

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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls):	Volume Recovered (bbls):
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls): 22	Volume Recovered (bbls): 22
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> 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.


State of New Mexico  
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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*

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Lynda Laumbach</u>	Title: <u>Environmental Specialist</u>
Signature: <u></u>	Date: <u>06/25/2020</u>
email: <u>Lynda.Laumbach@wpenergy.com</u>	Telephone: <u>(575)725-1647</u>
<b><u>OCD Only</u></b>	
Received by: <u>Ramona Marcus</u>	Date: <u>6/26/2020</u>

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## 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?	<u>&gt;100</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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


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

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

State of New Mexico  
Oil Conservation Division

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

Printed Name: Jim Raley Title: Environmental Professional  
Signature:  Date: 8/18/2023  
email: Jim.Raley@dvN.com Telephone: 575-689-7597

**OCD Only**

Received by: Shelly Wells Date: 8/18/2023

Incident ID	NRM2017643736
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Application ID	


## Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

**Closure Report Attachment Checklist:** *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Jim RaleyTitle: Environmental ProfessionalSignature: Date: 8/18/2023email: Jim.Raley@dvn.comTelephone: 575-689-7597

### OCD Only

Received by: Shelly WellsDate: 8/18/2023

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

Closure Approved by:  Date: 8/22/2023Printed Name: Ashley MaxwellTitle: Environmental Specialist



# CLOSURE REQUEST REPORT

**RDX 17-25 / RDX 17 Federal #36H**

**Eddy County, New Mexico**

**Incident Numbers**

**nAB1712952339**

**NRM 2017643736**

**Prepared For:**

**WPX Energy Permian, LLC**

**5315 Buena Vista Dr.**

**Carlsbad, NM 88220**

Carlsbad • Midland • San Antonio • Lubbock • Hobbs • Lafayette

## SYNOPSIS

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of WPX Energy Permian, LLC (WPX), presents the following Closure Request Report (CRR) documenting excavation activities and subsequent soil sampling activities in accordance with an approved Remediation Work Plan (RWP), for two overlapping inadvertent releases of produced water at the RDX 17-25 / RDX 17 Federal #36H (Site) (**Figure 1 in Appendix A**). Based on completed remedial actions and laboratory analytical results from recent confirmation soil sampling activities, WPX is requesting No Further Action (NFA) at the Site.

## SITE LOCATION AND RELEASE BACKGROUND

The Site is located in Unit D, Section 17, Township 26 South, Range 30 East, in Eddy County, New Mexico (32.049734°, -103.9102662°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

As documented in the RWP, a third-party environmental consultant conducted site assessment and delineation activities on August 27, 2020, and October 29, 2020, to characterize the following inadvertent subject releases:

### **nAB1712952339**

On May 2, 2017, failure of a corroded flowline resulted in the release of approximately 11 barrels (bbls) of produced water into a lined containment. A breach in the lined containment allowed approximately 5 bbls to escape the containment, flow into the pasture, and intersect an adjacent access road and pipeline Right-of-Way (ROW). A vacuum truck was dispatched to the Site and recovered approximately 6 bbls of free-standing fluids. 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 4, 2017, and was subsequently assigned Incident Number nAB1712952339. **Figure 2 in Appendix A** depicts the observed release footprint, hereafter referred to as the Area of Concern #1 (AOC #1).

### **NRM2017643736**

On June 16, 2020, a pinhole developed on a produced water line causing the release of approximately 22 bbls of produced water into a lined containment. A vacuum truck was dispatched to the Site and recovered all 22 bbls of produced water. WPX reported the release to the NMOCD on a Form C-141 on June 25, 2020, and was subsequently assigned Incident Number NRM2017643736. A crude oil released volume was reported on the Initial Form C-141, however, the checkbox denotation was not completed under the section "Nature and Volume of Release. The correction is provided on the Final Form C-141. **Figure 2 in Appendix A** depicts the observed release footprint, hereafter referred to as the Area of Concern #2 (AOC #2).

Following site assessment and delineation soil sampling activities at the Site, an RWP was prepared, proposing corrective actions to address identified residual soil impacts exceeding the applicable Site Closure Criteria and completing lateral delineation around the lined containment to the north, east, and south. The RWP was received by the NMOCD on June 2, 2021, and approved separately for Incident Numbers NRM2017643736 and Incident Number nAB1712952339 with the following conditions:

- *"The Workplan/Remediation Plan is approved with the following conditions: Please make sure the edges/sidewalls and floor closure samples are delineated/excavated to meet closure criteria standards for proven depth to water determination. Please make sure all groundwater data is included in closure report summary. If on-site lined treatment cell is conducted, a closure report must be loaded to the payment portal 90 days after the remediation plan has been approved. A five-point composite sample will need to be collected for every 50 cubic yards of treated soil. If*

*contaminated soil can't be remediated to closure criteria levels in OCD time guidelines, the contaminated soil will need to be excavated and disposed of at an OCD approved facility."* [Conditions for NRM2017643736 on September 9, 2021]

- "Work plan approved. Variance approved for sampling sidewalls and excavation base every 500 square feet. Submit a closure report by 6/30/2023." [Condition for nAB1712952339 on March 27, 2023]

Note: A extension request for a new deadline of September 28, 2023, was sent to NMOCD and approved on June 14, 2023, to allow additional time to implement additional safety measures to excavate around subsurface utilities within the proposed work area.

## **SITE CHARACTERIZATION AND CLOSURE CRITERIA**

As previously described in the approved RWP, the Site was characterized according to Table I, 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) considering depth to groundwater and the proximity to:

- Any continuously flowing watercourse or any other significant watercourse;
- Any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark);
- An occupied permanent residence, school, hospital, institution or church;
- A spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes;
- Any freshwater well or spring;
- Incorporated municipal boundaries or a defined municipal fresh water well field covered under a municipal ordinance;
- A wetland;
- A subsurface mine;
- An unstable area (i.e. high karst potential); and
- A 100-year floodplain.

Based on the results from the desktop review and estimated regional depth to groundwater at the Site from the approved RWP, the following Closure Criteria was applied:

<b>Constituents of Concern (COCs)</b>	<b>Laboratory Analytical Method</b>	<b>Closure Criteria<sup>†</sup></b>
Chloride	Environmental Protection Agency (EPA) 300.0	20,000 milligram per kilogram (mg/kg)
TPH (Total Petroleum Hydrocarbon)	EPA 8015 M/D	2,500 mg/kg
Gasoline Range Organics (GRO) + Diesel Range Organics (DRO)	EPA 8015 M/D	1,000 mg/kg
Benzene	EPA 8021B	10 mg/kg
Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)	EPA 8021B	50 mg/kg

<sup>†</sup>The reclamation concentration requirements of 600 mg/kg chloride and 100 mg/kg TPH apply to the top 4 feet of areas to be immediately reclaimed following remediation pursuant to NMAC 19.15.17.13.

The results of the approved Site characterization are reported on the Final Form C-141. Referenced well records are provided as **Appendix B**. Receptor details and sources used for the site characterization are included in **Figure 1** in **Appendix A**.

## EXCAVATION AND DELINEATION SOIL SAMPLING ACTIVITIES

### nAB1712952339

From mid-June through July 13, 2023, Etech oversaw excavation activities via mechanical equipment to address residual impacts within AOC #1. Excavation activities were driven by field screening soil for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips.

Following the removal of impacted soil, Etech collected 5-point composite soil samples at the approved sampling frequency of 500 square feet from the excavation sidewalls and floors. The 5-point composite soil samples were comprised of five equivalent aliquots homogenized in a 1-gallon, resealable plastic bag. The samples were then placed into lab provided pre-cleaned glass jars, packaged with minimal void space, labeled, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Envirotech, Inc. in Farmington, New Mexico, for analysis of COCs. The locations of confirmation excavation soil samples are shown in **Figure 3** in **Appendix A**.

### NRM2017643736

On July 5 and July 13, 2023, Etech conducted delineation activities concurrently with excavation activities to assess the absence or presence of residual impacts above the Site Closure Criteria surrounding the lined containment, which includes both AOC #1 and AOC #2. Delineation activities were driven by field screening for VOCs and chloride as described above. Five delineation boreholes (BH01 through BH05) were advanced with a hand auger to the north, east, and south of the lined containment as proposed in the approved RWP. A total of two samples were collected from each delineation soil sample location, representing the highest observed field screening concentrations and the greatest depth. Field screening results and soil descriptions are included on lithologic soil sampling logs shown in **Appendix C**. The locations of the delineation soil samples are shown in **Figure 4** in **Appendix A**. The soil samples were handled and analyzed as previously described.

Upon completion of remediation activities, impacted soil was removed from the Site and transported to a licensed and approved New Mexico landfill under WPX approved manifests. Upon receipt of the final confirmation excavation soil samples results, the excavation was backfilled with clean, locally sourced soil and the Site was restored to “as close to its original state” as possible. Photographic documentation of all Site activities is included in **Appendix D**.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all final confirmation excavation soil samples indicated all analyzed COCs were below the applicable Site Closure Criteria. Laboratory analytical results for all delineation soil samples indicated all analyzed COCs were below the applicable Site Closure Criteria. Specifically, analytical results for soil samples collected from BH01, BH02, BH04, and BH05 locations provide sufficient supplemental horizontal delineation for AOC #1 and AOC #2 surrounding the lined containment. Horizontal delineation to the west of the lined containment was supported via confirmation sampling by SW01, SW03, SW04, SW05, FS01 and FS02. Laboratory analytical results are summarized in **Table 1** included in **Appendix E**. The executed chain-of-custody forms and laboratory analytical reports are provided in **Appendix F**.

## CLOSURE REQUEST

Based on the results from laboratory analytical results, WPX believes residual impacts associated with the two overlapping, inadvertent releases have been delineated, excavated, and removed from the Site. Concentrations of COCs for all analyzed soil samples were below the applicable Site Closure Criteria. Furthermore, the horizontal periphery of impacts has been defined for AOC#1 and AOC#2 via delineation

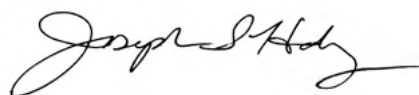
and/or confirmation sampling. WPX believes the completed remedial actions have mitigated impacts at the Site and fulfilled requirements set forth in NMAC 19.15.29.13 guidelines in order to be protective of human health, the environment and ground water. As such, WPX respectfully requests NFA of Incident Numbers nAB1712952339 and NRM2017643736.

If you have any questions or comments, please do not hesitate to contact Joseph Hernandez at (281) 702-2329 or [joseph@etechenv.com](mailto:joseph@etechenv.com) or Gilbert Moreno at (832) 541-7719 or [gilbert@etechenv.com](mailto:gilbert@etechenv.com). **Appendix G** provides correspondence email notification receipts associated with the subject release. Previous remediation activities and soil sample analytical results for the subject release can be referenced in the approved RWP in **Appendix H**.

Sincerely,  
Etech Environmental and Safety Solutions, Inc.



Gilbert Moreno  
Project Geologist



Joseph S. Hernandez  
Senior Managing Geologist

cc: Jim Raley, WPX  
New Mexico Oil Conservation Division  
Bureau of Land Management

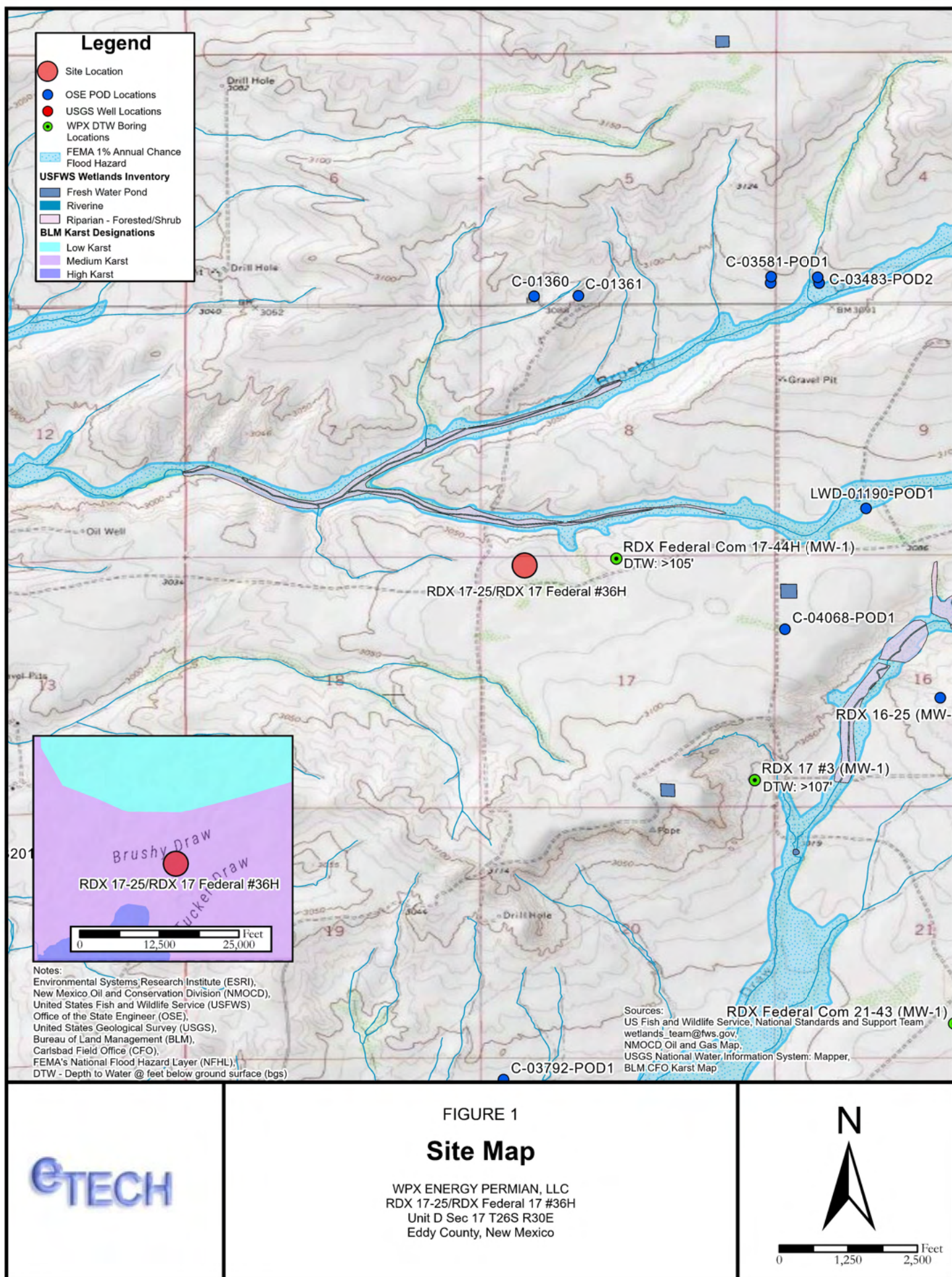
#### Appendices:

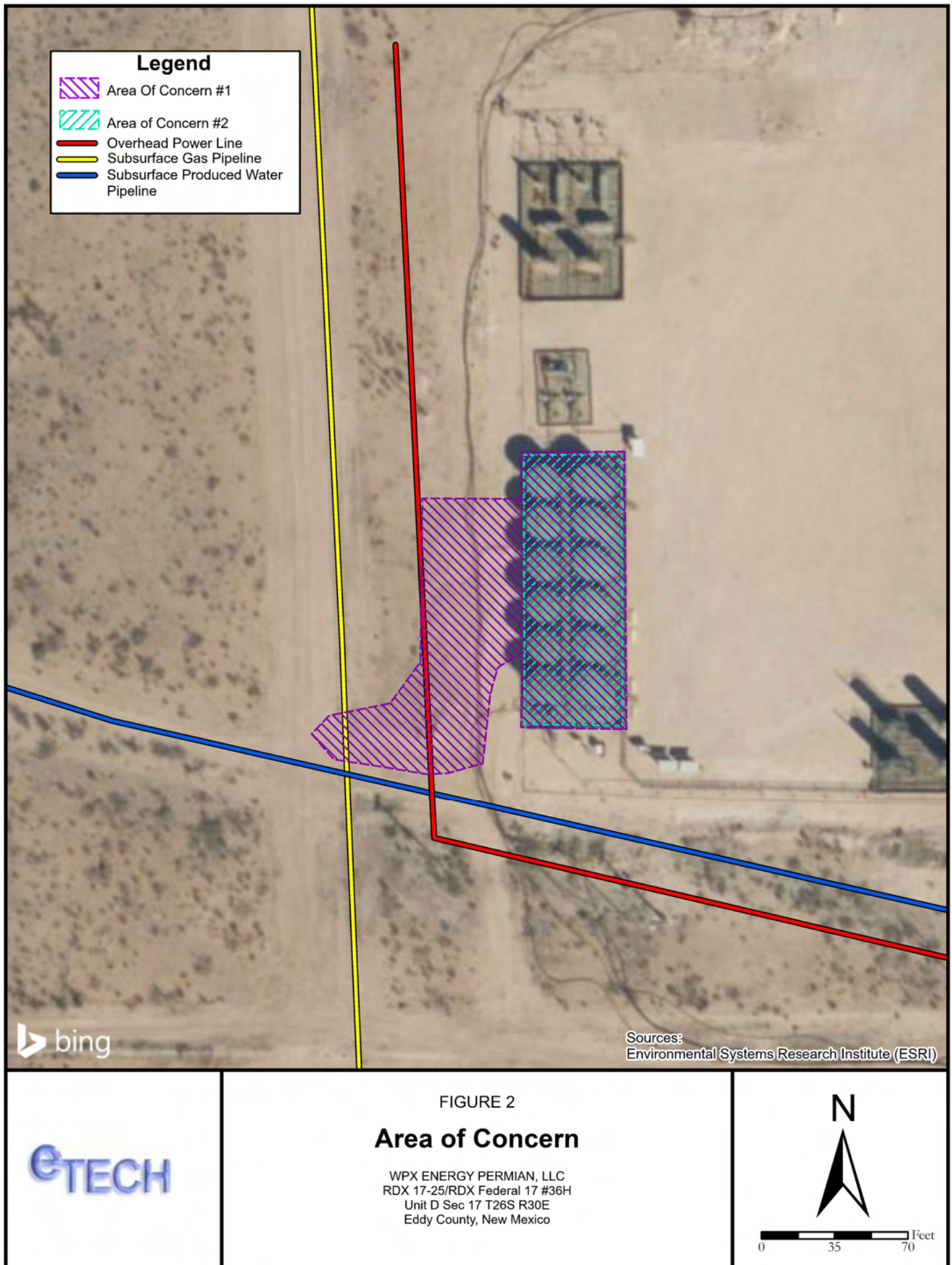
- Appendix A:** Figure 1: Site Map  
Figure 2: Areas of Concern  
Figure 3: Excavation Soil Sample Locations  
Figure 4: Delineation Soil Sample Locations
- Appendix B:** Referenced Well Records
- Appendix C:** Lithologic Soil Sampling Logs
- Appendix D:** Photographic Log
- Appendix E:** Tables
- Appendix F:** Laboratory Analytical Reports & Chain-of-Custody Documentation
- Appendix G:** NMOCD Notifications
- Appendix H:** Approved Remediation Work Plan

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# APPENDIX A

## Figures





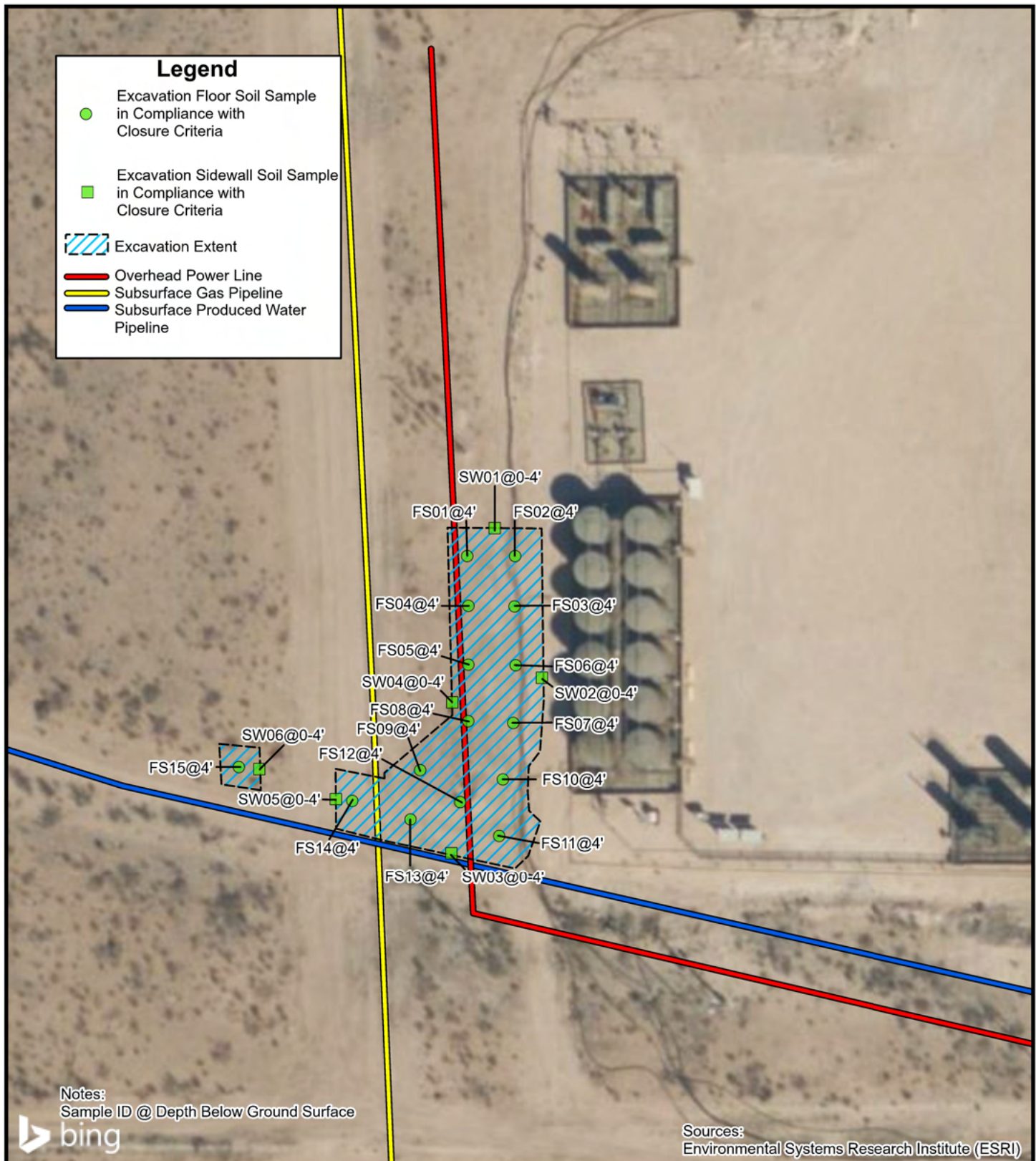
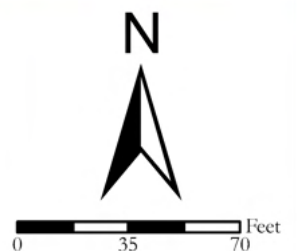


FIGURE 3

## Excavation Soil Sample Locations

WPX ENERGY PERMIAN, LLC  
RDX 17-25/RDX Federal 17 #36H  
Unit D Sec 17 T26S R30E  
Eddy County, New Mexico



eTECH

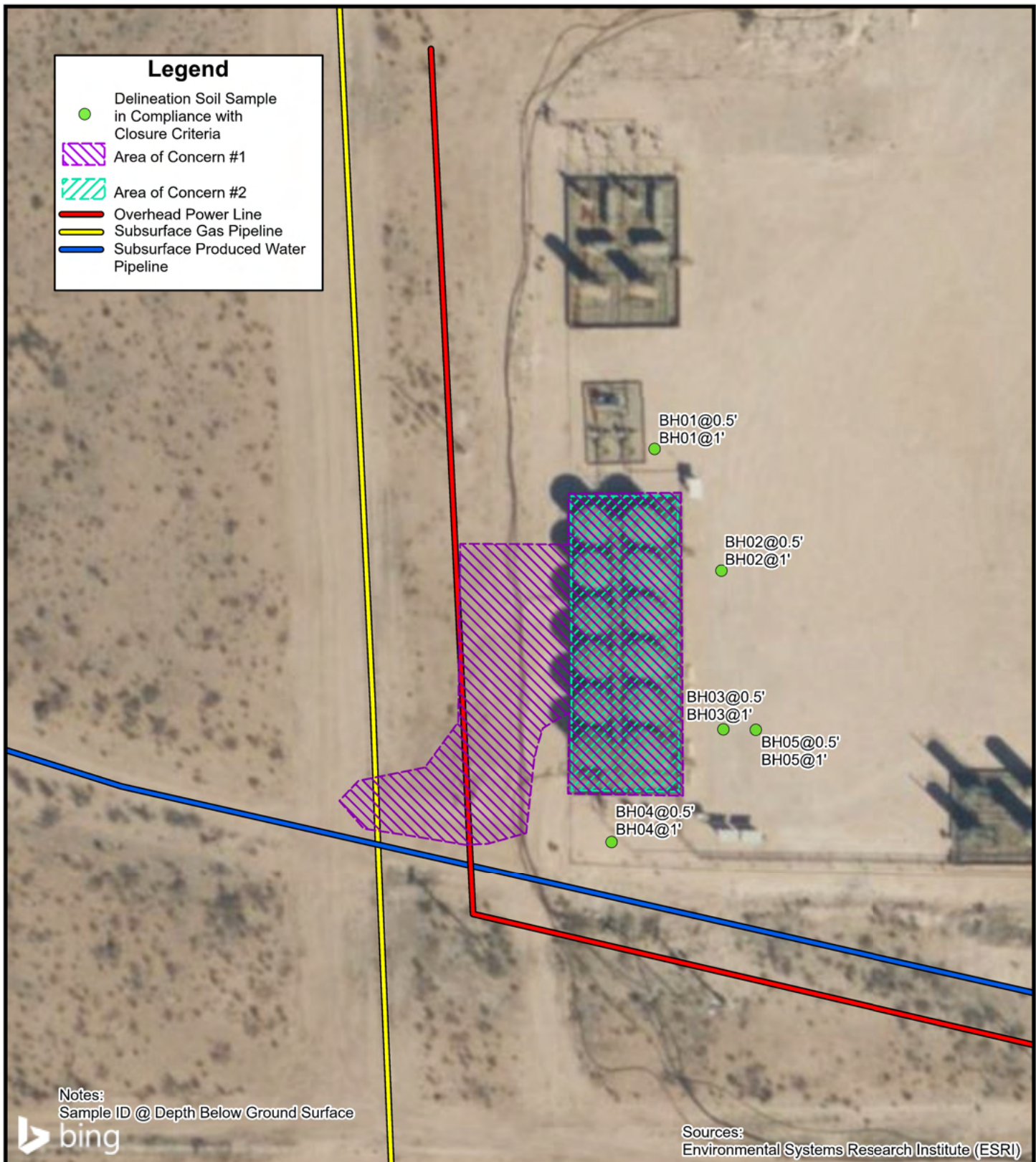
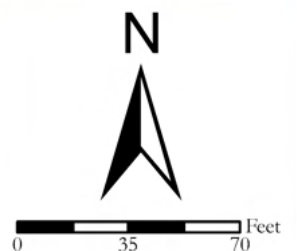


