑ Depth to water determination
- ☑ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☑ Boring or excavation logs
- ☑ Photographs including date and GIS information
- ☑ Topographic/Aerial maps
- ☑ Laboratory data including chain of custody

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NRM2017643736
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: Lynda Laumbach Title: Environmental Professional

Signature: Lynda Laumbach Date: 06/01/2021

email: lynda.laumbach@wpxenergy.com Telephone: 575-725-1647

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NRM2017643736
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: Lynda Laumbach Title: Environmental Specialist

Signature: Lynda Laumbach Date: 06/01/2021

email: lynda.laumbach@wpxenergy.com Telephone: 575-725-1647

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

District I
1625 N. French Dr., Hobbs, NM 88240
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1000 Rio Brazos Road, Aztec, NM 87410
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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
MAY 05 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

nAB1712952339 24ea289

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company WPX Energy Inc/RKI	Contact Karolina Blaney
Address 5315 Buena Vista Dr.	Telephone No. 970 589 0743
Facility Name: RDX 17-25	Facility Type: Well Pad

Surface Owner: Federal	Mineral Owner: Federal	API No. 30- 015-41664

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	17	26S	30E	150	FNL	682	FWL	Eddy

Latitude: 32.0492607 N **Longitude:** -103.90939577W

NATURE OF RELEASE

Type of Release. Produced Water	Volume of Release: 11 Bbls	Volume Recovered: 6 Bbls
Source of Release Flowline	Date and Hour of Occurrence 5/2/2017	Date and Hour of Discovery 5/2/2017 – 11:00 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: 5/3/17– 12:42 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 was equipment failure. A flowline corroded and allowed produced water to spill into lined SPCC containment. There was a hole in the liner, right next to a hammer union, and approximately 5 bbls of water was spilled onto an access road. This spill did not impact any vegetation.

Describe Area Affected and Cleanup Action Taken.*

The impacted area was mapped with a Trimble and will be scraped off. The area will be sampled for BTEX, TPH, and chlorides in accordance with NM OCD Guidelines for Remediation of Leaks, Spills, and Releases. Further remediation will be based on 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	OIL CONSERVATION DIVISION Approved by Environmental Specialist:	
Printed Name: Karolina Blaney		
Title: Environmental Specialist	Approval Date: 5/8/17	Expiration Date: N/A
E-mail Address: Karolina.blaney@wpxenergy.com	Conditions of Approval: See attached	Attached ☒
Date: 5/4/2017 Phone: 970-589-0743		

* Attach Additional Sheets If Necessary

2RP- 4198

State of New Mexico
Oil Conservation Division

Incident ID	NAB1712952339
District RP	2RP-4198
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

- ☑ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☑ Field data
- ☑ Data table of soil contaminant concentration data
- ☑ Depth to water determination
- ☑ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☑ Boring or excavation logs
- ☑ Photographs including date and GIS information
- ☑ Topographic/Aerial maps
- ☑ Laboratory data including chain of custody

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAB1712952339
District RP	2RP-4198
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: Lynda Laumbach Title: Environmental Specialist

Signature: Lynda Laumbach Date: 06/01/2021

email: lynda.laumbach@wpxenergy.com Telephone: 575-725-1647

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAB1712952339
District RP	2RP-4198
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: Lynda Laumbach Title: Environmental Specialist

Signature: Lynda Laumbach Date: 06/01/2021

email: lynda.laumbach@wpxenergy.com Telephone: 575-725-1647

OCD Only

Received by: _____ Date: _____

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

Signature: Ashley Maxwell Date: 3/27/2023

Variance approved for sampling every 500 sq feet.

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

June 1, 2021

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

Re: Remediation Work Plan
RDX 17 Federal #36H/RDX 17-25
Incident Number NRM2017643736 and NAB1712952339
Eddy County, New Mexico

To Whom it May Concern:

WSP USA Inc. (WSP) (formerly LT Environmental, Inc.), on behalf of WPX Energy Permian, LLC. (WPX), presents the following Remediation Work Plan detailing site assessment and sampling activities completed to date and proposing actions to address impacted soil resulting from two releases of produced water at the RDX 17 (Site). The Site is located in Unit D, Section 17, Township 26 South, Range 30 East, in Eddy County, New Mexico (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 sampling activities that have occurred and proposing additional remediation activities.

RELEASE BACKGROUND

Incident Number NRM2017643736

On June 16, 2020, a pinhole developed on a water line causing approximately 22 barrels (bbls) of produced water into a lined secondary containment. The fluids were recovered, and a subsequent visual inspection of liner integrity determined the liner was not in working condition. 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 June 25, 2020 and was subsequently assigned Incident Number NRM2017643736.

Incident Number NAB1712952339

On May 2, 2017, a corroded flowline resulted in the release of approximately 11 barrels (bbls) of produced water into a lined containment. A breach next to a hammer union allowed approximately 5 bbls to escape the containment, flowing into the pasture, onto an adjacent access road, and pipeline right-of-way. A hydro-vacuum truck was dispatched to the Site to recover free liquids. Approximately 6 bbls of produced water 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 May 5, 2017 and was subsequently assigned Incident Number NAB1712952339.

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). Results from the characterization desktop review are presented on Form C-141, Site Assessment/Characterization Form. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based a boring that was drilled by WPX on December 8, 2020, located approximately 0.4 miles east 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. No water was observed within the soil boring after at least 72 hours and the boring was plugged and abandoned. The boring log is included as Attachment 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

Additionally, the top four feet of reclaimed surface in the affected pasture must be comprised of non-waste containing, uncontaminated earthen material exhibiting chloride concentrations below 600 mg/kg, which was applied per NMAC 19.15.29.13.D (1), or natural background chloride concentrations if they exceed 600 mg/kg. A reclamation standard of 100 mg/kg of TPH was also applied to the affected pasture.

DELINEATION SOIL SAMPLING ACTIVITIES

<u>Incident Number NAB1712952339</u>

On August 27, 2020, WSP conducted Site assessment and delineation soil sampling activities. Six potholes (PH01 through PH06) were advanced via heavy equipment within the release extent as described on the Form C-141 to confirm the presence or absence of impact to soil at depth.

Delineation soil samples were collected at depths ranging from approximately 1 foot to 6 feet bgs. At least three discrete soil samples, which included the highest field screening result and the terminus, were collected from the potholes based on field screening results for volatile aromatic hydrocarbons and chloride. Soil samples were screened for volatile aromatic hydrocarbons and chloride using a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The lithologic/soil sampling logs for the boreholes are included in Attachment 2. Soil sample locations are depicted on Figure 2. Photographic documentation during assessment and delineation activities is provided in Attachment 3.

Incident Number NRM2017643736 and NAB1712952339

On October 29, 2020, WSP utilized a Shaw Tool, Ltd Portable Core Drill to install two corehole delineation points (CH01 and CH02) to determine the vertical extent of impact within the documented breached liner area to confirm vertical delineation of any impacts to soil under the containment. The coreholes were advanced to depths ranging from 6 feet to 8.5 feet bgs. Corehole soil samples were field screened, at minimum, every 2-foot interval for volatile aromatic hydrocarbons and chloride utilizing a calibrated PID and Hach® chloride QuanTab® test strips. Soil samples from CH01 and CH02 were collected from the soil interval with the highest field screening result and the terminus of the corehole. Field screening results and observations for each delineation soil sample were recorded on lithologic/soil sampling logs which are included in Attachment 2. The corehole soil sample locations are presented on Figure 2. The breached area within the lined containment was bonded and repaired by WPX in an effort to restore the integrity of the liner.

SOIL COLLECTION METHOD AND ANALYTICAL RESULTS

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

Laboratory analytical results for the potholes indicated that benzene, BTEX, TPH-GRO/TPH-DRO and TPH concentrations were compliant with the Closure Criteria and reclamation criteria in all delineation soil samples. Laboratory analytical results potholes indicated that chloride concentrations exceeded the reclamation criteria in delineation soil samples PH01, PH01A, PH02, PH02A, PH03, PH03A and PH06A. Laboratory analytical results for the corehole soil samples CH01 and CH02 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH and chloride concentrations were compliant with the Closure Criteria. Furthermore, off-pad impacts are delineated vertically and laterally to the east by corehole soil samples CH01 and CH02. The laboratory analytical results are summarized on Table 1 and laboratory analytical reports are included in Attachment 4.

PROPOSED WORK PLAN

Because PH06 contained chloride concentrations exceeding 600 mg/kg and was positioned outside of the release footprint, WPX proposes to investigate naturally occurring background concentrations for chloride. The background sampling area will continue to be no closer than 50 feet but no farther than 100 feet from the lateral and horizontal extent of the release. Laboratory analytical results of the chloride background concentrations may be used drive remediation and continued delineation efforts if concentrations are consistent within the background buffer or greater than the reclamation chloride concentration limit of 600 mg/kg. Figure 3 represents the background sampling area buffer that WPX will investigate.

If chloride background levels are consistently less than the 600 mg/kg for chloride, WPX will use the reclamation criteria off pad. If the reclamation standard is applied, WPX estimates up to 1,332 cubic yards of impacted soil exists at the Site within the top 4 feet of the subsurface. Due to the nature of the release (produced water containing chloride) and chloride impacts to approximately 4 feet bgs, WSP proposes excavation of the top 4 feet of the subsurface to the maximum extent allowed based on presence of active pipeline infrastructure. WSP will oversee excavation activities to remediate impacted soil as indicated by visual observations, field screening results, and depths consistent with delineation laboratory analytical results. ISoil will be excavated pursuant to NMAC 19.15.29 to ensure extent of the contaminated soils above Table I thresholds has been identified and removed. Excavated soil will then be transferred to (a) a New Mexico approved landfill facility for disposal or (b) an on-site, lined treatment cell. Non-waste containing soil, as defined by "Procedures for Implementation of the Spill Rule" (September 6, 2019), will then be used to backfill the excavation. If the on-site treatment is selected, non-waste containing soils will be treated soils with each confirmation sample testing below the most protective concentrations in Table I of 19.15.29.12 NMAC and representing no more than 100 cubic yards. Samples pulled from the treatment cell will be from the bottom 12" of the soil and evenly spaced in a grid like pattern.

Remediation associated with Incident Number NAB1712952339 will be completed through excavation of all remaining impacted soil within the release footprint and near PH06 containing chloride concentrations above the observed background concentrations or reclamation standard for the top four feet.

Additional lateral delineation is required for the release associated with Incident Number NRM2017643736 to confirm the release did not impact areas north, east, and south outside of the containment. Delineation activities will be performed simultaneously with excavation activities. If laboratory analytical results from additional delineation soil samples are compliant with the Closure Criteria or background concentrations, WPX will proceed with a closure request for Incident Number NRM2017643736.

PROPOSED SAMPLING

WPX is requesting a variance to the 200 square foot confirmation sampling requirement for the areas to be excavated, which would require an estimated 35 floor samples within the release extent, excluding sidewall samples.

Due to the large extent of the impacted area, WPX proposes increasing the confirmation sampling size to collecting a 5-point composite sample to represent each 500 square foot area. An estimated 14 confirmation samples will be collected from the excavation floor following the completion of remediation activities. Figure 4 illustrates the proposed sampling grids overlaying the representative excavation boundary, which assumes the entirety of the release footprint may need to be addressed. Each square in the grid represents a 500 square foot composite sampling area. Figure 4 does not illustrate sidewall sample locations, which will also be collected to represent 500 square feet sampling areas.

PROPOSED SCHEDULE

WPX will complete the additional proposed remediation activities and provide a follow-up report detailing all remediation activities and a request for closure or deferral within 90 days of the date of approval of this work plan by NMOCD.

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

Sincerely,

WSP USA Inc.

Joseph Hernandez
Associate Consultant, Geologist

Ashley L. Ager, P.G.
Managing Director, Geologist

cc: Lynda Laumbach, WPX
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD
Jim Amos, Bureau of Land Management

Attachments:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Buffer Sampling Area
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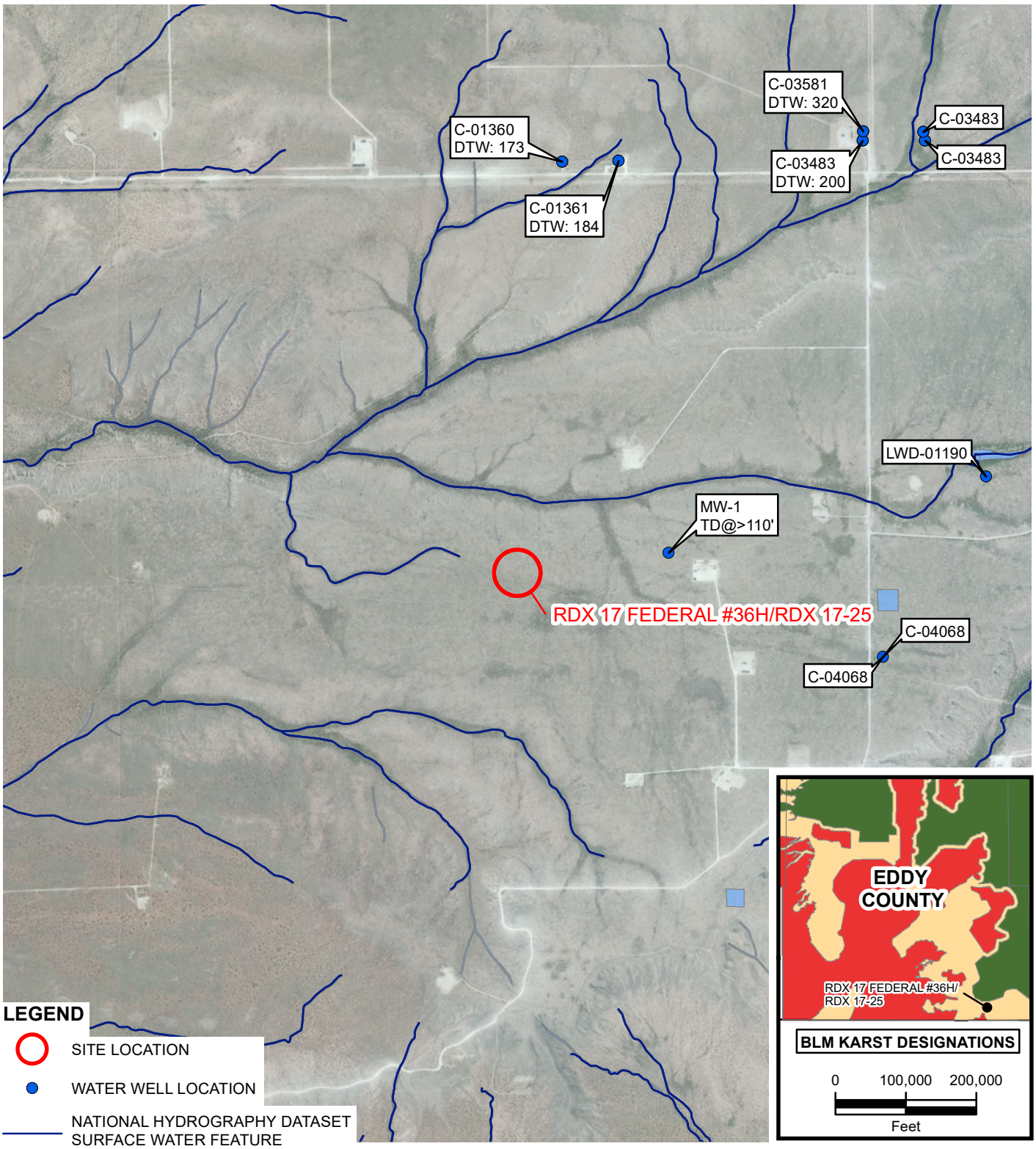
Table 1	Soil Analytical Results
Attachment 1	Boring Log
Attachment 2	Lithologic/Sampling Log
Attachment 3	Photographic Log
Attachment 4	Laboratory Analytical Reports

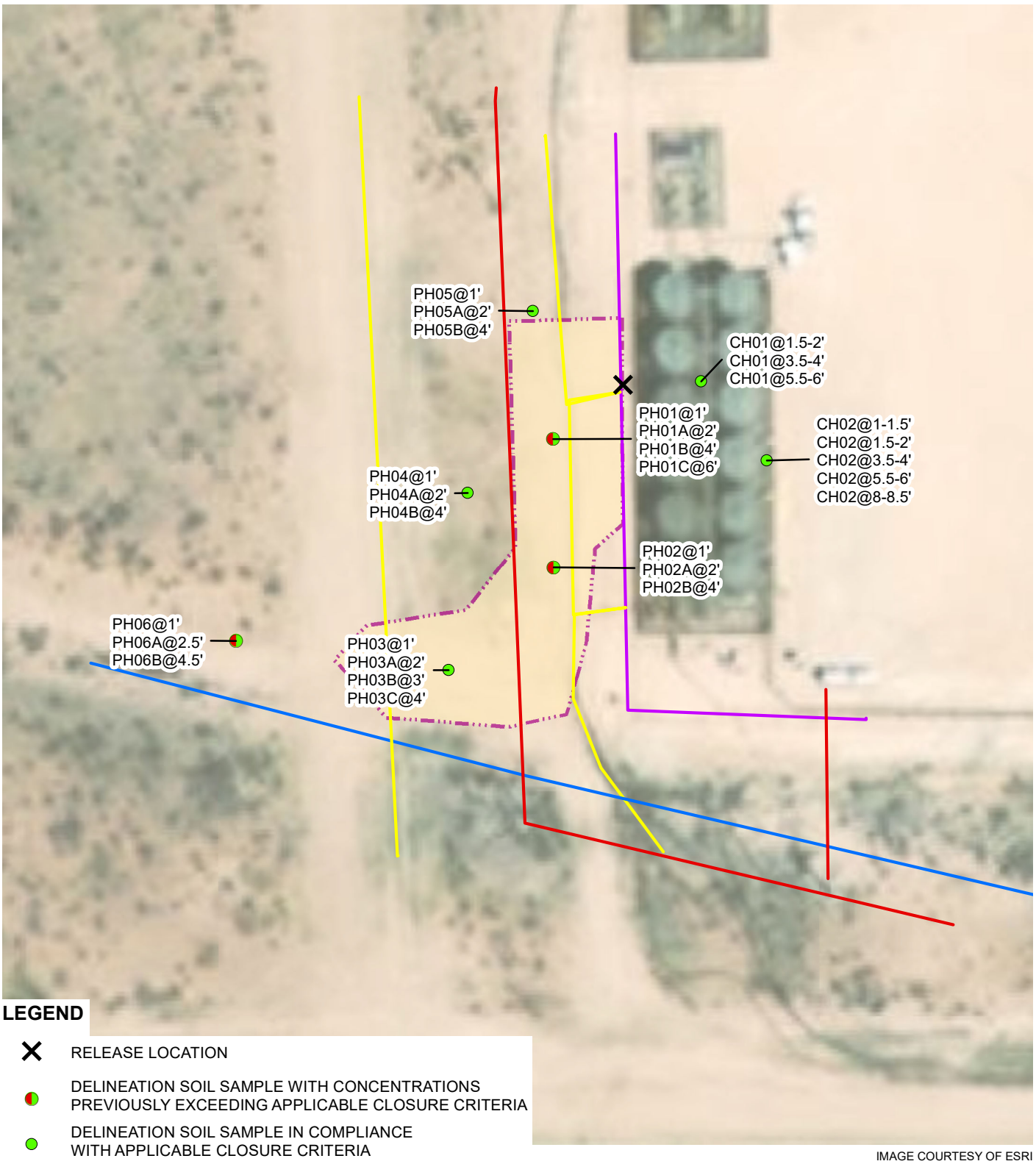
FIGURES



NOTE: INCIDENT NUMBERS NRM2017643736 & NAB1712952339
BLM: BUREAU OF LAND MANAGEMENT
DTW: DEPTH TO WATER IN FEET
TD: TOTAL DEPTH IN FEET

