

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

OCT 05 2017

Form C-141
Revised April 3, 2017

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

RECEIVED

Release Notification and Corrective Action

NAB172B549561

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: RKI Exploration / WPX Energy <i>241-289</i>	Contact: Karolina Blaney
Address: 5315 Buena Vista Dr.	Telephone No. 970 589 0743
Facility Name: RDU 55	Facility Type: Well Pad

Surface Owner: Federal	Mineral Owner: Federal	API No. 30- 015-41976
------------------------	------------------------	-----------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	27	26S	30E	1650	FNL	990	FEL	Eddy

Latitude: 32.01616646 Longitude: -103.86368272 NAD83

NATURE OF RELEASE

(Per Mike B.)

Type of Release: Produced Water and Oil	Volume of Release: 6 bbls * <i>2 bbl Oil / 4 bbls PW</i>	Volume Recovered 7 bbls * (with stormwater) <i>1 bbl Oil / 3 bbls PW</i>
Source of Release: flowline	Date and Hour of Occurrence 9/30/17	Date and Hour of Discovery 9/30/2017 at 15:00
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? NMOCD Crystal Weaver & Michael Bratcher, BLM Shelly Tucker	
By Whom? Karolina Blaney	Date and Hour 9/30/17 at 20:30	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

The cause of this spill is equipment failure; corrosion of the buried flowline. The spilled fluids migrated ~50-60' south of that location but stayed within the original, pre-interim reclamation, disturbance.

Describe Area Affected and Cleanup Action Taken.*

The impacted area was immediately mapped with a Trimble to delineate the horizontal extent of the impacts. When the line locates were completed, the impacted area was scraped off and will be sampled for confirmation. 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>[Signature]</i>	
Title: Environmental Specialist	Approval Date: <i>10/5/17</i>	Expiration Date: <i>NIA</i>
E-mail Address: Karolina.blaney@wpxenergy.com	Conditions of Approval: <i>See Attached</i>	
Date: 10/5/17 Phone: 970 589 0743	Attached <input type="checkbox"/> <i>2 RP-4430</i>	

* Attach Additional Sheets If Necessary

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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:	nAB1728549561
District RP:	2RP-4430
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: WPX Energy Permian, LLC	OGRID: 246289
Contact Name: Jim Raley	Contact Telephone: 575-689-7597
Contact email: jim.raley@dvn.com	Incident # (assigned by OCD) nAB1728549561
Contact mailing address: 5315 Buena Vista Dr., Carlsbad, NM, 88220	

Location of Release Source

Latitude 32.01616646 Longitude -103.86368272
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Ross Draw Unit 55	Site Type: Well Pad
Date Release Discovered: 09/30/2017	API# (if applicable): 30-015-41976

Unit Letter	Section	Township	Range	County
H	27	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 checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) <u>2</u>	Volume Recovered (bbls) <u>1</u>
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <u>4</u>	Volume Recovered (bbls) <u>3</u>
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No <u>N/A</u>
<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:

Equipment failure; corrosion of a buried flowline. The spill fluids migrated approximately 50-60 feet south of the location, but stayed within the original, pre-interim reclamation, disturbance.

$$bbl\ estimate = \frac{saturated\ soil\ volume(ft^3)}{4.21(\frac{ft^3}{bbl\ equivalent})} * estimated\ soil\ porosity\ (%) + recovered\ fluids\ (bbls)$$

Initial Response

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

Released to Imaging: 2/16/2023 9:13:50 AM

Incident ID:	nAB1728549561
District RP:	2RP-4430
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?	<u>>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 not 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.
- ☒ 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.

Incident ID:	nAB1728549561
District RP:	2RP-4430
Facility ID	
Application ID	

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

Printed Name: Jim Raley Title: Environmental Professional

Signature:  Date: 12/15/2022

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

OCD Only

Received by: Jocelyn Harimon Date: 12/15/2022

Incident ID:	nAB1728549561
District RP:	2RP-4430
Facility ID	
Application ID	

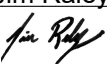
Closure

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

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

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


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

Printed Name: Jim Raley Title: Environmental Professional
Signature:  Date: 12/15/2022
email: jim.raley@dvn.com Telephone: 575-689-7597

OCD Only

Received by: Jocelyn Harimon Date: 12/15/2022

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

Closure Approved by:  Date: 2/16/2023
Printed Name: Ashley Maxwell Title: Environmental Specialist



CLOSURE REQUEST REPORT

Site Location:


**Ross Draw Unit 55
Eddy County, New Mexico
Incident Number nAB1728549561**

December 15, 2022
Ensolum Project No. 03A1987036

Prepared for:

**WPX Energy Permian, LLC
5315 Buena Vista Drive
Carlsbad, New Mexico 88220
Attention: Jim Raley**

Prepared by:


Benjamin J. Belill
Project Geologist

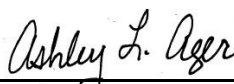

Ashley L. Ager, M.S., P.G.
Principal

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Appendix F: Email Correspondence

1.0 INTRODUCTION

1.1 Site Description

Ensolum, LLC (Ensolum) has prepared this *Closure Request Report* (CRR) to document site assessment, soil sampling activities and corrective actions performed to date by WPX Energy Permian, LLC (WPX) at the Ross Draw Unit 55 (Site), located in Unit H, Section 27, Township 26 South, Range 30 East, in Eddy County, New Mexico (**Figure 1 in Appendix A**). Based on all remedial actions and results of the soil sampling events completed for the release of crude oil and produced water at the Site, WPX respectfully requests no further action (NFA) for Incident Number nAB1728549561.