FIGURE 4

**Delineation Soil Sample Locations**

WPX ENERGY PERMIAN, LLC  
 RDX 17-25/RDX Federal 17 #36H  
 Unit D Sec 17 T26S R30E  
 Eddy County, New Mexico



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## APPENDIX B

### Referenced Well Record

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P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213



 <b>HRL COMPLIANCE SOLUTIONS</b>							BORING LOG/MONITORING WELL COMPLETION DIAGRAM						
							Boring/Well Number:			Location:			
							MW-1			RDX Federal Com 17-44H			
							Date:			Client:			
							12/8/2020			WPX Energy			
Drilling Method:			Sampling Method:				Logged By:			Drilled By:			
Air Rotary			None				J. Linn, PG			Talon LPE			
Gravel Pack Type:			Gravel Pack Depth Interval:				Seal Type:		Seal Depth Interval:		Latitude:		
10/20 Sand			3 Bags				None		None		32.049656		
Casing Type:		Diameter:		Depth Interval:			Boring Total Depth (ft. BGS):			Longitude:			
PVC		2-inch		0-105 ft bgs			110			-103.904054			
Screen Type:		Slot:		Diameter:		Depth Interval:		Well Total Depth (ft. BGS):			Depth to Water (ft. BTWC):		
PVC		0.010-inch		2-inch		105 - 110 ft		110			> 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	NM	L	D	N	N	NM	SW	NS	Pinky orange well graded sand with minor silt				
45													
50													
55													
60	NM	L	D	N	N	NM	SP	NS	Pinky pale brown orange poorly graded fine sand with minor silt				
65													
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													
100	NM	L	D	N	N	NM	SP	NS	Pinky pale brown orange poorly graded fine sand with minor silt - TD: 110' bgs				
105													

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## APPENDIX C


### Lithologic Soil Sampling Logs


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P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213




								Sample Name: BH01		Date: 07/05/2023	
								Site Name: RDX 17-25/RDX Federal #36H			
								Incident Numbers: nAB1712952339/NRM2017643736			
								Job Number: 18151/18152			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: EK		Method: Hand Auger	
Site Coordinates: 32.0175972, -103.9520569								Hole Diameter: 4"		Total Depth: 1'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes			
Dry	192	0	No	BH01	0.5	0	CCHE	(0-1') CALICHE, dry, tan, well graded with silt, very fine to coarse grain, no stain, no odor.			
Dry	192	0	No	BH01	1	1					
Total Depth: 1 Foot bgs.											

					Sample Name: BH02		Date: 07/05/2023	
					Site Name: RDX 17-25/RDX Federal #36H			
					Incident Numbers: nAB1712952339/NRM2017643736			
					Job Number: 18151/18152			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					Logged By: EK		Method: Hand Auger	
Site Coordinates: 32.0175972, -103.9520569					Hole Diameter: 4"		Total Depth: 1'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes
Dry	180	0.5	No	BH02	0.5	0	CCHE	(0-1') CALICHE, dry, tan, well graded with silt, very fine to coarse grain, no stain, no odor.
Dry	132	0.1	No	BH02	1	1		
Total Depth: 1 Foot bgs.								

								Sample Name: BH03		Date: 07/05/2023	
								Site Name: RDX 17-25/RDX Federal #36H			
								Incident Numbers: nAB1712952339/NRM2017643736			
								Job Number: 18151/18152			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: EK		Method: Hand Auger	
Site Coordinates: 32.0175972, -103.9520569								Hole Diameter: 4"		Total Depth: 1'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes			
Dry	292	0	No	BH03	0.5	0	CCHE	(0-1') CALICHE, dry, tan, well graded with silt, very fine to coarse grain, no stain, no odor.			
Dry	192	0	No	BH03	1	1					
Total Depth: 1 Foot bgs.											

				Sample Name: BH04		Date: 07/05/2023		
				Site Name: RDX 17-25/RDX Federal #36H				
				Incident Numbers: nAB1712952339/NRM2017643736				
				Job Number: 18151/18152				
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Site Coordinates: 32.0175972, -103.9520569				Logged By: EK		Method: Hand Auger		
				Hole Diameter: 4"		Total Depth: 1'		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes
Dry	<120	0	No	BH04	0.5	0	CCHE	(0-1') CALICHE, dry, tan, well graded with silt, very fine to coarse grain, no stain, no odor.
Dry	<120	0	No	BH04	1	1		
Total Depth: 1 Foot bgs.								

				Sample Name: BH05		Date: 07/13/2023		
				Site Name: RDX 17-25/RDX Federal #36H				
				Incident Numbers: nAB1712952339/NRM2017643736				
				Job Number: 18151/18152				
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>				Logged By: EK		Method: Hand Auger		
Site Coordinates: 32.0175972, -103.9520569				Hole Diameter: 4"		Total Depth: 1'		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes
Dry	<120	0	No	BH05	0.5	0	CCHE	(0-1') CALICHE, dry, tan, well graded with silt, very fine to coarse grain, no stain, no odor.
Dry	<120	0	No	BH05	1	1		
Total Depth: 1 Foot bgs.								

---

# APPENDIX D

## Photographic Log

# eTECH

## PHOTOGRAPHIC LOG

WPX Energy Permian, LLC

RDX 17-25/RDX Federal 17 #36H

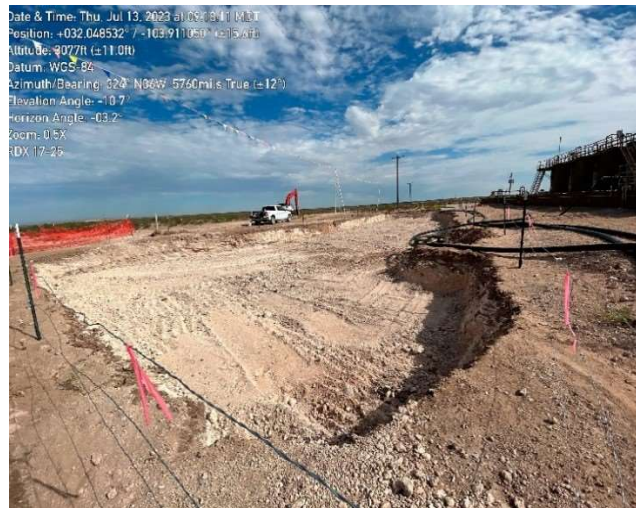
nAB1712952339/NRM2017643736



**Photograph 1**

**Date:07/13/2023**

Description: Southeastern view of excavation extent.



**Photograph 2**

**Date:07/13/2023**

Description: Northwestern view of excavation extent.



**Photograph 3**

**Date:07/13/2023**

Description: Southwestern view of excavation extent.



**Photograph 4**

**Date:07/13/2023**

Description: Southeastern view of excavation extent.

# eTECH

## PHOTOGRAPHIC LOG

WPX Energy Permian, LLC  
RDX 17-25/RDX Federal 17 #36H  
nAB1712952339/NRM2017643736



**Photograph 5**

**Date:07/13/2023**

Description: Southern view of delineation activities surrounding the secondary lined containment.



**Photograph 6**

**Date:07/13/2023**

Description: Southern view of delineation activities surrounding the secondary lined containment.

Date & Time: Wed, Jul 26, 2023 at 14:59:10 MDT  
Position: +032.048623° / -103.911062° (±15.6ft)  
Altitude: 3078ft (±11.0ft)  
Datum: WGS-84  
Azimuth/Bearing: 349° N11W 6204mils True (±12°)  
Elevation Angle: -08.0°  
Horizon Angle: -01.7°  
Zoom: 0.5X  
RDX 17-25



**Photograph 7**

**Date: 07/26/2023**

Description: Northwestern view of backfilled excavation.

Date & Time: Wed, Jul 26, 2023 at 14:58:09 MDT  
Position: +032.049101° / -103.911012° (±15.6ft)  
Altitude: 3079ft (±11.1ft)  
Datum: WGS-84  
Azimuth/Bearing: 215° S35W 3822mils True (±12°)  
Elevation Angle: -09.3°  
Horizon Angle: -02.7°  
Zoom: 0.5X  
RDX 17-25



**Photograph 8**

**Date:07/26/2023**

Description: Southwestern view of backfilled excavation.

---

# APPENDIX E

## Tables



Table 1  
SOIL SAMPLE ANALYTICAL RESULTS  
WPX Energy Permian, LLC  
RDX 17-25/RDX Federal 17 #36H  
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	DRO+GRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria for Soils Impacted by a Release (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Excavation Floor Soil Samples										
FS01	07/05/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	163
FS02	07/05/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	258
FS03	07/05/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	1,800
FS04	07/05/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	732
FS05	07/05/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	1,560
FS06	07/05/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	8,080
FS07	07/05/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	2,570
FS08	07/05/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	1,020
FS09	07/05/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	2,680
FS10	07/05/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	692
FS11	07/13/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	2,220
FS12	07/13/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	3,920
FS13	07/13/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	2,740
FS14	07/13/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	785
FS15	07/13/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	251
Excavation Sidewall Soil Samples										
SW01	07/05/2023	0-4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	133
SW02	07/05/2023	0-4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	<200
SW03	07/13/2023	0-4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	206
SW04	07/13/2023	0-4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	36.9
SW05	07/13/2023	0-4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	214
SW06	07/13/2023	0-4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	<100

## Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria and/or Reclamation Standards for Soils Impacted by a Release



Table 2  
SOIL SAMPLE ANALYTICAL RESULTS  
WPX Energy Permian, LLC  
RDX 17-25/RDX Federal 17 #36H  
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	DRO+GRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria for Soils Impacted by a Release (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
BH01	07/05/2023	0.5	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	301
BH01	07/05/2023	1	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	329
BH02	07/05/2023	0.5	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	<200
BH02	07/05/2023	1	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	<200
BH03	07/05/2023	0.5	<0.0250	<0.0500	<20.0	940	577	940	1,517	269
BH03	07/05/2023	1	<0.0250	<0.0500	<20.0	749	517	749	1,266	296
BH04	07/05/2023	0.5	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	37.2
BH04	07/05/2023	1	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	27.2
BH05	07/13/2023	0.5	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	<200
BH05	07/13/2023	1	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	106

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria and/or Reclamation Standard for Soils Impacted by a Release

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## APPENDIX F

### Laboratory Analytical Reports & Chain-of-Custody Documentation

Report to:

Gilbert Moreno



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

WPX Energy - Carlsbad

Project Name: RDX 17-25

Work Order: E307015

Job Number: 01058-0007

Received: 7/10/2023

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
7/12/23

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/12/23

Gilbert Moreno  
5315 Buena Vista Dr  
Carlsbad, NM 88220



Project Name: RDX 17-25  
Workorder: E307015  
Date Received: 7/10/2023 8:10:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/10/2023 8:10:00AM, under the Project Name: RDX 17-25.

The analytical test results summarized in this report with the Project Name: RDX 17-25 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
Laboratory Administrator  
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**Alexa Michaels**  
Sample Custody Officer  
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**West Texas Midland/Odessa Area**  
**Rayny Hagan**  
Technical Representative  
Office: 505-421-LABS(5227)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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## Sample Summary

WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220	Project Name: RDX 17-25 Project Number: 01058-0007 Project Manager: Gilbert Moreno	Reported: 07/12/23 10:47
--	--	-----------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS01 4'	E307015-01A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
FS02 4'	E307015-02A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
FS03 4'	E307015-03A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
FS04 4'	E307015-04A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
FS05 4'	E307015-05A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
FS06 4'	E307015-06A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
FS07 4'	E307015-07A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
FS08 4'	E307015-08A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
FS09 4'	E307015-09A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
FS10 4'	E307015-10A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/12/2023 10:47:17AM

## FS01 4'

## E307015-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328001	
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.7 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328001	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.4 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2328005	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/11/23	
<i>Surrogate: n-Nonane</i>						
	98.6 %	50-200		07/10/23	07/11/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2328006	
Chloride	163	100	5	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/12/2023 10:47:17AM

FS02 4'

E307015-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.4 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.5 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/11/23	
<i>Surrogate: n-Nonane</i>						
	100 %	50-200		07/10/23	07/11/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328006
Chloride	258	200	10	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/12/2023 10:47:17AM

FS03 4'

E307015-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.8 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.2 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/11/23	
<i>Surrogate: n-Nonane</i>						
	96.1 %	50-200		07/10/23	07/11/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328006
Chloride	1800	40.0	2	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/12/2023 10:47:17AM

FS04 4'

E307015-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.7 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.4 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/11/23	
<i>Surrogate: n-Nonane</i>						
	98.9 %	50-200		07/10/23	07/11/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328006
Chloride	732	40.0	2	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/12/2023 10:47:17AM

FS05 4'

E307015-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.3 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.5 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/11/23	
<i>Surrogate: n-Nonane</i>						
	100 %	50-200		07/10/23	07/11/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328006
Chloride	1560	200	10	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/12/2023 10:47:17AM

FS06 4'

E307015-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.6 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	86.6 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/11/23	
<i>Surrogate: n-Nonane</i>						
	96.8 %	50-200		07/10/23	07/11/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328006
Chloride	8080	200	10	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/12/2023 10:47:17AM

FS07 4'

E307015-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.2 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	86.3 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/11/23	
<i>Surrogate: n-Nonane</i>						
	82.5 %	50-200		07/10/23	07/11/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328006
Chloride	2570	400	20	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/12/2023 10:47:17AM

FS08 4'

E307015-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2328001	
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	96.5 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2328001	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	88.8 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2328005	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/11/23	
<i>Surrogate: n-Nonane</i>	98.2 %	50-200		07/10/23	07/11/23	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: BA		Batch: 2328006	
Chloride	1020	40.0	2	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/12/2023 10:47:17AM

FS09 4'

E307015-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328001	
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.2 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328001	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.9 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2328005	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/11/23	
<i>Surrogate: n-Nonane</i>						
	97.2 %	50-200		07/10/23	07/11/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2328006	
Chloride	2680	40.0	2	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/12/2023 10:47:17AM

FS10 4'

E307015-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.8 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	88.7 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/11/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/11/23	
<i>Surrogate: n-Nonane</i>						
	97.4 %	50-200		07/10/23	07/11/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328006
Chloride	692	20.0	1	07/10/23	07/10/23	



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/12/2023 10:47:17AM

## Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328001-BLK1)

Prepared: 07/10/23 Analyzed: 07/10/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.64		8.00		95.5	70-130			

## LCS (2328001-BS1)

Prepared: 07/10/23 Analyzed: 07/10/23

Benzene	5.06	0.0250	5.00		101	70-130			
Ethylbenzene	5.01	0.0250	5.00		100	70-130			
Toluene	5.08	0.0250	5.00		102	70-130			
o-Xylene	5.01	0.0250	5.00		100	70-130			
p,m-Xylene	10.2	0.0500	10.0		102	70-130			
Total Xylenes	15.2	0.0250	15.0		101	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.74		8.00		96.8	70-130			

## Matrix Spike (2328001-MS1)

Source: E307015-01

Prepared: 07/10/23 Analyzed: 07/10/23

Benzene	5.15	0.0250	5.00	ND	103	54-133			
Ethylbenzene	5.09	0.0250	5.00	ND	102	61-133			
Toluene	5.18	0.0250	5.00	ND	104	61-130			
o-Xylene	5.10	0.0250	5.00	ND	102	63-131			
p,m-Xylene	10.4	0.0500	10.0	ND	104	63-131			
Total Xylenes	15.5	0.0250	15.0	ND	103	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.74		8.00		96.7	70-130			

## Matrix Spike Dup (2328001-MSD1)

Source: E307015-01

Prepared: 07/10/23 Analyzed: 07/10/23

Benzene	4.95	0.0250	5.00	ND	99.0	54-133	3.95	20	
Ethylbenzene	4.89	0.0250	5.00	ND	97.9	61-133	3.92	20	
Toluene	4.97	0.0250	5.00	ND	99.3	61-130	4.15	20	
o-Xylene	4.91	0.0250	5.00	ND	98.2	63-131	3.82	20	
p,m-Xylene	9.98	0.0500	10.0	ND	99.8	63-131	3.71	20	
Total Xylenes	14.9	0.0250	15.0	ND	99.3	63-131	3.74	20	
Surrogate: 4-Bromochlorobenzene-PID	7.78		8.00		97.2	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/12/2023 10:47:17AM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2328001-BLK1) Prepared: 07/10/23 Analyzed: 07/10/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.10		8.00		88.8	70-130			

LCS (2328001-BS2) Prepared: 07/10/23 Analyzed: 07/10/23

Gasoline Range Organics (C6-C10)	40.9	20.0	50.0		81.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.15		8.00		89.4	70-130			

Matrix Spike (2328001-MS2) Source: E307015-01 Prepared: 07/10/23 Analyzed: 07/10/23

Gasoline Range Organics (C6-C10)	42.5	20.0	50.0	ND	85.0	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.97		8.00		87.1	70-130			

Matrix Spike Dup (2328001-MSD2) Source: E307015-01 Prepared: 07/10/23 Analyzed: 07/10/23

Gasoline Range Organics (C6-C10)	41.4	20.0	50.0	ND	82.9	70-130	2.52	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.05		8.00		88.1	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/12/2023 10:47:17AM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2328005-BLK1)					Prepared: 07/10/23 Analyzed: 07/10/23				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	51.1		50.0		102	50-200			

LCS (2328005-BS1)					Prepared: 07/10/23 Analyzed: 07/10/23				
Diesel Range Organics (C10-C28)	256	25.0	250		102	38-132			
Surrogate: n-Nonane	48.3		50.0		96.6	50-200			

Matrix Spike (2328005-MS1)					Source: E307015-01		Prepared: 07/10/23 Analyzed: 07/10/23		
Diesel Range Organics (C10-C28)	254	25.0	250	ND	102	38-132			
Surrogate: n-Nonane	46.7		50.0		93.3	50-200			

Matrix Spike Dup (2328005-MSD1)					Source: E307015-01		Prepared: 07/10/23 Analyzed: 07/10/23		
Diesel Range Organics (C10-C28)	259	25.0	250	ND	103	38-132	1.79	20	
Surrogate: n-Nonane	49.3		50.0		98.6	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/12/2023 10:47:17AM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2328006-BLK1)					Prepared: 07/10/23 Analyzed: 07/10/23				
Chloride	ND	20.0							
LCS (2328006-BS1)					Prepared: 07/10/23 Analyzed: 07/10/23				
Chloride	249	20.0	250		99.4	90-110			
Matrix Spike (2328006-MS1)					Source: E307015-01		Prepared: 07/10/23 Analyzed: 07/10/23		
Chloride	402	100	250	163	96.0	80-120			
Matrix Spike Dup (2328006-MSD1)					Source: E307015-01		Prepared: 07/10/23 Analyzed: 07/10/23		
Chloride	399	100	250	163	94.7	80-120	0.763	20	

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	RDX 17-25	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/12/23 10:47

- ND      Analyte NOT DETECTED at or above the reporting limit
- NR      Not Reported
- RPD      Relative Percent Difference
- DNI      Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



## Project Information

## Chain of Custody

Client: WPX Energy Permian LLC.		<b>Bill To</b>		<b>Lab Use Only</b>		<b>TAT</b>			<b>EPA Program</b>				
Project: RDX 17-25		Attention: Jim Raley		Lab WO#		Job Number		1D	2D	3D	Standard	CWA	SDWA
Project Manager: Gilbert Moreno		Address: 5315 Buena Vista Dr.		E307015		01058-0007					5 day TAT		
Address: 13000 W County Rd 100		City, State, Zip: Carlsbad, NM, 88220											RCRA
City, State, Zip: Odessa, TX, 79765		Phone: 575-885-7502											
Phone: (832) 541-7719		Email: jim.raley@dv.com											
Email: Devon-team@etechenv.com		WO: 21181900											
Collected by: Edyte Konan		Incident ID: nAB1712952339											

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	Depth (ft.)	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC	NM	GDOC	TX	Remarks
9:00	7/5/2023	S	1	FS01	1	4'						X				
9:10	7/5/2023	S	1	FS02	2	4'						X				
9:20	7/5/2023	S	1	FS03	3	4'						X				
9:30	7/5/2023	S	1	FS04	4	4'						X				
9:40	7/5/2023	S	1	FS05	5	4'						X				
9:50	7/5/2023	S	1	FS06	6	4'						X				
10:00	7/5/2023	S	1	FS07	7	4'						X				
10:10	7/5/2023	S	1	FS08	8	4'						X				
10:20	7/5/2023	S	1	FS09	9	4'						X				
10:30	7/5/2023	S	1	FS10	10	4'						X				

## Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: EK

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	<b>Lab Use Only</b> Received on ice: <input checked="" type="radio"/> Y <input type="radio"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
<i>[Signature]</i>	7.6.23	08:00	<i>Michelle Gonzalez</i>	7-6-23	0800	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
<i>Michelle Gonzalez</i>	7-6-23	1630	<i>Andrew MRSO</i>	7-7-23	1630	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
<i>Andrew MRSO</i>	7-7-23	2245	<i>Carth MRSO</i>	7/10/23	8:10	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above


**envirotech**

## Envirotech Analytical Laboratory

Printed: 7/10/2023 9:44:15AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	07/10/23 08:10	Work Order ID:	E307015
Phone:	(539) 573-4018	Date Logged In:	07/07/23 16:28	Logged In By:	Caitlin Mars
Email:	devon-team@ensolum.com	Due Date:	07/13/23 17:00 (3 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:

Gilbert Moreno



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

WPX Energy - Carlsbad

Project Name: RDX 17-25

Work Order: E307014

Job Number: 01058-0007

Received: 7/10/2023

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
7/12/23

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/12/23

Gilbert Moreno  
5315 Buena Vista Dr  
Carlsbad, NM 88220



Project Name: RDX 17-25  
Workorder: E307014  
Date Received: 7/10/2023 8:10:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/10/2023 8:10:00AM, under the Project Name: RDX 17-25.