FIGURE 1
CHARACTERIZATION ASSESSMENT MAP
RDX 17 FEDERAL #36H/RDX 17-25
UNIT D SEC 17 T26S R30E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

P:\WPX\GIS\MXD\034820010_RDX 17-25_4198\034820010_FIG01_SL_RECEPTOR_2020.mxd



LEGEND

- RELEASE LOCATION
- DELINEATION SOIL SAMPLE WITH CONCENTRATIONS PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- ELECTRIC LINE
- GAS LINE
- SURFACE FLARE LINE
- WATER LINE
- RELEASE EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: INCIDENT NUMBERS NRM2017643736 & NAB1712952339

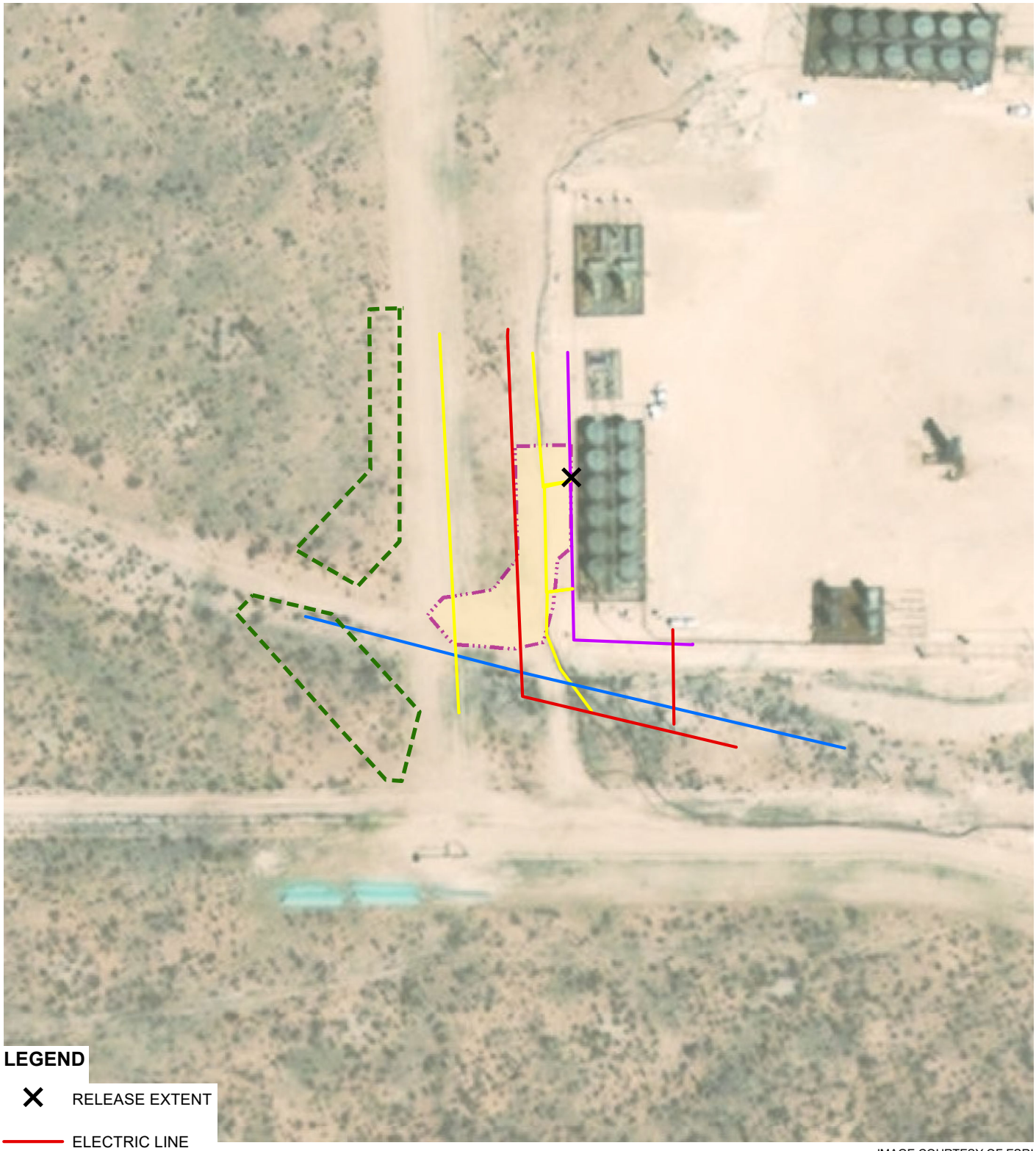
IMAGE COURTESY OF ESRI

0 50 100
Feet

N

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
RDX 17 FEDERAL #36H/RDX 17-25
UNIT D SEC 17 T26S R30E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

P:\WPX\GIS\MXD\034820010_RDX 17-25_4198\034820010_FIG02_DELINEATION_2020.mxd



LEGEND

- RELEASE EXTENT
- ELECTRIC LINE
- GAS LINE
- SURFACE FLARE LINE
- WATER LINE
- 50-100 FOOT BUFFER
- RELEASE EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: INCIDENT NUMBERS NRM2017643736 & NAB1712952339

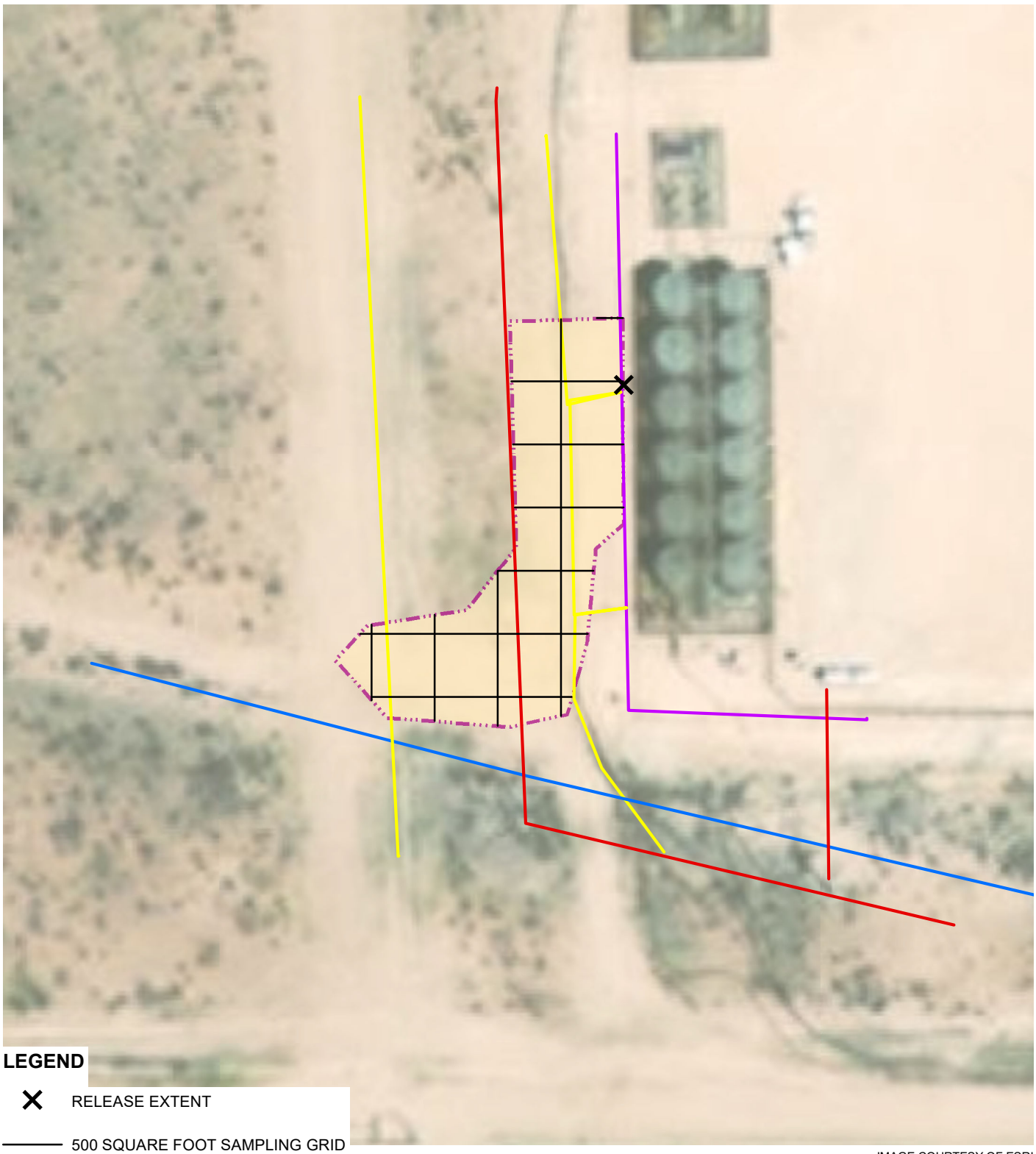
IMAGE COURTESY OF ESRI

0 100 200
Feet

N

FIGURE 3
BUFFER SAMPLING AREA
RDX 17 FEDERAL #36H/RDX 17-25
UNIT D SEC 17 T26S R30E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

P:\WPX\GIS\MXD\034820010_RDX 17-25_4198\034820010_FIG03_BUFFER SAMPLING AREA_2021.mxd



LEGEND

- RELEASE EXTENT
- 500 SQUARE FOOT SAMPLING GRID
- ELECTRIC LINE
- GAS LINE
- SURFACE FLARE LINE
- WATER LINE
- RELEASE EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: INCIDENT NUMBERS NRM2017643736 & NAB1712952339

IMAGE COURTESY OF ESRI

0 50 100
Feet

N

FIGURE 4
PROPOSED SAMPLING AREA
RDX 17 FEDERAL #36H/RDX 17-25
UNIT D SEC 17 T26S R30E EDDY
COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC.

wsp

P:\Gilbert-Stewart Operating LLC (0787)\GIS\MXD\31402924.000_YELTSIN-615S45W\034820010_FIG04_PROPOSED SAMPLING AREA_2021.mxd

TABLES

Table 1

Soil Analytical Results
RDX 17 Federal #36H/RDX 17-25
Incident Number NRM2017643736 and NAB17129523392
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (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										
PH01	08/27/2020	1	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	**12,300***
PH01A	08/27/2020	2	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	3,750*
PH01B	08/27/2020	4	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	3,720
PH01C	08/27/2020	6	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	6,480
PH02	08/27/2020	1	<0.00199	<0.00199	<49.9	69.5	<49.9	69.5	69.5	2,820*
PH02A	08/27/2020	2	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	**17,700***
PH02B	08/27/2020	4	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	3,180
PH03	08/27/2020	1	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	1,890*
PH03A	08/27/2020	2	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	1,180*
PH03B	08/27/2020	3	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	512
PH03C	08/27/2020	4	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	227
PH04	08/27/2020	1	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	55.4
PH04A	08/27/2020	2	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	23.1
PH04B	08/27/2020	4	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	<9.92
PH05	08/27/2020	1	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	53.5
PH05A	08/27/2020	2	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	16.1
PH05B	08/27/2020	4	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	18.0
PH06	08/27/2020	1	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	483
PH06A	08/27/2020	2.5	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	**1,200***
PH06B	08/27/2020	4.5	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	969

Table 1

Soil Analytical Results
RDX 17 Federal #36H/RDX 17-25
Incident Number NRM2017643736 and NAB17129523392
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (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**
CH01	10/29/2020	1.5 - 2	<0.00201	<0.00201	<50.1	79.6	<50.1	79.6	79.6	344
CH01	10/29/2020	3.5 - 4	<0.00200	<0.00200	<13.9	16.3	<11.5	16.3	16.3	3,230
CH01	10/29/2020	5.5 - 6	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	606
CH02	10/29/2020	1 - 1.5	<0.00201	0.107	<50.2	<50.2	<50.2	<50.2	<50.2	342
CH02	10/29/2020	1.5 - 2	<0.0196	0.594	88.2	748	59.4	896	896	660
CH02	10/29/2020	3.5 - 4	<0.00202	0.647	60.4	298	<50.2	358	358	212
CH02	10/29/2020	5.5 - 6	<0.00200	<0.00200	<50.2	99.0	<50.2	99.0	99.0	148
CH02	10/29/2020	8 - 8.5	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	157

Notes:

ft - feet/foot
mg/kg - milligrams per kilograms
BTEX - benzene, toluene, ethylbenzene, and total xylenes
TPH - total petroleum hydrocarbons
GRO - gasoline range organics
DRO - diesel range organics
ORO - oil range organics

NMOCD - New Mexico Oil Conservation Division
NMAC - New Mexico Administrative Code
NE - Not Established
< - indicates result is less than the stated laboratory method practical quantitation limit
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

ATTACHMENT 1: REFERENCED BORE LOG

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW-1			Location: RDX Federal Com 17-44H
Date: 12/8/2020			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: 32.049656
Casing Type: PVC / Diameter: 2-inch / Depth Interval: 0-105 ft bgs		Boring Total Depth (ft. BGS): 110	Longitude: -103.904054
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	D	N	N	NM	CE	NS	Buff to pale pink colored caliche	
5										
10										
15										
20										
25										
30										
35										
40										
45	NM	L	D	N	N	NM	SW	NS	Pinky orange well graded sand with minor silt	
50										
55										
60										
65	NM	L	D	N	N	NM	SP	NS	Pinky pale brown orange poorly graded fine sand with minor silt	
70										
75										
80	NM	L	D	N	N	NM	SW-SM SW-SC	NS	Pinky brown orange well-graded sand with silt and clay	
85										
90										
95	NM	L	D	N	N	NM	SP	NS	Pinky pale brown orange poorly graded fine sand with minor silt - TD: 110' bgs	
100										
105										

ATTACHMENT 2: LITHOLOGIC/SAMPLING LOG

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	Pothole Name: PH01	Date: 8/27/2020
	Site Name: RDX 17 Federal #36H/RDX 17-25	
	Incident Number: NRM2017643736 and NAB1712952339	
	WSP Job Number: TE034820010	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers	Method: Back Hoe
Lat/Long: 32.04883063N, 103.91105389W	Field Screening: Chloride	Hole Diameter: Not applicable / Total Depth: 8 feet

Comments: Chloride field screening was conducted with a 1:4 dilution of soil to distilled water. Values reported do not include a correction factor.
Vapor was not field screened (NA), because the laboratory analytical results reported BTEX and TPH concentrations below Closure Criteria for all initial soil samples.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	9,668	NA	No	PH01	1	1	SP-SM	brown, poorly-graded sand (f.) with gravel to cobble sized grains with no plasticity or odor, including root fragments
Dry	7,028	NA	No	PH01A	2	2	cche	light brown to tan colored caliche; moderately cemented sand (f.) with gravel to cobble sized inclusions; odorless; cementation decreases with depth
Dry	8,228	NA	No		3	3	cche	
Dry	7,604	NA	No	PH01B	4	4	cche	
Dry	>2,464	NA	No		5	5	cche	
Dry	>2,464	NA	No	PH01C	6	6	cche	
Dry	2,208	NA	No		7.5	7.5	cche	well-cemented caliche shelf; increased finer grains
Dry	1,424	NA	No		8	8	cche	well-cemented caliche shelf

Total Depth/Back Hoe Refusal

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	Pothole Name: PH02	Date: 8/27/2020
	Site Name: RDX 17 Federal #36H/RDX 17-25	
	Incident Number: NRM2017643736 and NAB1712952339	
	WSP Job Number: TE034820010	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers	Method: Back Hoe
Lat/Long: 32.04870579N, 103.91105395W	Field Screening: Chloride	Hole Diameter: Not applicable / Total Depth: 7.25 feet

Comments: Chloride field screening was conducted with a 1:4 dilution of soil to distilled water. Values reported do not include a correction factor.
Vapor was not field screened (NA), because the laboratory analytical results reported BTEX and TPH concentrations below Closure Criteria for all initial soil samples.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	9,668	NA	No	PH02	1	1	SP-SM	brown, poorly-graded sand (f.) with gravel to cobble sized grains with no plasticity or odor, including root fragments
Dry	4,392	NA	No	PH02A	2	2	cche	light brown to tan colored caliche; moderately cemented sand (f.) with gravel to cobble sized inclusions; odorless; cementation decreases with depth
Dry	2,652	NA	No		3	3	cche	
Dry	3,160	NA	No	PH02B	4	4	cche	
Dry	-	NA	No		5	5	cche	
Dry	232	NA	No		6	6	cche	
Dry	820	NA	No		7.25	7.25	cche	well-cemented caliche shelf; increased finer grains

Total Depth/Back Hoe Refusal

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

Pothole Name:	Date:
PH03	8/27/2020
Site Name: RDX 17 Federal #36H/RDX 17-25	
Incident Number: NRM2017643736 and NAB1712952339	
WSP Job Number: TE034820010	
Logged By: Anna Byers	Method: Back Hoe
Hole Diameter: Not applicable	Total Depth: 4 feet
Lat/Long: 32.048606184N, 103.91117449W	Field Screening: Chloride

LITHOLOGIC / SOIL SAMPLING LOG

Comments: Chloride field screening was conducted with a 1:4 dilution of soil to distilled water. Values reported do not include a correction factor. Vapor was not field screened (NA), because the laboratory analytical results reported BTEX and TPH concentrations below Closure Criteria for all initial soil samples.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	824	NA	No	PH03	1	1	SP-SM	brown, poorly-graded sand (f.) with gravel to cobble sized grains with no plasticity or odor, including root fragments
Dry	1,024	NA	No	PH03	2	2	SP-SM	
Dry	<112	NA	No	PH03B	3	3	SP-SM	
Dry	<120	NA	No	PH03C	4	4	SP-SM	

Total Depth

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	Pothole Name: PH04	Date: 8/27/2020
	Site Name: RDX 17 Federal #36H/RDX 17-25	
	Incident Number: NRM2017643736 and NAB1712952339	
	WSP Job Number: TE034820010	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers	Method: Back Hoe
Lat/Long: 32.04877848N, 103.91115191W	Field Screening: Chloride	Hole Diameter: Not applicable / Total Depth: 7.75 feet

Comments: Chloride field screening was conducted with a 1:4 dilution of soil to distilled water. Values reported do not include a correction factor. Vapor was not field screened (NA), because the laboratory analytical results reported BTEX and TPH concentrations below Closure Criteria for all initial soil samples.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	<112	NA	No	PH04	1	1	SP-SM	brown, poorly-graded sand (f.) with gravel to cobble sized grains with no plasticity or odor, including root fragments
Dry	<112	NA	No	PH04A	2	2	SP-SM	
Dry	<112	NA	No		3	3	SP-SM	
Dry	<120	NA	No	PH04B	4	4	SP-SM	light brown to tan colored caliche; poorly cemented sand (f.) with gravel to cobble sized inclusions; odorless; cementation decreases with depth
Dry	<120	NA	No		6	6	cche	
Dry	<120	NA	No		7.75	7.75	cche	well-cemented caliche shelf; increased finer grains