The analytical test results summarized in this report with the Project Name: RDX 17-25 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

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**Lynn Jarboe**  
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**Rayny Hagan**  
Technical Representative  
Office: 505-421-LABS(5227)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported: 07/12/23 09:51
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW01 0 - 4'	E307014-01A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
SW02 0 - 4'	E307014-02A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/12/2023 9:51:53AM

SW01 0 - 4'

E307014-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328001	
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.6 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328001	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.5 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2328010	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/10/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/10/23	
<i>Surrogate: n-Nonane</i>						
	93.3 %	50-200		07/10/23	07/10/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2328004	
Chloride	133	100	5	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/12/2023 9:51:53AM

SW02 0 - 4'

E307014-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.4 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328001
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	87.3 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328010
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/10/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/10/23	
<i>Surrogate: n-Nonane</i>						
	94.4 %	50-200		07/10/23	07/10/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328004
Chloride	ND	200	10	07/10/23	07/10/23	



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/12/2023 9:51:53AM

## Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328001-BLK1)

Prepared: 07/10/23 Analyzed: 07/10/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.64		8.00		95.5	70-130			

## LCS (2328001-BS1)

Prepared: 07/10/23 Analyzed: 07/10/23

Benzene	5.06	0.0250	5.00		101	70-130			
Ethylbenzene	5.01	0.0250	5.00		100	70-130			
Toluene	5.08	0.0250	5.00		102	70-130			
o-Xylene	5.01	0.0250	5.00		100	70-130			
p,m-Xylene	10.2	0.0500	10.0		102	70-130			
Total Xylenes	15.2	0.0250	15.0		101	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.74		8.00		96.8	70-130			

## Matrix Spike (2328001-MS1)

Source: E307015-01

Prepared: 07/10/23 Analyzed: 07/10/23

Benzene	5.15	0.0250	5.00	ND	103	54-133			
Ethylbenzene	5.09	0.0250	5.00	ND	102	61-133			
Toluene	5.18	0.0250	5.00	ND	104	61-130			
o-Xylene	5.10	0.0250	5.00	ND	102	63-131			
p,m-Xylene	10.4	0.0500	10.0	ND	104	63-131			
Total Xylenes	15.5	0.0250	15.0	ND	103	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.74		8.00		96.7	70-130			

## Matrix Spike Dup (2328001-MSD1)

Source: E307015-01

Prepared: 07/10/23 Analyzed: 07/10/23

Benzene	4.95	0.0250	5.00	ND	99.0	54-133	3.95	20	
Ethylbenzene	4.89	0.0250	5.00	ND	97.9	61-133	3.92	20	
Toluene	4.97	0.0250	5.00	ND	99.3	61-130	4.15	20	
o-Xylene	4.91	0.0250	5.00	ND	98.2	63-131	3.82	20	
p,m-Xylene	9.98	0.0500	10.0	ND	99.8	63-131	3.71	20	
Total Xylenes	14.9	0.0250	15.0	ND	99.3	63-131	3.74	20	
Surrogate: 4-Bromochlorobenzene-PID	7.78		8.00		97.2	70-130			



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/12/2023 9:51:53AM

## Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328001-BLK1)

Prepared: 07/10/23 Analyzed: 07/10/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.10		8.00		88.8	70-130			

## LCS (2328001-BS2)

Prepared: 07/10/23 Analyzed: 07/10/23

Gasoline Range Organics (C6-C10)	40.9	20.0	50.0		81.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.15		8.00		89.4	70-130			

## Matrix Spike (2328001-MS2)

Source: E307015-01

Prepared: 07/10/23 Analyzed: 07/10/23

Gasoline Range Organics (C6-C10)	42.5	20.0	50.0	ND	85.0	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.97		8.00		87.1	70-130			

## Matrix Spike Dup (2328001-MSD2)

Source: E307015-01

Prepared: 07/10/23 Analyzed: 07/10/23

Gasoline Range Organics (C6-C10)	41.4	20.0	50.0	ND	82.9	70-130	2.52	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.05		8.00		88.1	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/12/2023 9:51:53AM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2328010-BLK1)					Prepared: 07/10/23 Analyzed: 07/10/23				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	45.3		50.0		90.5	50-200			

LCS (2328010-BS1)					Prepared: 07/10/23 Analyzed: 07/10/23				
Diesel Range Organics (C10-C28)	256	25.0	250		102	38-132			
Surrogate: n-Nonane	45.8		50.0		91.6	50-200			

Matrix Spike (2328010-MS1)					Source: E307010-01		Prepared: 07/10/23 Analyzed: 07/11/23		
Diesel Range Organics (C10-C28)	20100	1250	250	21400	NR	38-132			M4
Surrogate: n-Nonane	64.7		50.0		129	50-200			

Matrix Spike Dup (2328010-MSD1)					Source: E307010-01		Prepared: 07/10/23 Analyzed: 07/11/23		
Diesel Range Organics (C10-C28)	21000	1250	250	21400	NR	38-132	4.67	20	M4
Surrogate: n-Nonane	66.9		50.0		134	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/12/2023 9:51:53AM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2328004-BLK1)					Prepared: 07/10/23 Analyzed: 07/10/23				
Chloride	ND	20.0							
LCS (2328004-BS1)					Prepared: 07/10/23 Analyzed: 07/10/23				
Chloride	251	20.0	250		101	90-110			
Matrix Spike (2328004-MS1)					Source: E307009-01		Prepared: 07/10/23 Analyzed: 07/10/23		
Chloride	24600	1000	250	24500	24.4	80-120			M5
Matrix Spike Dup (2328004-MSD1)					Source: E307009-01		Prepared: 07/10/23 Analyzed: 07/10/23		
Chloride	30300	1000	250	24500	NR	80-120	20.9	20	M5, R3

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



## Definitions and Notes

WPX Energy - Carlsbad	Project Name:	RDX 17-25	
5315 Buena Vista Dr	Project Number:	01058-0007	<b>Reported:</b>
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/12/23 09:51

M4	Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
M5	The analysis of the MS sample required a dilution such that the spike recovery calculation does not provide useful information. The associated LCS spike recovery was acceptable.
R3	The RPD exceeded the acceptance limit. LCS spike recovery met acceptance criteria.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



[illegible]

**Additional Instructions:**

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: EK

Sampled by: EK

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature) <i>Calderon</i>	Date 7.6.23	Time 08:00	Received by: (Signature) <i>Michelle Cuyler</i>	Date 7-6-23	Time 0800	Lab Use Only Received on ice: <input checked="" type="radio"/> Y / N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
Relinquished by: (Signature) <i>Michelle Cuyler</i>	Date 7-6-23	Time 1630	Received by: (Signature) <i>MSR mrs20</i>	Date 7-7-23	Time 1630	
Relinquished by: (Signature) <i>MSR mrs20</i>	Date 7.7.23	Time 2245	Received by: (Signature) <i>Carth Man</i>	Date 7/10/23	Time 8:10	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above

## Envirotech Analytical Laboratory

Printed: 7/10/2023 9:41:08AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	07/10/23 08:10	Work Order ID:	E307014
Phone:	(539) 573-4018	Date Logged In:	07/07/23 16:24	Logged In By:	Caitlin Mars
Email:	devon-team@ensolum.com	Due Date:	07/13/23 17:00 (3 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:  
Gilbert Moreno



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

WPX Energy - Carlsbad

Project Name: RDX 17 FEDERAL # 36H

Work Order: E307016

Job Number: 01058-0007

Received: 7/10/2023

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
7/13/23

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/13/23

Gilbert Moreno  
5315 Buena Vista Dr  
Carlsbad, NM 88220



Project Name: RDX 17 FEDERAL # 36H  
Workorder: E307016  
Date Received: 7/10/2023 8:10:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/10/2023 8:10:00AM, under the Project Name: RDX 17 FEDERAL # 36H.

The analytical test results summarized in this report with the Project Name: RDX 17 FEDERAL # 36H apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
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Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

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**Rayny Hagan**  
Technical Representative  
Office: 505-421-LABS(5227)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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## Sample Summary

WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220	Project Name: RDX 17 FEDERAL # 36H Project Number: 01058-0007 Project Manager: Gilbert Moreno	Reported: 07/13/23 08:33
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Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH01 0.5'	E307016-01A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
BH01 1'	E307016-02A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
BH02 0.5'	E307016-03A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
BH02 1'	E307016-04A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
BH03 0.5'	E307016-05A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
BH03 1'	E307016-06A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
BH04 0.5'	E307016-07A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.
BH04 1'	E307016-08A	Soil	07/05/23	07/10/23	Glass Jar, 2 oz.



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17 FEDERAL # 36H  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/13/2023 8:33:18AM

BH01 0.5'

E307016-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328002	
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.2 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328002	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	85.9 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2328005	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/10/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/10/23	
<i>Surrogate: n-Nonane</i>						
	98.9 %	50-200		07/10/23	07/10/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2328006	
Chloride	301	100	5	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17 FEDERAL # 36H  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/13/2023 8:33:18AM

## BH01 1'

## E307016-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2328002	
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	97.1 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: IY		Batch: 2328002	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	86.0 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: KM		Batch: 2328005	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/10/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/10/23	
<i>Surrogate: n-Nonane</i>	92.7 %	50-200		07/10/23	07/10/23	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: BA		Batch: 2328006	
Chloride	329	200	10	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17 FEDERAL # 36H  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/13/2023 8:33:18AM

BH02 0.5'

E307016-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328002
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.8 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328002
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	85.7 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/10/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/10/23	
<i>Surrogate: n-Nonane</i>						
	99.7 %	50-200		07/10/23	07/10/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328006
Chloride	ND	200	10	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17 FEDERAL # 36H  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/13/2023 8:33:18AM

## BH02 1'

## E307016-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328002
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.7 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328002
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	86.0 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/10/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/10/23	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		07/10/23	07/10/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328006
Chloride	ND	200	10	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17 FEDERAL # 36H  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/13/2023 8:33:18AM

BH03 0.5'

E307016-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328002
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.2 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328002
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	86.3 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328005
Diesel Range Organics (C10-C28)	940	25.0	1	07/10/23	07/10/23	
Oil Range Organics (C28-C36)	577	50.0	1	07/10/23	07/10/23	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		07/10/23	07/10/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328006
Chloride	269	100	5	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17 FEDERAL # 36H  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/13/2023 8:33:18AM

## BH03 1'

## E307016-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328002
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.1 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328002
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	86.8 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328005
Diesel Range Organics (C10-C28)	749	25.0	1	07/10/23	07/10/23	
Oil Range Organics (C28-C36)	517	50.0	1	07/10/23	07/10/23	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		07/10/23	07/10/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328006
Chloride	296	40.0	2	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17 FEDERAL # 36H  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/13/2023 8:33:18AM

BH04 0.5'

E307016-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328002
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.1 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328002
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	86.9 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/10/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/10/23	
<i>Surrogate: n-Nonane</i>						
	98.8 %	50-200		07/10/23	07/10/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328006
Chloride	37.2	20.0	1	07/10/23	07/10/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17 FEDERAL # 36H  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/13/2023 8:33:18AM

BH04 1'

E307016-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328002
Benzene	ND	0.0250	1	07/10/23	07/10/23	
Ethylbenzene	ND	0.0250	1	07/10/23	07/10/23	
Toluene	ND	0.0250	1	07/10/23	07/10/23	
o-Xylene	ND	0.0250	1	07/10/23	07/10/23	
p,m-Xylene	ND	0.0500	1	07/10/23	07/10/23	
Total Xylenes	ND	0.0250	1	07/10/23	07/10/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.8 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328002
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/10/23	07/10/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	86.7 %	70-130		07/10/23	07/10/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2328005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/10/23	07/10/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/10/23	07/10/23	
<i>Surrogate: n-Nonane</i>						
	101 %	50-200		07/10/23	07/10/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328006
Chloride	27.2	20.0	1	07/10/23	07/10/23	



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17 FEDERAL # 36H	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/13/2023 8:33:18AM

## Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328002-BLK1)

Prepared: 07/10/23 Analyzed: 07/10/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.67		8.00		95.9	70-130			

## LCS (2328002-BS1)

Prepared: 07/10/23 Analyzed: 07/10/23

Benzene	4.12	0.0250	5.00		82.4	70-130			
Ethylbenzene	4.01	0.0250	5.00		80.2	70-130			
Toluene	4.14	0.0250	5.00		82.8	70-130			
o-Xylene	4.13	0.0250	5.00		82.7	70-130			
p,m-Xylene	8.33	0.0500	10.0		83.3	70-130			
Total Xylenes	12.5	0.0250	15.0		83.1	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.85		8.00		98.2	70-130			

## Matrix Spike (2328002-MS1)

Source: E307016-03

Prepared: 07/10/23 Analyzed: 07/10/23

Benzene	4.87	0.0250	5.00	ND	97.3	54-133			
Ethylbenzene	4.77	0.0250	5.00	ND	95.5	61-133			
Toluene	4.91	0.0250	5.00	ND	98.3	61-130			
o-Xylene	4.92	0.0250	5.00	ND	98.5	63-131			
p,m-Xylene	9.90	0.0500	10.0	ND	99.0	63-131			
Total Xylenes	14.8	0.0250	15.0	ND	98.8	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.77		8.00		97.2	70-130			

## Matrix Spike Dup (2328002-MSD1)

Source: E307016-03

Prepared: 07/10/23 Analyzed: 07/10/23

Benzene	5.05	0.0250	5.00	ND	101	54-133	3.70	20	
Ethylbenzene	4.93	0.0250	5.00	ND	98.7	61-133	3.33	20	
Toluene	5.08	0.0250	5.00	ND	102	61-130	3.35	20	
o-Xylene	5.08	0.0250	5.00	ND	102	63-131	3.19	20	
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131	3.28	20	
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131	3.25	20	
Surrogate: 4-Bromochlorobenzene-PID	7.87		8.00		98.4	70-130			



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17 FEDERAL # 36H	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/13/2023 8:33:18AM

## Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328002-BLK1)

Prepared: 07/10/23 Analyzed: 07/10/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.91		8.00		86.4	70-130			

## LCS (2328002-BS2)

Prepared: 07/10/23 Analyzed: 07/10/23

Gasoline Range Organics (C6-C10)	46.8	20.0	50.0		93.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.04		8.00		88.0	70-130			

## Matrix Spike (2328002-MS2)

Source: E307016-03

Prepared: 07/10/23 Analyzed: 07/10/23

Gasoline Range Organics (C6-C10)	44.7	20.0	50.0	ND	89.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.98		8.00		87.2	70-130			

## Matrix Spike Dup (2328002-MSD2)

Source: E307016-03

Prepared: 07/10/23 Analyzed: 07/10/23

Gasoline Range Organics (C6-C10)	47.1	20.0	50.0	ND	94.2	70-130	5.38	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.01		8.00		87.6	70-130			



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17 FEDERAL # 36H	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/13/2023 8:33:18AM

## Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328005-BLK1)

Prepared: 07/10/23 Analyzed: 07/10/23

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	51.1		50.0		102	50-200			

## LCS (2328005-BS1)

Prepared: 07/10/23 Analyzed: 07/10/23

Diesel Range Organics (C10-C28)	256	25.0	250		102	38-132			
Surrogate: n-Nonane	48.3		50.0		96.6	50-200			

## Matrix Spike (2328005-MS1)

Source: E307015-01

Prepared: 07/10/23 Analyzed: 07/10/23

Diesel Range Organics (C10-C28)	254	25.0	250	ND	102	38-132			
Surrogate: n-Nonane	46.7		50.0		93.3	50-200			

## Matrix Spike Dup (2328005-MSD1)

Source: E307015-01

Prepared: 07/10/23 Analyzed: 07/10/23

Diesel Range Organics (C10-C28)	259	25.0	250	ND	103	38-132	1.79	20	
Surrogate: n-Nonane	49.3		50.0		98.6	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17 FEDERAL # 36H	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/13/2023 8:33:18AM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2328006-BLK1)					Prepared: 07/10/23 Analyzed: 07/10/23				
Chloride	ND	20.0							
LCS (2328006-BS1)					Prepared: 07/10/23 Analyzed: 07/10/23				
Chloride	249	20.0	250		99.4	90-110			
Matrix Spike (2328006-MS1)					Source: E307015-01		Prepared: 07/10/23 Analyzed: 07/10/23		
Chloride	402	100	250	163	96.0	80-120			
Matrix Spike Dup (2328006-MSD1)					Source: E307015-01		Prepared: 07/10/23 Analyzed: 07/10/23		
Chloride	399	100	250	163	94.7	80-120	0.763	20	

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	RDX 17 FEDERAL # 36H	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/13/23 08:33

- ND      Analyte NOT DETECTED at or above the reporting limit
- NR      Not Reported
- RPD      Relative Percent Difference
- DNI      Did Not Ignite


Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



## Project Information

## Chain of Custody

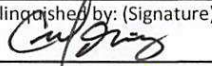

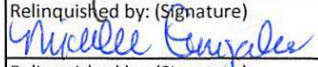
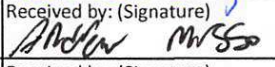
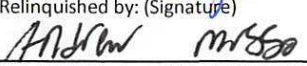
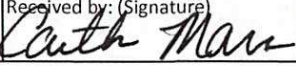
Client: WPX Energy Permian LLC.				<b>Bill To</b>		Lab Use Only				TAT				EPA Program				
Project: RDX 17 FEDERAL #36H				Attention: Jim Raley		Lab WO#		Job Number		1D	2D	3D	Standard	CWA	SDWA			
Project Manager: Gilbert Moreno				Address: 5315 Buena Vista Dr.		E307916		Q1058-0007					5 day TAT					
Address: 13000 W County Rd 100				City, State, Zip: Carlsbad, NM, 88220		Analysis and Method										RCRA		
City, State, Zip: Odessa, TX, 79765				Phone: 575-885-7502		Depth (ft.)	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	GDOC TX	State				
Phone: (832) 541-7719				Email: jim.raley@dvn.com										NM	CO	UT	AZ	TX
Email: Devon-team@etechenv.com				WO: 21181922														
Collected by: Edyte Konan				Incident ID: NRM2017643736										Remarks				
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number													
11:00	7/5/2023	S	1	BH01	1	0.5'						X						
11:10	7/5/2023	S	1	BH01	2	1'						X						
11:20	7/5/2023	S	1	BH02	3	0.5'						X						
11:30	7/5/2023	S	1	BH02	4	1'						X						
11:40	7/5/2023	S	1	BH03	5	0.5'						X						
11:50	7/5/2023	S	1	BH03	6	1'						X						
12:00	7/5/2023	S	1	BH04	7	0.5'						X						
12:10	7/5/2023	S	1	BH04	8	1'						X						
																		

## Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: EK

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only Received on ice: <input checked="" type="radio"/> Y / <input type="radio"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
	7-6-23	08:00		7-6-23	0800	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
	7-6-23	1630		7-7-23	1630	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
	7-7-23	2245		7/10/23	8:10	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above



## Envirotech Analytical Laboratory

Printed: 7/10/2023 9:45:55AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	07/10/23 08:10	Work Order ID:	E307016
Phone:	(539) 573-4018	Date Logged In:	07/07/23 16:43	Logged In By:	Caitlin Mars
Email:	devon-team@ensolum.com	Due Date:	07/13/23 17:00 (3 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

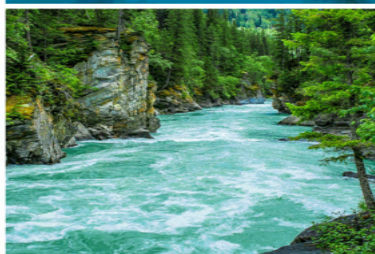
Date



envirotech Inc.

Report to:

Gilbert Moreno



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

WPX Energy - Carlsbad

Project Name: RDX 17-25

Work Order: E307053

Job Number: 01058-0007

Received: 7/14/2023

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
7/19/23

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/19/23

Gilbert Moreno  
5315 Buena Vista Dr  
Carlsbad, NM 88220



Project Name: RDX 17-25  
Workorder: E307053  
Date Received: 7/14/2023 8:35:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/14/2023 8:35:00AM, under the Project Name: RDX 17-25.

The analytical test results summarized in this report with the Project Name: RDX 17-25 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
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[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
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**Alexa Michaels**  
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Field Offices:

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**Lynn Jarboe**  
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**West Texas Midland/Odessa Area**  
**Rayny Hagan**  
Technical Representative  
Office: 505-421-LABS(5227)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported: 07/19/23 15:57
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS11 4'	E307053-01A	Soil	07/13/23	07/14/23	Glass Jar, 2 oz.
FS12 4'	E307053-02A	Soil	07/13/23	07/14/23	Glass Jar, 2 oz.
FS13 4'	E307053-03A	Soil	07/13/23	07/14/23	Glass Jar, 2 oz.



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/19/2023 3:57:29PM

## FS11 4'

## E307053-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328065
Benzene	ND	0.0250	1	07/14/23	07/17/23	
Ethylbenzene	ND	0.0250	1	07/14/23	07/17/23	
Toluene	ND	0.0250	1	07/14/23	07/17/23	
o-Xylene	ND	0.0250	1	07/14/23	07/17/23	
p,m-Xylene	ND	0.0500	1	07/14/23	07/17/23	
Total Xylenes	ND	0.0250	1	07/14/23	07/17/23	
Surrogate: 4-Bromochlorobenzene-PID	98.6 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328065
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/14/23	07/17/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	82.5 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2329005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/17/23	07/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/17/23	07/17/23	
Surrogate: n-Nonane	102 %	50-200		07/17/23	07/17/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328061
Chloride	2200	20.0	1	07/14/23	07/17/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/19/2023 3:57:29PM

FS12 4'

E307053-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328065
Benzene	ND	0.0250	1	07/14/23	07/17/23	
Ethylbenzene	ND	0.0250	1	07/14/23	07/17/23	
Toluene	ND	0.0250	1	07/14/23	07/17/23	
o-Xylene	ND	0.0250	1	07/14/23	07/17/23	
p,m-Xylene	ND	0.0500	1	07/14/23	07/17/23	
Total Xylenes	ND	0.0250	1	07/14/23	07/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328065
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/14/23	07/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		81.4 %	70-130	07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2329005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/17/23	07/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/17/23	07/17/23	
<i>Surrogate: n-Nonane</i>						
		106 %	50-200	07/17/23	07/17/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328061
Chloride	3920	40.0	2	07/14/23	07/17/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/19/2023 3:57:29PM

FS13 4'

E307053-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328065	
Benzene	ND	0.0250	1	07/14/23	07/17/23	
Ethylbenzene	ND	0.0250	1	07/14/23	07/17/23	
Toluene	ND	0.0250	1	07/14/23	07/17/23	
o-Xylene	ND	0.0250	1	07/14/23	07/17/23	
p,m-Xylene	ND	0.0500	1	07/14/23	07/17/23	
Total Xylenes	ND	0.0250	1	07/14/23	07/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328065	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/14/23	07/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		81.8 %	70-130	07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2329005	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/17/23	07/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/17/23	07/17/23	
<i>Surrogate: n-Nonane</i>						
		101 %	50-200	07/17/23	07/17/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2328061	
Chloride	2740	40.0	2	07/14/23	07/17/23	



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 3:57:29PM

## Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328065-BLK1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.68		8.00		96.0	70-130			

## LCS (2328065-BS1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	4.82	0.0250	5.00		96.5	70-130			
Ethylbenzene	4.71	0.0250	5.00		94.2	70-130			
Toluene	4.86	0.0250	5.00		97.1	70-130			
o-Xylene	4.85	0.0250	5.00		97.1	70-130			
p,m-Xylene	9.77	0.0500	10.0		97.7	70-130			
Total Xylenes	14.6	0.0250	15.0		97.5	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.84		8.00		98.0	70-130			

## Matrix Spike (2328065-MS1)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	5.06	0.0250	5.00	ND	101	54-133			
Ethylbenzene	4.93	0.0250	5.00	ND	98.6	61-133			
Toluene	5.09	0.0250	5.00	ND	102	61-130			
o-Xylene	5.09	0.0250	5.00	ND	102	63-131			
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131			
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.91		8.00		98.9	70-130			

## Matrix Spike Dup (2328065-MSD1)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	5.00	0.0250	5.00	ND	100	54-133	1.20	20	
Ethylbenzene	4.89	0.0250	5.00	ND	97.7	61-133	0.905	20	
Toluene	5.03	0.0250	5.00	ND	101	61-130	1.15	20	
o-Xylene	5.04	0.0250	5.00	ND	101	63-131	1.03	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	1.10	20	
Total Xylenes	15.2	0.0250	15.0	ND	101	63-131	1.07	20	
Surrogate: 4-Bromochlorobenzene-PID	7.97		8.00		99.6	70-130			



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 3:57:29PM

## Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328065-BLK1)

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.59		8.00		82.4	70-130			

## LCS (2328065-BS2)

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	47.2	20.0	50.0		94.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.77		8.00		84.6	70-130			

## Matrix Spike (2328065-MS2)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	45.2	20.0	50.0	ND	90.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.65		8.00		83.2	70-130			

## Matrix Spike Dup (2328065-MSD2)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	44.9	20.0	50.0	ND	89.8	70-130	0.677	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.72		8.00		83.9	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 3:57:29PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2329005-BLK1)					Prepared: 07/17/23 Analyzed: 07/17/23				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	56.0		50.0		112	50-200			

LCS (2329005-BS1)					Prepared: 07/17/23 Analyzed: 07/17/23				
Diesel Range Organics (C10-C28)	253	25.0	250		101	38-132			
Surrogate: n-Nonane	49.9		50.0		99.7	50-200			

Matrix Spike (2329005-MS1)					Source: E307053-03		Prepared: 07/17/23 Analyzed: 07/17/23		
Diesel Range Organics (C10-C28)	250	25.0	250	ND	99.9	38-132			
Surrogate: n-Nonane	47.3		50.0		94.7	50-200			

Matrix Spike Dup (2329005-MSD1)					Source: E307053-03		Prepared: 07/17/23 Analyzed: 07/17/23		
Diesel Range Organics (C10-C28)	252	25.0	250	ND	101	38-132	0.940	20	
Surrogate: n-Nonane	45.0		50.0		90.1	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 3:57:29PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2328061-BLK1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	ND	20.0							
LCS (2328061-BS1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	250	20.0	250		100	90-110			
Matrix Spike (2328061-MS1)					Source: E307052-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	1580	40.0	250	1280	117	80-120			
Matrix Spike Dup (2328061-MSD1)					Source: E307052-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	1590	40.0	250	1280	121	80-120	0.675	20	M2

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	RDX 17-25	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/19/23 15:57

- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

[illegible]

**Additional Instructions:**

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: \_\_\_\_\_

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature) <i>[Signature]</i>	Date 07/13/2023	Time 14:20	Received by: (Signature) <i>Michelle Campala</i>	Date 7-13-23	Time 1420	Lab Use Only Received on ice: <input checked="" type="radio"/> Y <input type="radio"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
Relinquished by: (Signature) <i>Michelle Campala</i>	Date 7-13-23	Time 1700	Received by: (Signature) <i>Allen Messo</i>	Date 7-13-23	Time 1700	
Relinquished by: (Signature) <i>Allen Messo</i>	Date 7-13-23	Time 2330	Received by: (Signature) <i>Caitlin Man</i>	Date 7/14/23	Time 8:35	
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other						Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, **v** - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

## Envirotech Analytical Laboratory

Printed: 7/14/2023 9:37:58AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	07/14/23 08:35	Work Order ID:	E307053
Phone:	(539) 573-4018	Date Logged In:	07/13/23 15:50	Logged In By:	Alexa Michaels
Email:	devon-team@ensolum.com	Due Date:	07/20/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

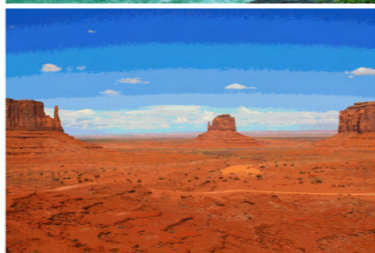
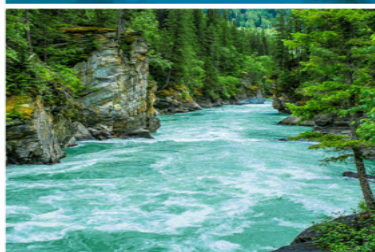
Date



envirotech Inc.

Report to:

Gilbert Moreno



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

WPX Energy - Carlsbad

Project Name: RDX 17 FEDERAL # 36H

Work Order: E307054

Job Number: 01058-0007

Received: 7/14/2023

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
7/19/23

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/19/23

Gilbert Moreno  
5315 Buena Vista Dr  
Carlsbad, NM 88220



Project Name: RDX 17 FEDERAL # 36H  
Workorder: E307054  
Date Received: 7/14/2023 8:35:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/14/2023 8:35:00AM, under the Project Name: RDX 17 FEDERAL # 36H.

The analytical test results summarized in this report with the Project Name: RDX 17 FEDERAL # 36H apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
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[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

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**West Texas Midland/Odessa Area**  
**Rayny Hagan**  
Technical Representative  
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Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

WPX Energy - Carlsbad	Project Name:	RDX 17 FEDERAL # 36H	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/19/23 15:59

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH05 0.5'	E307054-01A	Soil	07/13/23	07/14/23	Glass Jar, 2 oz.
BH05 1'	E307054-02A	Soil	07/13/23	07/14/23	Glass Jar, 2 oz.



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17 FEDERAL # 36H  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/19/2023 3:59:00PM

BH05 0.5'

E307054-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328065	
Benzene	ND	0.0250	1	07/14/23	07/17/23	
Ethylbenzene	ND	0.0250	1	07/14/23	07/17/23	
Toluene	ND	0.0250	1	07/14/23	07/17/23	
o-Xylene	ND	0.0250	1	07/14/23	07/17/23	
p,m-Xylene	ND	0.0500	1	07/14/23	07/17/23	
Total Xylenes	ND	0.0250	1	07/14/23	07/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328065	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/14/23	07/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		81.8 %	70-130	07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2329005	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/17/23	07/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/17/23	07/17/23	
<i>Surrogate: n-Nonane</i>						
		97.5 %	50-200	07/17/23	07/17/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2328061	
Chloride	ND	200	10	07/14/23	07/18/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17 FEDERAL # 36H  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/19/2023 3:59:00PM

BH05 1'

E307054-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328065	
Benzene	ND	0.0250	1	07/14/23	07/17/23	
Ethylbenzene	ND	0.0250	1	07/14/23	07/17/23	
Toluene	ND	0.0250	1	07/14/23	07/17/23	
o-Xylene	ND	0.0250	1	07/14/23	07/17/23	
p,m-Xylene	ND	0.0500	1	07/14/23	07/17/23	
Total Xylenes	ND	0.0250	1	07/14/23	07/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328065	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/14/23	07/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		82.2 %	70-130	07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2329005	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/17/23	07/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/17/23	07/17/23	
<i>Surrogate: n-Nonane</i>						
		91.3 %	50-200	07/17/23	07/17/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2328061	
Chloride	106	100	5	07/14/23	07/18/23	



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17 FEDERAL # 36H	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 3:59:00PM

## Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328065-BLK1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.68		8.00		96.0	70-130			

## LCS (2328065-BS1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	4.82	0.0250	5.00		96.5	70-130			
Ethylbenzene	4.71	0.0250	5.00		94.2	70-130			
Toluene	4.86	0.0250	5.00		97.1	70-130			
o-Xylene	4.85	0.0250	5.00		97.1	70-130			
p,m-Xylene	9.77	0.0500	10.0		97.7	70-130			
Total Xylenes	14.6	0.0250	15.0		97.5	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.84		8.00		98.0	70-130			

## Matrix Spike (2328065-MS1)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	5.06	0.0250	5.00	ND	101	54-133			
Ethylbenzene	4.93	0.0250	5.00	ND	98.6	61-133			
Toluene	5.09	0.0250	5.00	ND	102	61-130			
o-Xylene	5.09	0.0250	5.00	ND	102	63-131			
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131			
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.91		8.00		98.9	70-130			

## Matrix Spike Dup (2328065-MSD1)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	5.00	0.0250	5.00	ND	100	54-133	1.20	20	
Ethylbenzene	4.89	0.0250	5.00	ND	97.7	61-133	0.905	20	
Toluene	5.03	0.0250	5.00	ND	101	61-130	1.15	20	
o-Xylene	5.04	0.0250	5.00	ND	101	63-131	1.03	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	1.10	20	
Total Xylenes	15.2	0.0250	15.0	ND	101	63-131	1.07	20	
Surrogate: 4-Bromochlorobenzene-PID	7.97		8.00		99.6	70-130			



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17 FEDERAL # 36H	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 3:59:00PM

## Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328065-BLK1)

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.59		8.00		82.4	70-130			

## LCS (2328065-BS2)

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	47.2	20.0	50.0		94.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.77		8.00		84.6	70-130			

## Matrix Spike (2328065-MS2)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	45.2	20.0	50.0	ND	90.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.65		8.00		83.2	70-130			

## Matrix Spike Dup (2328065-MSD2)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	44.9	20.0	50.0	ND	89.8	70-130	0.677	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.72		8.00		83.9	70-130			



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17 FEDERAL # 36H	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 3:59:00PM

## Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2329005-BLK1)

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	56.0		50.0		112	50-200			

## LCS (2329005-BS1)

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	253	25.0	250		101	38-132			
Surrogate: n-Nonane	49.9		50.0		99.7	50-200			

## Matrix Spike (2329005-MS1)

Source: E307053-03

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	250	25.0	250	ND	99.9	38-132			
Surrogate: n-Nonane	47.3		50.0		94.7	50-200			

## Matrix Spike Dup (2329005-MSD1)

Source: E307053-03

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	252	25.0	250	ND	101	38-132	0.940	20	
Surrogate: n-Nonane	45.0		50.0		90.1	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17 FEDERAL # 36H	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 3:59:00PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2328061-BLK1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	ND	20.0							
LCS (2328061-BS1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	250	20.0	250		100	90-110			
Matrix Spike (2328061-MS1)					Source: E307052-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	1580	40.0	250	1280	117	80-120			
Matrix Spike Dup (2328061-MSD1)					Source: E307052-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	1590	40.0	250	1280	121	80-120	0.675	20	M2

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	RDX 17 FEDERAL # 36H	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/19/23 15:59

- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



[illegible]

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.	Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.
---	---

Sample Matrix: **S** - Soil, **Sd** - Solid, **Sg** - Sludge, **A** - Aqueous, **O** - Other \_\_\_\_\_ Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, **v** - VOA



## Envirotech Analytical Laboratory

Printed: 7/14/2023 9:42:45AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	07/14/23 08:35	Work Order ID:	E307054
Phone:	(539) 573-4018	Date Logged In:	07/13/23 15:52	Logged In By:	Alexa Michaels
Email:	devon-team@ensolum.com	Due Date:	07/20/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:

Gilbert Moreno



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

WPX Energy - Carlsbad

Project Name: RDX 17-25

Work Order: E307055

Job Number: 01058-0007

Received: 7/14/2023

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
7/19/23

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/19/23

Gilbert Moreno  
5315 Buena Vista Dr  
Carlsbad, NM 88220



Project Name: RDX 17-25  
Workorder: E307055  
Date Received: 7/14/2023 8:35:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/14/2023 8:35:00AM, under the Project Name: RDX 17-25.

The analytical test results summarized in this report with the Project Name: RDX 17-25 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
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Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
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Sample Custody Officer  
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**Rayny Hagan**  
Technical Representative  
Office: 505-421-LABS(5227)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/19/23 16:00

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW06 0-4'	E307055-01A	Soil	07/13/23	07/14/23	Glass Jar, 2 oz.



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/19/2023 4:00:43PM

SW06 0-4'

E307055-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328065	
Benzene	ND	0.0250	1	07/14/23	07/17/23	
Ethylbenzene	ND	0.0250	1	07/14/23	07/17/23	
Toluene	ND	0.0250	1	07/14/23	07/17/23	
o-Xylene	ND	0.0250	1	07/14/23	07/17/23	
p,m-Xylene	ND	0.0500	1	07/14/23	07/17/23	
Total Xylenes	ND	0.0250	1	07/14/23	07/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	101 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328065	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/14/23	07/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	81.7 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2329005	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/17/23	07/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/17/23	07/17/23	
<i>Surrogate: n-Nonane</i>						
	94.9 %	50-200		07/17/23	07/17/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2328061	
Chloride	ND	100	5	07/14/23	07/18/23	



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:00:43PM

## Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328065-BLK1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.68		8.00		96.0	70-130			

## LCS (2328065-BS1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	4.82	0.0250	5.00		96.5	70-130			
Ethylbenzene	4.71	0.0250	5.00		94.2	70-130			
Toluene	4.86	0.0250	5.00		97.1	70-130			
o-Xylene	4.85	0.0250	5.00		97.1	70-130			
p,m-Xylene	9.77	0.0500	10.0		97.7	70-130			
Total Xylenes	14.6	0.0250	15.0		97.5	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.84		8.00		98.0	70-130			

## Matrix Spike (2328065-MS1)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	5.06	0.0250	5.00	ND	101	54-133			
Ethylbenzene	4.93	0.0250	5.00	ND	98.6	61-133			
Toluene	5.09	0.0250	5.00	ND	102	61-130			
o-Xylene	5.09	0.0250	5.00	ND	102	63-131			
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131			
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.91		8.00		98.9	70-130			

## Matrix Spike Dup (2328065-MSD1)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	5.00	0.0250	5.00	ND	100	54-133	1.20	20	
Ethylbenzene	4.89	0.0250	5.00	ND	97.7	61-133	0.905	20	
Toluene	5.03	0.0250	5.00	ND	101	61-130	1.15	20	
o-Xylene	5.04	0.0250	5.00	ND	101	63-131	1.03	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	1.10	20	
Total Xylenes	15.2	0.0250	15.0	ND	101	63-131	1.07	20	
Surrogate: 4-Bromochlorobenzene-PID	7.97		8.00		99.6	70-130			



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:00:43PM

## Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328065-BLK1)

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.59		8.00		82.4	70-130			

## LCS (2328065-BS2)

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	47.2	20.0	50.0		94.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.77		8.00		84.6	70-130			

## Matrix Spike (2328065-MS2)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	45.2	20.0	50.0	ND	90.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.65		8.00		83.2	70-130			

## Matrix Spike Dup (2328065-MSD2)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	44.9	20.0	50.0	ND	89.8	70-130	0.677	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.72		8.00		83.9	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:00:43PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2329005-BLK1) Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	56.0		50.0		112	50-200			

LCS (2329005-BS1) Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	253	25.0	250		101	38-132			
Surrogate: n-Nonane	49.9		50.0		99.7	50-200			

Matrix Spike (2329005-MS1) Source: E307053-03 Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	250	25.0	250	ND	99.9	38-132			
Surrogate: n-Nonane	47.3		50.0		94.7	50-200			

Matrix Spike Dup (2329005-MSD1) Source: E307053-03 Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	252	25.0	250	ND	101	38-132	0.940	20	
Surrogate: n-Nonane	45.0		50.0		90.1	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:00:43PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2328061-BLK1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	ND	20.0							
LCS (2328061-BS1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	250	20.0	250		100	90-110			
Matrix Spike (2328061-MS1)					Source: E307052-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	1580	40.0	250	1280	117	80-120			
Matrix Spike Dup (2328061-MSD1)					Source: E307052-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	1590	40.0	250	1280	121	80-120	0.675	20	M2

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	RDX 17-25	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/19/23 16:00

- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

[illegible]

## Envirotech Analytical Laboratory

Printed: 7/14/2023 9:49:17AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	07/14/23 08:35	Work Order ID:	E307055
Phone:	(539) 573-4018	Date Logged In:	07/13/23 15:54	Logged In By:	Alexa Michaels
Email:	devon-team@ensolum.com	Due Date:	07/20/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:

Gilbert Moreno



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

WPX Energy - Carlsbad

Project Name: RDX 17-25

Work Order: E307056

Job Number: 01058-0007

Received: 7/14/2023

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
7/19/23

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/19/23

Gilbert Moreno  
5315 Buena Vista Dr  
Carlsbad, NM 88220



Project Name: RDX 17-25  
Workorder: E307056  
Date Received: 7/14/2023 8:35:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/14/2023 8:35:00AM, under the Project Name: RDX 17-25.

The analytical test results summarized in this report with the Project Name: RDX 17-25 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
Laboratory Administrator  
Office: 505-632-1881  
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**Rayny Hagan**  
Technical Representative  
Office: 505-421-LABS(5227)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/19/23 16:04

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS15 4'	E307056-01A	Soil	07/13/23	07/14/23	Glass Jar, 2 oz.



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/19/2023 4:04:36PM

## FS15 4'

## E307056-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328065	
Benzene	ND	0.0250	1	07/14/23	07/17/23	
Ethylbenzene	ND	0.0250	1	07/14/23	07/17/23	
Toluene	ND	0.0250	1	07/14/23	07/17/23	
o-Xylene	ND	0.0250	1	07/14/23	07/17/23	
p,m-Xylene	ND	0.0500	1	07/14/23	07/17/23	
Total Xylenes	ND	0.0250	1	07/14/23	07/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	101 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328065	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/14/23	07/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	82.0 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2329005	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/17/23	07/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/17/23	07/17/23	
<i>Surrogate: n-Nonane</i>						
	95.1 %	50-200		07/17/23	07/17/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2328061	
Chloride	251	20.0	1	07/14/23	07/18/23	



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:04:36PM

## Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328065-BLK1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.68		8.00		96.0	70-130			

## LCS (2328065-BS1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	4.82	0.0250	5.00		96.5	70-130			
Ethylbenzene	4.71	0.0250	5.00		94.2	70-130			
Toluene	4.86	0.0250	5.00		97.1	70-130			
o-Xylene	4.85	0.0250	5.00		97.1	70-130			
p,m-Xylene	9.77	0.0500	10.0		97.7	70-130			
Total Xylenes	14.6	0.0250	15.0		97.5	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.84		8.00		98.0	70-130			

## Matrix Spike (2328065-MS1)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	5.06	0.0250	5.00	ND	101	54-133			
Ethylbenzene	4.93	0.0250	5.00	ND	98.6	61-133			
Toluene	5.09	0.0250	5.00	ND	102	61-130			
o-Xylene	5.09	0.0250	5.00	ND	102	63-131			
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131			
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.91		8.00		98.9	70-130			

## Matrix Spike Dup (2328065-MSD1)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	5.00	0.0250	5.00	ND	100	54-133	1.20	20	
Ethylbenzene	4.89	0.0250	5.00	ND	97.7	61-133	0.905	20	
Toluene	5.03	0.0250	5.00	ND	101	61-130	1.15	20	
o-Xylene	5.04	0.0250	5.00	ND	101	63-131	1.03	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	1.10	20	
Total Xylenes	15.2	0.0250	15.0	ND	101	63-131	1.07	20	
Surrogate: 4-Bromochlorobenzene-PID	7.97		8.00		99.6	70-130			



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:04:36PM

## Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328065-BLK1)

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.59		8.00		82.4	70-130			

## LCS (2328065-BS2)

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	47.2	20.0	50.0		94.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.77		8.00		84.6	70-130			

## Matrix Spike (2328065-MS2)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	45.2	20.0	50.0	ND	90.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.65		8.00		83.2	70-130			

## Matrix Spike Dup (2328065-MSD2)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	44.9	20.0	50.0	ND	89.8	70-130	0.677	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.72		8.00		83.9	70-130			



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:04:36PM

## Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2329005-BLK1)

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	56.0		50.0		112	50-200			

## LCS (2329005-BS1)

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	253	25.0	250		101	38-132			
Surrogate: n-Nonane	49.9		50.0		99.7	50-200			

## Matrix Spike (2329005-MS1)

Source: E307053-03

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	250	25.0	250	ND	99.9	38-132			
Surrogate: n-Nonane	47.3		50.0		94.7	50-200			

## Matrix Spike Dup (2329005-MSD1)

Source: E307053-03

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	252	25.0	250	ND	101	38-132	0.940	20	
Surrogate: n-Nonane	45.0		50.0		90.1	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:04:36PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2328061-BLK1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	ND	20.0							
LCS (2328061-BS1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	250	20.0	250		100	90-110			
Matrix Spike (2328061-MS1)					Source: E307052-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	1580	40.0	250	1280	117	80-120			
Matrix Spike Dup (2328061-MSD1)					Source: E307052-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	1590	40.0	250	1280	121	80-120	0.675	20	M2

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	RDX 17-25	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/19/23 16:04

- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



## Project Information

## Chain of Custody

Client: WPX Energy Permian LLC.		<b>Bill To</b>		<b>Lab Use Only</b>		<b>TAT</b>		<b>EPA Program</b>	
Project: RDX 17-25		Attention: Jim Raley		Lab WO#		1D		CWA	
Project Manager: Gilbert Moreno		Address: 5315 Buena Vista Dr.		E307054		2D		SDWA	
Address: 13000 W County Rd 100		City, State, Zip: Carlsbad, NM, 88220		Job Number		3D		Standard	
City, State, Zip: Odessa, TX, 79765		Phone: 575-885-7502		01058-0007		5 day TAT			
Phone: (832) 541-7719		Email: jim.raley@dnv.com		Analysis and Method					
Email: Devon-team@etechnv.com		WO: 21181900		RCRA					
Collected by: Edyte Konan		Incident ID: nAB1712952339		State					

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	Depth (ft.)	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	GDGC TX	Remarks
10:40	7/13/2023	S	1	FS15	1	4'						X		

## Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by:

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only Received on ice: <input checked="" type="radio"/> Y / <input type="radio"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
<i>[Signature]</i>	07/13/2023	14:20	<i>Michelle Gungah</i>	7-13-23	14:20	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
<i>Michelle Gungah</i>	7-13-23	1700	<i>Melissa Messo</i>	7-13-23	1700	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
<i>Melissa Messo</i>	7-13-23	2330	<i>Carla Mann</i>	7/14/23	8:35	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other \_\_\_\_\_

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



## Envirotech Analytical Laboratory

Printed: 7/14/2023 9:53:18AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	07/14/23 08:35	Work Order ID:	E307056
Phone:	(539) 573-4018	Date Logged In:	07/13/23 16:02	Logged In By:	Alexa Michaels
Email:	devon-team@ensolum.com	Due Date:	07/20/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:  
Gilbert Moreno



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

WPX Energy - Carlsbad

Project Name: RDX 17-25

Work Order: E307057

Job Number: 01058-0007

Received: 7/14/2023

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
7/19/23

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/19/23

Gilbert Moreno  
5315 Buena Vista Dr  
Carlsbad, NM 88220



Project Name: RDX 17-25  
Workorder: E307057  
Date Received: 7/14/2023 8:35:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/14/2023 8:35:00AM, under the Project Name: RDX 17-25.

The analytical test results summarized in this report with the Project Name: RDX 17-25 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
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**Alexa Michaels**  
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Office: 505-632-1881  
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Field Offices:

**Southern New Mexico Area**  
**Lynn Jarboe**  
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**West Texas Midland/Odessa Area**  
**Rayny Hagan**  
Technical Representative  
Office: 505-421-LABS(5227)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported: 07/19/23 16:14
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS14 4'	E307057-01A	Soil	07/13/23	07/14/23	Glass Jar, 2 oz.



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/19/2023 4:14:56PM

## FS14 4'

## E307057-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328065
Benzene	ND	0.0250	1	07/14/23	07/17/23	
Ethylbenzene	ND	0.0250	1	07/14/23	07/17/23	
Toluene	ND	0.0250	1	07/14/23	07/17/23	
o-Xylene	ND	0.0250	1	07/14/23	07/17/23	
p,m-Xylene	ND	0.0500	1	07/14/23	07/17/23	
Total Xylenes	ND	0.0250	1	07/14/23	07/17/23	
Surrogate: 4-Bromochlorobenzene-PID	100 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2328065
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/14/23	07/17/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	82.7 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: KM		Batch: 2329005
Diesel Range Organics (C10-C28)	ND	25.0	1	07/17/23	07/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/17/23	07/17/23	
Surrogate: n-Nonane	100 %	50-200		07/17/23	07/17/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2328061
Chloride	785	20.0	1	07/14/23	07/18/23	



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:14:56PM

## Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328065-BLK1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.68		8.00		96.0	70-130			

## LCS (2328065-BS1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	4.82	0.0250	5.00		96.5	70-130			
Ethylbenzene	4.71	0.0250	5.00		94.2	70-130			
Toluene	4.86	0.0250	5.00		97.1	70-130			
o-Xylene	4.85	0.0250	5.00		97.1	70-130			
p,m-Xylene	9.77	0.0500	10.0		97.7	70-130			
Total Xylenes	14.6	0.0250	15.0		97.5	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.84		8.00		98.0	70-130			

## Matrix Spike (2328065-MS1)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	5.06	0.0250	5.00	ND	101	54-133			
Ethylbenzene	4.93	0.0250	5.00	ND	98.6	61-133			
Toluene	5.09	0.0250	5.00	ND	102	61-130			
o-Xylene	5.09	0.0250	5.00	ND	102	63-131			
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131			
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.91		8.00		98.9	70-130			

## Matrix Spike Dup (2328065-MSD1)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	5.00	0.0250	5.00	ND	100	54-133	1.20	20	
Ethylbenzene	4.89	0.0250	5.00	ND	97.7	61-133	0.905	20	
Toluene	5.03	0.0250	5.00	ND	101	61-130	1.15	20	
o-Xylene	5.04	0.0250	5.00	ND	101	63-131	1.03	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	1.10	20	
Total Xylenes	15.2	0.0250	15.0	ND	101	63-131	1.07	20	
Surrogate: 4-Bromochlorobenzene-PID	7.97		8.00		99.6	70-130			



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:14:56PM

## Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328065-BLK1)

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.59		8.00		82.4	70-130			

## LCS (2328065-BS2)

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	47.2	20.0	50.0		94.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.77		8.00		84.6	70-130			

## Matrix Spike (2328065-MS2)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	45.2	20.0	50.0	ND	90.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.65		8.00		83.2	70-130			

## Matrix Spike Dup (2328065-MSD2)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	44.9	20.0	50.0	ND	89.8	70-130	0.677	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.72		8.00		83.9	70-130			



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:14:56PM

## Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2329005-BLK1)

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	56.0		50.0		112	50-200			

## LCS (2329005-BS1)

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	253	25.0	250		101	38-132			
Surrogate: n-Nonane	49.9		50.0		99.7	50-200			

## Matrix Spike (2329005-MS1)

Source: E307053-03

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	250	25.0	250	ND	99.9	38-132			
Surrogate: n-Nonane	47.3		50.0		94.7	50-200			

## Matrix Spike Dup (2329005-MSD1)

Source: E307053-03

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	252	25.0	250	ND	101	38-132	0.940	20	
Surrogate: n-Nonane	45.0		50.0		90.1	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:14:56PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2328061-BLK1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	ND	20.0							
LCS (2328061-BS1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	250	20.0	250		100	90-110			
Matrix Spike (2328061-MS1)					Source: E307052-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	1580	40.0	250	1280	117	80-120			
Matrix Spike Dup (2328061-MSD1)					Source: E307052-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	1590	40.0	250	1280	121	80-120	0.675	20	M2

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	RDX 17-25	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/19/23 16:14

- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Client: WPX Energy Permian LLC.	Bill To		Lab Use Only				TAT				EPA Program							
Project: RDX 17-25	Attention: Jim Raley		Lab WO#		Job Number		1D	2D	3D	Standard	CWA	SDWA						
Project Manager: Gilbert Moreno	Address: 5315 Buena Vista Dr.		E 307057		01058-0007					5 day TAT								
Address: 13000 W County Rd 100	City, State, Zip: Carlsbad, NM, 88220		Analysis and Method										RCRA					
City, State, Zip_Odessa,TX, 79765	Phone: 575-885-7502		t.) D/DRO/DRO by	8021	8260	5010	300.0		NM		TX		State					
Phone: (832) 541-7719	Email: jim.raley@dvn.com												NM	CO	UT	AZ	TX	
Email: Devon-team@etechenv.com	WO: 21181900																	
Collected by: Edyte Konan	Incident ID: nAB1712952339																	

[illegible]

## Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature) <i>[Signature]</i>	Date 07/13/2023	Time 14:20	Received by: (Signature) <i>[Signature]</i>	Date 7-13-23	Time 1420	Lab Use Only Received on ice: <input checked="" type="radio"/> Y / <input type="radio"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
Relinquished by: (Signature) <i>[Signature]</i>	Date 7-13-23	Time 1700	Received by: (Signature) <i>[Signature]</i>	Date 7.13.23	Time 1700	
Relinquished by: (Signature) <i>[Signature]</i>	Date 7.13.23	Time 2330	Received by: (Signature) <i>[Signature]</i>	Date 7/14/23	Time 8:35	
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____				Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA		

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

## Envirotech Analytical Laboratory

Printed: 7/14/2023 9:56:43AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	07/14/23 08:35	Work Order ID:	E307057
Phone:	(539) 573-4018	Date Logged In:	07/13/23 16:03	Logged In By:	Alexa Michaels
Email:	devon-team@ensolum.com	Due Date:	07/20/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:

Gilbert Moreno



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

WPX Energy - Carlsbad

Project Name: RDX 17-25

Work Order: E307058

Job Number: 01058-0007

Received: 7/14/2023

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
7/19/23

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/19/23

Gilbert Moreno  
5315 Buena Vista Dr  
Carlsbad, NM 88220



Project Name: RDX 17-25  
Workorder: E307058  
Date Received: 7/14/2023 8:35:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/14/2023 8:35:00AM, under the Project Name: RDX 17-25.