Total Depth

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	Pothole Name: PH05	Date: 8/27/2020
	Site Name: RDX 17 Federal #36H/RDX 17-25	
	Incident Number: NRM2017643736 and NAB1712952339	
	WSP Job Number: TE034820010	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Anna Byers	Method: Back Hoe
Lat/Long: 32.04895548N, 103.91107643W	Field Screening: Chloride	Hole Diameter: Not applicable / Total Depth: 8 feet

Comments: Chloride field screening was conducted with a 1:4 dilution of soil to distilled water. Values reported do not include a correction factor.
Vapor was not field screened (NA), because the laboratory analytical results reported BTEX and TPH concentrations below Closure Criteria for all initial soil samples.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	<120	NA	No	PH05	1	1	SP-SM	brown, poorly-graded sand (f.) with gravel to cobble sized grains with no plasticity or odor, including root fragments
Dry	<120	NA	No	PH05A	2	2	cche	light brown to tan colored caliche; moderately cemented sand (f.) with gravel to cobble sized inclusions; odorless; cementation decreases with depth
Dry	<120	NA	No		3	3	cche	
Dry	<120	NA	No	PH05B	4	4	cche	
						5		
Dry	<120	NA	No		6	6	cche	
						7		
Dry	188	NA	No		8	8	cche	consolidated caliche; increase of finer sand grains

Total Depth

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

Pothole Name: PH06	Date: 8/27/2020
Site Name: RDX 17 Federal #36H/RDX 17-25	
Incident Number: NRM2017643736 and NAB1712952339	
WSP Job Number: TE034820010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Anna Byers	Method: Back Hoe		
Lat/Long: 32.04865400N, 103.91143600W	Field Screening: Chloride	Hole Diameter: Not applicable	Total Depth: 6 feet

Comments: Chloride field screening was conducted with a 1:4 dilution of soil to distilled water. Values reported do not include a correction factor.
Vapor was not field screened (NA), because the laboratory analytical results reported BTEX and TPH concentrations below Closure Criteria for all initial soil samples.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
Dry	232	NA	No	PH06	1	1	cche	light brown to tan colored caliche; moderately cemented sand (f.) with gravel to cobble sized inclusions; odorless; cementation decreases with depth
Dry	1,424	NA	No	PH06A	2.5	2.5	cche	
Dry	1,024	NA	No		3	3	cche	
Dry	844	NA	No	PH06B	4.5	4.5	cche	
Dry	232	NA	No		6	6	cche	

Total Depth

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

Pothole Name:	Date:
CH01	10/29/2020
Site Name: RDX 17 Federal #36H/RDX 17-25	
Incident Number: NRM2017643736 and NAB1712952339	
WSP Job Number: TE034820010	
Logged By: Anna Byers	Method: Shaw Core Drill
Hole Diameter: Not applicable	Total Depth: 6 feet

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.04888628N, 103.91088443W

Field Screening: Chloride

Comments: Chloride field screening was conducted with a 1:4 dilution of soil to distilled water. Values reported do not include a correction factor. Vapor was not field screened (NA), because the laboratory analytical results reported BTEX and TPH concentrations below Closure Criteria for all initial soil samples.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
Dry	1,740	NA	No	CH01	0–2	0–2	cche	Caliche decreasing cementation with depth, tan colored, gravel and sand (c.), moist, no odor
Dry	224	NA	No	CH01	3–4	3–4	SP	(c.), moist, light brown, no odor
Dry	364	NA	No	CH01	5–6	5–6	cche	Caliche, poorly cemented, tan gravel and sand (c.)

Total Depth

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

Pothole Name: CH02	Date: 10/29/2020
Site Name: RDX 17 Federal #36H/RDX 17-25	
Incident Number: NRM2017643736 and NAB1712952339	
WSP Job Number: TE034820010	
Logged By: Anna Byers	Method: Shaw Core Drill
Hole Diameter: Not applicable	Total Depth: 8.5 feet
Lat/Long: 32.04880899N, 103.91080971W	Field Screening: Chloride

LITHOLOGIC / SOIL SAMPLING LOG

Comments: Chloride field screening was conducted with a 1:4 dilution of soil to distilled water. Values reported do not include a correction factor. Vapor was not field screened (NA), because the laboratory analytical results reported BTEX and TPH concentrations below Closure Criteria for all initial soil samples.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
Dry	224	NA	No	CH02	1	1	cche	caliche, well consolidated, gravel poorly sorted, no odor
Dry	516	NA	No	CH02	2	2	cche	
Dry	316	NA	No	CH02	4	4	SP	(c.), light brown, mild odor
Dry	148	NA	No	CH02	6	6	SP	(c.), light brown, less odor
Dry	120	NA	No	CH02	8	8	cche	caliche, mod. cemented, no odor

Total Depth

ATTACHMENT 3: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG		
WPX Energy Permian, LLC.	RDX 17 Federal #36H/RDX 17-25 Eddy County, New Mexico	TE034820010

Photo No.	Date
1	August 27, 2020

North view of the release area before delineation activities.

Photo No.	Date
2	August 27, 2020

South view of the release area before delineation activities.

PHOTOGRAPHIC LOG		
WPX Energy Permian, LLC.	RDX 17 Federal #36H/RDX 17-25 Eddy County, New Mexico	TE034820010

Photo No.	Date
3	August 27, 2020

East view of the release area before delineation activities.

Photo No.	Date
4	August 27, 2020

Southwest view of the Site during delineation activities.

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS

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Certificate of Analysis Summary 671316

WSP USA, Dallas, TX

Project Name: RDX 17-25

Project Id: 034820010
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Fri 08.28.2020 14:08
Report Date: 01.12.2021 16:10
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	671316-001		671316-002		671316-003		671316-004		671316-005		671316-006	
	Field Id:	PH01		PH01 A		PH01 B		PH01 C		PH02		PH02 A	
	Depth:	1- ft		2- ft		4- ft		6- ft		1- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	08.27.2020 09:19		08.27.2020 09:39		08.27.2020 09:54		08.27.2020 12:29		08.27.2020 10:05		08.27.2020 10:15	
BTEX by EPA 8021B	***Extracted:***	08.28.2020 16:51		08.28.2020 16:51		08.28.2020 16:51		08.28.2020 16:51		08.28.2020 16:51		08.28.2020 16:51	
	Analyzed:	08.28.2020 23:27		08.28.2020 23:47		08.29.2020 00:07		08.29.2020 01:23		08.29.2020 01:44		08.29.2020 02:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199
m,p-Xylenes		<0.00395	0.00395	<0.00399	0.00399	<0.00399	0.00399	<0.00397	0.00397	<0.00398	0.00398	<0.00398	0.00398
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	08.28.2020 15:05		08.28.2020 15:05		08.28.2020 15:05		08.28.2020 15:05		08.28.2020 15:05		08.28.2020 15:05	
	Analyzed:	08.28.2020 19:44		08.28.2020 19:50		08.28.2020 19:55		08.28.2020 20:01		08.28.2020 20:17		08.28.2020 20:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		12300	198	3750	50.1	3720	50.2	6480	49.5	2820	49.9	17700	198
TPH by SW8015 Mod	***Extracted:***	08.28.2020 17:15		08.28.2020 17:15		08.28.2020 17:15		08.28.2020 17:15		08.28.2020 17:15		08.28.2020 17:15	
	Analyzed:	08.29.2020 03:14		08.29.2020 03:35		08.29.2020 03:55		08.29.2020 04:15		08.29.2020 04:56		08.29.2020 05:16	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.1	50.1	<49.9	49.9	<49.9	49.9	<49.9	49.9	<50.1	50.1
Diesel Range Organics (DRO)		<50.0	50.0	<50.1	50.1	<49.9	49.9	<49.9	49.9	69.5	49.9	<50.1	50.1
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.1	50.1	<49.9	49.9	<49.9	49.9	<49.9	49.9	<50.1	50.1
Total TPH		<50.0	50.0	<50.1	50.1	<49.9	49.9	<49.9	49.9	69.5	49.9	<50.1	50.1

BRL - Below Reporting Limit

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

Jessica Kramer

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Certificate of Analysis Summary 671316

WSP USA, Dallas, TX

Project Name: RDX 17-25

Project Id: 034820010
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Fri 08.28.2020 14:08
Report Date: 01.12.2021 16:10
Project Manager: Jessica Kramer

Analysis Requested	*Lab Id:*	671316-007		671316-008		671316-009		671316-010		671316-011		671316-012	
	Field Id:	PH02 B		PH03		PH03 A		PH03 B		PH03 C		PH04	
	Depth:	4- ft		1- ft		2- ft		3- ft		4- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	08.27.2020 10:23		08.27.2020 10:47		08.27.2020 11:07		08.27.2020 11:16		08.27.2020 11:22		08.27.2020 14:33	
BTEX by EPA 8021B	*Extracted:*	08.28.2020 16:51		08.28.2020 16:51		08.28.2020 16:51		08.28.2020 16:51		08.28.2020 16:51		08.28.2020 16:51	
	Analyzed:	08.29.2020 02:24		08.29.2020 02:45		08.29.2020 03:05		08.29.2020 03:26		08.29.2020 03:46		08.29.2020 04:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200
m,p-Xylenes		<0.00399	0.00399	<0.00401	0.00401	<0.00403	0.00403	<0.00402	0.00402	<0.00397	0.00397	<0.00399	0.00399
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200
Inorganic Anions by EPA 300	*Extracted:*	08.28.2020 15:05		08.28.2020 15:05		08.28.2020 15:05		08.28.2020 15:05		08.28.2020 15:05		08.28.2020 15:05	
	Analyzed:	08.28.2020 20:29		08.28.2020 20:34		08.28.2020 20:51		08.28.2020 20:57		08.28.2020 21:02		08.28.2020 21:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3180	49.7	1890	49.9	1180	49.8	512	49.9	227	9.96	55.4	9.98
TPH by SW8015 Mod	*Extracted:*	08.28.2020 17:15		08.28.2020 17:15		08.28.2020 17:15		08.28.2020 17:15		08.28.2020 17:15		08.28.2020 17:15	
	Analyzed:	08.29.2020 05:37		08.29.2020 05:57		08.29.2020 06:17		08.29.2020 06:37		08.29.2020 06:57		08.29.2020 07:18	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0	<50.1	50.1	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0	<50.1	50.1	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0	<50.1	50.1	<50.0	50.0
Total TPH		<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0	<50.1	50.1	<50.0	50.0

BRL - Below Reporting Limit

Jessica Kramer

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Certificate of Analysis Summary 671316

WSP USA, Dallas, TX

Project Name: RDX 17-25

Project Id: 034820010
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Fri 08.28.2020 14:08
Report Date: 01.12.2021 16:10
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	671316-013		671316-014		671316-015		671316-016		671316-017		671316-018	
	Field Id:	PH04 A		PH04 B		PH05		PH05 A		PH05 B		PH06	
	Depth:	2- ft		4- ft		1-		2-		4-		1-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	08.27.2020 14:38		08.27.2020 14:44		08.27.2020 15:18		08.27.2020 15:23		08.27.2020 15:33		08.27.2020 16:37	
BTEX by EPA 8021B	***Extracted:***	08.28.2020 16:51		08.28.2020 17:56		08.28.2020 17:56		08.28.2020 17:56		08.28.2020 17:56		08.28.2020 17:56	
	Analyzed:	08.29.2020 04:27		08.29.2020 07:59		08.29.2020 08:20		08.29.2020 08:40		08.29.2020 09:01		08.29.2020 09:21	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00399	0.00399	<0.00396	0.00396	<0.00396	0.00396	<0.00399	0.00399	<0.00398	0.00398	<0.00401	0.00401
o-Xylene		<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	08.28.2020 15:05		08.28.2020 17:09		08.28.2020 17:09		08.28.2020 17:09		08.28.2020 17:09		08.28.2020 17:09	
	Analyzed:	08.28.2020 21:13		08.28.2020 21:47		08.28.2020 22:04		08.28.2020 22:09		08.28.2020 22:15		08.28.2020 22:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		23.1	9.98	<9.92	9.92	53.5	9.96	16.1	9.98	18.0	10.1	483	202
TPH by SW8015 Mod	***Extracted:***	08.28.2020 17:15		08.28.2020 17:15		08.28.2020 17:00		08.28.2020 17:00		08.28.2020 17:00		08.28.2020 17:00	
	Analyzed:	08.29.2020 07:38		08.29.2020 07:58		08.28.2020 18:28		08.28.2020 19:29		08.28.2020 19:49		08.28.2020 20:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.8	49.8	<49.9	49.9	<50.1	50.1	<49.8	49.8	<50.2	50.2
Diesel Range Organics (DRO)		<50.0	50.0	<49.8	49.8	<49.9	49.9	<50.1	50.1	<49.8	49.8	<50.2	50.2
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8	<49.9	49.9	<50.1	50.1	<49.8	49.8	<50.2	50.2
Total TPH		<50.0	50.0	<49.8	49.8	<49.9	49.9	<50.1	50.1	<49.8	49.8	<50.2	50.2

BRL - Below Reporting Limit

Jessica Kramer

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

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Certificate of Analysis Summary 671316

WSP USA, Dallas, TX

Project Name: RDX 17-25

Project Id: 034820010
Contact: Chris McKisson
Project Location: Eddy County

Date Received in Lab: Fri 08.28.2020 14:08
Report Date: 01.12.2021 16:10
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	671316-019		671316-020			
	Field Id:	PH06 A		PH06 B			
	Depth:	2.5-		4.5-			
	Matrix:	SOIL		SOIL			
	Sampled:	08.27.2020 16:41		08.27.2020 16:55			
BTEX by EPA 8021B	***Extracted:***	08.28.2020 17:56		08.28.2020 17:56			
	Analyzed:	08.29.2020 09:41		08.29.2020 10:02			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Benzene		<0.00202	0.00202	<0.00201	0.00201		
Toluene		<0.00202	0.00202	<0.00201	0.00201		
Ethylbenzene		<0.00202	0.00202	<0.00201	0.00201		
m,p-Xylenes		<0.00403	0.00403	<0.00402	0.00402		
o-Xylene		<0.00202	0.00202	<0.00201	0.00201		
Total Xylenes		<0.00202	0.00202	<0.00201	0.00201		
Total BTEX		<0.00202	0.00202	<0.00201	0.00201		
Inorganic Anions by EPA 300	***Extracted:***	08.28.2020 17:09		08.28.2020 17:09			
	Analyzed:	08.28.2020 22:37		08.28.2020 22:43			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Chloride		1200	49.5	969	9.98		
TPH by SW8015 Mod	***Extracted:***	08.28.2020 17:00		08.28.2020 17:00			
	Analyzed:	08.28.2020 20:29		08.28.2020 20:50			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.0	50.0		
Diesel Range Organics (DRO)		<49.8	49.8	<50.0	50.0		
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.0	50.0		
Total TPH		<49.8	49.8	<50.0	50.0		

BRL - Below Reporting Limit

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

Jessica Kramer

eurofins | Environment Testing Xenco

Analytical Report 671316

for

WSP USA

Project Manager: Chris McKisson

RDX 17-25

034820010

01.12.2021

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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01.12.2021

Project Manager: **Chris McKisson**
WSP USA
2777 N. Stemmons Freeway, Suite 1600
Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **671316**
RDX 17-25
Project Address: Eddy County

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 Eurofins Xenco, LLC Report Number(s) 671316. 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 Eurofins Xenco, LLC. 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. 671316 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 671316

WSP USA, Dallas, TX

RDX 17-25

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	08.27.2020 09:19	1 ft	671316-001
PH01 A	S	08.27.2020 09:39	2 ft	671316-002
PH01 B	S	08.27.2020 09:54	4 ft	671316-003
PH01 C	S	08.27.2020 12:29	6 ft	671316-004
PH02	S	08.27.2020 10:05	1 ft	671316-005
PH02 A	S	08.27.2020 10:15	2 ft	671316-006
PH02 B	S	08.27.2020 10:23	4 ft	671316-007
PH03	S	08.27.2020 10:47	1 ft	671316-008
PH03 A	S	08.27.2020 11:07	2 ft	671316-009
PH03 B	S	08.27.2020 11:16	3 ft	671316-010
PH03 C	S	08.27.2020 11:22	4 ft	671316-011
PH04	S	08.27.2020 14:33	1 ft	671316-012
PH04 A	S	08.27.2020 14:38	2 ft	671316-013
PH04 B	S	08.27.2020 14:44	4 ft	671316-014
PH05	S	08.27.2020 15:18	1	671316-015
PH05 A	S	08.27.2020 15:23	2	671316-016
PH05 B	S	08.27.2020 15:33	4	671316-017
PH06	S	08.27.2020 16:37	1	671316-018
PH06 A	S	08.27.2020 16:41	2.5	671316-019
PH06 B	S	08.27.2020 16:55	4.5	671316-020

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CASE NARRATIVE

Client Name: WSP USA

Project Name: RDX 17-25

Project ID: *034820010*
Work Order Number(s): *671316*

Report Date: *01.12.2021*
Date Received: *08.28.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3135936 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 671316-015 S,671316-015 SD.