The analytical test results summarized in this report with the Project Name: RDX 17-25 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
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Office: 505-632-1881  
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[ljjarboe@envirotech-inc.com](mailto:ljjarboe@envirotech-inc.com)

**West Texas Midland/Odessa Area**  
**Rayny Hagan**  
Technical Representative  
Office: 505-421-LABS(5227)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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QC - Anions by EPA 300.0/9056A	9
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Sample Summary

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/19/23 16:16

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW05 0-4'	E307058-01A	Soil	07/13/23	07/14/23	Glass Jar, 2 oz.



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/19/2023 4:16:34PM

SW05 0-4'

E307058-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328065	
Benzene	ND	0.0250	1	07/14/23	07/17/23	
Ethylbenzene	ND	0.0250	1	07/14/23	07/17/23	
Toluene	ND	0.0250	1	07/14/23	07/17/23	
o-Xylene	ND	0.0250	1	07/14/23	07/17/23	
p,m-Xylene	ND	0.0500	1	07/14/23	07/17/23	
Total Xylenes	ND	0.0250	1	07/14/23	07/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.6 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328065	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/14/23	07/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	82.2 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2329005	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/17/23	07/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/17/23	07/17/23	
<i>Surrogate: n-Nonane</i>						
	96.4 %	50-200		07/17/23	07/17/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2328061	
Chloride	214	20.0	1	07/14/23	07/18/23	



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:16:34PM

## Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328065-BLK1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.68		8.00		96.0	70-130			

## LCS (2328065-BS1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	4.82	0.0250	5.00		96.5	70-130			
Ethylbenzene	4.71	0.0250	5.00		94.2	70-130			
Toluene	4.86	0.0250	5.00		97.1	70-130			
o-Xylene	4.85	0.0250	5.00		97.1	70-130			
p,m-Xylene	9.77	0.0500	10.0		97.7	70-130			
Total Xylenes	14.6	0.0250	15.0		97.5	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.84		8.00		98.0	70-130			

## Matrix Spike (2328065-MS1)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	5.06	0.0250	5.00	ND	101	54-133			
Ethylbenzene	4.93	0.0250	5.00	ND	98.6	61-133			
Toluene	5.09	0.0250	5.00	ND	102	61-130			
o-Xylene	5.09	0.0250	5.00	ND	102	63-131			
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131			
Total Xylenes	15.3	0.0250	15.0	ND	102	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.91		8.00		98.9	70-130			

## Matrix Spike Dup (2328065-MSD1)

Source: E307053-01

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	5.00	0.0250	5.00	ND	100	54-133	1.20	20	
Ethylbenzene	4.89	0.0250	5.00	ND	97.7	61-133	0.905	20	
Toluene	5.03	0.0250	5.00	ND	101	61-130	1.15	20	
o-Xylene	5.04	0.0250	5.00	ND	101	63-131	1.03	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	1.10	20	
Total Xylenes	15.2	0.0250	15.0	ND	101	63-131	1.07	20	
Surrogate: 4-Bromochlorobenzene-PID	7.97		8.00		99.6	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:16:34PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2328065-BLK1) Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.59		8.00		82.4	70-130			

LCS (2328065-BS2) Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	47.2	20.0	50.0		94.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.77		8.00		84.6	70-130			

Matrix Spike (2328065-MS2) Source: E307053-01 Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	45.2	20.0	50.0	ND	90.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.65		8.00		83.2	70-130			

Matrix Spike Dup (2328065-MSD2) Source: E307053-01 Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	44.9	20.0	50.0	ND	89.8	70-130	0.677	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.72		8.00		83.9	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:16:34PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2329005-BLK1) Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	56.0		50.0		112	50-200			

LCS (2329005-BS1) Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	253	25.0	250		101	38-132			
Surrogate: n-Nonane	49.9		50.0		99.7	50-200			

Matrix Spike (2329005-MS1) Source: E307053-03 Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	250	25.0	250	ND	99.9	38-132			
Surrogate: n-Nonane	47.3		50.0		94.7	50-200			

Matrix Spike Dup (2329005-MSD1) Source: E307053-03 Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	252	25.0	250	ND	101	38-132	0.940	20	
Surrogate: n-Nonane	45.0		50.0		90.1	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:16:34PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2328061-BLK1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	ND	20.0							
LCS (2328061-BS1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	250	20.0	250		100	90-110			
Matrix Spike (2328061-MS1)					Source: E307052-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	1580	40.0	250	1280	117	80-120			
Matrix Spike Dup (2328061-MSD1)					Source: E307052-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	1590	40.0	250	1280	121	80-120	0.675	20	M2

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	RDX 17-25	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/19/23 16:16

- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Client: WPX Energy Permian LLC.						Bill To				Lab Use Only							TAT				EPA Program					
Project: RDX 17-25						Attention: Jim Raley				Lab WO#			Job Number				1D	2D	3D	Standard	CWA	SDWA				
Project Manager: Gilbert Moreno						Address: 5315 Buena Vista Dr.				E 307058			01058-0007							5 day TAT						
Address: 13000 W County Rd 100						City, State, Zip: Carlsbad, NM, 88220				Analysis and Method																RCRA
City, State, Zip_Odessa,TX, 79765						Phone: 575-885-7502				Depth(ft.)	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0			BGDOC NM		GDOC TX		State				
Phone: (832) 541-7719						Email: jim.raley@dv.com																NM	CO	UT	AZ	TX
Email: Devon-team@etechnv.com						WO: 21181900																				
Collected by: Edyte Konan						Incident ID: nAB1712952339																				
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number																	Remarks				
10:30	7/13/2023	S	1	SW05	1	0-4'										X										
Additional Instructions:																										
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.												Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.														
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		Lab Use Only														
		07/13/2023		14:20				7-13-23		14:20		Received on ice: Y / N														
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		T1 T2 T3														
		7-13-23		1700				7.13.23		1700																
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		AVG Temp °C														
		7.13.23		2330				7/14/23		8:35		4														
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other												Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA														
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																										

## Envirotech Analytical Laboratory

Printed: 7/14/2023 9:58:42AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	07/14/23 08:35	Work Order ID:	E307058
Phone:	(539) 573-4018	Date Logged In:	07/13/23 16:05	Logged In By:	Alexa Michaels
Email:	devon-team@ensolum.com	Due Date:	07/20/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

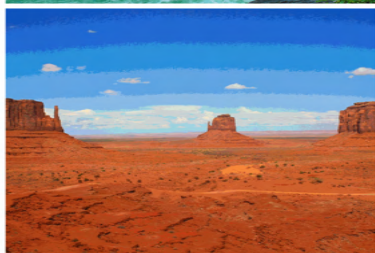
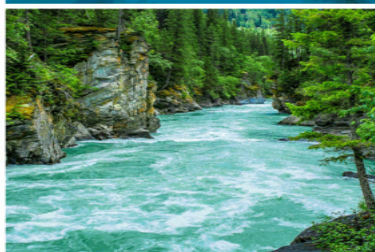
Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:  
Gilbert Moreno



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

WPX Energy - Carlsbad

Project Name: RDX 17-25

Work Order: E307060

Job Number: 01058-0007

Received: 7/14/2023

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
7/19/23

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/19/23

Gilbert Moreno  
5315 Buena Vista Dr  
Carlsbad, NM 88220



Project Name: RDX 17-25  
Workorder: E307060  
Date Received: 7/14/2023 8:35:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/14/2023 8:35:00AM, under the Project Name: RDX 17-25.

The analytical test results summarized in this report with the Project Name: RDX 17-25 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
Laboratory Administrator  
Office: 505-632-1881  
[rainaschwanz@envirotech-inc.com](mailto:rainaschwanz@envirotech-inc.com)

**Alexa Michaels**  
Sample Custody Officer  
Office: 505-632-1881  
[labadmin@envirotech-inc.com](mailto:labadmin@envirotech-inc.com)

Field Offices:

**Southern New Mexico Area**  
**Lynn Jarboe**  
Technical Representative/Client Services  
Office: 505-421-LABS(5227)  
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[ljjarboe@envirotech-inc.com](mailto:ljjarboe@envirotech-inc.com)

**West Texas Midland/Odessa Area**  
**Rayny Hagan**  
Technical Representative  
Office: 505-421-LABS(5227)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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Sample Summary

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported: 07/19/23 16:18
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW03 0-4'	E307060-01A	Soil	07/13/23	07/14/23	Glass Jar, 2 oz.
SW04 0-4'	E307060-02A	Soil	07/13/23	07/14/23	Glass Jar, 2 oz.



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/19/2023 4:18:35PM

SW03 0-4'

E307060-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328068	
Benzene	ND	0.0250	1	07/14/23	07/17/23	
Ethylbenzene	ND	0.0250	1	07/14/23	07/17/23	
Toluene	ND	0.0250	1	07/14/23	07/17/23	
o-Xylene	ND	0.0250	1	07/14/23	07/17/23	
p,m-Xylene	ND	0.0500	1	07/14/23	07/17/23	
Total Xylenes	ND	0.0250	1	07/14/23	07/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.4 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328068	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/14/23	07/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	82.8 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2329005	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/17/23	07/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/17/23	07/17/23	
<i>Surrogate: n-Nonane</i>						
	97.9 %	50-200		07/17/23	07/17/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2328062	
Chloride	206	20.0	1	07/14/23	07/17/23	



## Sample Data

WPX Energy - Carlsbad  
5315 Buena Vista Dr  
Carlsbad NM, 88220

Project Name: RDX 17-25  
Project Number: 01058-0007  
Project Manager: Gilbert Moreno

**Reported:**  
7/19/2023 4:18:35PM

SW04 0-4'

E307060-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328068	
Benzene	ND	0.0250	1	07/14/23	07/17/23	
Ethylbenzene	ND	0.0250	1	07/14/23	07/17/23	
Toluene	ND	0.0250	1	07/14/23	07/17/23	
o-Xylene	ND	0.0250	1	07/14/23	07/17/23	
p,m-Xylene	ND	0.0500	1	07/14/23	07/17/23	
Total Xylenes	ND	0.0250	1	07/14/23	07/17/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.7 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2328068	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/14/23	07/17/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	85.3 %	70-130		07/14/23	07/17/23	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: KM		Batch: 2329005	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/17/23	07/17/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/17/23	07/17/23	
<i>Surrogate: n-Nonane</i>						
	93.9 %	50-200		07/17/23	07/17/23	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2328062	
Chloride	36.9	20.0	1	07/14/23	07/17/23	



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:18:35PM

## Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328068-BLK1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.54		8.00		94.2	70-130			

## LCS (2328068-BS1)

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	4.77	0.0250	5.00		95.4	70-130			
Ethylbenzene	4.72	0.0250	5.00		94.3	70-130			
Toluene	4.79	0.0250	5.00		95.8	70-130			
o-Xylene	4.71	0.0250	5.00		94.2	70-130			
p,m-Xylene	9.60	0.0500	10.0		96.0	70-130			
Total Xylenes	14.3	0.0250	15.0		95.4	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.66		8.00		95.8	70-130			

## Matrix Spike (2328068-MS1)

Source: E307060-02

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	5.04	0.0250	5.00	ND	101	54-133			
Ethylbenzene	5.00	0.0250	5.00	ND	99.9	61-133			
Toluene	5.07	0.0250	5.00	ND	101	61-130			
o-Xylene	4.99	0.0250	5.00	ND	99.8	63-131			
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131			
Total Xylenes	15.2	0.0250	15.0	ND	101	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.83		8.00		97.8	70-130			

## Matrix Spike Dup (2328068-MSD1)

Source: E307060-02

Prepared: 07/14/23 Analyzed: 07/17/23

Benzene	4.99	0.0250	5.00	ND	99.7	54-133	1.12	20	
Ethylbenzene	4.93	0.0250	5.00	ND	98.6	61-133	1.34	20	
Toluene	5.02	0.0250	5.00	ND	100	61-130	1.09	20	
o-Xylene	4.94	0.0250	5.00	ND	98.8	63-131	1.02	20	
p,m-Xylene	10.0	0.0500	10.0	ND	100	63-131	1.21	20	
Total Xylenes	15.0	0.0250	15.0	ND	99.9	63-131	1.14	20	
Surrogate: 4-Bromochlorobenzene-PID	7.79		8.00		97.4	70-130			



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:18:35PM

## Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2328068-BLK1)

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.99		8.00		87.3	70-130			

## LCS (2328068-BS2)

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	42.9	20.0	50.0		85.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.84		8.00		85.5	70-130			

## Matrix Spike (2328068-MS2)

Source: E307060-02

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	45.7	20.0	50.0	ND	91.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.87		8.00		85.9	70-130			

## Matrix Spike Dup (2328068-MSD2)

Source: E307060-02

Prepared: 07/14/23 Analyzed: 07/17/23

Gasoline Range Organics (C6-C10)	47.0	20.0	50.0	ND	93.9	70-130	2.83	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.96		8.00		86.9	70-130			



## QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:18:35PM

## Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2329005-BLK1)

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	56.0		50.0		112	50-200			

## LCS (2329005-BS1)

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	253	25.0	250		101	38-132			
Surrogate: n-Nonane	49.9		50.0		99.7	50-200			

## Matrix Spike (2329005-MS1)

Source: E307053-03

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	250	25.0	250	ND	99.9	38-132			
Surrogate: n-Nonane	47.3		50.0		94.7	50-200			

## Matrix Spike Dup (2329005-MSD1)

Source: E307053-03

Prepared: 07/17/23 Analyzed: 07/17/23

Diesel Range Organics (C10-C28)	252	25.0	250	ND	101	38-132	0.940	20	
Surrogate: n-Nonane	45.0		50.0		90.1	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	RDX 17-25	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	7/19/2023 4:18:35PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2328062-BLK1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	ND	20.0							
LCS (2328062-BS1)					Prepared: 07/14/23 Analyzed: 07/17/23				
Chloride	254	20.0	250		102	90-110			
Matrix Spike (2328062-MS1)					Source: E307045-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	6750	400	250	6540	83.2	80-120			
Matrix Spike Dup (2328062-MSD1)					Source: E307045-01		Prepared: 07/14/23 Analyzed: 07/17/23		
Chloride	6600	400	250	6540	23.5	80-120	2.24	20	M4

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	RDX 17-25	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	07/19/23 16:18

- M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Client: WPX Energy Permian LLC.		<b>Bill To</b>		<b>Lab Use Only</b>		<b>TAT</b>			<b>EPA Program</b>				
Project: RDX 17-25		Attention: Jim Raley		Lab WO#		Job Number		1D	2D	3D	Standard	CWA	SDWA
Project Manager: Gilbert Moreno		Address: 5315 Buena Vista Dr.		E 307060		Q1058-0007					5 day TAT		
Address: 13000 W County Rd 100		City, State, Zip: Carlsbad, NM, 88220		Analysis and Method									RCRA
City, State, Zip: Odessa, TX, 79765		Phone: 575-885-7502		Depth (ft.)									
Phone: (832) 541-7719		Email: jim.raley@dv.com		TPH GRO/DRO/ORO by 8015		BTEX by 8021		VOC by 8260		Metals 6010		Chloride 300.0	
Email: Devon-team@etechnv.com		WO: 21181900								BGDOC NM		GDOC TX	
Collected by: Edyte Konan		Incident ID: nAB1712952339										State	
												NM CO UT AZ TX	

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	Depth (ft.)	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	GDOC TX	Remarks
10:00	7/13/2023	S	1	SW03	1	0-4'						X		
10:10	7/13/2023	S	1	SW04	2	0-4'						X		

## Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by:

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only Received on ice: <input checked="" type="radio"/> Y <input type="radio"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
<i>Michelle Gonzalez</i>	07/13/2023	14:20	<i>Michelle Gonzalez</i>	7-13-23	14:20	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
<i>Michelle Gonzalez</i>	7-13-23	1700	<i>Allen Messo</i>	7-13-23	1700	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
<i>Allen Messo</i>	7-13-23	2330	<i>Carla Mae</i>	7/14/23	8:35	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



## Envirotech Analytical Laboratory

Printed: 7/14/2023 10:05:00AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	07/14/23 08:35	Work Order ID:	E307060
Phone:	(539) 573-4018	Date Logged In:	07/13/23 16:40	Logged In By:	Alexa Michaels
Email:	devon-team@ensolum.com	Due Date:	07/20/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

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# APPENDIX G

## NMOCD Notifications

**Erick Herrera**

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**From:** Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>  
**Sent:** Wednesday, June 14, 2023 4:33 PM  
**To:** Raley, Jim  
**Cc:** Devon-Team; Bratcher, Michael, EMNRD; Harimon, Jocelyn, EMNRD; Maxwell, Ashley, EMNRD  
**Subject:** (Extension Approval) - RDX 17-25 Extension Request - nAB1712952339

Some people who received this message don't often get email from robert.hamlet@emnrd.nm.gov. [Learn why this is important](#)

Please send all future Extension Requests to [OCD.Enviro@emnrd.nm.gov](mailto:OCD.Enviro@emnrd.nm.gov)

RE: Incident #**NAB1712952339**

Jim,

Your request for an extension to **September 28th, 2023** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

**Robert Hamlet** • Environmental Specialist - Advanced  
Environmental Bureau  
EMNRD - Oil Conservation Division  
506 W. Texas Ave. | Artesia, NM 88210  
575.909.0302 | [robert.hamlet@state.nm.us](mailto:robert.hamlet@state.nm.us)  
<http://www.emnrd.state.nm.us/OCD/>



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**From:** Raley, Jim <Jim.Raley@dvn.com>  
**Sent:** Wednesday, June 14, 2023 1:56 PM  
**To:** Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>  
**Cc:** Devon-Team <Devon-Team@etechenv.com>  
**Subject:** [EXTERNAL] RDX 17-25 Extension Request - nAB1712952339

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Robert,

WPX Energy Permian, LLC (WPX) is requesting an extension to the current deadline for a report required in 19.15.29.12.B.(1) NMAC at the RDX 17-25 (Site).

A produced water release was discovered on May 2, 2017, and subsequently assigned Incident Number nAB1712952339. WPX submitted a remediation work plan proposing further investigation of residual soil impacts to

develop a corrective action plan, which was approved by NMOCD on March 27, 2023, and granted a deadline for June 30, 2023. A sundry was submitted and has since been approved to initiate remediation activities. Due to the current site conditions and release location, additional time is being requested to implement additional safety guidelines to excavate around subsurface utilities located within proposed work area.

To provide enough time for additional planning, remediation activities and subsequent corrective action report, WPX requests an extension of the deadline to September 28, 2023.

Jim Raley | Environmental Professional - Permian Basin  
5315 Buena Vista Dr., Carlsbad, NM 88220  
C: (575)689-7597 | [jim.raley@dvn.com](mailto:jim.raley@dvn.com)



Confidentiality Warning: This message and any attachments are intended only for the use of the intended recipient(s), are confidential, and may be privileged. If you are not the intended recipient, you are hereby notified that any review, retransmission, conversion to hard copy, copying, circulation or other use of all or any portion of this message and any attachments is strictly prohibited. If you are not the intended recipient, please notify the sender immediately by return e-mail, and delete this message and any attachments from your system.

**Erick Herrera**

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**From:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Sent:** Thursday, June 29, 2023 3:42 PM  
**To:** Erick Herrera  
**Cc:** Bratcher, Michael, EMNRD; Maxwell, Ashley, EMNRD  
**Subject:** RE: [EXTERNAL] WPX Site Sampling Activity Update (7/5-7/7)

Erick,

The OCD has received your notification. When reporting sampling at multiple locations it is required to provide and date and time for each location. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

**Jocelyn Harimon** • Environmental Specialist  
Environmental Bureau  
EMNRD - Oil Conservation Division  
1220 South St. Francis Drive | Santa Fe, NM 87505  
(505)469-2821 | [Jocelyn.Harimon@emnrd.nm.gov](mailto:Jocelyn.Harimon@emnrd.nm.gov)  
[http:// www.emnrd.nm.gov](http://www.emnrd.nm.gov)



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**From:** Erick Herrera <erick@etechenv.com>  
**Sent:** Wednesday, June 28, 2023 3:07 PM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; blm\_nm\_cfo\_spill@blm.gov  
**Cc:** Raley, Jim <jim.raley@dvn.com>; Devon-Team <Devon-Team@etechenv.com>  
**Subject:** [EXTERNAL] WPX Site Sampling Activity Update (7/5-7/7)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following sites between July 5 – July 7, 2023:

Site Name: RDX 17-25  
Incident Number: NAB1712952339  
API: 30-015-41664

Site Name: RDX 17-36  
Incident Number: NRM2017643736  
API: 30-015-43636

Site Name: Toro 22-3

API: 30-025-35253

Incident Number: nOY1727952679

Thank you,

**Erick Herrera**

Staff Geologist



Work: (432) 305-6416

Cell: (281) 777-4152

**Erick Herrera**

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**From:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Sent:** Monday, July 10, 2023 5:29 PM  
**To:** Erick Herrera  
**Cc:** Bratcher, Michael, EMNRD; Maxwell, Ashley, EMNRD  
**Subject:** RE: [EXTERNAL] WPX Site Sampling Activity Update (7/13-7/14)

Erick,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

**Jocelyn Harimon** • Environmental Specialist  
Environmental Bureau  
EMNRD - Oil Conservation Division  
1220 South St. Francis Drive | Santa Fe, NM 87505  
(505)469-2821 | [Jocelyn.Harimon@emnrd.nm.gov](mailto:Jocelyn.Harimon@emnrd.nm.gov)  
[http:// www.emnrd.nm.gov](http://www.emnrd.nm.gov)



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**From:** Erick Herrera <erick@etechenv.com>  
**Sent:** Monday, July 10, 2023 2:06 PM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; blm\_nm\_cfo\_spill@blm.gov  
**Cc:** Raley, Jim <jim.raley@dmv.com>; Devon-Team <Devon-Team@etechenv.com>  
**Subject:** [EXTERNAL] WPX Site Sampling Activity Update (7/13-7/14)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following site between July 13 through July 14, 2023.

Proposed Date: July 13, 2023  
Proposed Timeframe: 0800 – 1700 hrs.  
Site Name: RDX 17-25  
Incident Number: NAB1712952339  
API: 30-015-41664

Thank you,

**Erick Herrera**  
Staff Geologist



Work: (432) 305-6416

Cell: (281) 777-4152

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# APPENDIX H

## Approved Remediation Work Plan

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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls):	Volume Recovered (bbls):
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls): 22	Volume Recovered (bbls): 22
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> 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.


State of New Mexico  
Oil Conservation Division

Incident ID	NRM2017643736
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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*

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Lynda Laumbach</u>	Title: <u>Environmental Specialist</u>
Signature: <u></u>	Date: <u>06/25/2020</u>
email: <u>Lynda.Laumbach@wpenergy.com</u>	Telephone: <u>(575)725-1647</u>
<b><u>OCD Only</u></b>	
Received by: <u>Ramona Marcus</u>	Date: <u>6/26/2020</u>

Incident ID	
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?	_____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	
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: \_\_\_\_\_ Title: \_\_\_\_\_  
Signature: *John Lambach* Date: 06/01/2021  
email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	
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: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: *Jude Lambach* Date: 06/01/2021

email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**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  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

## NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-141  
Revised August 8, 2011

MAY 05 2017

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

RECEIVED

## Release Notification and Corrective Action

**NA B1712952339** **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	Date and Hour of Occurrence	Date and Hour of Discovery
Flowline	5/2/2017	5/2/2017 - 11:00 hrs MT
Was Immediate Notice Given?	If YES, To Whom?	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	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?	If YES, Volume Impacting the Watercourse.	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	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: <i>Karolina Blaney</i>		OIL CONSERVATION DIVISION	
Printed Name: Karolina Blaney		Approved by Environmental Specialist: <i>Crystal Weaver</i>	
Title: Environmental Specialist		Approval Date: 5/8/17	Expiration Date: N/A
E-mail Address: Karolina.blaney@wpxenergy.com		Conditions of Approval:	
Date: 5/4/2017 Phone: 970-589-0743		see attached	
		Attached <input checked="" type="checkbox"/>	

\* Attach Additional Sheets If Necessary

2RP-4198

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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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.
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- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody


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State of New Mexico  
Oil Conservation Division

Page 4

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:  Date: 06/01/2021  
email: lynda.laumbach@wpenergy.com Telephone: 575-725-1647

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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)

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- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.


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Printed Name: Lynda Laumbach Title: Environmental Specialist  
Signature:  Date: 06/01/2021  
email: lynda.laumbach@wpenergy.com Telephone: 575-725-1647

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature:  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**

### Incident Number NAB1712952339

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. Soil 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.

District II  
Page 5

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.

A handwritten signature in black ink, appearing to read 'Joseph S. Hernandez'.

Joseph Hernandez  
Associate Consultant, Geologist

A handwritten signature in black ink, appearing to read 'Ashley L. Ager'.