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Certificate of Analytical Results 671316

WSP USA, Dallas, TX

RDX 17-25

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-001	Date Collected:	08.27.2020 09:19	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 15:05	% Moisture:	
Seq Number:	3135891			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12300**	198	mg/kg	08.28.2020 19:44		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:15	% Moisture:	
Seq Number:	3135945			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.29.2020 03:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.29.2020 03:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.29.2020 03:14	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.29.2020 03:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	08.29.2020 03:14	
o-Terphenyl	84-15-1	100	%	70-135	08.29.2020 03:14	

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RDX 17-25

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-001	Date Collected:	08.27.2020 09:19	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 16:51	% Moisture:	
Seq Number:	3135888			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.28.2020 23:27	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.28.2020 23:27	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.28.2020 23:27	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	08.28.2020 23:27	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.28.2020 23:27	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.28.2020 23:27	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.28.2020 23:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	08.28.2020 23:27	
1,4-Difluorobenzene	540-36-3	95	%	70-130	08.28.2020 23:27	

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RDX 17-25

Sample Id: **PH01 A** Matrix: Soil Date Received:08.28.2020 14:08
Lab Sample Id: 671316-002 Date Collected: 08.27.2020 09:39 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 08.28.2020 15:05 % Moisture:
Seq Number: 3135891 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3750**	50.1	mg/kg	08.28.2020 19:50		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH
Analyst: DTH Date Prep: 08.28.2020 17:15 % Moisture:
Seq Number: 3135945 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	08.29.2020 03:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	08.29.2020 03:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	08.29.2020 03:35	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	08.29.2020 03:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	08.29.2020 03:35	
o-Terphenyl	84-15-1	98	%	70-135	08.29.2020 03:35	

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Sample Id:	**PH01 A**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-002	Date Collected:	08.27.2020 09:39	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 16:51	% Moisture:	
Seq Number:	3135888			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.28.2020 23:47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.28.2020 23:47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.28.2020 23:47	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.28.2020 23:47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.28.2020 23:47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.28.2020 23:47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.28.2020 23:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	08.28.2020 23:47	
1,4-Difluorobenzene	540-36-3	100	%	70-130	08.28.2020 23:47	

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Sample Id:	**PH01 B**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-003	Date Collected:	08.27.2020 09:54	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 15:05	% Moisture:	
Seq Number:	3135891			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3720**	50.2	mg/kg	08.28.2020 19:55		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:15	% Moisture:	
Seq Number:	3135945			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	08.29.2020 03:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	08.29.2020 03:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	08.29.2020 03:55	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	08.29.2020 03:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	08.29.2020 03:55	
o-Terphenyl	84-15-1	98	%	70-135	08.29.2020 03:55	

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Sample Id:	**PH01 B**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-003	Date Collected:	08.27.2020 09:54	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 16:51	% Moisture:	
Seq Number:	3135888			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.29.2020 00:07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.29.2020 00:07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.29.2020 00:07	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.29.2020 00:07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.29.2020 00:07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.29.2020 00:07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.29.2020 00:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	08.29.2020 00:07	
1,4-Difluorobenzene	540-36-3	100	%	70-130	08.29.2020 00:07	

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RDX 17-25

Sample Id: **PH01 C** Matrix: Soil Date Received:08.28.2020 14:08

Lab Sample Id: 671316-004 Date Collected: 08.27.2020 12:29 Sample Depth: 6 ft

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

Tech: MAB

Analyst: MAB Date Prep: 08.28.2020 15:05 % Moisture:

Seq Number: 3135891 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6480**	49.5	mg/kg	08.28.2020 20:01		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DTH

Analyst: DTH Date Prep: 08.28.2020 17:15 % Moisture:

Seq Number: 3135945 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	08.29.2020 04:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	08.29.2020 04:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	08.29.2020 04:15	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	08.29.2020 04:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	08.29.2020 04:15	
o-Terphenyl	84-15-1	98	%	70-135	08.29.2020 04:15	

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Sample Id:	**PH01 C**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-004	Date Collected:	08.27.2020 12:29	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 16:51	% Moisture:	
Seq Number:	3135888			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.29.2020 01:23	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.29.2020 01:23	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.29.2020 01:23	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	08.29.2020 01:23	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.29.2020 01:23	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.29.2020 01:23	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.29.2020 01:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	08.29.2020 01:23	
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.29.2020 01:23	

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Sample Id:	**PH02**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-005	Date Collected:	08.27.2020 10:05	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 15:05	% Moisture:	
Seq Number:	3135891			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2820**	49.9	mg/kg	08.28.2020 20:17		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:15	% Moisture:	
Seq Number:	3135945			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	08.29.2020 04:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	**69.5**	49.9	mg/kg	08.29.2020 04:56		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	08.29.2020 04:56	U	1
Total TPH	PHC635	**69.5**	49.9	mg/kg	08.29.2020 04:56		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	08.29.2020 04:56	
o-Terphenyl	84-15-1	96	%	70-135	08.29.2020 04:56	

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Sample Id:	**PH02**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-005	Date Collected:	08.27.2020 10:05	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 16:51	% Moisture:	
Seq Number:	3135888			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.29.2020 01:44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.29.2020 01:44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.29.2020 01:44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.29.2020 01:44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.29.2020 01:44	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.29.2020 01:44	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.29.2020 01:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	08.29.2020 01:44	
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.29.2020 01:44	

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Sample Id: **PH02 A** Matrix: Soil Date Received:08.28.2020 14:08
Lab Sample Id: 671316-006 Date Collected: 08.27.2020 10:15 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 08.28.2020 15:05 % Moisture:
Seq Number: 3135891 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17700**	198	mg/kg	08.28.2020 20:23		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH
Analyst: DTH Date Prep: 08.28.2020 17:15 % Moisture:
Seq Number: 3135945 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	08.29.2020 05:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	08.29.2020 05:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	08.29.2020 05:16	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	08.29.2020 05:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	08.29.2020 05:16	
o-Terphenyl	84-15-1	100	%	70-135	08.29.2020 05:16	

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Sample Id:	**PH02 A**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-006	Date Collected:	08.27.2020 10:15	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 16:51	% Moisture:	
Seq Number:	3135888			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.29.2020 02:04	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.29.2020 02:04	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.29.2020 02:04	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.29.2020 02:04	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.29.2020 02:04	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.29.2020 02:04	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.29.2020 02:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	08.29.2020 02:04	
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.29.2020 02:04	

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Sample Id: **PH02 B** Matrix: Soil Date Received:08.28.2020 14:08
Lab Sample Id: 671316-007 Date Collected: 08.27.2020 10:23 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 08.28.2020 15:05 % Moisture:
Seq Number: 3135891 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3180**	49.7	mg/kg	08.28.2020 20:29		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH
Analyst: DTH Date Prep: 08.28.2020 17:15 % Moisture:
Seq Number: 3135945 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.29.2020 05:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.29.2020 05:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.29.2020 05:37	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.29.2020 05:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	08.29.2020 05:37	
o-Terphenyl	84-15-1	100	%	70-135	08.29.2020 05:37	

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Sample Id:	**PH02 B**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-007	Date Collected:	08.27.2020 10:23	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 16:51	% Moisture:	
Seq Number:	3135888			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.29.2020 02:24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.29.2020 02:24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.29.2020 02:24	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.29.2020 02:24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.29.2020 02:24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.29.2020 02:24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.29.2020 02:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	08.29.2020 02:24	
4-Bromofluorobenzene	460-00-4	103	%	70-130	08.29.2020 02:24	

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Sample Id:	**PH03**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-008	Date Collected:	08.27.2020 10:47	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 15:05	% Moisture:	
Seq Number:	3135891			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1890**	49.9	mg/kg	08.28.2020 20:34		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:15	% Moisture:	
Seq Number:	3135945			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	08.29.2020 05:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	08.29.2020 05:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	08.29.2020 05:57	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	08.29.2020 05:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	08.29.2020 05:57	
o-Terphenyl	84-15-1	98	%	70-135	08.29.2020 05:57	

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RDX 17-25

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-008	Date Collected:	08.27.2020 10:47	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 16:51	% Moisture:	
Seq Number:	3135888			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.29.2020 02:45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.29.2020 02:45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.29.2020 02:45	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.29.2020 02:45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.29.2020 02:45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.29.2020 02:45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.29.2020 02:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	08.29.2020 02:45	
1,4-Difluorobenzene	540-36-3	99	%	70-130	08.29.2020 02:45	

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Sample Id:	**PH03 A**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-009	Date Collected:	08.27.2020 11:07	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 15:05	% Moisture:	
Seq Number:	3135891			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1180**	49.8	mg/kg	08.28.2020 20:51		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:15	% Moisture:	
Seq Number:	3135945			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	08.29.2020 06:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	08.29.2020 06:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	08.29.2020 06:17	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	08.29.2020 06:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	08.29.2020 06:17	
o-Terphenyl	84-15-1	98	%	70-135	08.29.2020 06:17	

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Sample Id:	**PH03 A**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-009	Date Collected:	08.27.2020 11:07	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 16:51	% Moisture:	
Seq Number:	3135888			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	08.29.2020 03:05	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	08.29.2020 03:05	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	08.29.2020 03:05	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	08.29.2020 03:05	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	08.29.2020 03:05	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	08.29.2020 03:05	U	1
Total BTEX		<0.00202	0.00202	mg/kg	08.29.2020 03:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.29.2020 03:05	
4-Bromofluorobenzene	460-00-4	109	%	70-130	08.29.2020 03:05	

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Sample Id:	**PH03 B**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-010	Date Collected:	08.27.2020 11:16	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 15:05	% Moisture:	
Seq Number:	3135891			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**512**	49.9	mg/kg	08.28.2020 20:57		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:15	% Moisture:	
Seq Number:	3135945			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.29.2020 06:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.29.2020 06:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.29.2020 06:37	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.29.2020 06:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	08.29.2020 06:37	
o-Terphenyl	84-15-1	100	%	70-135	08.29.2020 06:37	

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Sample Id:	**PH03 B**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-010	Date Collected:	08.27.2020 11:16	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 16:51	% Moisture:	
Seq Number:	3135888			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.29.2020 03:26	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.29.2020 03:26	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.29.2020 03:26	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.29.2020 03:26	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.29.2020 03:26	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.29.2020 03:26	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.29.2020 03:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	08.29.2020 03:26	
4-Bromofluorobenzene	460-00-4	106	%	70-130	08.29.2020 03:26	

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Sample Id:	**PH03 C**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-011	Date Collected:	08.27.2020 11:22	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 15:05	% Moisture:	
Seq Number:	3135891			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**227**	9.96	mg/kg	08.28.2020 21:02		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:15	% Moisture:	
Seq Number:	3135945			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	08.29.2020 06:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	08.29.2020 06:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	08.29.2020 06:57	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	08.29.2020 06:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	08.29.2020 06:57	
o-Terphenyl	84-15-1	105	%	70-135	08.29.2020 06:57	

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Sample Id:	**PH03 C**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-011	Date Collected:	08.27.2020 11:22	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 16:51	% Moisture:	
Seq Number:	3135888			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.29.2020 03:46	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.29.2020 03:46	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.29.2020 03:46	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	08.29.2020 03:46	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.29.2020 03:46	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.29.2020 03:46	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.29.2020 03:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	08.29.2020 03:46	
4-Bromofluorobenzene	460-00-4	107	%	70-130	08.29.2020 03:46	

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Sample Id:	**PH04**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-012	Date Collected:	08.27.2020 14:33	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 15:05	% Moisture:	
Seq Number:	3135891			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**55.4**	9.98	mg/kg	08.28.2020 21:08		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:15	% Moisture:	
Seq Number:	3135945			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.29.2020 07:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.29.2020 07:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.29.2020 07:18	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.29.2020 07:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	08.29.2020 07:18	
o-Terphenyl	84-15-1	98	%	70-135	08.29.2020 07:18	

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Sample Id:	**PH04**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-012	Date Collected:	08.27.2020 14:33	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 16:51	% Moisture:	
Seq Number:	3135888			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.29.2020 04:06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.29.2020 04:06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.29.2020 04:06	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.29.2020 04:06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.29.2020 04:06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.29.2020 04:06	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.29.2020 04:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	08.29.2020 04:06	
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.29.2020 04:06	

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Sample Id: **PH04 A** Matrix: Soil Date Received:08.28.2020 14:08
Lab Sample Id: 671316-013 Date Collected: 08.27.2020 14:38 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 08.28.2020 15:05 % Moisture:
Seq Number: 3135891 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**23.1**	9.98	mg/kg	08.28.2020 21:13		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH
Analyst: DTH Date Prep: 08.28.2020 17:15 % Moisture:
Seq Number: 3135945 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.29.2020 07:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.29.2020 07:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.29.2020 07:38	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.29.2020 07:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	08.29.2020 07:38	
o-Terphenyl	84-15-1	101	%	70-135	08.29.2020 07:38	

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Sample Id:	**PH04 A**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-013	Date Collected:	08.27.2020 14:38	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 16:51	% Moisture:	
Seq Number:	3135888			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.29.2020 04:27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.29.2020 04:27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.29.2020 04:27	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.29.2020 04:27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.29.2020 04:27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.29.2020 04:27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.29.2020 04:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	08.29.2020 04:27	
4-Bromofluorobenzene	460-00-4	107	%	70-130	08.29.2020 04:27	

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Sample Id:	**PH04 B**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-014	Date Collected:	08.27.2020 14:44	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 17:09	% Moisture:	
Seq Number:	3135892			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	08.28.2020 21:47	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:15	% Moisture:	
Seq Number:	3135945			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	08.29.2020 07:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	08.29.2020 07:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	08.29.2020 07:58	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	08.29.2020 07:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	08.29.2020 07:58	
o-Terphenyl	84-15-1	96	%	70-135	08.29.2020 07:58	

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Sample Id:	**PH04 B**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-014	Date Collected:	08.27.2020 14:44	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 17:56	% Moisture:	
Seq Number:	3135889			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.29.2020 07:59	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.29.2020 07:59	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.29.2020 07:59	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	08.29.2020 07:59	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.29.2020 07:59	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.29.2020 07:59	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.29.2020 07:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	08.29.2020 07:59	
1,4-Difluorobenzene	540-36-3	95	%	70-130	08.29.2020 07:59	

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Sample Id:	**PH05**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-015	Date Collected:	08.27.2020 15:18	Sample Depth:	1

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 17:09	% Moisture:	
Seq Number:	3135892			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**53.5**	9.96	mg/kg	08.28.2020 22:04		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:00	% Moisture:	
Seq Number:	3135936			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	08.28.2020 18:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	08.28.2020 18:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	08.28.2020 18:28	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	08.28.2020 18:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	08.28.2020 18:28	
o-Terphenyl	84-15-1	113	%	70-135	08.28.2020 18:28	

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Sample Id:	**PH05**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-015	Date Collected:	08.27.2020 15:18	Sample Depth:	1
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 17:56	% Moisture:	
Seq Number:	3135889			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.29.2020 08:20	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.29.2020 08:20	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.29.2020 08:20	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	08.29.2020 08:20	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.29.2020 08:20	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.29.2020 08:20	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.29.2020 08:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	08.29.2020 08:20	
1,4-Difluorobenzene	540-36-3	100	%	70-130	08.29.2020 08:20	

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Certificate of Analytical Results 671316

WSP USA, Dallas, TX

RDX 17-25

Sample Id:	**PH05 A**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-016	Date Collected:	08.27.2020 15:23	Sample Depth:	2

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 17:09	% Moisture:	
Seq Number:	3135892			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.1**	9.98	mg/kg	08.28.2020 22:09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:00	% Moisture:	
Seq Number:	3135936			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	08.28.2020 19:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	08.28.2020 19:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	08.28.2020 19:29	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	08.28.2020 19:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	08.28.2020 19:29	
o-Terphenyl	84-15-1	95	%	70-135	08.28.2020 19:29	

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WSP USA, Dallas, TX

RDX 17-25

Sample Id:	**PH05 A**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-016	Date Collected:	08.27.2020 15:23	Sample Depth:	2
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 17:56	% Moisture:	
Seq Number:	3135889			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.29.2020 08:40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.29.2020 08:40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.29.2020 08:40	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.29.2020 08:40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.29.2020 08:40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.29.2020 08:40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.29.2020 08:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	08.29.2020 08:40	
4-Bromofluorobenzene	460-00-4	109	%	70-130	08.29.2020 08:40	

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RDX 17-25

Sample Id:	**PH05 B**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-017	Date Collected:	08.27.2020 15:33	Sample Depth:	4

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 17:09	% Moisture:	
Seq Number:	3135892			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.0**	10.1	mg/kg	08.28.2020 22:15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:00	% Moisture:	
Seq Number:	3135936			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	08.28.2020 19:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	08.28.2020 19:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	08.28.2020 19:49	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	08.28.2020 19:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	08.28.2020 19:49	
o-Terphenyl	84-15-1	93	%	70-135	08.28.2020 19:49	

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RDX 17-25

Sample Id:	**PH05 B**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-017	Date Collected:	08.27.2020 15:33	Sample Depth:	4
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 17:56	% Moisture:	
Seq Number:	3135889			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.29.2020 09:01	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.29.2020 09:01	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.29.2020 09:01	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.29.2020 09:01	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.29.2020 09:01	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.29.2020 09:01	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.29.2020 09:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	08.29.2020 09:01	
1,4-Difluorobenzene	540-36-3	98	%	70-130	08.29.2020 09:01	

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RDX 17-25

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-018	Date Collected:	08.27.2020 16:37	Sample Depth:	1

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 17:09	% Moisture:	
Seq Number:	3135892			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**483**	202	mg/kg	08.28.2020 22:20		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:00	% Moisture:	
Seq Number:	3135936			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	08.28.2020 20:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	08.28.2020 20:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	08.28.2020 20:09	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	08.28.2020 20:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	08.28.2020 20:09	
o-Terphenyl	84-15-1	93	%	70-135	08.28.2020 20:09	

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Sample Id:	**PH06**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-018	Date Collected:	08.27.2020 16:37	Sample Depth:	1
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 17:56	% Moisture:	
Seq Number:	3135889			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.29.2020 09:21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.29.2020 09:21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.29.2020 09:21	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.29.2020 09:21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.29.2020 09:21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.29.2020 09:21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.29.2020 09:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	08.29.2020 09:21	
4-Bromofluorobenzene	460-00-4	108	%	70-130	08.29.2020 09:21	

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RDX 17-25

Sample Id: **PH06 A** Matrix: Soil Date Received:08.28.2020 14:08
Lab Sample Id: 671316-019 Date Collected: 08.27.2020 16:41 Sample Depth: 2.5

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 08.28.2020 17:09 % Moisture:
Seq Number: 3135892 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1200**	49.5	mg/kg	08.28.2020 22:37		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH
Analyst: DTH Date Prep: 08.28.2020 17:00 % Moisture:
Seq Number: 3135936 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	08.28.2020 20:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	08.28.2020 20:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	08.28.2020 20:29	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	08.28.2020 20:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	08.28.2020 20:29	
o-Terphenyl	84-15-1	111	%	70-135	08.28.2020 20:29	

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RDX 17-25

Sample Id:	**PH06 A**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-019	Date Collected:	08.27.2020 16:41	Sample Depth:	2.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 17:56	% Moisture:	
Seq Number:	3135889			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	08.29.2020 09:41	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	08.29.2020 09:41	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	08.29.2020 09:41	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	08.29.2020 09:41	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	08.29.2020 09:41	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	08.29.2020 09:41	U	1
Total BTEX		<0.00202	0.00202	mg/kg	08.29.2020 09:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	08.29.2020 09:41	
4-Bromofluorobenzene	460-00-4	107	%	70-130	08.29.2020 09:41	

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RDX 17-25

Sample Id:	**PH06 B**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-020	Date Collected:	08.27.2020 16:55	Sample Depth:	4.5

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 17:09	% Moisture:	
Seq Number:	3135892			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**969**	9.98	mg/kg	08.28.2020 22:43		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	08.28.2020 17:00	% Moisture:	
Seq Number:	3135936			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.28.2020 20:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.28.2020 20:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.28.2020 20:50	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.28.2020 20:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	08.28.2020 20:50	
o-Terphenyl	84-15-1	98	%	70-135	08.28.2020 20:50	

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WSP USA, Dallas, TX

RDX 17-25

Sample Id:	**PH06 B**	Matrix:	Soil	Date Received:	08.28.2020 14:08
Lab Sample Id:	671316-020	Date Collected:	08.27.2020 16:55	Sample Depth:	4.5
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	08.28.2020 17:56	% Moisture:	
Seq Number:	3135889			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.29.2020 10:02	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.29.2020 10:02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.29.2020 10:02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.29.2020 10:02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.29.2020 10:02	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.29.2020 10:02	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.29.2020 10:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	08.29.2020 10:02	
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.29.2020 10:02	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 671316

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WSP USA

RDX 17-25

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3135891 — Matrix: Solid — Date Prep: 08.28.2020
MB Sample Id: 7710431-1-BLK — LCS Sample Id: 7710431-1-BKS — LCSD Sample Id: 7710431-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	263	105	266	106	90-110	1	20	mg/kg	08.28.2020 18:31	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3135892 — Matrix: Solid — Date Prep: 08.28.2020
MB Sample Id: 7710432-1-BLK — LCS Sample Id: 7710432-1-BKS — LCSD Sample Id: 7710432-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	263	105	266	106	90-110	1	20	mg/kg	08.28.2020 21:36	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3135891 — Matrix: Soil — Date Prep: 08.28.2020
Parent Sample Id: 671316-004 — MS Sample Id: 671316-004 S — MSD Sample Id: 671316-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6480	200	6690	105	6690	104	90-110	0	20	mg/kg	08.28.2020 20:06	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3135892 — Matrix: Soil — Date Prep: 08.28.2020
Parent Sample Id: 671316-014 — MS Sample Id: 671316-014 S — MSD Sample Id: 671316-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.94	199	205	103	205	103	90-110	0	20	mg/kg	08.28.2020 21:52	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3135892 — Matrix: Soil — Date Prep: 08.28.2020
Parent Sample Id: 671325-004 — MS Sample Id: 671325-004 S — MSD Sample Id: 671325-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	156	199	353	99	350	97	90-110	1	20	mg/kg	08.28.2020 23:10	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3135891 — Matrix: Soil — Date Prep: 08.28.2020
Parent Sample Id: 671257-012 — MS Sample Id: 671257-012 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	245	201	447	100	90-110	mg/kg	08.28.2020 18:48	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery — [D] = 100 * (C) / [B]
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

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QC Summary 671316

WSP USA

RDX 17-25

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3135936 — Matrix: Solid — Date Prep: 08.28.2020
MB Sample Id: 7710466-1-BLK — LCS Sample Id: 7710466-1-BKS — LCSD Sample Id: 7710466-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1080	108	1040	104	70-135	4	35	mg/kg	08.28.2020 17:48	
Diesel Range Organics (DRO)	<50.0	1000	871	87	824	82	70-135	6	35	mg/kg	08.28.2020 17:48	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		129		117		70-135	%	08.28.2020 17:48
o-Terphenyl	80		95		86		70-135	%	08.28.2020 17:48

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3135945 — Matrix: Solid — Date Prep: 08.28.2020
MB Sample Id: 7710492-1-BLK — LCS Sample Id: 7710492-1-BKS — LCSD Sample Id: 7710492-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	975	98	945	95	70-135	3	35	mg/kg	08.28.2020 23:52	
Diesel Range Organics (DRO)	<50.0	1000	1080	108	1060	106	70-135	2	35	mg/kg	08.28.2020 23:52	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		133		129		70-135	%	08.28.2020 23:52
o-Terphenyl	126		130		125		70-135	%	08.28.2020 23:52

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3135936 — Matrix: Solid — Date Prep: 08.28.2020
MB Sample Id: 7710466-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	08.28.2020 17:28	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3135945 — Matrix: Solid — Date Prep: 08.28.2020
MB Sample Id: 7710492-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	08.28.2020 23:32	

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

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QC Summary 671316

WSP USA

RDX 17-25

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3135936 — Matrix: Soil — Date Prep: 08.28.2020
Parent Sample Id: 671316-015 — MS Sample Id: 671316-015 S — MSD Sample Id: 671316-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	995	1060	107	1200	120	70-135	12	35	mg/kg	08.28.2020 18:49	
Diesel Range Organics (DRO)	<49.8	995	863	87	847	85	70-135	2	35	mg/kg	08.28.2020 18:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	138	**	138	**	70-135	%	08.28.2020 18:49
o-Terphenyl	106		111		70-135	%	08.28.2020 18:49

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3135945 — Matrix: Soil — Date Prep: 08.28.2020
Parent Sample Id: 671309-001 — MS Sample Id: 671309-001 S — MSD Sample Id: 671309-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	842	84	790	79	70-135	6	35	mg/kg	08.29.2020 00:52	
Diesel Range Organics (DRO)	<50.2	1000	769	77	738	74	70-135	4	35	mg/kg	08.29.2020 00:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		103		70-135	%	08.29.2020 00:52
o-Terphenyl	104		103		70-135	%	08.29.2020 00:52

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3135888 — Matrix: Solid — Date Prep: 08.28.2020
MB Sample Id: 7710427-1-BLK — LCS Sample Id: 7710427-1-BKS — LCSD Sample Id: 7710427-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.100	100	0.105	105	70-130	5	35	mg/kg	08.28.2020 18:47	
Toluene	<0.00200	0.100	0.0951	95	0.0987	99	70-130	4	35	mg/kg	08.28.2020 18:47	
Ethylbenzene	<0.00200	0.100	0.0996	100	0.104	104	71-129	4	35	mg/kg	08.28.2020 18:47	
m,p-Xylenes	<0.00400	0.200	0.202	101	0.212	106	70-135	5	35	mg/kg	08.28.2020 18:47	
o-Xylene	<0.00200	0.100	0.102	102	0.105	105	71-133	3	35	mg/kg	08.28.2020 18:47	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		96		101		70-130	%	08.28.2020 18:47
4-Bromofluorobenzene	103		99		100		70-130	%	08.28.2020 18:47

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

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QC Summary 671316

WSP USA

RDX 17-25

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3135889 — Matrix: Solid — Date Prep: 08.28.2020
MB Sample Id: 7710428-1-BLK — LCS Sample Id: 7710428-1-BKS — LCSD Sample Id: 7710428-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0955	96	0.101	101	70-130	6	35	mg/kg	08.29.2020 06:03	
Toluene	<0.00200	0.100	0.0901	90	0.0963	96	70-130	7	35	mg/kg	08.29.2020 06:03	
Ethylbenzene	<0.00200	0.100	0.0920	92	0.0980	98	71-129	6	35	mg/kg	08.29.2020 06:03	
m,p-Xylenes	<0.00400	0.200	0.186	93	0.197	99	70-135	6	35	mg/kg	08.29.2020 06:03	
o-Xylene	<0.00200	0.100	0.0944	94	0.101	101	71-133	7	35	mg/kg	08.29.2020 06:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		100		100		70-130	%	08.29.2020 06:03
4-Bromofluorobenzene	107		101		99		70-130	%	08.29.2020 06:03

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3135888 — Matrix: Soil — Date Prep: 08.28.2020
Parent Sample Id: 671257-012 — MS Sample Id: 671257-012 S — MSD Sample Id: 671257-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0919	91	0.101	101	70-130	9	35	mg/kg	08.28.2020 19:48	
Toluene	<0.00201	0.101	0.0866	86	0.0954	95	70-130	10	35	mg/kg	08.28.2020 19:48	
Ethylbenzene	<0.00201	0.101	0.0913	90	0.0987	99	71-129	8	35	mg/kg	08.28.2020 19:48	
m,p-Xylenes	<0.00402	0.201	0.185	92	0.204	101	70-135	10	35	mg/kg	08.28.2020 19:48	
o-Xylene	<0.00201	0.101	0.0892	88	0.0991	99	71-133	11	35	mg/kg	08.28.2020 19:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		95		70-130	%	08.28.2020 19:48
4-Bromofluorobenzene	97		102		70-130	%	08.28.2020 19:48

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3135889 — Matrix: Soil — Date Prep: 08.28.2020
Parent Sample Id: 671316-014 — MS Sample Id: 671316-014 S — MSD Sample Id: 671316-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.0971	98	0.0891	90	70-130	9	35	mg/kg	08.29.2020 10:22	
Toluene	<0.00198	0.0990	0.0925	93	0.0823	83	70-130	12	35	mg/kg	08.29.2020 10:22	
Ethylbenzene	<0.00198	0.0990	0.0941	95	0.0821	83	71-129	14	35	mg/kg	08.29.2020 10:22	
m,p-Xylenes	<0.00396	0.198	0.190	96	0.165	83	70-135	14	35	mg/kg	08.29.2020 10:22	
o-Xylene	<0.00198	0.0990	0.0967	98	0.0807	81	71-133	18	35	mg/kg	08.29.2020 10:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		103		70-130	%	08.29.2020 10:22
4-Bromofluorobenzene	97		100		70-130	%	08.29.2020 10:22

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

Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

Work Order No: 671316

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Project Manager:	Joseph Hernandez	Bill to: (if different)	Lynda Laumbach
Company Name:	LT Environmental	Company Name:	WPX Energy
Address:	3300 North A Street	Address:	5315 Buena Vista Dr.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432-894-5641	Email:	abyers@ltenv.com

Work Order Comments

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

Project Name:	RDX 17-25	Turn Around	
Project Number:	03482001	Routine	☒
Project Location	Eddy County	Rush:	
Sampler's Name:	Anna Byers	Due Date:	
PO #:	2RP-4198	Quote #:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.0/0.8	Thermometer ID	T-NM.007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	20

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
	PH01	S	8/27/20	0919	1'	1	X	X	X
	PH01A			0939	2'	1			
	PH01B			0954	4'	1			
	PH01C			1229	6'	1			
	PH02			1005	1'	1			
	PH02A			1015	2'	1			
	PH02B			1023	4'	1			
	PH03			1047	1'	1			
	PH03A			1107	2'	1			
	PH03B	↓	↓	1116	3'	1			

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

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
Anna Byers	Cloe Clifton	8.28 14:08	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

Work Order No: 6713116

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Project Manager:	Joseph Hernandez	Bill to: (if different)	Lynda Laumbach
Company Name:	LT Environmental	Company Name:	WPX Energy
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432-894-5641	Email:	abyers@ltenv.com

Work Order Comments

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

Project Name:	RDX 17-25	Turn Around	
Project Number:	03482001 0	Routine	☒
Project Location	Eddy County	Rush:	
Sampler's Name:	Anna Byers	Due Date:	
PO #:	2RP-4198	Quote #:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.0 / 0.8	Thermometer ID	T-NM-007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
	PH03C	S	8/27/20	1122	4'	1					
	PH04			1433	1'	1					
	PH04 A			1438	2'	1					
	PH04 B			1444	4'	1					
	PH05			1518	1'	1					
	PH05 A			1523	2'	2					
	PH05 B			1533	4'	2					
	PH06			1637	1'	2					
	PH06 A			1641	2.5'	2					
	PH06 B	↓	↓	1655	4.5'	2					

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Cloe Clifton	8.28 14:08	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

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Certificate of Analysis Summary 676679

LT Environmental, Inc., Arvada, CO

Project Name: RDX 17-25

Project Id: 034820010
Contact: Joseph Hernandez
Project Location: NM

Date Received in Lab: Mon 11.02.2020 15:50
Report Date: 11.05.2020 08:10
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	676679-001					
	Field Id:	CH01@1.5-2'					
	Depth:	1.5-2 ft					
	Matrix:	SOIL					
	Sampled:	10.29.2020 10:00					
BTEX by EPA 8021B	***Extracted:***	11.03.2020 09:30					
	Analyzed:	11.03.2020 16:09					
	Units/RL:	mg/kg RL					
Benzene		<0.00201 0.00201					
Toluene		<0.00201 0.00201					
Ethylbenzene		<0.00201 0.00201					
m,p-Xylenes		<0.00402 0.00402					
o-Xylene		<0.00201 0.00201					
Total Xylenes		<0.00201 0.00201					
Total BTEX		<0.00201 0.00201					
Chloride by EPA 300	***Extracted:***	11.02.2020 16:33					
	Analyzed:	11.02.2020 20:22					
	Units/RL:	mg/kg RL					
Chloride		344 9.96					
TPH by SW8015 Mod	***Extracted:***	11.02.2020 16:30					
	Analyzed:	11.03.2020 01:59					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1					
Diesel Range Organics (DRO)		79.6 50.1					
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1					
Total TPH		79.6 50.1					

BRL - Below Reporting Limit

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

Jessica Kramer

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Analytical Report 676679

for

LT Environmental, Inc.

Project Manager: Joseph Hernandez

RDX 17-25

034820010

11.05.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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11.05.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **676679**
RDX 17-25
Project Address: NM

Joseph Hernandez:

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 Eurofins Xenco, LLC Report Number(s) 676679. 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 Eurofins Xenco, LLC. 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. 676679 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 676679

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CH01@1.5-2'	S	10.29.2020 10:00	1.5 - 2 ft	676679-001

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CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: RDX 17-25

Project ID: *034820010*
Work Order Number(s): *676679*

Report Date: *11.05.2020*
Date Received: *11.02.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 676679

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id: **CH01@1.5-2'** Matrix: Soil Date Received:11.02.2020 15:50
Lab Sample Id: 676679-001 Date Collected: 10.29.2020 10:00 Sample Depth: 1.5 - 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 11.02.2020 16:33 % Moisture:
Seq Number: 3141207 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**344**	9.96	mg/kg	11.02.2020 20:22		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: MAB
Analyst: CAC Date Prep: 11.02.2020 16:30 % Moisture:
Seq Number: 3141201 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.03.2020 01:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	**79.6**	50.1	mg/kg	11.03.2020 01:59		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.03.2020 01:59	U	1
Total TPH	PHC635	**79.6**	50.1	mg/kg	11.03.2020 01:59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	11.03.2020 01:59	
o-Terphenyl	84-15-1	124	%	70-135	11.03.2020 01:59	

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Certificate of Analytical Results 676679

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH01@1.5-2'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676679-001	Date Collected:	10.29.2020 10:00	Sample Depth:	1.5 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.03.2020 09:30	% Moisture:	
Seq Number:	3141311			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.03.2020 16:09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.03.2020 16:09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.03.2020 16:09	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.03.2020 16:09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.03.2020 16:09	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	11.03.2020 16:09	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.03.2020 16:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.03.2020 16:09	
4-Bromofluorobenzene	460-00-4	116	%	70-130	11.03.2020 16:09	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

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QC Summary 676679

LT Environmental, Inc.

RDX 17-25

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141207 — Matrix: Solid — Date Prep: 11.02.2020
MB Sample Id: 7714384-1-BLK — LCS Sample Id: 7714384-1-BKS — LCSD Sample Id: 7714384-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	253	101	252	101	90-110	0	20	mg/kg	11.02.2020 18:55	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141207 — Matrix: Soil — Date Prep: 11.02.2020
Parent Sample Id: 676514-005 — MS Sample Id: 676514-005 S — MSD Sample Id: 676514-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3690	199	3900	106	3880	95	90-110	1	20	mg/kg	11.02.2020 19:11	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141207 — Matrix: Soil — Date Prep: 11.02.2020
Parent Sample Id: 676679-001 — MS Sample Id: 676679-001 S — MSD Sample Id: 676679-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	344	200	530	93	542	99	90-110	2	20	mg/kg	11.02.2020 20:28	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141201 — Matrix: Solid — Date Prep: 11.02.2020
MB Sample Id: 7714382-1-BLK — LCS Sample Id: 7714382-1-BKS — LCSD Sample Id: 7714382-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	907	91	852	85	70-135	6	35	mg/kg	11.02.2020 18:36	
Diesel Range Organics (DRO)	<50.0	1000	1040	104	1000	100	70-135	4	35	mg/kg	11.02.2020 18:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		125		105		70-135	%	11.02.2020 18:36
o-Terphenyl	101		103		101		70-135	%	11.02.2020 18:36

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141201 — Matrix: Solid — Date Prep: 11.02.2020
MB Sample Id: 7714382-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.02.2020 18:16	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

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QC Summary 676679

LT Environmental, Inc.

RDX 17-25

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3141201 Matrix: Soil Date Prep: 11.02.2020
Parent Sample Id: 676514-007 MS Sample Id: 676514-007 S MSD Sample Id: 676514-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	837	84	838	84	70-135	0	35	mg/kg	11.02.2020 19:37	
Diesel Range Organics (DRO)	<50.2	1000	910	91	927	93	70-135	2	35	mg/kg	11.02.2020 19:37	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		133		70-135	%	11.02.2020 19:37
o-Terphenyl	118		123		70-135	%	11.02.2020 19:37

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Solid Date Prep: 11.03.2020
MB Sample Id: 7714461-1-BLK LCS Sample Id: 7714461-1-BKS LCSD Sample Id: 7714461-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.101	101	0.106	106	70-130	5	35	mg/kg	11.03.2020 09:56	
Toluene	<0.00200	0.100	0.0955	96	0.101	101	70-130	6	35	mg/kg	11.03.2020 09:56	
Ethylbenzene	<0.00200	0.100	0.0976	98	0.102	102	71-129	4	35	mg/kg	11.03.2020 09:56	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.205	103	70-135	4	35	mg/kg	11.03.2020 09:56	
o-Xylene	<0.00200	0.100	0.0967	97	0.102	102	71-133	5	35	mg/kg	11.03.2020 09:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		99		104		70-130	%	11.03.2020 09:56
4-Bromofluorobenzene	110		103		110		70-130	%	11.03.2020 09:56

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676514-007 MS Sample Id: 676514-007 S MSD Sample Id: 676514-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.107	106	0.0886	89	70-130	19	35	mg/kg	11.03.2020 10:41	
Toluene	<0.00201	0.101	0.0986	98	0.0879	88	70-130	11	35	mg/kg	11.03.2020 10:41	
Ethylbenzene	<0.00201	0.101	0.0998	99	0.0910	91	71-129	9	35	mg/kg	11.03.2020 10:41	
m,p-Xylenes	<0.00402	0.201	0.202	100	0.186	93	70-135	8	35	mg/kg	11.03.2020 10:41	
o-Xylene	<0.00201	0.101	0.102	101	0.0943	94	71-133	8	35	mg/kg	11.03.2020 10:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		101		70-130	%	11.03.2020 10:41
4-Bromofluorobenzene	107		117		70-130	%	11.03.2020 10:41

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

676679

Chain of Custody

Work Order No: 676679

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

Project Manager:	Joseph Hernandez	Bill to: (if different)	Lynda Laumbach
Company Name:	LT Environmental, Inc.	Company Name:	WPX Energy
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@ltenv.com & abyers@ltenv.com

Work Order Comments

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

Project Name:	RDX 17-25	Turn Around	
Project Number:	034820010	Routine	☒
P.O. Number:	Liner	Rush:	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.2 / 1.0	Thermometer ID	
Received Intact:	(Yes) No		TNM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Total Containers:	1

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015 Mod)	BTEX (EPA 8021B)	Chloride (EPA 300.0)
CH01 @ 1.5-2'	S	10/29/20	1000	1.5-2'	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 Anna Byers		11/2/20 19:50	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11.02.2020 03.50.00 PM

Work Order #: 676679

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

Temperature Measuring device used : T NM 007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**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: Martha Castro Date: 11.02.2020

Checklist reviewed by: Jessica Kramer Date: 11.03.2020

Jessica Kramer

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Certificate of Analysis Summary 676680

LT Environmental, Inc., Arvada, CO

Project Name: RDX 17-25

Project Id: 034820010
Contact: Joseph Hernandez
Project Location:

Date Received in Lab: Mon 11.02.2020 15:50
Report Date: 01.13.2021 16:20
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	676680-001						
	Field Id:	CH01 @3.5-4'						
	Depth:	3.5-4 ft						
	Matrix:	SOIL						
	Sampled:	10.29.2020 10:52						
BTEX by EPA 8021B	***Extracted:***	11.03.2020 09:30						
	Analyzed:	11.03.2020 16:32						
	Units/RL:	mg/kg	RL					
Benzene		<0.00200	0.00200					
Toluene		<0.00200	0.00200					
Ethylbenzene		<0.00200	0.00200					
m,p-Xylenes		<0.00400	0.00400					
o-Xylene		<0.00200	0.00200					
Total Xylenes		<0.00200	0.00200					
Total BTEX		<0.00200	0.00200					
Chloride by EPA 300	***Extracted:***	11.02.2020 16:33						
	Analyzed:	11.02.2020 20:39						
	Units/RL:	mg/kg	RL					
Chloride		3230	49.9					
TPH by SW8015 Mod	***Extracted:***	11.02.2020 16:30						
	Analyzed:	11.03.2020 02:18						
	Units/RL:	mg/kg	RL					
Gasoline Range Hydrocarbons (GRO)		<13.9	50.1					
Diesel Range Organics (DRO)		16.3 J	50.1					
Motor Oil Range Hydrocarbons (MRO)		<11.5	50.1					
Total TPH		16.3 J	50.1					

BRL - Below Reporting Limit

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

Jessica Kramer

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Analytical Report 676680

for

LT Environmental, Inc.