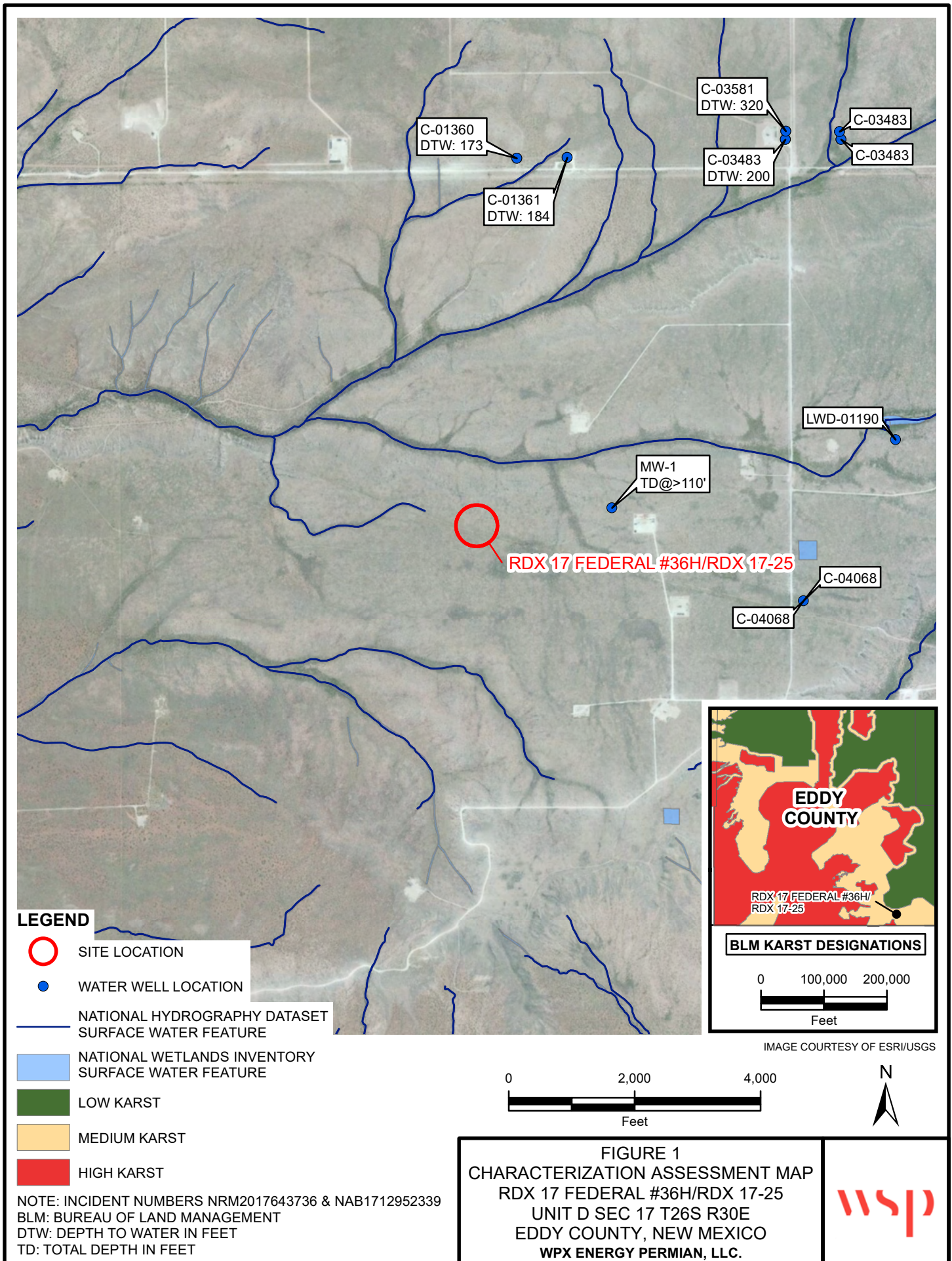
Ashley L. Ager, P.G.  
Managing Director, Geologist

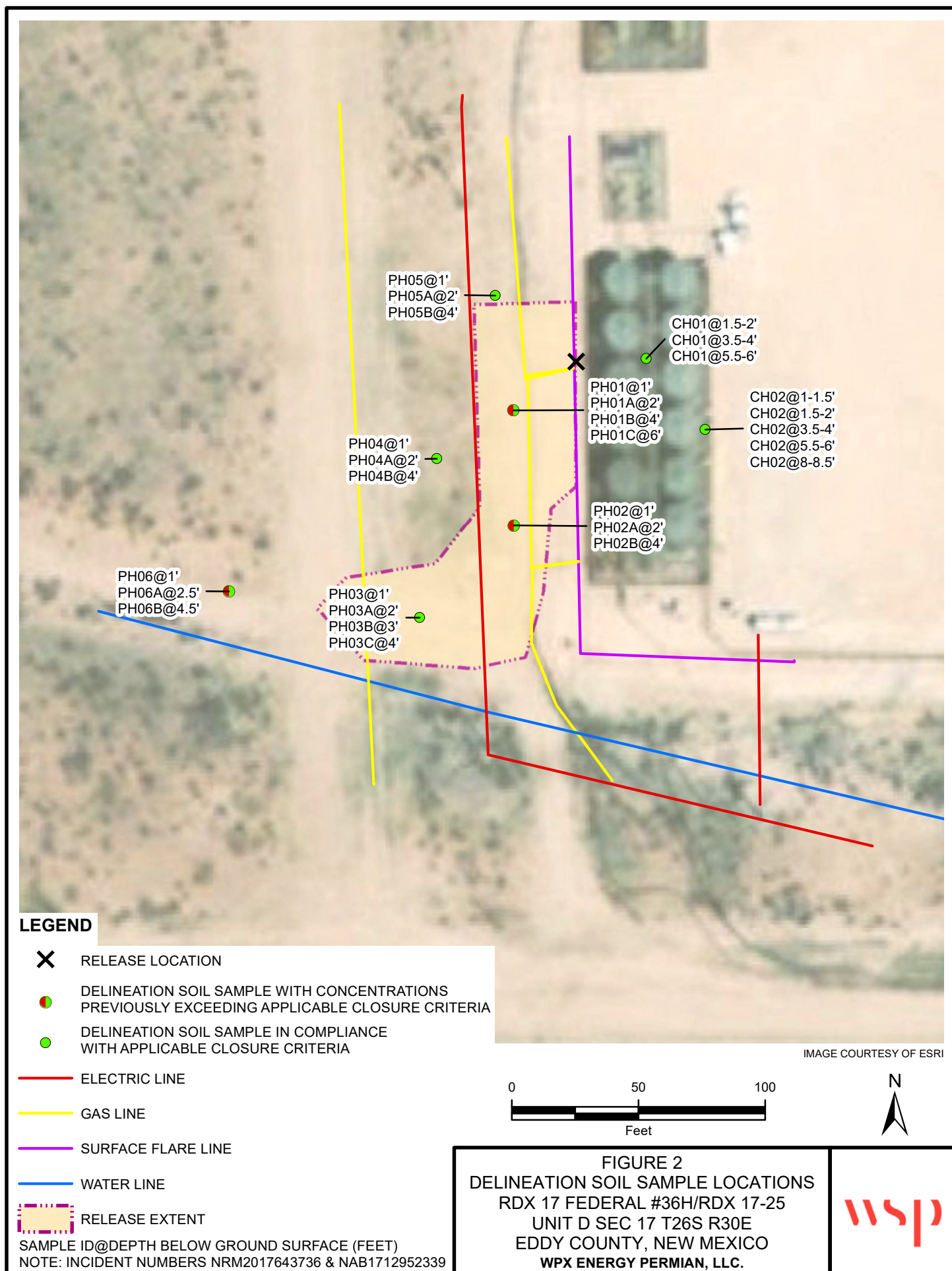
cc: Lynda Laumbach, WPX  
Robert Hamlet, NMOCD  
Victoria Venegas, NMOCD  
Jim Amos, Bureau of Land Management

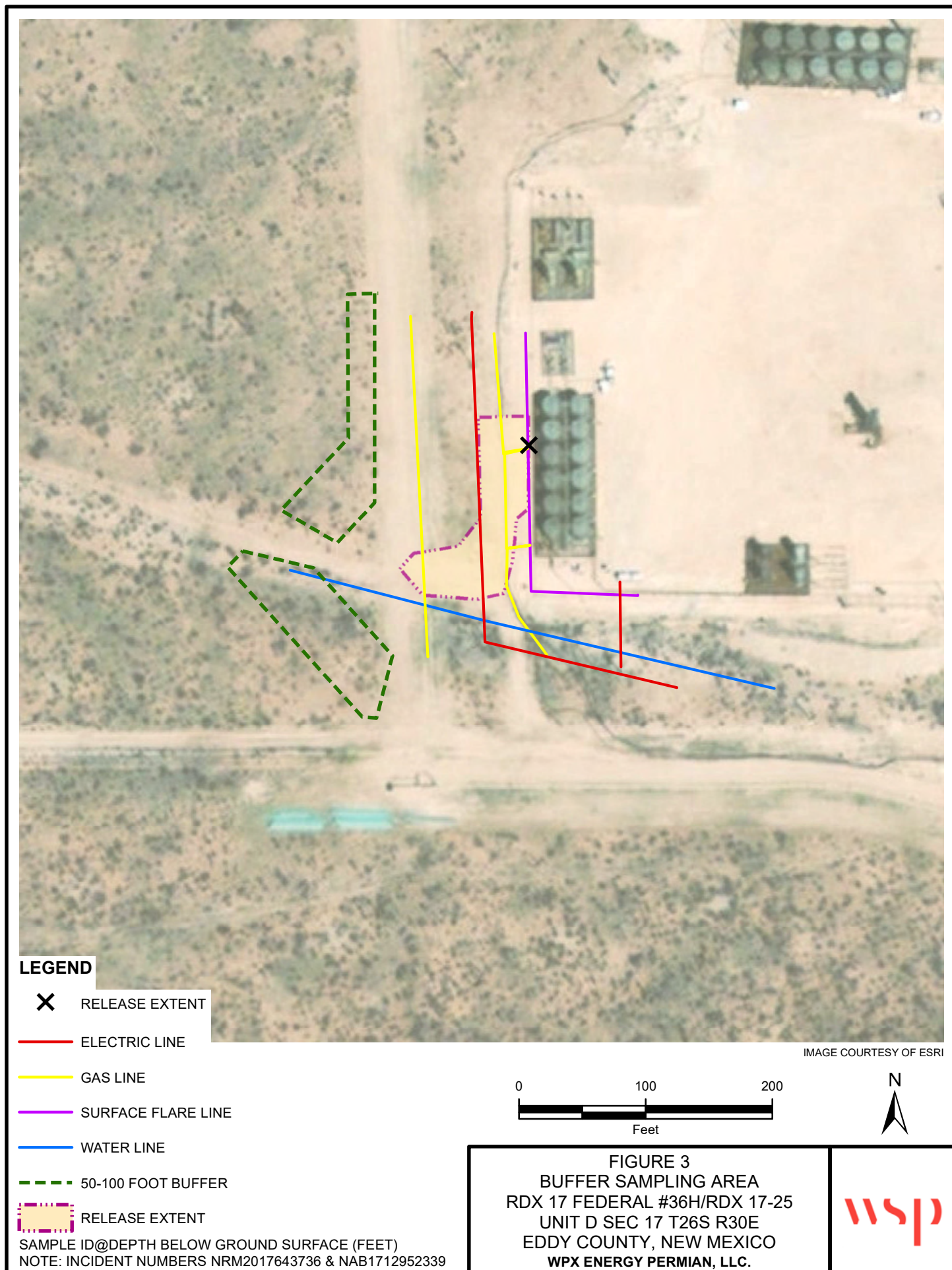
### Attachments:

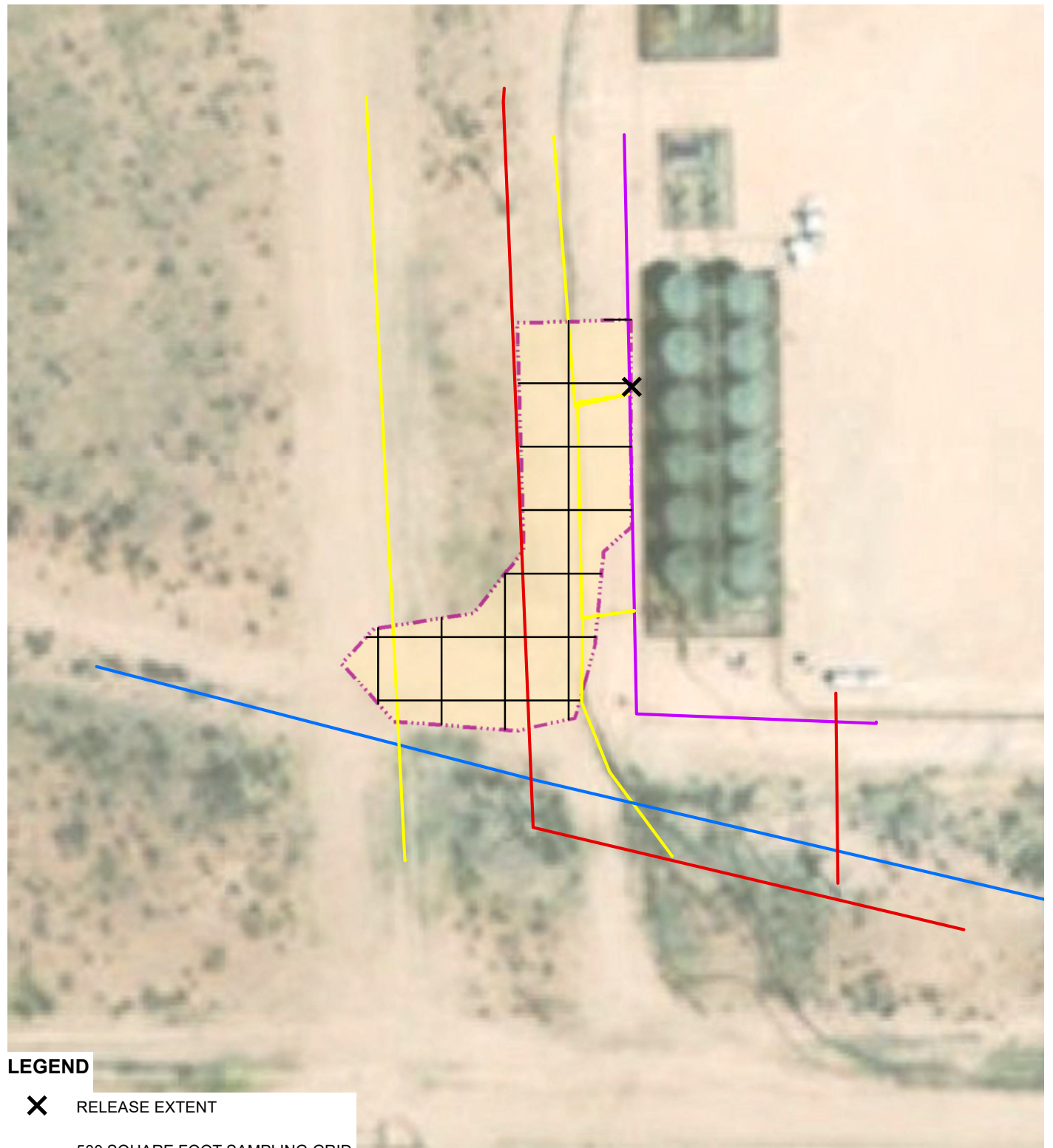
Figure 1 Site Location Map  
Figure 2 Delineation Soil Sample Locations  
Figure 3 Buffer Sampling Area  
Figure 4 Proposed Sampling Area  
Table 1 Soil Analytical Results  
Attachment 1 Boring Log  
Attachment 2 Lithologic/Sampling Log  
Attachment 3 Photographic Log  
Attachment 4 Laboratory Analytical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

FIGURES







**LEGEND**

RELEASE EXTENT

— 500 SQUARE FOOT SAMPLING GRID

— ELECTRIC LINE

— GAS LINE

— SURFACE FLARE LINE

— WATER LINE

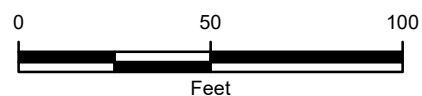


RELEASE EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

NOTE: INCIDENT NUMBERS NRM2017643736 &amp; NAB1712952339

IMAGE COURTESY OF ESRI



**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.**



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


&lt; - 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


 <b>HRL COMPLIANCE SOLUTIONS</b>							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:			Sampling Method:				Logged By:			Drilled By:				
Air Rotary			None				J. Linn, PG			Talon LPE				
Gravel Pack Type:			Gravel Pack Depth Interval:				Seal Type:		Seal Depth Interval:		Latitude:			
10/20 Sand			3 Bags				None		None		32.049656			
Casing Type:		Diameter:		Depth Interval:			Boring Total Depth (ft. BGS):			Longitude:				
PVC		2-inch		0-105 ft bgs			110			-103.904054				
Screen Type:		Slot:		Diameter:		Depth Interval:		Well Total Depth (ft. BGS):			Depth to Water (ft. BTWC):		DTW Date:	
PVC		0.010-inch		2-inch		105 - 110 ft		110			> 110		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	NM	L	D	N	N	NM	SW	NS	Pinky orange well graded sand with minor silt					
45														
50														
55														
60	NM	L	D	N	N	NM	SP	NS	Pinky pale brown orange poorly graded fine sand with minor silt					
65														
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


 <b>WSP USA</b> 508 West Stevens Street Carlsbad, New Mexico 88220					Pothole Name:		Date:		
					PH01		8/27/2020		
					Site Name: RDX 17 Federal #36H/RDX 17-25				
					Incident Number: NRM2017643736 and NAB1712952339				
					WSP Job Number: TE034820010				
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					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									


 <b>WSP USA</b> 508 West Stevens Street Carlsbad, New Mexico 88220					Pothole Name:		Date:		
					PH02		8/27/2020		
					Site Name: RDX 17 Federal #36H/RDX 17-25				
					Incident Number: NRM2017643736 and NAB1712952339				
WSP Job Number: TE034820010									
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					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									


 <b>WSP USA</b> 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			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>						Logged By: Anna Byers		Method: Back Hoe	
Lat/Long: 32.048606184N, 103.91117449W				Field Screening: Chloride		Hole Diameter: Not applicable		Total Depth: 4 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	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									

 <b>WSP USA</b> 508 West Stevens Street Carlsbad, New Mexico 88220					Pothole Name:		Date:		
					PH04		8/27/2020		
					Site Name: RDX 17 Federal #36H/RDX 17-25				
					Incident Number: NRM2017643736 and NAB1712952339				
					WSP Job Number: TE034820010				
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					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									

 <b>WSP USA</b> 508 West Stevens Street Carlsbad, New Mexico 88220						Pothole Name:		Date:	
						PH05		8/27/2020	
						Site Name: RDX 17 Federal #36H/RDX 17-25			
						Incident Number: NRM2017643736 and NAB1712952339			
						WSP Job Number: TE034820010			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>						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									

 <b>WSP USA</b> 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			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								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											


 <b>WSP USA</b> 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			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>						Logged By: Anna Byers		Method: Shaw Core Drill	
Lat/Long: 32.04888628N, 103.91088443W				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	
Dry	1,740	NA	No	CH01	0	0	cche	Caliche decreasing cementation with depth, tan colored, gravel and sand (c.), moist, no odor	
Dry	224	NA	No	CH01	4	4	SP	(c.), moist, light brown, no odor	
Dry	364	NA	No	CH01	6	6	cche	Caliche, poorly cemented, tan gravel and sand (c.)	
Total Depth									

 <b>WSP USA</b> 508 West Stevens Street Carlsbad, New Mexico 88220						Pothole Name:		Date:	
						CH02		10/29/2020	
						Site Name: RDX 17 Federal #36H/RDX 17-25			
						Incident Number: NRM2017643736 and NAB1712952339			
						WSP Job Number: TE034820010			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>						Logged By: Anna Byers		Method: Shaw Core Drill	
Lat/Long: 32.04880899N, 103.91080971W			Field Screening: Chloride			Hole Diameter: Not applicable		Total Depth: 8.5 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	0			
					1	1			
Dry	224	NA	No	CH02			cche	caliche, well consolidated, gravel poorly sorted, no odor	
Dry	516	NA	No	CH02			cche		
					2	2			
					3	3			
					4	4			
Dry	316	NA	No	CH02			SP	(c.), light brown, mild odor	
					5	5			
					6	6			
Dry	148	NA	No	CH02			SP	(c.), light brown, less odor	
					7	7			
					8	8			
Dry	120	NA	No	CH02			cche	caliche, mod. cemented, no odor	
Total Depth									

ATTACHMENT 3: PHOTOGRAPHIC LOG

**PHOTOGRAPHIC LOG**

<b>WPX Energy Permian, LLC.</b>	<b>RDX 17 Federal #36H/RDX 17-25 Eddy County, New Mexico</b>	<b>TE034820010</b>
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<b>Photo No.</b>	<b>Date</b>	
1	August 27, 2020	
North view of the release area before delineation activities.		 A photograph showing a dirt road or path leading towards a series of large, dark, cylindrical storage tanks. The sky is clear and blue. A utility pole is visible on the left side of the path.

<b>Photo No.</b>	<b>Date</b>	
2	August 27, 2020	
South view of the release area before delineation activities.		 A photograph showing a dirt road or path leading away from a series of large, dark, cylindrical storage tanks. The sky is clear and blue. A utility pole is visible on the right side of the path.

**PHOTOGRAPHIC LOG**

<b>WPX Energy Permian, LLC.</b>	<b>RDX 17 Federal #36H/RDX 17-25 Eddy County, New Mexico</b>	<b>TE034820010</b>
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<b>Photo No.</b>	<b>Date</b>	
3	August 27, 2020	
East view of the release area before delineation activities.		

<b>Photo No.</b>	<b>Date</b>	
4	August 27, 2020	
Southwest view of the Site during delineation activities.		

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS

## 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

<i>Analysis Requested</i>	<i>Lab Id:</i>	671316-001	671316-002	671316-003	671316-004	671316-005	671316-006
	<i>Field Id:</i>	PH01	PH01 A	PH01 B	PH01 C	PH02	PH02 A
	<i>Depth:</i>	1- ft	2- ft	4- ft	6- ft	1- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	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
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	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
	<i>Analyzed:</i>	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
	<i>Units/RL:</i>	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
<b>Inorganic Anions by EPA 300</b>	<i>Extracted:</i>	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
	<i>Analyzed:</i>	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
	<i>Units/RL:</i>	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
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	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
	<i>Analyzed:</i>	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
	<i>Units/RL:</i>	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

## 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

<i>Analysis Requested</i>	<i>Lab Id:</i>	671316-007	671316-008	671316-009	671316-010	671316-011	671316-012
	<i>Field Id:</i>	PH02 B	PH03	PH03 A	PH03 B	PH03 C	PH04
	<i>Depth:</i>	4- ft	1- ft	2- ft	3- ft	4- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	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
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	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
	<i>Analyzed:</i>	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
	<i>Units/RL:</i>	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
<b>Inorganic Anions by EPA 300</b>	<i>Extracted:</i>	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
	<i>Analyzed:</i>	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
	<i>Units/RL:</i>	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
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	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
	<i>Analyzed:</i>	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
	<i>Units/RL:</i>	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

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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

<i>Analysis Requested</i>	<i>Lab Id:</i>	671316-013	671316-014	671316-015	671316-016	671316-017	671316-018
	<i>Field Id:</i>	PH04 A	PH04 B	PH05	PH05 A	PH05 B	PH06
	<i>Depth:</i>	2- ft	4- ft	1-	2-	4-	1-
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	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
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	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
	<i>Analyzed:</i>	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
	<i>Units/RL:</i>	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
<b>Inorganic Anions by EPA 300</b>	<i>Extracted:</i>	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
	<i>Analyzed:</i>	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
	<i>Units/RL:</i>	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
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	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
	<i>Analyzed:</i>	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
	<i>Units/RL:</i>	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

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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

<b>Analysis Requested</b>	<b>Lab Id:</b>	671316-019	671316-020				
	<b>Field Id:</b>	PH06 A	PH06 B				
	<b>Depth:</b>	2.5-	4.5-				
	<b>Matrix:</b>	SOIL	SOIL				
	<b>Sampled:</b>	08.27.2020 16:41	08.27.2020 16:55				
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b>	08.28.2020 17:56	08.28.2020 17:56				
	<b>Analyzed:</b>	08.29.2020 09:41	08.29.2020 10:02				
	<b>Units/RL:</b>	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				
<b>Inorganic Anions by EPA 300</b>	<b>Extracted:</b>	08.28.2020 17:09	08.28.2020 17:09				
	<b>Analyzed:</b>	08.28.2020 22:37	08.28.2020 22:43				
	<b>Units/RL:</b>	mg/kg RL	mg/kg RL				
Chloride		1200 49.5	969 9.98				
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b>	08.28.2020 17:00	08.28.2020 17:00				
	<b>Analyzed:</b>	08.28.2020 20:29	08.28.2020 20:50				
	<b>Units/RL:</b>	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

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# 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: TN102385): Texas (T104704534-20-8)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



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,

A handwritten signature in black ink that reads "Jessica Kramer".

**Jessica Kramer**

Project Manager

*A Small Business and Minority Company*

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

**Sample Cross Reference 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



## 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

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### **Sample receipt non conformances and comments:**

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### **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.