Project Manager: Joseph Hernandez

RDX 17-25

034820010

01.13.2021

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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01.13.2021

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

Reference: Eurofins Xenco, LLC Report No(s): **676680**
RDX 17-25
Project Address:

Joseph Hernandez:

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 Eurofins Xenco, LLC Report Number(s) 676680. 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 Eurofins Xenco, LLC. 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. 676680 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 676680

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CH01 @3.5-4'	S	10.29.2020 10:52	3.5 - 4 ft	676680-001

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CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: RDX 17-25

Project ID: *034820010*
Work Order Number(s): *676680*

Report Date: *01.13.2021*
Date Received: *11.02.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 676680

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH01 @3.5-4'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676680-001	Date Collected:	10.29.2020 10:52	Sample Depth:	3.5 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.02.2020 16:33	% Moisture:	
Seq Number:	3141207			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3230**	49.9	mg/kg	11.02.2020 20:39		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.02.2020 16:30	% Moisture:	
Seq Number:	3141201			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<13.9	50.1	mg/kg	11.03.2020 02:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	**16.3**	50.1	mg/kg	11.03.2020 02:18	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<11.5	50.1	mg/kg	11.03.2020 02:18	U	1
Total TPH	PHC635	**16.3**	50.1	mg/kg	11.03.2020 02:18	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	11.03.2020 02:18	
o-Terphenyl	84-15-1	125	%	70-135	11.03.2020 02:18	

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Certificate of Analytical Results 676680

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH01 @3.5-4'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676680-001	Date Collected:	10.29.2020 10:52	Sample Depth:	3.5 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.03.2020 09:30	% Moisture:	
Seq Number:	3141311			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.03.2020 16:32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.03.2020 16:32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.03.2020 16:32	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.03.2020 16:32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.03.2020 16:32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.03.2020 16:32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.03.2020 16:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.03.2020 16:32	
4-Bromofluorobenzene	460-00-4	115	%	70-130	11.03.2020 16:32	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

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QC Summary 676680

LT Environmental, Inc.

RDX 17-25

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141207 — Matrix: Solid — Date Prep: 11.02.2020
MB Sample Id: 7714384-1-BLK — LCS Sample Id: 7714384-1-BKS — LCSD Sample Id: 7714384-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	253	101	252	101	90-110	0	20	mg/kg	11.02.2020 18:55	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141207 — Matrix: Soil — Date Prep: 11.02.2020
Parent Sample Id: 676514-005 — MS Sample Id: 676514-005 S — MSD Sample Id: 676514-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3690	199	3900	106	3880	95	90-110	1	20	mg/kg	11.02.2020 19:11	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141207 — Matrix: Soil — Date Prep: 11.02.2020
Parent Sample Id: 676679-001 — MS Sample Id: 676679-001 S — MSD Sample Id: 676679-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	344	200	530	93	542	99	90-110	2	20	mg/kg	11.02.2020 20:28	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141201 — Matrix: Solid — Date Prep: 11.02.2020
MB Sample Id: 7714382-1-BLK — LCS Sample Id: 7714382-1-BKS — LCSD Sample Id: 7714382-1-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)	<13.9	1000	907	91	852	85	70-135	6	35	mg/kg	11.02.2020 18:36	
Diesel Range Organics (DRO)	<11.5	1000	1040	104	1000	100	70-135	4	35	mg/kg	11.02.2020 18:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		125		105		70-135	%	11.02.2020 18:36
o-Terphenyl	101		103		101		70-135	%	11.02.2020 18:36

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141201 — Matrix: Solid — Date Prep: 11.02.2020
MB Sample Id: 7714382-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<11.5	mg/kg	11.02.2020 18:16	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

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QC Summary 676680

LT Environmental, Inc.

RDX 17-25

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3141201 Matrix: Soil Date Prep: 11.02.2020
Parent Sample Id: 676514-007 MS Sample Id: 676514-007 S MSD Sample Id: 676514-007 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)	<13.9	1000	837	84	838	84	70-135	0	35	mg/kg	11.02.2020 19:37	
Diesel Range Organics (DRO)	<11.5	1000	910	91	927	93	70-135	2	35	mg/kg	11.02.2020 19:37	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		133		70-135	%	11.02.2020 19:37
o-Terphenyl	118		123		70-135	%	11.02.2020 19:37

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Solid Date Prep: 11.03.2020
MB Sample Id: 7714461-1-BLK LCS Sample Id: 7714461-1-BKS LCSD Sample Id: 7714461-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.101	101	0.106	106	70-130	5	35	mg/kg	11.03.2020 09:56	
Toluene	<0.00200	0.100	0.0955	96	0.101	101	70-130	6	35	mg/kg	11.03.2020 09:56	
Ethylbenzene	<0.00200	0.100	0.0976	98	0.102	102	71-129	4	35	mg/kg	11.03.2020 09:56	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.205	103	70-135	4	35	mg/kg	11.03.2020 09:56	
o-Xylene	<0.00200	0.100	0.0967	97	0.102	102	71-133	5	35	mg/kg	11.03.2020 09:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		99		104		70-130	%	11.03.2020 09:56
4-Bromofluorobenzene	110		103		110		70-130	%	11.03.2020 09:56

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676514-007 MS Sample Id: 676514-007 S MSD Sample Id: 676514-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.107	106	0.0886	89	70-130	19	35	mg/kg	11.03.2020 10:41	
Toluene	<0.00201	0.101	0.0986	98	0.0879	88	70-130	11	35	mg/kg	11.03.2020 10:41	
Ethylbenzene	<0.00201	0.101	0.0998	99	0.0910	91	71-129	9	35	mg/kg	11.03.2020 10:41	
m,p-Xylenes	<0.00402	0.201	0.202	100	0.186	93	70-135	8	35	mg/kg	11.03.2020 10:41	
o-Xylene	<0.00201	0.101	0.102	101	0.0943	94	71-133	8	35	mg/kg	11.03.2020 10:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		101		70-130	%	11.03.2020 10:41
4-Bromofluorobenzene	107		117		70-130	%	11.03.2020 10:41

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Chain of Custody

Work Order No: 676680

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:	Joseph Hernandez	Bill to: (if different)	Lynda Laumbach
Company Name:	LT Environmental, Inc.	Company Name:	WPX Energy
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@ltenv.com & abyers@ltenv.com

Work Order Comments

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

Project Name:	RDX 17-25	Turn Around	
Project Number:	034820010	Routine	☒
P.O. Number:	Liner	Rush:	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Temperature (°C):	1.2/1.0	Thermometer ID		
Received Intact:	(Yes) No		HNM007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes (No) N/A	Total Containers:	1	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015 Mod)	BTEX (EPA 8021B)	Chloride (EPA 300.0)
CH01 @ 3.5-4'	S	10/29/20	1625	3.5-4'	1	X	X	X

Work Order Notes

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

Sample Comments

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Anna Byers		11/2/20 15:50	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11.02.2020 03.50.00 PM

Work Order #: 676680

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

Temperature Measuring device used : TNM007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**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: Martha Castro Date: 11.02.2020

Checklist reviewed by: Jessica Kramer Date: 11.03.2020

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Certificate of Analysis Summary 676707

LT Environmental, Inc., Arvada, CO

Project Name: RDX 17-25

Project Id: 034820010
Contact: Joseph Hernandez
Project Location: NM

Date Received in Lab: Mon 11.02.2020 15:50
Report Date: 11.04.2020 12:59
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	676707-001					
	Field Id:	CH01 @ 5.5-6'					
	Depth:	5.5-6 ft					
	Matrix:	SOIL					
	Sampled:	10.29.2020 10:55					
BTEX by EPA 8021B	***Extracted:***	11.03.2020 14:07					
	Analyzed:	11.03.2020 17:47					
	Units/RL:	mg/kg RL					
Benzene		<0.00202 0.00202					
Toluene		<0.00202 0.00202					
Ethylbenzene		<0.00202 0.00202					
m,p-Xylenes		<0.00403 0.00403					
o-Xylene		<0.00202 0.00202					
Total Xylenes		<0.00202 0.00202					
Total BTEX		<0.00202 0.00202					
Inorganic Anions by EPA 300	***Extracted:***	11.03.2020 13:00					
	Analyzed:	11.03.2020 15:21					
	Units/RL:	mg/kg RL					
Chloride		606 49.9					
TPH by SW8015 Mod	***Extracted:***	11.03.2020 13:27					
	Analyzed:	11.03.2020 16:21					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0					
Diesel Range Organics (DRO)		<50.0 50.0					
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0					
Total TPH		<50.0 50.0					

BRL - Below Reporting Limit

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

Jessica Kramer

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Analytical Report 676707

for

LT Environmental, Inc.

Project Manager: Joseph Hernandez

RDX 17-25

034820010

11.04.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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11.04.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **676707**
RDX 17-25
Project Address: NM

Joseph Hernandez:

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 Eurofins Xenco, LLC Report Number(s) 676707. 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 Eurofins Xenco, LLC. 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. 676707 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 676707

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CH01 @ 5.5-6'	S	10.29.2020 10:55	5.5 - 6 ft	676707-001

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CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: RDX 17-25

Project ID: *034820010*
Work Order Number(s): *676707*

Report Date: *11.04.2020*
Date Received: *11.02.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 676707

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH01 @ 5.5-6'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676707-001	Date Collected:	10.29.2020 10:55	Sample Depth:	5.5 - 6 ft

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

Tech: MAB

Analyst: MAB — Date Prep: 11.03.2020 13:00 — % Moisture: Basis: Wet Weight

Seq Number: 3141306

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**606**	49.9	mg/kg	11.03.2020 15:21		5

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P

Tech: MAB

Analyst: CAC — Date Prep: 11.03.2020 13:27 — % Moisture: Basis: Wet Weight

Seq Number: 3141297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.03.2020 16:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.03.2020 16:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.03.2020 16:21	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.03.2020 16:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	131	%	70-135	11.03.2020 16:21	
o-Terphenyl	84-15-1	117	%	70-135	11.03.2020 16:21	

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Certificate of Analytical Results 676707

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH01 @ 5.5-6'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676707-001	Date Collected:	10.29.2020 10:55	Sample Depth:	5.5 - 6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.03.2020 14:07	% Moisture:	
Seq Number:	3141303			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.03.2020 17:47	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.03.2020 17:47	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.03.2020 17:47	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	11.03.2020 17:47	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.03.2020 17:47	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	11.03.2020 17:47	U	1
Total BTEX		<0.00202	0.00202	mg/kg	11.03.2020 17:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.03.2020 17:47	
4-Bromofluorobenzene	460-00-4	89	%	70-130	11.03.2020 17:47	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

eurofins | Environment Testing Xenco

QC Summary 676707

LT Environmental, Inc.

RDX 17-25

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714455-1-BLK — LCS Sample Id: 7714455-1-BKS — LCSD Sample Id: 7714455-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	260	104	259	104	90-110	0	20	mg/kg	11.03.2020 15:10	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Soil — Date Prep: 11.03.2020
Parent Sample Id: 676707-001 — MS Sample Id: 676707-001 S — MSD Sample Id: 676707-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	606	200	796	95	806	100	90-110	1	20	mg/kg	11.03.2020 15:26	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Soil — Date Prep: 11.03.2020
Parent Sample Id: 676720-001 — MS Sample Id: 676720-001 S — MSD Sample Id: 676720-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	148	200	361	107	363	108	90-110	1	20	mg/kg	11.03.2020 16:43	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141297 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714426-1-BLK — LCS Sample Id: 7714426-1-BKS — LCSD Sample Id: 7714426-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1180	118	1130	113	70-135	4	35	mg/kg	11.03.2020 15:40	
Diesel Range Organics (DRO)	<50.0	1000	1250	125	1200	120	70-135	4	35	mg/kg	11.03.2020 15:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		130		126		70-135	%	11.03.2020 15:40
o-Terphenyl	117		120		118		70-135	%	11.03.2020 15:40

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141297 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714426-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.03.2020 15:20	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

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QC Summary 676707

LT Environmental, Inc.

RDX 17-25

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3141297 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676707-001 MS Sample Id: 676707-001 S MSD Sample Id: 676707-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	1130	112	1050	105	70-135	7	35	mg/kg	11.03.2020 16:41	
Diesel Range Organics (DRO)	<50.3	1010	1150	114	1140	114	70-135	1	35	mg/kg	11.03.2020 16:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		133		70-135	%	11.03.2020 16:41
o-Terphenyl	123		105		70-135	%	11.03.2020 16:41

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141303 Matrix: Solid Date Prep: 11.03.2020
MB Sample Id: 7714462-1-BLK LCS Sample Id: 7714462-1-BKS LCSD Sample Id: 7714462-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0975	98	0.0945	95	70-130	3	35	mg/kg	11.03.2020 15:44	
Toluene	<0.00200	0.100	0.0952	95	0.0926	93	70-130	3	35	mg/kg	11.03.2020 15:44	
Ethylbenzene	<0.00200	0.100	0.0880	88	0.0861	86	71-129	2	35	mg/kg	11.03.2020 15:44	
m,p-Xylenes	<0.00400	0.200	0.178	89	0.173	87	70-135	3	35	mg/kg	11.03.2020 15:44	
o-Xylene	<0.00200	0.100	0.0872	87	0.0851	85	71-133	2	35	mg/kg	11.03.2020 15:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		100		100		70-130	%	11.03.2020 15:44
4-Bromofluorobenzene	88		85		85		70-130	%	11.03.2020 15:44

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141303 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676707-001 MS Sample Id: 676707-001 S MSD Sample Id: 676707-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.129	128	0.117	117	70-130	10	35	mg/kg	11.03.2020 16:29	
Toluene	<0.00201	0.101	0.123	122	0.111	111	70-130	10	35	mg/kg	11.03.2020 16:29	
Ethylbenzene	<0.00201	0.101	0.111	110	0.0997	100	71-129	11	35	mg/kg	11.03.2020 16:29	
m,p-Xylenes	<0.00402	0.201	0.225	112	0.200	100	70-135	12	35	mg/kg	11.03.2020 16:29	
o-Xylene	<0.00201	0.101	0.109	108	0.0983	98	71-133	10	35	mg/kg	11.03.2020 16:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		99		70-130	%	11.03.2020 16:29
4-Bromofluorobenzene	86		85		70-130	%	11.03.2020 16:29

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Chain of Custody

Work Order No: 676707

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:	Joseph Hernandez	Bill to: (if different)	Lynda Laumbach
Company Name:	LT Environmental, Inc.	Company Name:	WPX Energy
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@ltenv.com & abyers@ltenv.com

Work Order Comments

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

Project Name:	RDX 17-25	Turn Around	
Project Number:	034820010	Routine	☒
P.O. Number:	Liner	Rush:	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes / No	Wet Ice:	Yes / No
Temperature (°C):	1.2 / 1.0	Thermometer ID	
Received Intact:	Yes / No	TNM007	
Cooler Custody Seals:	Yes / No / N/A	Correction Factor:	-0.7
Sample Custody Seals:	Yes / No / N/A	Total Containers:	1

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015 Mod)	BTEX (EPA 8021B)	Chloride (EPA 300.0)
CH#1 @ 5.5-6'	S	10/29/20	1055	5.5-6'	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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		11/2/20 15:50	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11.02.2020 03.50.00 PM

Work Order #: 676707

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

Temperature Measuring device used : T_NM_007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 11.03.2020

Cloe Clifton

Checklist reviewed by: Jessica Kramer Date: 11.03.2020

Jessica Kramer

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Certificate of Analysis Summary 676709

LT Environmental, Inc., Arvada, CO

Project Name: RDX 17-25

Project Id: 034820029
Contact: Joseph Hernandez
Project Location: NM

Date Received in Lab: Mon 11.02.2020 15:50
Report Date: 11.05.2020 08:11
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	676709-001						
	Field Id:	CH02 @ 1-1.5'						
	Depth:	1-1.5 ft						
	Matrix:	SOIL						
	Sampled:	10.29.2020 11:35						
BTEX by EPA 8021B	***Extracted:***	11.03.2020 09:30						
	Analyzed:	11.03.2020 18:37						
	Units/RL:	mg/kg	RL					
Benzene		<0.00201	0.00201					
Toluene		0.00783	0.00201					
Ethylbenzene		0.0187	0.00201					
m,p-Xylenes		0.0368	0.00402					
o-Xylene		0.0433	0.00201					
Total Xylenes		0.0801	0.00201					
Total BTEX		0.107	0.00201					
Inorganic Anions by EPA 300	***Extracted:***	11.03.2020 13:00						
	Analyzed:	11.03.2020 15:43						
	Units/RL:	mg/kg	RL					
Chloride		342	10.0					
TPH by SW8015 Mod	***Extracted:***	11.03.2020 13:27						
	Analyzed:	11.03.2020 17:42						
	Units/RL:	mg/kg	RL					
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2					
Diesel Range Organics (DRO)		<50.2	50.2					
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2					
Total TPH		<50.2	50.2					

BRL - Below Reporting Limit

Jessica Kramer

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

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Analytical Report 676709

for

LT Environmental, Inc.

Project Manager: Joseph Hernandez

RDX 17-25

034820029

11.05.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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11.05.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **676709**
RDX 17-25
Project Address: NM

Joseph Hernandez:

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 Eurofins Xenco, LLC Report Number(s) 676709. 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 Eurofins Xenco, LLC. 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. 676709 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 676709

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CH02 @ 1-1.5'	S	10.29.2020 11:35	1 - 1.5 ft	676709-001

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CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: RDX 17-25

Project ID: *034820029*
Work Order Number(s): *676709*

Report Date: *11.05.2020*
Date Received: *11.02.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 676709

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH02 @ 1-1.5'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676709-001	Date Collected:	10.29.2020 11:35	Sample Depth:	1 - 1.5 ft

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

Tech: MAB

Analyst: MAB — Date Prep: 11.03.2020 13:00 — % Moisture: Basis: Wet Weight

Seq Number: 3141306

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**342**	10.0	mg/kg	11.03.2020 15:43		1

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P

Tech: MAB

Analyst: CAC — Date Prep: 11.03.2020 13:27 — % Moisture: Basis: Wet Weight

Seq Number: 3141297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.03.2020 17:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.03.2020 17:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.03.2020 17:42	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.03.2020 17:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	134	%	70-135	11.03.2020 17:42	
o-Terphenyl	84-15-1	127	%	70-135	11.03.2020 17:42	

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Certificate of Analytical Results 676709

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH02 @ 1-1.5'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676709-001	Date Collected:	10.29.2020 11:35	Sample Depth:	1 - 1.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.03.2020 09:30	% Moisture:	
Seq Number:	3141311			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.03.2020 18:37	U	1
Toluene	108-88-3	**0.00783**	0.00201	mg/kg	11.03.2020 18:37		1
Ethylbenzene	100-41-4	**0.0187**	0.00201	mg/kg	11.03.2020 18:37		1
m,p-Xylenes	179601-23-1	**0.0368**	0.00402	mg/kg	11.03.2020 18:37		1
o-Xylene	95-47-6	**0.0433**	0.00201	mg/kg	11.03.2020 18:37		1
Total Xylenes	1330-20-7	**0.0801**	0.00201	mg/kg	11.03.2020 18:37		1
Total BTEX		**0.107**	0.00201	mg/kg	11.03.2020 18:37		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.03.2020 18:37	
4-Bromofluorobenzene	460-00-4	120	%	70-130	11.03.2020 18:37	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

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QC Summary 676709

LT Environmental, Inc.