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH01**  
Lab Sample Id: 671316-001

Matrix: Soil  
Date Collected: 08.27.2020 09:19

Date Received: 08.28.2020 14:08  
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:  
Basis: Wet Weight

Seq Number: 3135891

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:  
Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH01**  
 Lab Sample Id: 671316-001

Matrix: Soil  
 Date Collected: 08.27.2020 09:19

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135888

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH01 A**  
 Lab Sample Id: 671316-002

Matrix: Soil  
 Date Collected: 08.27.2020 09:39

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135891

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:  
 Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH01 A**  
 Lab Sample Id: 671316-002

Matrix: Soil  
 Date Collected: 08.27.2020 09:39

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135888

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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH01 B**  
 Lab Sample Id: 671316-003

Matrix: Soil  
 Date Collected: 08.27.2020 09:54

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135891

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:  
 Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

**WSP USA, Dallas, TX**

**RDX 17-25**

Sample Id: **PH01 B**  
Lab Sample Id: 671316-003

Matrix: Soil  
Date Collected: 08.27.2020 09:54

Date Received: 08.28.2020 14:08  
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:  
Basis: Wet Weight

Seq Number: 3135888

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH01 C**  
 Lab Sample Id: 671316-004

Matrix: Soil  
 Date Collected: 08.27.2020 12:29

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135891

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:  
 Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH01 C**  
 Lab Sample Id: 671316-004

Matrix: Soil  
 Date Collected: 08.27.2020 12:29

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135888

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH02**  
 Lab Sample Id: 671316-005

Matrix: Soil  
 Date Collected: 08.27.2020 10:05

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135891

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:  
 Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH02**  
 Lab Sample Id: 671316-005

Matrix: Soil  
 Date Collected: 08.27.2020 10:05

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135888

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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH02 A**  
 Lab Sample Id: 671316-006

Matrix: Soil  
 Date Collected: 08.27.2020 10:15

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135891

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:  
 Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH02 A**  
 Lab Sample Id: 671316-006

Matrix: Soil  
 Date Collected: 08.27.2020 10:15

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135888

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH02 B**  
 Lab Sample Id: 671316-007

Matrix: Soil  
 Date Collected: 08.27.2020 10:23

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135891

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:  
 Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH02 B**  
 Lab Sample Id: 671316-007

Matrix: Soil  
 Date Collected: 08.27.2020 10:23

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135888

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH03**  
 Lab Sample Id: 671316-008

Matrix: Soil  
 Date Collected: 08.27.2020 10:47

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135891

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:  
 Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH03**  
 Lab Sample Id: 671316-008

Matrix: Soil  
 Date Collected: 08.27.2020 10:47

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135888

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH03 A**  
 Lab Sample Id: 671316-009

Matrix: Soil  
 Date Collected: 08.27.2020 11:07

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135891

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:  
 Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH03 A**  
 Lab Sample Id: 671316-009

Matrix: Soil  
 Date Collected: 08.27.2020 11:07

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135888

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH03 B**  
 Lab Sample Id: 671316-010

Matrix: Soil  
 Date Collected: 08.27.2020 11:16

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135891

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:  
 Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH03 B**  
 Lab Sample Id: 671316-010

Matrix: Soil  
 Date Collected: 08.27.2020 11:16

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135888

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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH03 C**  
Lab Sample Id: 671316-011

Matrix: Soil  
Date Collected: 08.27.2020 11:22

Date Received: 08.28.2020 14:08  
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:  
Basis: Wet Weight

Seq Number: 3135891

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:  
Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

**WSP USA, Dallas, TX**

RDX 17-25

Sample Id: **PH03 C**  
Lab Sample Id: 671316-011

Matrix: Soil  
Date Collected: 08.27.2020 11:22

Date Received: 08.28.2020 14:08  
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:  
Basis: Wet Weight

Seq Number: 3135888

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH04**  
Lab Sample Id: 671316-012

Matrix: Soil  
Date Collected: 08.27.2020 14:33

Date Received: 08.28.2020 14:08  
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:  
Basis: Wet Weight

Seq Number: 3135891

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:  
Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH04**  
 Lab Sample Id: 671316-012

Matrix: Soil  
 Date Collected: 08.27.2020 14:33

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135888

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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH04 A**  
 Lab Sample Id: 671316-013

Matrix: Soil  
 Date Collected: 08.27.2020 14:38

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135891

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:  
 Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH04 A**  
 Lab Sample Id: 671316-013

Matrix: Soil  
 Date Collected: 08.27.2020 14:38

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135888

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH04 B**  
 Lab Sample Id: 671316-014

Matrix: Soil  
 Date Collected: 08.27.2020 14:44

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135892

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:  
 Basis: Wet Weight

Seq Number: 3135945

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH04 B**  
 Lab Sample Id: 671316-014

Matrix: Soil  
 Date Collected: 08.27.2020 14:44

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135889

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH05**  
Lab Sample Id: 671316-015

Matrix: Soil  
Date Collected: 08.27.2020 15:18

Date Received: 08.28.2020 14:08  
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:  
Basis: Wet Weight

Seq Number: 3135892

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:  
Basis: Wet Weight

Seq Number: 3135936

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH05**  
 Lab Sample Id: 671316-015

Matrix: Soil  
 Date Collected: 08.27.2020 15:18

Date Received: 08.28.2020 14:08  
 Sample Depth: 1

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 08.28.2020 17:56

% Moisture:  
 Basis: Wet Weight

Seq Number: 3135889

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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH05 A**  
 Lab Sample Id: 671316-016

Matrix: Soil  
 Date Collected: 08.27.2020 15:23

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135892

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:  
 Basis: Wet Weight

Seq Number: 3135936

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	



# Certificate of Analytical Results 671316

**WSP USA, Dallas, TX**

**RDX 17-25**

Sample Id: **PH05 A**  
Lab Sample Id: 671316-016

Matrix: Soil  
Date Collected: 08.27.2020 15:23

Date Received: 08.28.2020 14:08  
Sample Depth: 2

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 08.28.2020 17:56

% Moisture:  
Basis: Wet Weight

Seq Number: 3135889

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH05 B**  
 Lab Sample Id: 671316-017

Matrix: Soil  
 Date Collected: 08.27.2020 15:33

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135892

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:  
 Basis: Wet Weight

Seq Number: 3135936

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH05 B**  
 Lab Sample Id: 671316-017

Matrix: Soil  
 Date Collected: 08.27.2020 15:33

Date Received: 08.28.2020 14:08  
 Sample Depth: 4

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 08.28.2020 17:56

% Moisture:  
 Basis: Wet Weight

Seq Number: 3135889

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH06**  
 Lab Sample Id: 671316-018

Matrix: Soil  
 Date Collected: 08.27.2020 16:37

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135892

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:  
 Basis: Wet Weight

Seq Number: 3135936

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH06**  
 Lab Sample Id: 671316-018

Matrix: Soil  
 Date Collected: 08.27.2020 16:37

Date Received: 08.28.2020 14:08  
 Sample Depth: 1

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 08.28.2020 17:56

% Moisture:  
 Basis: Wet Weight

Seq Number: 3135889

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH06 A**  
 Lab Sample Id: 671316-019

Matrix: Soil  
 Date Collected: 08.27.2020 16:41

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135892

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:  
 Basis: Wet Weight

Seq Number: 3135936

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH06 A**  
 Lab Sample Id: 671316-019

Matrix: Soil  
 Date Collected: 08.27.2020 16:41

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135889

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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH06 B**  
 Lab Sample Id: 671316-020

Matrix: Soil  
 Date Collected: 08.27.2020 16:55

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135892

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:  
 Basis: Wet Weight

Seq Number: 3135936

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	



# Certificate of Analytical Results 671316

## WSP USA, Dallas, TX

RDX 17-25

Sample Id: **PH06 B**  
 Lab Sample Id: 671316-020

Matrix: Soil  
 Date Collected: 08.27.2020 16:55

Date Received: 08.28.2020 14:08  
 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:  
 Basis: Wet Weight

Seq Number: 3135889

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	

## 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



### WSP USA RDX 17-25

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3135891

Matrix: Solid

Prep Method: E300P

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**

Seq Number: 3135892

Matrix: Solid

Prep Method: E300P

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**

Seq Number: 3135891

Matrix: Soil

Prep Method: E300P

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**

Seq Number: 3135892

Matrix: Soil

Prep Method: E300P

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**

Seq Number: 3135892

Matrix: Soil

Prep Method: E300P

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**

Seq Number: 3135891

Matrix: Soil

Prep Method: E300P

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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



# WSP USA

## RDX 17-25

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3135936

MB Sample Id: 7710466-1-BLK

Matrix: Solid

LCS Sample Id: 7710466-1-BKS

Prep Method: SW8015P

Date Prep: 08.28.2020

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**

Seq Number: 3135945

MB Sample Id: 7710492-1-BLK

Matrix: Solid

LCS Sample Id: 7710492-1-BKS

Prep Method: SW8015P

Date Prep: 08.28.2020

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**

Seq Number: 3135936

Matrix: Solid

MB Sample Id: 7710466-1-BLK

Prep Method: SW8015P

Date Prep: 08.28.2020

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**

Seq Number: 3135945

Matrix: Solid

MB Sample Id: 7710492-1-BLK

Prep Method: SW8015P

Date Prep: 08.28.2020

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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

**WSP USA**  
**RDX 17-25**
**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3135936

Parent Sample Id: 671316-015

Matrix: Soil

MS Sample Id: 671316-015 S

Prep Method: SW8015P

Date Prep: 08.28.2020

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**

Seq Number: 3135945

Parent Sample Id: 671309-001

Matrix: Soil

MS Sample Id: 671309-001 S

Prep Method: SW8015P

Date Prep: 08.28.2020

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**

Seq Number: 3135888

MB Sample Id: 7710427-1-BLK

Matrix: Solid

LCS Sample Id: 7710427-1-BKS

Prep Method: SW5035A

Date Prep: 08.28.2020

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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



# WSP USA

## RDX 17-25

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

Seq Number: 3135889

Matrix: Solid

Prep Method: SW5035A

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**

Seq Number: 3135888

Matrix: Soil

Prep Method: SW5035A

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**

Seq Number: 3135889

Matrix: Soil

Prep Method: SW5035A

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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



## Chain of Custody

Work Order No: 671316

Project Manager: Joseph Hernandez		Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334	
Company Name: LT Environmental		Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crasabad, NM (432) 704-5440	
Address: 3348 North A Street		Phoenix, AZ (480) 365-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701	
City, State ZIP: Midland, TX 79705		City, State ZIP: Crasabad, NM 88228	
Phone: 432-694-5441		Email: obyers@ltenv.com	
Project Name: KDX 17-25		Turn Around	
Project Number: 031828010		Pres. Code	
Project Location: Eddy County		Routine <input checked="" type="checkbox"/> Rush: <input type="checkbox"/>	
Sampler's Name: Anna Byers		Due Date:	
PO #: 2RP-4198		Quote #:	

SAMPLE RECEIPT				ANALYSIS REQUEST				PRESERVATIVE CODES	
Temp Blank:	Temp Blank:	Wet Ice:	Thermometer ID						
1.0/0.8	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	T-M-007						
Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor: -0.2							
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Total Containers: 20							
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>								
Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 8008)
PH01		S	8/24/24	0919	1'	1			
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			

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Pb Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

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	Chae Critten	8/28/14:08			



## Chain of Custody

Work Order No: 621316

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 Crashtad, 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

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Page 2 of 2

Project Manager:	Joseph Hernandez	Bill to: (if different)	Lynnda 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:	432-594-5641	Email:	abyers@xenco.com

Program: <input type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:
Reporting Level: <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

Project Name:	RDX 17-25	Turn Around	<input checked="" type="checkbox"/>
Project Number:	034820018	Routine	<input checked="" type="checkbox"/>
Project Location:	Eddy County	Rush:	
Sampler's Name:	Anna Byers	Due Date:	
PO #:	2EP-4198	Quote #:	

SAMPLE RECEIPT	Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Temperature (°C):	1.0 / 0.8	Thermometer ID		
Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	-0.2	
Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Total Containers:		
Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes
PTH3C		S	8/27/24	1122	4'	1	TPH (EPA 8015)	MeOH: Me
PTH4				1433	1'	1	BTEX (EPA 8021)	None: NO
PTH4A				1438	2'	1	Chloride (EPA 300.0)	HNO3: HN
PTH4B				1444	4'	1		H2SO4: H2
PTH5				1518	1'	1		HCL: HL
PTH5A				1523	2'	1		NaOH: Na
PTH5B				1533	4'	2		Zn Acetate+ NaOH: Zn
PTH6				1634	1'	2		TAT starts the day received by the lab, if received by 4:00pm
PTH6A				1641	2.5'	2		
PTH6B				1655	4.5'	2		

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

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 Ti Sn U V Zn  
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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	Cue Ciften	8:28 14:08			
		2			
		4			
		6			

Revised Date 02/26/19 Rev. 2019.1

## 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

<b>Analysis Requested</b>	<b>Lab Id:</b> 676679-001 <b>Field Id:</b> CH01 @ 1.5-2' <b>Depth:</b> 1.5-2 ft <b>Matrix:</b> SOIL <b>Sampled:</b> 10.29.2020 10:00					
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b> 11.03.2020 09:30 <b>Analyzed:</b> 11.03.2020 16:09 <b>Units/RL:</b> 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					
<b>Chloride by EPA 300</b>	<b>Extracted:</b> 11.02.2020 16:33 <b>Analyzed:</b> 11.02.2020 20:22 <b>Units/RL:</b> mg/kg RL					
Chloride	344 9.96					
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b> 11.02.2020 16:30 <b>Analyzed:</b> 11.03.2020 01:59 <b>Units/RL:</b> 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





# 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: TN102385): Texas (T104704534-20-8)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



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,

A handwritten signature in black ink that reads "Jessica Kramer".

---

**Jessica Kramer**

Project Manager

*A Small Business and Minority Company*

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



## Sample Cross Reference 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



## 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



# 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	



# 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:  
Basis: Wet Weight

Seq Number: 3141311

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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		

## 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



## LT Environmental, Inc.

RDX 17-25

## Analytical Method: Chloride by EPA 300

Seq Number: 3141207

MB Sample Id: 7714384-1-BLK

Matrix: Solid

LCS Sample Id: 7714384-1-BKS

Prep Method: E300P

Date Prep: 11.02.2020

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

Seq Number: 3141207

Parent Sample Id: 676514-005

Matrix: Soil

MS Sample Id: 676514-005 S

Prep Method: E300P

Date Prep: 11.02.2020

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

Seq Number: 3141207

Parent Sample Id: 676679-001

Matrix: Soil

MS Sample Id: 676679-001 S

Prep Method: E300P

Date Prep: 11.02.2020

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

Seq Number: 3141201

MB Sample Id: 7714382-1-BLK

Matrix: Solid

LCS Sample Id: 7714382-1-BKS

Prep Method: SW8015P

Date Prep: 11.02.2020

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

Seq Number: 3141201

Matrix: Solid

MB Sample Id: 7714382-1-BLK

Prep Method: SW8015P

Date Prep: 11.02.2020

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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

## LT Environmental, Inc.

RDX 17-25

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3141201

Parent Sample Id: 676514-007

Matrix: Soil

MS Sample Id: 676514-007 S

Prep Method: SW8015P

Date Prep: 11.02.2020

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

Seq Number: 3141311

MB Sample Id: 7714461-1-BLK

Matrix: Solid

LCS Sample Id: 7714461-1-BKS

Prep Method: SW5035A

Date Prep: 11.03.2020

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

Seq Number: 3141311

Parent Sample Id: 676514-007

Matrix: Soil

MS Sample Id: 676514-007 S

Prep Method: SW5035A

Date Prep: 11.03.2020

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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



## Chain of Custody

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) 565-3443 Lubbock, TX (806) 794-1296  
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 233-3827  
Hobbs, NM (575-382-7550)

**Work Order No:**

676670

676679

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 86220
Phone:	281-702-2329	Email:	jhernandez@ltenv.com & abyers@ltenv.com

Work Order Comments				
Program: UST/PST	<input type="checkbox"/> RP	<input type="checkbox"/> Rowfields	<input type="checkbox"/> C	<input type="checkbox"/> perfund
State of Project:				
Reporting Level II	<input type="checkbox"/> Level III	<input type="checkbox"/> T/UST	<input type="checkbox"/> RP	<input type="checkbox"/> Level IV
Deliverables: EDD	<input type="checkbox"/>	ADAPT	<input type="checkbox"/>	Other:

<b>Project Name:</b>	RDX 17-25	<b>Turn Around</b>	<b>ANALYSIS REQUEST</b>								<b>Work Order Notes</b>
<b>Project Number:</b>	034820010	<b>Routine</b> <input checked="" type="checkbox"/>									
<b>P.O. Number:</b>	Liner	<b>Rush:</b>									
<b>Sampler's Name:</b>	Anna Byers	<b>Due Date:</b>									

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	1-2/-10	Thermometer ID					
Received Intact:	Yes	No			THM007		
Cooler Custody Seals:	Yes	No			Correction Factor:	-0.2	
Sample Custody Seals:	Yes	No			Total Containers:	1	

Number of Containers

(EPA 8015 Mod)

(EPA 8021B)


(EPA 300.0)

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

[illegible]

Circle Method(s) and Metal(s) to be analyzed	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 II Sn U V Zn	
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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 Xcnco. Its affiliates and subcontractors. It assigns standard terms and conditions of service. Xcnco 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 Xcnco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xcnco, 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 <i>Kenn Bryer</i>		11/2/20 15:50	2		
3			4		
5			6		

Revised Date 05/14/18 Rev. 2018

# 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

## 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

<b>Analysis Requested</b>	<b>Lab Id:</b> 676680-001 <b>Field Id:</b> CH01 @3.5-4' <b>Depth:</b> 3.5-4 ft <b>Matrix:</b> SOIL <b>Sampled:</b> 10.29.2020 10:52					
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b> 11.03.2020 09:30 <b>Analyzed:</b> 11.03.2020 16:32 <b>Units/RL:</b> 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					
<b>Chloride by EPA 300</b>	<b>Extracted:</b> 11.02.2020 16:33 <b>Analyzed:</b> 11.02.2020 20:39 <b>Units/RL:</b> mg/kg RL					
Chloride	3230 49.9					
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b> 11.02.2020 16:30 <b>Analyzed:</b> 11.03.2020 02:18 <b>Units/RL:</b> 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





# 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: TN102385): Texas (T104704534-20-8)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



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,

A handwritten signature in black ink that reads "Jessica Kramer".

---

**Jessica Kramer**

Project Manager

*A Small Business and Minority Company*

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



Sample Cross Reference 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



## 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



# 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
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>16.3</b>	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
<b>Total TPH</b>	PHC635	<b>16.3</b>	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	



# 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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		

## 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



## LT Environmental, Inc.

RDX 17-25

## Analytical Method: Chloride by EPA 300

Seq Number: 3141207

MB Sample Id: 7714384-1-BLK

Matrix: Solid

LCS Sample Id: 7714384-1-BKS

Prep Method: E300P

Date Prep: 11.02.2020

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

Seq Number: 3141207

Parent Sample Id: 676514-005

Matrix: Soil

MS Sample Id: 676514-005 S

Prep Method: E300P

Date Prep: 11.02.2020

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

Seq Number: 3141207

Parent Sample Id: 676679-001

Matrix: Soil

MS Sample Id: 676679-001 S

Prep Method: E300P

Date Prep: 11.02.2020

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

Seq Number: 3141201

MB Sample Id: 7714382-1-BLK

Matrix: Solid

LCS Sample Id: 7714382-1-BKS

Prep Method: SW8015P

Date Prep: 11.02.2020

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

Seq Number: 3141201

Matrix: Solid

MB Sample Id: 7714382-1-BLK

Prep Method: SW8015P

Date Prep: 11.02.2020

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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

## LT Environmental, Inc.

RDX 17-25

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3141201

Parent Sample Id: 676514-007

Matrix: Soil

MS Sample Id: 676514-007 S

Prep Method: SW8015P

Date Prep: 11.02.2020

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

Seq Number: 3141311

MB Sample Id: 7714461-1-BLK

Matrix: Solid

LCS Sample Id: 7714461-1-BKS

Prep Method: SW5035A

Date Prep: 11.03.2020

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

Seq Number: 3141311

Parent Sample Id: 676514-007

Matrix: Soil

MS Sample Id: 676514-007 S

Prep Method: SW5035A

Date Prep: 11.03.2020

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 508-3334  
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)

Chain of Custody

Work Order No:

676680

Project Manager:	Joseph Hernandez	Bill to: (if different)	Lynda Laumbach
Company Name:	LT Environmental, Inc.	Company Name:	WPC 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

Program: UST/PST	<input type="checkbox"/> RP	<input type="checkbox"/> Downfields	<input type="checkbox"/> C	<input type="checkbox"/> Spentfund	<input type="checkbox"/>
State of Project:					
Reporting Level II	<input type="checkbox"/> Level III	<input type="checkbox"/> T/U/ST	<input type="checkbox"/> RP	<input type="checkbox"/> Level IV	<input type="checkbox"/>
Deliverables: EDD	<input type="checkbox"/>	AdAPT	<input type="checkbox"/>	Other:	

Project Name:	RDX 17-25	Turn Around	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Rush
Project Number:	034820010			
P.O. Number:	Liner			
Sampler's Name:	Anna Byers	Due Date:		
<b>SAMPLE RECEIPT</b>				
Temperature (°C):	1-21-0	Temp Blank:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Received Intact:	Yes	No	Wet Ice:	<input checked="" type="checkbox"/> Yes
Cooler Custody Seals:	Yes	No	Thermometer ID	7NN007
Sample Custody Seals:	Yes	No	Correction Factor:	-0.2
			Total Containers:	1
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth
CHX1 @ 3.5-4'	S	10/20/20	10:25	3.5-4'
<b>ANALYSIS REQUEST</b>				
Number of Containers				
TPH (EPA 8015 Mod)				
BTEX (EPA 8021B)				
Chloride (EPA 300.0)				
TAT starts the day received 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 Ti 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 Ti 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 Xenoco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenoco 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 Xenoco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenoco, 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	2	10/20 15:50	3	4	
5	6				

# 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

## 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

<b>Analysis Requested</b>	<b>Lab Id:</b> 676707-001 <b>Field Id:</b> CH01 @ 5.5-6' <b>Depth:</b> 5.5-6 ft <b>Matrix:</b> SOIL <b>Sampled:</b> 10.29.2020 10:55					
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b> 11.03.2020 14:07 <b>Analyzed:</b> 11.03.2020 17:47 <b>Units/RL:</b> 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					
<b>Inorganic Anions by EPA 300</b>	<b>Extracted:</b> 11.03.2020 13:00 <b>Analyzed:</b> 11.03.2020 15:21 <b>Units/RL:</b> mg/kg RL					
Chloride	606 49.9					
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b> 11.03.2020 13:27 <b>Analyzed:</b> 11.03.2020 16:21 <b>Units/RL:</b> 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





# 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: TN102385): Texas (T104704534-20-8)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



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,

A handwritten signature in black ink that reads "Jessica Kramer".