RDX 17-25

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714455-1-BLK — LCS Sample Id: 7714455-1-BKS — LCSD Sample Id: 7714455-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	260	104	259	104	90-110	0	20	mg/kg	11.03.2020 15:10	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Soil — Date Prep: 11.03.2020
Parent Sample Id: 676707-001 — MS Sample Id: 676707-001 S — MSD Sample Id: 676707-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	606	200	796	95	806	100	90-110	1	20	mg/kg	11.03.2020 15:26	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Soil — Date Prep: 11.03.2020
Parent Sample Id: 676720-001 — MS Sample Id: 676720-001 S — MSD Sample Id: 676720-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	148	200	361	107	363	108	90-110	1	20	mg/kg	11.03.2020 16:43	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141297 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714426-1-BLK — LCS Sample Id: 7714426-1-BKS — LCSD Sample Id: 7714426-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1180	118	1130	113	70-135	4	35	mg/kg	11.03.2020 15:40	
Diesel Range Organics (DRO)	<50.0	1000	1250	125	1200	120	70-135	4	35	mg/kg	11.03.2020 15:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		130		126		70-135	%	11.03.2020 15:40
o-Terphenyl	117		120		118		70-135	%	11.03.2020 15:40

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141297 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714426-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.03.2020 15:20	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

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QC Summary 676709

LT Environmental, Inc.

RDX 17-25

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3141297 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676707-001 MS Sample Id: 676707-001 S MSD Sample Id: 676707-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	1130	112	1050	105	70-135	7	35	mg/kg	11.03.2020 16:41	
Diesel Range Organics (DRO)	<50.3	1010	1150	114	1140	114	70-135	1	35	mg/kg	11.03.2020 16:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		133		70-135	%	11.03.2020 16:41
o-Terphenyl	123		105		70-135	%	11.03.2020 16:41

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Solid Date Prep: 11.03.2020
MB Sample Id: 7714461-1-BLK LCS Sample Id: 7714461-1-BKS LCSD Sample Id: 7714461-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.101	101	0.106	106	70-130	5	35	mg/kg	11.03.2020 09:56	
Toluene	<0.00200	0.100	0.0955	96	0.101	101	70-130	6	35	mg/kg	11.03.2020 09:56	
Ethylbenzene	<0.00200	0.100	0.0976	98	0.102	102	71-129	4	35	mg/kg	11.03.2020 09:56	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.205	103	70-135	4	35	mg/kg	11.03.2020 09:56	
o-Xylene	<0.00200	0.100	0.0967	97	0.102	102	71-133	5	35	mg/kg	11.03.2020 09:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		99		104		70-130	%	11.03.2020 09:56
4-Bromofluorobenzene	110		103		110		70-130	%	11.03.2020 09:56

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676514-007 MS Sample Id: 676514-007 S MSD Sample Id: 676514-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.107	106	0.0886	89	70-130	19	35	mg/kg	11.03.2020 10:41	
Toluene	<0.00201	0.101	0.0986	98	0.0879	88	70-130	11	35	mg/kg	11.03.2020 10:41	
Ethylbenzene	<0.00201	0.101	0.0998	99	0.0910	91	71-129	9	35	mg/kg	11.03.2020 10:41	
m,p-Xylenes	<0.00402	0.201	0.202	100	0.186	93	70-135	8	35	mg/kg	11.03.2020 10:41	
o-Xylene	<0.00201	0.101	0.102	101	0.0943	94	71-133	8	35	mg/kg	11.03.2020 10:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		101		70-130	%	11.03.2020 10:41
4-Bromofluorobenzene	107		117		70-130	%	11.03.2020 10:41

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Chain of Custody

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

Work Order No: 627709

Project Manager:	Joseph Hernandez	Bill to: (if different)	Lynda Laumbach
Company Name:	LT Environmental, Inc.	Company Name:	WPX Energy
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@ltenv.com & abyers@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:	RDX 17-25	Turn Around	
Project Number:	034820010	Routine	☒
P.O. Number:	Liner	Rush:	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT			
Temperature (°C):	1-2/1.0	Temp Blank:	(Yes) No
Received Intact:	(Yes) No	Wet Ice:	(Yes) No
Cooler Custody Seals:	Yes No (N/A)	Thermometer ID	TNM007
Sample Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
		Total Containers:	1

ANALYSIS REQUEST

Work Order Notes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015 Mod)	BTEX (EPA 8021B)	Chloride (EPA 300.0)	Sample Comments
CH02 @ 1-1.5'	S	10/22/20	1135	1-1.5'	1	X	X	X	

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

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		11/2/20 15:50	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11.02.2020 03.50.00 PM

Work Order #: 676709

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

Temperature Measuring device used : T_NM_007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 11.03.2020

Cloe Clifton

Checklist reviewed by: Jessica Kramer Date: 11.03.2020

Jessica Kramer

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Certificate of Analysis Summary 676712

LT Environmental, Inc., Arvada, CO

Project Name: RDX 17-25

Project Id: 034820029
Contact: Joseph Hernandez
Project Location: NM

Date Received in Lab: Mon 11.02.2020 15:50
Report Date: 11.05.2020 08:14
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	676712-001						
	Field Id:	CH02 @ 1.5- 2'						
	Depth:	1.5-2 ft						
	Matrix:	SOIL						
	Sampled:	10.29.2020 11:48						
BTEX by EPA 8021B	***Extracted:***	11.03.2020 09:30						
	Analyzed:	11.04.2020 10:23						
	Units/RL:	mg/kg	RL					
Benzene		<0.0196	0.0196					
Toluene		<0.0196	0.0196					
Ethylbenzene		0.0667	0.0196					
m,p-Xylenes		0.377	0.0392					
o-Xylene		0.150	0.0196					
Total Xylenes		0.527	0.0196					
Total BTEX		0.594	0.0196					
Inorganic Anions by EPA 300	***Extracted:***	11.03.2020 13:00						
	Analyzed:	11.03.2020 15:54						
	Units/RL:	mg/kg	RL					
Chloride		660	10.0					
TPH by SW8015 Mod	***Extracted:***	11.03.2020 13:27						
	Analyzed:	11.03.2020 18:22						
	Units/RL:	mg/kg	RL					
Gasoline Range Hydrocarbons (GRO)		88.2	50.0					
Diesel Range Organics (DRO)		748	50.0					
Motor Oil Range Hydrocarbons (MRO)		59.4	50.0					
Total TPH		896	50.0					

BRL - Below Reporting Limit

Jessica Kramer

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

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Analytical Report 676712

for

LT Environmental, Inc.

Project Manager: Joseph Hernandez

RDX 17-25

034820029

11.05.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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11.05.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **676712**
RDX 17-25
Project Address: NM

Joseph Hernandez:

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 Eurofins Xenco, LLC Report Number(s) 676712. 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 Eurofins Xenco, LLC. 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. 676712 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 676712

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CH02 @ 1.5- 2'	S	10.29.2020 11:48	1.5 - 2 ft	676712-001

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CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: RDX 17-25

Project ID: *034820029*
Work Order Number(s): *676712*

Report Date: *11.05.2020*
Date Received: *11.02.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 676712

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH02 @ 1.5- 2'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676712-001	Date Collected:	10.29.2020 11:48	Sample Depth:	1.5 - 2 ft

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

Tech: MAB

Analyst: MAB — Date Prep: 11.03.2020 13:00 — % Moisture: Basis: Wet Weight

Seq Number: 3141306

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**660**	10.0	mg/kg	11.03.2020 15:54		1

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P

Tech: MAB

Analyst: CAC — Date Prep: 11.03.2020 13:27 — % Moisture: Basis: Wet Weight

Seq Number: 3141297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**88.2**	50.0	mg/kg	11.03.2020 18:22		1
Diesel Range Organics (DRO)	C10C28DRO	**748**	50.0	mg/kg	11.03.2020 18:22		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**59.4**	50.0	mg/kg	11.03.2020 18:22		1
Total TPH	PHC635	**896**	50.0	mg/kg	11.03.2020 18:22		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	11.03.2020 18:22	
o-Terphenyl	84-15-1	133	%	70-135	11.03.2020 18:22	

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Certificate of Analytical Results 676712

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH02 @ 1.5- 2'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676712-001	Date Collected:	10.29.2020 11:48	Sample Depth:	1.5 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.03.2020 09:30	% Moisture:	
Seq Number:	3141311			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	11.04.2020 10:23	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	11.04.2020 10:23	U	1
Ethylbenzene	100-41-4	**0.0667**	0.0196	mg/kg	11.04.2020 10:23		1
m,p-Xylenes	179601-23-1	**0.377**	0.0392	mg/kg	11.04.2020 10:23		1
o-Xylene	95-47-6	**0.150**	0.0196	mg/kg	11.04.2020 10:23		1
Total Xylenes	1330-20-7	**0.527**	0.0196	mg/kg	11.04.2020 10:23		1
Total BTEX		**0.594**	0.0196	mg/kg	11.04.2020 10:23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	11.04.2020 10:23	
4-Bromofluorobenzene	460-00-4	106	%	70-130	11.04.2020 10:23	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

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QC Summary 676712

LT Environmental, Inc.

RDX 17-25

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714455-1-BLK — LCS Sample Id: 7714455-1-BKS — LCSD Sample Id: 7714455-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	260	104	259	104	90-110	0	20	mg/kg	11.03.2020 15:10	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Soil — Date Prep: 11.03.2020
Parent Sample Id: 676707-001 — MS Sample Id: 676707-001 S — MSD Sample Id: 676707-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	606	200	796	95	806	100	90-110	1	20	mg/kg	11.03.2020 15:26	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Soil — Date Prep: 11.03.2020
Parent Sample Id: 676720-001 — MS Sample Id: 676720-001 S — MSD Sample Id: 676720-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	148	200	361	107	363	108	90-110	1	20	mg/kg	11.03.2020 16:43	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141297 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714426-1-BLK — LCS Sample Id: 7714426-1-BKS — LCSD Sample Id: 7714426-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1180	118	1130	113	70-135	4	35	mg/kg	11.03.2020 15:40	
Diesel Range Organics (DRO)	<50.0	1000	1250	125	1200	120	70-135	4	35	mg/kg	11.03.2020 15:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		130		126		70-135	%	11.03.2020 15:40
o-Terphenyl	117		120		118		70-135	%	11.03.2020 15:40

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141297 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714426-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.03.2020 15:20	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

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QC Summary 676712

LT Environmental, Inc.

RDX 17-25

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3141297 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676707-001 MS Sample Id: 676707-001 S MSD Sample Id: 676707-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	1130	112	1050	105	70-135	7	35	mg/kg	11.03.2020 16:41	
Diesel Range Organics (DRO)	<50.3	1010	1150	114	1140	114	70-135	1	35	mg/kg	11.03.2020 16:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		133		70-135	%	11.03.2020 16:41
o-Terphenyl	123		105		70-135	%	11.03.2020 16:41

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Solid Date Prep: 11.03.2020
MB Sample Id: 7714461-1-BLK LCS Sample Id: 7714461-1-BKS LCSD Sample Id: 7714461-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.101	101	0.106	106	70-130	5	35	mg/kg	11.03.2020 09:56	
Toluene	<0.00200	0.100	0.0955	96	0.101	101	70-130	6	35	mg/kg	11.03.2020 09:56	
Ethylbenzene	<0.00200	0.100	0.0976	98	0.102	102	71-129	4	35	mg/kg	11.03.2020 09:56	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.205	103	70-135	4	35	mg/kg	11.03.2020 09:56	
o-Xylene	<0.00200	0.100	0.0967	97	0.102	102	71-133	5	35	mg/kg	11.03.2020 09:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		99		104		70-130	%	11.03.2020 09:56
4-Bromofluorobenzene	110		103		110		70-130	%	11.03.2020 09:56

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676514-007 MS Sample Id: 676514-007 S MSD Sample Id: 676514-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.107	106	0.0886	89	70-130	19	35	mg/kg	11.03.2020 10:41	
Toluene	<0.00201	0.101	0.0986	98	0.0879	88	70-130	11	35	mg/kg	11.03.2020 10:41	
Ethylbenzene	<0.00201	0.101	0.0998	99	0.0910	91	71-129	9	35	mg/kg	11.03.2020 10:41	
m,p-Xylenes	<0.00402	0.201	0.202	100	0.186	93	70-135	8	35	mg/kg	11.03.2020 10:41	
o-Xylene	<0.00201	0.101	0.102	101	0.0943	94	71-133	8	35	mg/kg	11.03.2020 10:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		101		70-130	%	11.03.2020 10:41
4-Bromofluorobenzene	107		117		70-130	%	11.03.2020 10:41

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Chain of Custody

Work Order No: 676712

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:	Joseph Hernandez	Bill to: (if different)	Lynda Laumbach
Company Name:	LT Environmental, Inc.	Company Name:	WPX Energy
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@ltenv.com & abyers@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:	RDX 17-25	Turn Around	
Project Number:	034820010	Routine	☒
P.O. Number:	Liner	Rush:	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes / No	Wet Ice:	Yes / No	
Temperature (°C):	1-2/1-0	Thermometer ID		
Received Intact:	Yes / No	TNM007		
Cooler Custody Seals:	Yes / No / N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes / No / N/A	Total Containers:	1	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015 Mod)	BTEX (EPA 8021B)	Chloride (EPA 300.0)
CH02@1.5-2'	S	10/29/20	1148	1.5-2'	1	X	X	X

Work Order Notes

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

Sample Comments

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		11/2/20 15:50	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11.02.2020 03.50.00 PM

Work Order #: 676712

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

Temperature Measuring device used : T_NM_007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 11.03.2020

Checklist reviewed by: Jessica Kramer Date: 11.03.2020

Jessica Kramer

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Certificate of Analysis Summary 676713

LT Environmental, Inc., Arvada, CO

Project Name: RDX 17-25

Project Id: 034820010
Contact: Joseph Hernandez
Project Location: NM

Date Received in Lab: Mon 11.02.2020 15:50
Report Date: 11.05.2020 08:36
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	676713-001					
	Field Id:	CH02 @3.5-4'					
	Depth:	3.5-4 ft					
	Matrix:	SOIL					
	Sampled:	10.29.2020 12:10					
BTEX by EPA 8021B	***Extracted:***	11.03.2020 09:30					
	Analyzed:	11.03.2020 19:44					
	Units/RL:	mg/kg	RL				
Benzene		<0.00202	0.00202				
Toluene		0.0244	0.00202				
Ethylbenzene		0.0502	0.00202				
m,p-Xylenes		0.437	0.00403				
o-Xylene		0.135	0.00202				
Total Xylenes		0.572	0.00202				
Total BTEX		0.647	0.00202				
Inorganic Anions by EPA 300	***Extracted:***	11.03.2020 13:00					
	Analyzed:	11.03.2020 16:10					
	Units/RL:	mg/kg	RL				
Chloride		212	10.0				
TPH by SW8015 Mod	***Extracted:***	11.03.2020 13:27					
	Analyzed:	11.03.2020 18:43					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		60.4	50.2				
Diesel Range Organics (DRO)		298	50.2				
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2				
Total TPH		358	50.2				

BRL - Below Reporting Limit

Jessica Kramer

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

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Analytical Report 676713

for

LT Environmental, Inc.

Project Manager: Joseph Hernandez

RDX 17-25

034820010

11.05.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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11.05.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **676713**
RDX 17-25
Project Address: NM

Joseph Hernandez:

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 Eurofins Xenco, LLC Report Number(s) 676713. 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 Eurofins Xenco, LLC. 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. 676713 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 676713

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CH02 @3.5-4'	S	10.29.2020 12:10	3.5 - 4 ft	676713-001

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CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: RDX 17-25

Project ID: *034820010*
Work Order Number(s): *676713*

Report Date: *11.05.2020*
Date Received: *11.02.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 676713

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH02 @3.5-4'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676713-001	Date Collected:	10.29.2020 12:10	Sample Depth:	3.5 - 4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.03.2020 13:00	% Moisture:	
Seq Number:	3141306			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**212**	10.0	mg/kg	11.03.2020 16:10		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.03.2020 13:27	% Moisture:	
Seq Number:	3141297			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**60.4**	50.2	mg/kg	11.03.2020 18:43		1
Diesel Range Organics (DRO)	C10C28DRO	**298**	50.2	mg/kg	11.03.2020 18:43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.03.2020 18:43	U	1
Total TPH	PHC635	**358**	50.2	mg/kg	11.03.2020 18:43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	11.03.2020 18:43	
o-Terphenyl	84-15-1	127	%	70-135	11.03.2020 18:43	

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Certificate of Analytical Results 676713

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH02 @3.5-4'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676713-001	Date Collected:	10.29.2020 12:10	Sample Depth:	3.5 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.03.2020 09:30	% Moisture:	
Seq Number:	3141311			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.03.2020 19:44	U	1
Toluene	108-88-3	**0.0244**	0.00202	mg/kg	11.03.2020 19:44		1
Ethylbenzene	100-41-4	**0.0502**	0.00202	mg/kg	11.03.2020 19:44		1
m,p-Xylenes	179601-23-1	**0.437**	0.00403	mg/kg	11.03.2020 19:44		1
o-Xylene	95-47-6	**0.135**	0.00202	mg/kg	11.03.2020 19:44		1
Total Xylenes	1330-20-7	**0.572**	0.00202	mg/kg	11.03.2020 19:44		1
Total BTEX		**0.647**	0.00202	mg/kg	11.03.2020 19:44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.03.2020 19:44	
1,4-Difluorobenzene	540-36-3	88	%	70-130	11.03.2020 19:44	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

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QC Summary 676713

LT Environmental, Inc.

RDX 17-25

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714455-1-BLK — LCS Sample Id: 7714455-1-BKS — LCSD Sample Id: 7714455-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	260	104	259	104	90-110	0	20	mg/kg	11.03.2020 15:10	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Soil — Date Prep: 11.03.2020
Parent Sample Id: 676707-001 — MS Sample Id: 676707-001 S — MSD Sample Id: 676707-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	606	200	796	95	806	100	90-110	1	20	mg/kg	11.03.2020 15:26	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Soil — Date Prep: 11.03.2020
Parent Sample Id: 676720-001 — MS Sample Id: 676720-001 S — MSD Sample Id: 676720-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	148	200	361	107	363	108	90-110	1	20	mg/kg	11.03.2020 16:43	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141297 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714426-1-BLK — LCS Sample Id: 7714426-1-BKS — LCSD Sample Id: 7714426-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1180	118	1130	113	70-135	4	35	mg/kg	11.03.2020 15:40	
Diesel Range Organics (DRO)	<50.0	1000	1250	125	1200	120	70-135	4	35	mg/kg	11.03.2020 15:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		130		126		70-135	%	11.03.2020 15:40
o-Terphenyl	117		120		118		70-135	%	11.03.2020 15:40

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141297 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714426-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.03.2020 15:20	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

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QC Summary 676713

LT Environmental, Inc.

RDX 17-25

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3141297 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676707-001 MS Sample Id: 676707-001 S MSD Sample Id: 676707-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	1130	112	1050	105	70-135	7	35	mg/kg	11.03.2020 16:41	
Diesel Range Organics (DRO)	<50.3	1010	1150	114	1140	114	70-135	1	35	mg/kg	11.03.2020 16:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		133		70-135	%	11.03.2020 16:41
o-Terphenyl	123		105		70-135	%	11.03.2020 16:41

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Solid Date Prep: 11.03.2020
MB Sample Id: 7714461-1-BLK LCS Sample Id: 7714461-1-BKS LCSD Sample Id: 7714461-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.101	101	0.106	106	70-130	5	35	mg/kg	11.03.2020 09:56	
Toluene	<0.00200	0.100	0.0955	96	0.101	101	70-130	6	35	mg/kg	11.03.2020 09:56	
Ethylbenzene	<0.00200	0.100	0.0976	98	0.102	102	71-129	4	35	mg/kg	11.03.2020 09:56	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.205	103	70-135	4	35	mg/kg	11.03.2020 09:56	
o-Xylene	<0.00200	0.100	0.0967	97	0.102	102	71-133	5	35	mg/kg	11.03.2020 09:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		99		104		70-130	%	11.03.2020 09:56
4-Bromofluorobenzene	110		103		110		70-130	%	11.03.2020 09:56

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676514-007 MS Sample Id: 676514-007 S MSD Sample Id: 676514-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.107	106	0.0886	89	70-130	19	35	mg/kg	11.03.2020 10:41	
Toluene	<0.00201	0.101	0.0986	98	0.0879	88	70-130	11	35	mg/kg	11.03.2020 10:41	
Ethylbenzene	<0.00201	0.101	0.0998	99	0.0910	91	71-129	9	35	mg/kg	11.03.2020 10:41	
m,p-Xylenes	<0.00402	0.201	0.202	100	0.186	93	70-135	8	35	mg/kg	11.03.2020 10:41	
o-Xylene	<0.00201	0.101	0.102	101	0.0943	94	71-133	8	35	mg/kg	11.03.2020 10:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		101		70-130	%	11.03.2020 10:41
4-Bromofluorobenzene	107		117		70-130	%	11.03.2020 10:41

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Chain of Custody

Work Order No: 676713

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:	Joseph Hernandez	Bill to: (if different)	Lynda Laumbach
Company Name:	LT Environmental, Inc.	Company Name:	WPX Energy
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@ltenv.com & abyers@ltenv.com

Work Order Comments

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

Project Name:	RDX 17-25	Turn Around	
Project Number:	034820010	Routine	☒
P.O. Number:	Liner	Rush:	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Temperature (°C):	1.2 | 1.0	Thermometer ID		
Received Intact:	(Yes) No		HVM007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes (No) N/A	Total Containers:	1	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015 Mod)	BTEX (EPA 8021B)	Chloride (EPA 300.0)
CH#2 @ 3.5 - 4'	S	10/29/20	1210	3.5-4'	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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		11/2/20 15:50	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11.02.2020 03.50.00 PM

Work Order #: 676713

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

Temperature Measuring device used : T_NM_007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 11.03.2020

Cloe Clifton

Checklist reviewed by: Jessica Kramer Date: 11.03.2020

Jessica Kramer

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Certificate of Analysis Summary 676715

LT Environmental, Inc., Arvada, CO

Project Name: RDX 17-25

Project Id: 034820010
Contact: Joseph Hernandez
Project Location: NM

Date Received in Lab: Mon 11.02.2020 15:50
Report Date: 11.05.2020 08:37
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	676715-001					
	Field Id:	CH02 @ 5.5-6'					
	Depth:	5.5-6 ft					
	Matrix:	SOIL					
	Sampled:	10.29.2020 12:30					
BTEX by EPA 8021B	***Extracted:***	11.03.2020 09:30					
	Analyzed:	11.03.2020 20:06					
	Units/RL:	mg/kg	RL				
Benzene		<0.00200	0.00200				
Toluene		<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200				
m,p-Xylenes		<0.00399	0.00399				
o-Xylene		<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200				
Total BTEX		<0.00200	0.00200				
Inorganic Anions by EPA 300	***Extracted:***	11.03.2020 13:00					
	Analyzed:	11.03.2020 16:16					
	Units/RL:	mg/kg	RL				
Chloride		148	49.9				
TPH by SW8015 Mod	***Extracted:***	11.03.2020 13:27					
	Analyzed:	11.03.2020 19:03					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2				
Diesel Range Organics (DRO)		99.0	50.2				
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2				
Total TPH		99.0	50.2				

BRL - Below Reporting Limit

Jessica Kramer

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

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Analytical Report 676715

for

LT Environmental, Inc.

Project Manager: Joseph Hernandez

RDX 17-25

034820010

11.05.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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11.05.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **676715**
RDX 17-25
Project Address: NM

Joseph Hernandez:

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 Eurofins Xenco, LLC Report Number(s) 676715. 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 Eurofins Xenco, LLC. 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. 676715 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 676715

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CH02 @ 5.5-6'	S	10.29.2020 12:30	5.5 - 6 ft	676715-001

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CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: RDX 17-25

Project ID: *034820010*
Work Order Number(s): *676715*

Report Date: *11.05.2020*
Date Received: *11.02.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 676715

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH02 @ 5.5-6'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676715-001	Date Collected:	10.29.2020 12:30	Sample Depth:	5.5 - 6 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.03.2020 13:00	% Moisture:	
Seq Number:	3141306			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**148**	49.9	mg/kg	11.03.2020 16:16		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	11.03.2020 13:27	% Moisture:	
Seq Number:	3141297			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.03.2020 19:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	**99.0**	50.2	mg/kg	11.03.2020 19:03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.03.2020 19:03	U	1
Total TPH	PHC635	**99.0**	50.2	mg/kg	11.03.2020 19:03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	11.03.2020 19:03	
o-Terphenyl	84-15-1	132	%	70-135	11.03.2020 19:03	

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Certificate of Analytical Results 676715

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH02 @ 5.5-6'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676715-001	Date Collected:	10.29.2020 12:30	Sample Depth:	5.5 - 6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.03.2020 09:30	% Moisture:	
Seq Number:	3141311			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.03.2020 20:06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.03.2020 20:06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.03.2020 20:06	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.03.2020 20:06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.03.2020 20:06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.03.2020 20:06	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.03.2020 20:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	76	%	70-130	11.03.2020 20:06	
4-Bromofluorobenzene	460-00-4	98	%	70-130	11.03.2020 20:06	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

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QC Summary 676715

LT Environmental, Inc.

RDX 17-25

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714455-1-BLK — LCS Sample Id: 7714455-1-BKS — LCSD Sample Id: 7714455-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	260	104	259	104	90-110	0	20	mg/kg	11.03.2020 15:10	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Soil — Date Prep: 11.03.2020
Parent Sample Id: 676707-001 — MS Sample Id: 676707-001 S — MSD Sample Id: 676707-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	606	200	796	95	806	100	90-110	1	20	mg/kg	11.03.2020 15:26	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Soil — Date Prep: 11.03.2020
Parent Sample Id: 676720-001 — MS Sample Id: 676720-001 S — MSD Sample Id: 676720-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	148	200	361	107	363	108	90-110	1	20	mg/kg	11.03.2020 16:43	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141297 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714426-1-BLK — LCS Sample Id: 7714426-1-BKS — LCSD Sample Id: 7714426-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1180	118	1130	113	70-135	4	35	mg/kg	11.03.2020 15:40	
Diesel Range Organics (DRO)	<50.0	1000	1250	125	1200	120	70-135	4	35	mg/kg	11.03.2020 15:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		130		126		70-135	%	11.03.2020 15:40
o-Terphenyl	117		120		118		70-135	%	11.03.2020 15:40

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141297 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714426-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.03.2020 15:20	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

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QC Summary 676715

LT Environmental, Inc.

RDX 17-25

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3141297 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676707-001 MS Sample Id: 676707-001 S MSD Sample Id: 676707-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	1130	112	1050	105	70-135	7	35	mg/kg	11.03.2020 16:41	
Diesel Range Organics (DRO)	<50.3	1010	1150	114	1140	114	70-135	1	35	mg/kg	11.03.2020 16:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		133		70-135	%	11.03.2020 16:41
o-Terphenyl	123		105		70-135	%	11.03.2020 16:41

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Solid Date Prep: 11.03.2020
MB Sample Id: 7714461-1-BLK LCS Sample Id: 7714461-1-BKS LCSD Sample Id: 7714461-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.101	101	0.106	106	70-130	5	35	mg/kg	11.03.2020 09:56	
Toluene	<0.00200	0.100	0.0955	96	0.101	101	70-130	6	35	mg/kg	11.03.2020 09:56	
Ethylbenzene	<0.00200	0.100	0.0976	98	0.102	102	71-129	4	35	mg/kg	11.03.2020 09:56	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.205	103	70-135	4	35	mg/kg	11.03.2020 09:56	
o-Xylene	<0.00200	0.100	0.0967	97	0.102	102	71-133	5	35	mg/kg	11.03.2020 09:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		99		104		70-130	%	11.03.2020 09:56
4-Bromofluorobenzene	110		103		110		70-130	%	11.03.2020 09:56

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676514-007 MS Sample Id: 676514-007 S MSD Sample Id: 676514-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.107	106	0.0886	89	70-130	19	35	mg/kg	11.03.2020 10:41	
Toluene	<0.00201	0.101	0.0986	98	0.0879	88	70-130	11	35	mg/kg	11.03.2020 10:41	
Ethylbenzene	<0.00201	0.101	0.0998	99	0.0910	91	71-129	9	35	mg/kg	11.03.2020 10:41	
m,p-Xylenes	<0.00402	0.201	0.202	100	0.186	93	70-135	8	35	mg/kg	11.03.2020 10:41	
o-Xylene	<0.00201	0.101	0.102	101	0.0943	94	71-133	8	35	mg/kg	11.03.2020 10:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		101		70-130	%	11.03.2020 10:41
4-Bromofluorobenzene	107		117		70-130	%	11.03.2020 10:41

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Chain of Custody

Work Order No: 676715

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

Project Manager:	Joseph Hernandez	Bill to: (if different)	Lynda Laumbach
Company Name:	LT Environmental, Inc.	Company Name:	WPX Energy
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@ltenv.com & abyers@ltenv.com

Work Order Comments

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

Project Name:	RDX 17-25	Turn Around	
Project Number:	034820010	Routine	☒
P.O. Number:	Liner	Rush:	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes / No	Wet Ice:	Yes / No
Temperature (°C):	1.2 / 1.0	Thermometer ID	
Received Intact:	Yes / No	THM007	
Cooler Custody Seals:	Yes / No / N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes / No / N/A	Total Containers:	1

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015 Mod)	BTEX (EPA 8021B)	Chloride (EPA 300.0)
CH02 @ 5.5-6'	S	10/29/20	1230	5.5-6'	1	X	X	X

Work Order Notes

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

Sample Comments

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		11/2/20 15:50	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11.02.2020 03.50.00 PM

Work Order #: 676715

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

Temperature Measuring device used : T_NM_007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 11.03.2020

Checklist reviewed by: Jessica Kramer Date: 11.03.2020

Jessica Kramer

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Certificate of Analysis Summary 676719

LT Environmental, Inc., Arvada, CO

Project Name: RDX 17-25

Project Id: 034820010
Contact: Joseph Hernandez
Project Location: NM

Date Received in Lab: Mon 11.02.2020 15:50
Report Date: 11.05.2020 08:10
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	676719-001					
	Field Id:	CH02 @ 8-8.5'					
	Depth:	8-8.5 ft					
	Matrix:	SOIL					
	Sampled:	10.29.2020 13:15					
BTEX by EPA 8021B	***Extracted:***	11.03.2020 09:30					
	Analyzed:	11.03.2020 21:14					
	Units/RL:	mg/kg	RL				
Benzene		<0.00202	0.00202				
Toluene		<0.00202	0.00202				
Ethylbenzene		<0.00202	0.00202				
m,p-Xylenes		<0.00403	0.00403				
o-Xylene		<0.00202	0.00202				
Total Xylenes		<0.00202	0.00202				
Total BTEX		<0.00202	0.00202				
Inorganic Anions by EPA 300	***Extracted:***	11.03.2020 13:00					
	Analyzed:	11.03.2020 16:32					
	Units/RL:	mg/kg	RL				
Chloride		157	10.0				
TPH by SW8015 Mod	***Extracted:***	11.03.2020 13:27					
	Analyzed:	11.03.2020 20:04					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8				
Diesel Range Organics (DRO)		<49.8	49.8				
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8				
Total TPH		<49.8	49.8				

BRL - Below Reporting Limit

Jessica Kramer

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

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Analytical Report 676719

for

LT Environmental, Inc.

Project Manager: Joseph Hernandez

RDX 17-25

034820010

11.05.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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11.05.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **676719**
RDX 17-25
Project Address: NM

Joseph Hernandez:

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 Eurofins Xenco, LLC Report Number(s) 676719. 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 Eurofins Xenco, LLC. 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. 676719 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 676719

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CH02 @ 8-8.5'	S	10.29.2020 13:15	8 - 8.5 ft	676719-001

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CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: RDX 17-25

Project ID: *034820010*
Work Order Number(s): *676719*

Report Date: *11.05.2020*
Date Received: *11.02.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 676719

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH02 @ 8-8.5'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676719-001	Date Collected:	10.29.2020 13:15	Sample Depth:	8 - 8.5 ft

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

Tech: MAB

Analyst: MAB — Date Prep: 11.03.2020 13:00 — % Moisture: Basis: Wet Weight

Seq Number: 3141306

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**157**	10.0	mg/kg	11.03.2020 16:32		1

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P

Tech: MAB

Analyst: CAC — Date Prep: 11.03.2020 13:27 — % Moisture: Basis: Wet Weight

Seq Number: 3141297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.03.2020 20:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.03.2020 20:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.03.2020 20:04	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.03.2020 20:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	11.03.2020 20:04	
o-Terphenyl	84-15-1	124	%	70-135	11.03.2020 20:04	

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Certificate of Analytical Results 676719

LT Environmental, Inc., Arvada, CO

RDX 17-25

Sample Id:	**CH02 @ 8-8.5'**	Matrix:	Soil	Date Received:	11.02.2020 15:50
Lab Sample Id:	676719-001	Date Collected:	10.29.2020 13:15	Sample Depth:	8 - 8.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	11.03.2020 09:30	% Moisture:	
Seq Number:	3141311			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.03.2020 21:14	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.03.2020 21:14	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.03.2020 21:14	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	11.03.2020 21:14	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.03.2020 21:14	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	11.03.2020 21:14	U	1
Total BTEX		<0.00202	0.00202	mg/kg	11.03.2020 21:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	11.03.2020 21:14	
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.03.2020 21:14	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

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QC Summary 676719

LT Environmental, Inc.

RDX 17-25

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714455-1-BLK — LCS Sample Id: 7714455-1-BKS — LCSD Sample Id: 7714455-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	260	104	259	104	90-110	0	20	mg/kg	11.03.2020 15:10	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Soil — Date Prep: 11.03.2020
Parent Sample Id: 676707-001 — MS Sample Id: 676707-001 S — MSD Sample Id: 676707-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	606	200	796	95	806	100	90-110	1	20	mg/kg	11.03.2020 15:26	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3141306 — Matrix: Soil — Date Prep: 11.03.2020
Parent Sample Id: 676720-001 — MS Sample Id: 676720-001 S — MSD Sample Id: 676720-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	148	200	361	107	363	108	90-110	1	20	mg/kg	11.03.2020 16:43	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141297 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714426-1-BLK — LCS Sample Id: 7714426-1-BKS — LCSD Sample Id: 7714426-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1180	118	1130	113	70-135	4	35	mg/kg	11.03.2020 15:40	
Diesel Range Organics (DRO)	<50.0	1000	1250	125	1200	120	70-135	4	35	mg/kg	11.03.2020 15:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		130		126		70-135	%	11.03.2020 15:40
o-Terphenyl	117		120		118		70-135	%	11.03.2020 15:40

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3141297 — Matrix: Solid — Date Prep: 11.03.2020
MB Sample Id: 7714426-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.03.2020 15:20	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

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QC Summary 676719

LT Environmental, Inc.

RDX 17-25

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3141297 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676707-001 MS Sample Id: 676707-001 S MSD Sample Id: 676707-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	1130	112	1050	105	70-135	7	35	mg/kg	11.03.2020 16:41	
Diesel Range Organics (DRO)	<50.3	1010	1150	114	1140	114	70-135	1	35	mg/kg	11.03.2020 16:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		133		70-135	%	11.03.2020 16:41
o-Terphenyl	123		105		70-135	%	11.03.2020 16:41

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Solid Date Prep: 11.03.2020
MB Sample Id: 7714461-1-BLK LCS Sample Id: 7714461-1-BKS LCSD Sample Id: 7714461-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.101	101	0.106	106	70-130	5	35	mg/kg	11.03.2020 09:56	
Toluene	<0.00200	0.100	0.0955	96	0.101	101	70-130	6	35	mg/kg	11.03.2020 09:56	
Ethylbenzene	<0.00200	0.100	0.0976	98	0.102	102	71-129	4	35	mg/kg	11.03.2020 09:56	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.205	103	70-135	4	35	mg/kg	11.03.2020 09:56	
o-Xylene	<0.00200	0.100	0.0967	97	0.102	102	71-133	5	35	mg/kg	11.03.2020 09:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		99		104		70-130	%	11.03.2020 09:56
4-Bromofluorobenzene	110		103		110		70-130	%	11.03.2020 09:56

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141311 Matrix: Soil Date Prep: 11.03.2020
Parent Sample Id: 676514-007 MS Sample Id: 676514-007 S MSD Sample Id: 676514-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.107	106	0.0886	89	70-130	19	35	mg/kg	11.03.2020 10:41	
Toluene	<0.00201	0.101	0.0986	98	0.0879	88	70-130	11	35	mg/kg	11.03.2020 10:41	
Ethylbenzene	<0.00201	0.101	0.0998	99	0.0910	91	71-129	9	35	mg/kg	11.03.2020 10:41	
m,p-Xylenes	<0.00402	0.201	0.202	100	0.186	93	70-135	8	35	mg/kg	11.03.2020 10:41	
o-Xylene	<0.00201	0.101	0.102	101	0.0943	94	71-133	8	35	mg/kg	11.03.2020 10:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		101		70-130	%	11.03.2020 10:41
4-Bromofluorobenzene	107		117		70-130	%	11.03.2020 10:41

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Chain of Custody

Work Order No: 676719

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:	Joseph Hernandez	Bill to: (if different)	Lynda Laumbach
Company Name:	LT Environmental, Inc.	Company Name:	WPX Energy
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@ltenv.com & abyers@ltenv.com

Work Order Comments

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

Project Name:	RDX 17-25	Turn Around	
Project Number:	034820010	Routine	☑
P.O. Number:	Liner	Rush:	
Sampler's Name:	Anna Byers	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1-2|1-0	Thermometer ID	TNM007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	1

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015 Mod)	BTEX (EPA 8021B)	Chloride (EPA 300.0)
CH02 @ 8-8.5'	S	10/29/20	1315	8-8.5'	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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		11/2/20 15:50	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11.02.2020 03.50.00 PM

Work Order #: 676719

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

Temperature Measuring device used : T_NM_007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 11.03.2020

Checklist reviewed by: Jessica Kramer Date: 11.03.2020

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 201020

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 201020
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Work plan approved. Variance approved for sampling sidewalls and excavation base every 500 square feet. Submit a closure report by 6/30/2023.	3/27/2023