---

**Jessica Kramer**

Project Manager

*A Small Business and Minority Company*

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



Sample Cross Reference 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



## 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



# 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:

Seq Number: 3141306

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<b>606</b>	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:

Seq Number: 3141297

Basis: Wet Weight

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	



# 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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		

## 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



## LT Environmental, Inc.

RDX 17-25

## Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3141306

Matrix: Solid

Prep Method: E300P

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

Seq Number: 3141306

Matrix: Soil

Prep Method: E300P

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

Seq Number: 3141306

Matrix: Soil

Prep Method: E300P

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

Seq Number: 3141297

Matrix: Solid

Prep Method: SW8015P

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

Seq Number: 3141297

Matrix: Solid

Prep Method: SW8015P

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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



## LT Environmental, Inc.

RDX 17-25

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3141297

Parent Sample Id: 676707-001

Matrix: Soil

MS Sample Id: 676707-001 S

Prep Method: SW8015P

Date Prep: 11.03.2020

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

Seq Number: 3141303

MB Sample Id: 7714462-1-BLK

Matrix: Solid

LCS Sample Id: 7714462-1-BKS

Prep Method: SW5035A

Date Prep: 11.03.2020

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

Seq Number: 3141303

Parent Sample Id: 676707-001

Matrix: Soil

MS Sample Id: 676707-001 S

Prep Method: SW5035A

Date Prep: 11.03.2020

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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



## Chain of Custody

Work Order No: 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) 565-3443 Lubbock, TX (806) 794-1296  
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 281-2550  
Hobbs, NM (575-392-7550)

[www.xenco.com](http://www.xenco.com)

Page \_\_\_\_ of \_\_\_\_

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	<input type="checkbox"/> RP	<input type="checkbox"/> nowfields	<input type="checkbox"/> C	<input type="checkbox"/> perfund
State of Project:				
Reporting Level II	<input type="checkbox"/> pvel III	<input type="checkbox"/> T/UST	<input type="checkbox"/> RP	<input type="checkbox"/> del IV
Deliverables: EDD	<input type="checkbox"/>	ADAPT	<input type="checkbox"/>	Other:

[illegible]

**Total 200.7 / 6010      200.8 / 6020:**  
Circle Method(s) and Metal(s) to be

8RCRA	13PPM	Texas	11	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO <sub>2</sub>	Na	Sn	Ti	Sn	U	V	Zn
<p>TCPLP/SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U</p> <p>1631 / 245 1 / 7470 17474 17477 17478 17479 17480 17481 17482 17483 17484 17485 17486 17487 17488 17489 17490 17491 17492 17493 17494 17495 17496 17497 17498 17499 17500 17501 17502 17503 17504 17505 17506 17507 17508 17509 17510 17511 17512 17513 17514 17515 17516 17517 17518 17519 17520 17521 17522 17523 17524 17525 17526 17527 17528 17529 17530 17531 17532 17533 17534 17535 17536 17537 17538 17539 17540 17541 17542 17543 17544 17545 17546 17547 17548 17549 17550 17551 17552 17553 17554 17555 17556 17557 17558 17559 17560 17561 17562 17563 17564 17565 17566 17567 17568 17569 17570 17571 17572 17573 17574 17575 17576 17577 17578 17579 17580 17581 17582 17583 17584 17585 17586 17587 17588 17589 17590 17591 17592 17593 17594 17595 17596 17597 17598 17599 17600 17601 17602 17603 17604 17605 17606 17607 17608 17609 17610 17611 17612 17613 17614 17615 17616 17617 17618 17619 17620 17621 17622 17623 17624 17625 17626 17627 17628 17629 17630 17631 17632 17633 17634 17635 17636 17637 17638 17639 17640 17641 17642 17643 17644 17645 17646 17647 17648 17649 17650 17651 17652 17653 17654 17655 17656 17657 17658 17659 17660 17661 17662 17663 17664 17665 17666 17667 17668 17669 17670 17671 17672 17673 17674 17675 17676 17677 17678 17679 17680 17681 17682 17683 17684 17685 17686 17687 17688 17689 17690 17691 17692 17693 17694 17695 17696 17697 17698 17699 17700 17701 17702 17703 17704 17705 17706 17707 17708 17709 17710 17711 17712 17713 17714 17715 17716 17717 17718 17719 17720 17721 17722 17723 17724 17725 17726 17727 17728 17729 17730 17731 17732 17733 17734 17735 17736 17737 17738 17739 17740 17741 17742 17743 17744 17745 17746 17747 17748 17749 17750 17751 17752 17753 17754 17755 17756 17757 17758 17759 17760 17761 17762 17763 17764 17765 17766 17767 17768 17769 17770 17771 17772 17773 17774 17775 17776 17777 17778 17779 17780 17781 17782 17783 17784 17785 17786 17787 17788 17789 17790 17791 17792 17793 17794 17795 17796 17797 17798 17799 17800 17801 17802 17803 17804 17805 17806 17807 17808 17809 17810 17811 17812 17813 17814 17815 17816 17817 17818 17819 17820 17821 17822 17823 17824 17825 17826 17827 17828 17829 17830 17831 17832 17833 17834 17835 17836 17837 17838 17839 17840 17841 17842 17843 17844 17845 17846 17847 17848 17849 17850 17851 17852 17853 17854 17855 17856 17857 17858 17859 17860 17861 17862 17863 17864 17865 17866 17867 17868 17869 17870 17871 17872 17873 17874 17875 17876 17877 17878 17879 17880 17881 17882 17883 17884 17885 17886 17887 17888 17889 17890 17891 17892 17893 17894 17895 17896 17897 17898 17899 17900 17901 17902 17903 17904 17905 17906 17907 17908 17909 17910 17911 17912 17913 17914 17915 17916 17917 17918 17919 17920 17921 17922 17923 17924 17925 17926 17927 17928 17929 17930 17931 17932 17933 17934 17935 17936 17937 17938 17939 17940 17941 17942 17943 17944 17945 17946 17947 17948 17949 17950 17951 17952 17953 17954 17955 17956 17957 17958 17959 17960 17961 17962 17963 17964 17965 17966 17967 17968 17969 17970 17971 17972 17973 17974 17975 17976 17977 17978 17979 17980 17981 17982 17983 17984 17985 17986 17987 17988 17989 17990 17991 17992 17993 17994 17995 17996 17997 17998 17999 18000 18001 18002 18003 18004 18005 18006 18007 18008 18009 18010 18011 18012 18013 18014 18015 18016 18017 18018 18019 18020 18021 18022 18023 18024 18025 18026 18027 18028 18029 18030 18031 18032 18033 18034 18035 18036 18037 18038 18039 18040 18041 18042 18043 18044 18045 18046 18047 18048 18049 18050 18051 18052 18053 18054 18055 18056 18057 18058 18059 18060 18061 18062 18063 18064 18065 18066 18067 18068 18069 18070 18071 18072 18073 18074 18075 18076 18077 18078 18079 18080 18081 18082 18083 18084 18085 18086 18087 18088 18089 18090 18091 18092 18093 18094 18095 18096 18097 18098 18099 18100 18101 18102 18103 18104 18105 1</p>																															

**Notice:** Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenoco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenoco 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 Xenoco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenoco, 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		

# 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
#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


Samples received in bulk containers.

\* 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

## 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

<b>Analysis Requested</b>	<b>Lab Id:</b> 676709-001 <b>Field Id:</b> CH02 @ 1-1.5' <b>Depth:</b> 1-1.5 ft <b>Matrix:</b> SOIL <b>Sampled:</b> 10.29.2020 11:35					
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b> 11.03.2020 09:30 <b>Analyzed:</b> 11.03.2020 18:37 <b>Units/RL:</b> 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					
<b>Inorganic Anions by EPA 300</b>	<b>Extracted:</b> 11.03.2020 13:00 <b>Analyzed:</b> 11.03.2020 15:43 <b>Units/RL:</b> mg/kg RL					
Chloride	342 10.0					
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b> 11.03.2020 13:27 <b>Analyzed:</b> 11.03.2020 17:42 <b>Units/RL:</b> 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

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





Environment Testing  
Xenco

# 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: TN102385): Texas (T104704534-20-8)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



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,

A handwritten signature in black ink that reads "Jessica Kramer".

**Jessica Kramer**

Project Manager

*A Small Business and Minority Company*

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



## Sample Cross Reference 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



## 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



# 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:

Seq Number: 3141306

Basis: Wet Weight

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:

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 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

1-Chlorooctane

o-Terphenyl

Cas Number

% Recovery

Units

Limits

Analysis Date

Flag

111-85-3

134

%

70-135

11.03.2020 17:42

84-15-1

127

%

70-135

11.03.2020 17:42



# 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	<b>0.00783</b>	0.00201	mg/kg	11.03.2020 18:37		1
Ethylbenzene	100-41-4	<b>0.0187</b>	0.00201	mg/kg	11.03.2020 18:37		1
m,p-Xylenes	179601-23-1	<b>0.0368</b>	0.00402	mg/kg	11.03.2020 18:37		1
o-Xylene	95-47-6	<b>0.0433</b>	0.00201	mg/kg	11.03.2020 18:37		1
Total Xylenes	1330-20-7	<b>0.0801</b>	0.00201	mg/kg	11.03.2020 18:37		1
Total BTEX		<b>0.107</b>	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		

## 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



## LT Environmental, Inc.

RDX 17-25

## Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3141306

Matrix: Solid

Prep Method: E300P

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

Seq Number: 3141306

Matrix: Soil

Prep Method: E300P

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

Seq Number: 3141306

Matrix: Soil

Prep Method: E300P

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

Seq Number: 3141297

Matrix: Solid

Prep Method: SW8015P

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

Seq Number: 3141297

Matrix: Solid

Prep Method: SW8015P

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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

## LT Environmental, Inc.

RDX 17-25

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3141297

Parent Sample Id: 676707-001

Matrix: Soil

MS Sample Id: 676707-001 S

Prep Method: SW8015P

Date Prep: 11.03.2020

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

Seq Number: 3141311

MB Sample Id: 7714461-1-BLK

Matrix: Solid

LCS Sample Id: 7714461-1-BKS

Prep Method: SW5035A

Date Prep: 11.03.2020

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

Seq Number: 3141311

Parent Sample Id: 676514-007

Matrix: Soil

MS Sample Id: 676514-007 S

Prep Method: SW5035A

Date Prep: 11.03.2020

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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



Work Order No: 626709

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)

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:	jhermandez@ltenv.com & abeyers@ltenv.com

<b>Work Order Comments</b> Program: UST/PST <input type="checkbox"/> RP <input type="checkbox"/> Brownfields <input type="checkbox"/> C <input type="checkbox"/> S <input type="checkbox"/> perfund <input type="checkbox"/> State of Project: Reporting Level II <input type="checkbox"/> pvel III <input type="checkbox"/> T/UST <input type="checkbox"/> RP <input type="checkbox"/> I <input type="checkbox"/> el IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other:			
--	--	--	--



[illegible]

**Total 200.7 / 6010      200.8 / 6020:**  
*Circle Method(s) and Metal(s) to be analyzed*

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO<sub>2</sub> Na Sr Ti Sn U V Zn  
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U  
 1631 / 245.1 / 7470 / 74

1631 / 245.1 / 7470 / 7471 : Hg

**Notice:** Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenoco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenoco 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 Xenoco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenoco, 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		

# 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
#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


Samples received in bulk containers.

\* 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

## 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

<b>Analysis Requested</b>	<b>Lab Id:</b> 676712-001 <b>Field Id:</b> CH02 @ 1.5- 2' <b>Depth:</b> 1.5-2 ft <b>Matrix:</b> SOIL <b>Sampled:</b> 10.29.2020 11:48					
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b> 11.03.2020 09:30 <b>Analyzed:</b> 11.04.2020 10:23 <b>Units/RL:</b> 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					
<b>Inorganic Anions by EPA 300</b>	<b>Extracted:</b> 11.03.2020 13:00 <b>Analyzed:</b> 11.03.2020 15:54 <b>Units/RL:</b> mg/kg RL					
Chloride	660 10.0					
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b> 11.03.2020 13:27 <b>Analyzed:</b> 11.03.2020 18:22 <b>Units/RL:</b> 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

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





Environment Testing  
Xenco

# 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: TN102385): Texas (T104704534-20-8)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



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,

A handwritten signature in black ink that reads "Jessica Kramer".

---

**Jessica Kramer**

Project Manager

*A Small Business and Minority Company*

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



Sample Cross Reference 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



## 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:**

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**Sample receipt non conformances and comments per sample:**

None



# 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:

Seq Number: 3141306

Basis: Wet Weight

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:

Seq Number: 3141297

Basis: Wet Weight

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	



# 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	<b>0.0667</b>	0.0196	mg/kg	11.04.2020 10:23		1
m,p-Xylenes	179601-23-1	<b>0.377</b>	0.0392	mg/kg	11.04.2020 10:23		1
o-Xylene	95-47-6	<b>0.150</b>	0.0196	mg/kg	11.04.2020 10:23		1
Total Xylenes	1330-20-7	<b>0.527</b>	0.0196	mg/kg	11.04.2020 10:23		1
Total BTEX		<b>0.594</b>	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	

## 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



## LT Environmental, Inc.

RDX 17-25

## Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3141306

Matrix: Solid

Prep Method: E300P

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

Seq Number: 3141306

Matrix: Soil

Prep Method: E300P

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

Seq Number: 3141306

Matrix: Soil

Prep Method: E300P

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

Seq Number: 3141297

Matrix: Solid

Prep Method: SW8015P

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

Seq Number: 3141297

Matrix: Solid

Prep Method: SW8015P

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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



## LT Environmental, Inc.

RDX 17-25

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3141297

Parent Sample Id: 676707-001

Matrix: Soil

MS Sample Id: 676707-001 S

Prep Method: SW8015P

Date Prep: 11.03.2020

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

Seq Number: 3141311

MB Sample Id: 7714461-1-BLK

Matrix: Solid

LCS Sample Id: 7714461-1-BKS

Prep Method: SW5035A

Date Prep: 11.03.2020

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

Seq Number: 3141311

Parent Sample Id: 676514-007

Matrix: Soil

MS Sample Id: 676514-007 S

Prep Method: SW5035A

Date Prep: 11.03.2020

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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



**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  
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8900) Tampa, FL (813) 281-3921  
Hobbs, NM (575-392-7550)

Page 1 of 1

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



  

<b>Work Order Comments</b>					
<b>Program:</b>	UST/PST	<input type="checkbox"/> RP	<input type="checkbox"/> Brownfields	<input checked="" type="checkbox"/> RC	<input type="checkbox"/> Superfund
<b>State of Project:</b>					
<b>Reporting Level II</b>	<input type="checkbox"/> Bayel III	<input type="checkbox"/> BT/UST	T	<input type="checkbox"/> RP	<input type="checkbox"/> I
<b>Deliverables:</b>	EDD	<input type="checkbox"/>	ADAPT	<input type="checkbox"/>	Other:

[illegible]

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO<sub>2</sub> Na Sr Ti Sn U V Zn  
 TCLP / S/PLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471: Hg

Notice: Signature of this customer and relinquishment of samples constitutes a valid purchase order from client company to Xeno, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xeno 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 Xeno. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xeno, 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
		11/2/20 15:50			

## 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

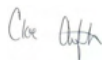
#1 *Temperature of cooler(s)?	1	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 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

## 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

<b>Analysis Requested</b>	<b>Lab Id:</b> 676713-001 <b>Field Id:</b> CH02 @3.5-4' <b>Depth:</b> 3.5-4 ft <b>Matrix:</b> SOIL <b>Sampled:</b> 10.29.2020 12:10					
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b> 11.03.2020 09:30 <b>Analyzed:</b> 11.03.2020 19:44 <b>Units/RL:</b> 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					
<b>Inorganic Anions by EPA 300</b>	<b>Extracted:</b> 11.03.2020 13:00 <b>Analyzed:</b> 11.03.2020 16:10 <b>Units/RL:</b> mg/kg RL					
Chloride	212 10.0					
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b> 11.03.2020 13:27 <b>Analyzed:</b> 11.03.2020 18:43 <b>Units/RL:</b> 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

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





Environment Testing  
Xenco

# 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: TN102385): Texas (T104704534-20-8)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



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,

A handwritten signature in black ink that reads "Jessica Kramer".

**Jessica Kramer**

Project Manager

*A Small Business and Minority Company*

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



Sample Cross Reference 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



## 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



# 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	



# 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	<b>0.0244</b>	0.00202	mg/kg	11.03.2020 19:44		1
Ethylbenzene	100-41-4	<b>0.0502</b>	0.00202	mg/kg	11.03.2020 19:44		1
m,p-Xylenes	179601-23-1	<b>0.437</b>	0.00403	mg/kg	11.03.2020 19:44		1
o-Xylene	95-47-6	<b>0.135</b>	0.00202	mg/kg	11.03.2020 19:44		1
Total Xylenes	1330-20-7	<b>0.572</b>	0.00202	mg/kg	11.03.2020 19:44		1
Total BTEX		<b>0.647</b>	0.00202	mg/kg	11.03.2020 19:44		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		

## 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



## LT Environmental, Inc.

RDX 17-25

## Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3141306

Matrix: Solid

Prep Method: E300P

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

Seq Number: 3141306

Matrix: Soil

Prep Method: E300P

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

Seq Number: 3141306

Matrix: Soil

Prep Method: E300P

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

Seq Number: 3141297

Matrix: Solid

Prep Method: SW8015P

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

Seq Number: 3141297

Matrix: Solid

Prep Method: SW8015P

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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

## LT Environmental, Inc.

RDX 17-25

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3141297

Parent Sample Id: 676707-001

Matrix: Soil

MS Sample Id: 676707-001 S

Prep Method: SW8015P

Date Prep: 11.03.2020

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

Seq Number: 3141311

MB Sample Id: 7714461-1-BLK

Matrix: Solid

LCS Sample Id: 7714461-1-BKS

Prep Method: SW5035A

Date Prep: 11.03.2020

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

Seq Number: 3141311

Parent Sample Id: 676514-007

Matrix: Soil

MS Sample Id: 676514-007 S

Prep Method: SW5035A

Date Prep: 11.03.2020

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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



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) 885-3443 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)

Chain of Custody

Work Order No: 1676713

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

Program: UST/PST	<input type="checkbox"/> RP	<input type="checkbox"/> Brownfields	<input type="checkbox"/> C	<input type="checkbox"/> I	<input type="checkbox"/> perfund
State of Project:					
Reporting Level II	<input type="checkbox"/> Level III	<input type="checkbox"/> T/UST	<input type="checkbox"/> RP	<input type="checkbox"/> I	<input type="checkbox"/> IV
Deliverables: EDD	<input type="checkbox"/> ADAPT	Other:			

Project Name:	RDX 17-25	Turn Around		ANALYSIS REQUEST	Work Order Notes	
Project Number:	034820010	Routine	<input checked="" type="checkbox"/>			
P.O. Number:	Liner	Rush:				
Sampler's Name:	Anna Byers	Due Date:				
SAMPLE RECEIPT						
Temperature (°C):	12/1.0	Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID	4NM007			
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	-0.2			
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Containers:	1			
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	
CH2 @ 3.5-4'	S	10/24/20	12:00	3.5-4'		TPH (EPA 8015 Mod)
						BTEX (EPA 8021B)
						Chloride (EPA 300.0)
TAT starts the day received 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 Ti 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 Ti U

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenoco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenoco 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 Xenoco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenoco, 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. <i>Anna Byers</i>	<i>[Signature]</i>	10/20 15:50	2.		
3.			4.		
5.			6.		

# 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

Checklist reviewed by:



Jessica Kramer

Date: 11.03.2020

## 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

<b>Analysis Requested</b>	<b>Lab Id:</b> 676715-001 <b>Field Id:</b> CH02 @ 5.5-6' <b>Depth:</b> 5.5-6 ft <b>Matrix:</b> SOIL <b>Sampled:</b> 10.29.2020 12:30					
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b> 11.03.2020 09:30 <b>Analyzed:</b> 11.03.2020 20:06 <b>Units/RL:</b> 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					
<b>Inorganic Anions by EPA 300</b>	<b>Extracted:</b> 11.03.2020 13:00 <b>Analyzed:</b> 11.03.2020 16:16 <b>Units/RL:</b> mg/kg RL					
Chloride	148 49.9					
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b> 11.03.2020 13:27 <b>Analyzed:</b> 11.03.2020 19:03 <b>Units/RL:</b> 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

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





# 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: TN102385): Texas (T104704534-20-8)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



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,

A handwritten signature in black ink that reads "Jessica Kramer".

**Jessica Kramer**

Project Manager

*A Small Business and Minority Company*

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



Sample Cross Reference 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



## 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:**

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**Sample receipt non conformances and comments per sample:**

None



# 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
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>99.0</b>	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
<b>Total TPH</b>	PHC635	<b>99.0</b>	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	



# 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:  
Basis: Wet Weight

Seq Number: 3141311

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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		

## 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



## LT Environmental, Inc.

RDX 17-25

## Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3141306

MB Sample Id: 7714455-1-BLK

Matrix: Solid

LCS Sample Id: 7714455-1-BKS

Prep Method: E300P

Date Prep: 11.03.2020

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

Seq Number: 3141306

Parent Sample Id: 676707-001

Matrix: Soil

MS Sample Id: 676707-001 S

Prep Method: E300P

Date Prep: 11.03.2020

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

Seq Number: 3141306

Parent Sample Id: 676720-001

Matrix: Soil

MS Sample Id: 676720-001 S

Prep Method: E300P

Date Prep: 11.03.2020

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

Seq Number: 3141297

MB Sample Id: 7714426-1-BLK

Matrix: Solid

LCS Sample Id: 7714426-1-BKS

Prep Method: SW8015P

Date Prep: 11.03.2020

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

Seq Number: 3141297

Matrix: Solid

MB Sample Id: 7714426-1-BLK

Prep Method: SW8015P

Date Prep: 11.03.2020

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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



## LT Environmental, Inc.

RDX 17-25

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3141297

Parent Sample Id: 676707-001

Matrix: Soil

MS Sample Id: 676707-001 S

Prep Method: SW8015P

Date Prep: 11.03.2020

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

Seq Number: 3141311

MB Sample Id: 7714461-1-BLK

Matrix: Solid

LCS Sample Id: 7714461-1-BKS

Prep Method: SW5035A

Date Prep: 11.03.2020

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

Seq Number: 3141311

Parent Sample Id: 676514-007

Matrix: Soil

MS Sample Id: 676514-007 S

Prep Method: SW5035A

Date Prep: 11.03.2020

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	

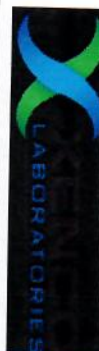
Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		101		70-130	%	11.03.2020 10:41
4-Bromofluorobenzene	107		117		70-130	%	11.03.2020 10:41

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

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

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

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



## Chain of Custody

**Work Order No.:**

6076715

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)565-3443 Lubbock, TX (806)794-1296  
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta GA (770-449-8800) Tampa FL (813) 251-1111

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Page 1 of 1


04

Project Manager:	Joseph Hernandez	Bill to: (if different)	Lynda Launbach
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	<input type="checkbox"/> RP <input type="checkbox"/> nonwfields <input type="checkbox"/> C <input type="checkbox"/> \$perfund <input type="checkbox"/>
State of Project:	
Reporting Level II	<input type="checkbox"/> level III <input type="checkbox"/> \$TUST <input type="checkbox"/> T <input type="checkbox"/> RP <input type="checkbox"/> level IV <input type="checkbox"/>
Deliverables: EDD	<input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

Project Name:	RDX 17-25	Turn Around Routine <input checked="" type="checkbox"/> Rush: <input type="checkbox"/>
Project Number:	034820010	
P.O. Number:	Liner	
Sampler's Name:	Anna Byers	
	Due Date:	

SAMPLE RECEIPT		Temp Blank:		Thermometer ID	
		Yes	No	Wet Ice:	Yes No
Temperature (°C):	-1.2 / -1.0				
Received intact:	<input checked="" type="radio"/> Yes <input type="radio"/> No				
Cooler Custody Seals:	Yes: <input checked="" type="radio"/> No: N/A			Correction Factor:	-0.2
Sample Custody Seals:	Yes: <input checked="" type="radio"/> No: N/A			Total Containers:	1

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EP)	BTEX (E)	Chloride	Sample Comments
CH02 @ 5.5-6'	S	10/29/02	1230	5.5-6'	1	X	X	X	
									

**Total 200.7 / 6010      200.8 / 6020:**

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo  
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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			01/27/20 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
#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


Samples received in bulk containers.

\* 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

## 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

<b>Analysis Requested</b>	<b>Lab Id:</b> 676719-001 <b>Field Id:</b> CH02 @ 8-8.5' <b>Depth:</b> 8-8.5 ft <b>Matrix:</b> SOIL <b>Sampled:</b> 10.29.2020 13:15					
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b> 11.03.2020 09:30 <b>Analyzed:</b> 11.03.2020 21:14 <b>Units/RL:</b> 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					
<b>Inorganic Anions by EPA 300</b>	<b>Extracted:</b> 11.03.2020 13:00 <b>Analyzed:</b> 11.03.2020 16:32 <b>Units/RL:</b> mg/kg RL					
Chloride	157 10.0					
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b> 11.03.2020 13:27 <b>Analyzed:</b> 11.03.2020 20:04 <b>Units/RL:</b> 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

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





# 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: TN102385): Texas (T104704534-20-8)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



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,

A handwritten signature in black ink that reads "Jessica Kramer".

**Jessica Kramer**

Project Manager

*A Small Business and Minority Company*

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



Sample Cross Reference 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



## 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:**

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**Sample receipt non conformances and comments per sample:**

None



# 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:

Seq Number: 3141306

Basis: Wet Weight

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:

Seq Number: 3141297

Basis: Wet Weight

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

1-Chlorooctane

o-Terphenyl

Cas Number

% Recovery

Units

Limits

Analysis Date

Flag

111-85-3

135

%

70-135

11.03.2020 20:04

84-15-1

124

%

70-135

11.03.2020 20:04



# 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:  
Basis: Wet Weight

Seq Number: 3141311

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
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
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		

## 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



## LT Environmental, Inc.

RDX 17-25

## Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3141306

Matrix: Solid

Prep Method: E300P

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

Seq Number: 3141306

Matrix: Soil

Prep Method: E300P

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

Seq Number: 3141306

Matrix: Soil

Prep Method: E300P

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

Seq Number: 3141297

Matrix: Solid

Prep Method: SW8015P

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

Seq Number: 3141297

Matrix: Solid

Prep Method: SW8015P

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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

## LT Environmental, Inc.

RDX 17-25

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3141297

Parent Sample Id: 676707-001

Matrix: Soil

MS Sample Id: 676707-001 S

Prep Method: SW8015P

Date Prep: 11.03.2020

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

Seq Number: 3141311

MB Sample Id: 7714461-1-BLK

Matrix: Solid

LCS Sample Id: 7714461-1-BKS

Prep Method: SW5035A

Date Prep: 11.03.2020

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

Seq Number: 3141311

Parent Sample Id: 676514-007

Matrix: Soil

MS Sample Id: 676514-007 S

Prep Method: SW5035A

Date Prep: 11.03.2020

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  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

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

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

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



## Chain of Custody

Work Order No: 676-719


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  
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 291-3924  
Hobbs, NM (575-392-7550)

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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	<input type="checkbox"/> RP <input type="checkbox"/> Rowfields <input type="checkbox"/> FC <input type="checkbox"/> \$perfund <input type="checkbox"/>
State of Project:	
Reporting Level II	<input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> T <input type="checkbox"/> RP <input type="checkbox"/> I <input type="checkbox"/> Del IV <input type="checkbox"/>
Deliverables: EDD	<input type="checkbox"/> ADAPT <input type="checkbox"/> 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:		Thermometer ID		
		Yes	No	Wet Ice:	Yes	No
Temperature (°C):	121.0					
Received intact:	Yes	No				
Cooler Custody Seals:	Yes	No		Correction Factor:	0.2	
Sample Custody Seals:	Yes	No		Total Containers:	1	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E)	BTEX (C)	Chloride	Sample Comments
CHP20 B-8.5'	S	10/29/06	1315	B-8.5'	1	X	X	Y	
									

Circle Method(s) and Metal(s) to be analyzed	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 SiO <sub>2</sub> Na Sr Ti Sn U V Zn	
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U		1631 / 245.1 / 7470 / 7471 : Hg

of service. Xeno 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 Xeno. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xeno, 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
		11/2/20 15:50			

## 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

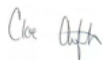
#1 *Temperature of cooler(s)?	1	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 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

**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

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS  
  
Action 253808

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 253808
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	8/22/2023