On May 21, 2021, a *Closure Request* (CR), authored by WPX, was submitted to the New Mexico Oil Conservation Division (NMOCD) for the subject release; however, WPX did not receive a response from NMOCD. As a result, WPX reassessed field activities previously completed and determined additional remedial actions were warranted to address the NMOCD's current application of the reclamation requirement in an area off pad. As such, WPX conducted additional remediation activities at the Site. All previous remediation activities and soil sample analytical results for the subject release can be referenced in the original CR and other submitted deliverable documents uploaded to NMOCD and Centrestack portal.

1.2 Release Background

On September 30, 2017, corrosion of a buried flowline caused the release of approximately 2 barrels (bbls) of oil and 4 bbls of produced water onto the well pad and adjacent pasture. Approximately 1 bbl of crude oil and 3 bbls of produced water were recovered through surface scraping within the release extent. The incident was reported to the NMOCD on a Release Notification and Corrective Action Form (Form C-141) on October 5, 2017 and was subsequently assigned incident number nAB1728549561. An updated Form C-141 (current revision August 24, 2018) is provided in this CRR.

1.3 Site Characterization

The Site was characterized to determine applicability of Table I, Closure Criteria for Soils Impacted by a Release, from 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 page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on **Figure 1 in Appendix A**.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on a soil boring (MW-1) that was drilled by Talon LPE for WPX on December 9, 2020, located approximately 130 feet east of the Site. The soil boring location is labeled RDU 55 on **Figure 1 in Appendix A**. Using a truck mounted drill rig, equipped with hollow stem augers, the soil boring was advanced to a total depth of 106.7 feet bgs. No fluids were observed within the soil boring after at least 72 hours. Following the observation period, the boring was properly plugged and abandoned. The well record and log are provided in **Appendix B**.

The closest continuously flowing or significant watercourse to the Site is an intermittent dry wash, located approximately 2,332 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet from a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area).

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 Hydrocarbon (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- Total Petroleum Hydrocarbon (TPH): 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the pasture area that was impacted by the release.

2.0 REMEDIATION ACTIVITIES

2.1 Previously Completed Field Activities

Between April 9, 2021 and May 6, 2021, WPX performed delineation activities to characterize the subject release by verifying the presence or absence of impacted soil as compared to the Site Closure Criteria and the reclamation requirement applied to the top 4 feet of pasture area. Delineation soil samples DS01 through DS15 were advanced to an approximate depth ranging from 2 feet bgs to 4 feet bgs. In general, a minimum of two soil samples were submitted from each delineation soil sample location. The location of the delineation soil samples are shown in **Figure 2 in Appendix A**.

Laboratory analytical results from all delineation soil samples indicated all chemicals of concern (COCs) were below the applicable Closure Criteria; however, chloride concentrations in soil from delineation soil samples DS11 and DS13, exceeded 600 mg/kg and additional remedial activities appeared warranted.

WPX excavated impacted soil in the vicinity of DS11 and DS13 and WPX collected 5-point composite samples from the floor and sidewalls of the excavation. Composite floor soil samples FS01 and FS02 were collected from the floor of the excavation at a depth of 4 feet bgs. Composite sidewall soil samples SW01 through SW04 were collected from the sidewalls of the excavation at an average depth of 2 feet bgs and included representative samples from the complete 4 feet of the sidewalls. Laboratory analytical results are summarized in **Table 1 in Appendix C** and sample locations are shown in **Figure 2 in Appendix A**. Approximately 80 cubic yards of waste-containing soil were excavated and hauled to a R360 landfill facility in Hobbs, New Mexico under WPX-approved manifests. The delineation and excavation activities were documented in the CR and submitted to the NMOCD.

Since WPX did not receive feedback from NMOCD regarding the May 21, 2021 CR, remedial actions were reviewed to identify any potential deficiencies. Delineation soil sample DS12 collected at 1-foot bgs, exceeded the reclamation requirement in the top 4 feet for TPH. As a result, WPX tasked Ensolum to oversee excavation of residual waste-containing soil in the vicinity of DS12.

2.2 Additional Excavation Activities

On July 12, 2022, Ensolum was onsite to oversee additional excavation activities. Excavation activities were performed utilizing heavy equipment and directed by referencing laboratory analytical results of delineation soil sample DS12 and field screening for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The excavation area was extended horizontally from the previously excavated area completed in May of 2021. A total of approximately 1,000 square feet was excavated to a depth of approximately 2 feet bgs.

Following the removal of impacted soil, Ensolum collected 5-point composite samples from any newly exposed portions of the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite floor soil samples FS03 through FS05 were collected at 2 feet bgs and composite sidewall soil samples SW01 through SW04 were collected from the sidewalls at depths ranging from the ground surface to 2 feet bgs.

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

Following final remediation activities, an additional 40 cubic yards of waste-containing soil were excavated and hauled to R360 landfill facility located in Orla, Texas under WPX-approved manifests. Including the 80 cubic yards excavated in May 2021, a total of approximately 120 cubic yards of waste-containing soil were removed from the Site. The excavation was backfilled with locally sourced topsoil to match pre-existing Site conditions. The final excavation extent and excavation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on **Figure 3** included in **Appendix A**. A photographic log of the excavation is included as **Appendix D**.

2.3 Laboratory Analytical Results

Analytical results indicated all COCs were in compliance with the Site Closure Criteria and the reclamation requirement in final delineation and excavation soil samples collected within the top four feet of pasture area. The analytical results are summarized on **Table 1** in **Appendix C**. The executed chain-of-custody forms and laboratory analytical reports are provided in **Appendix E**. **Appendix F** provides correspondence email notification receipts associated with the subject release.

3.0 CLOSURE REQUEST

The primary objectives of Ensolum's scope of services were to document remediation activities performed at the Site in accordance with the applicable NMOCD regulatory guidelines. Based on the results documented in this report, the following findings and conclusions regarding the subject release are presented:

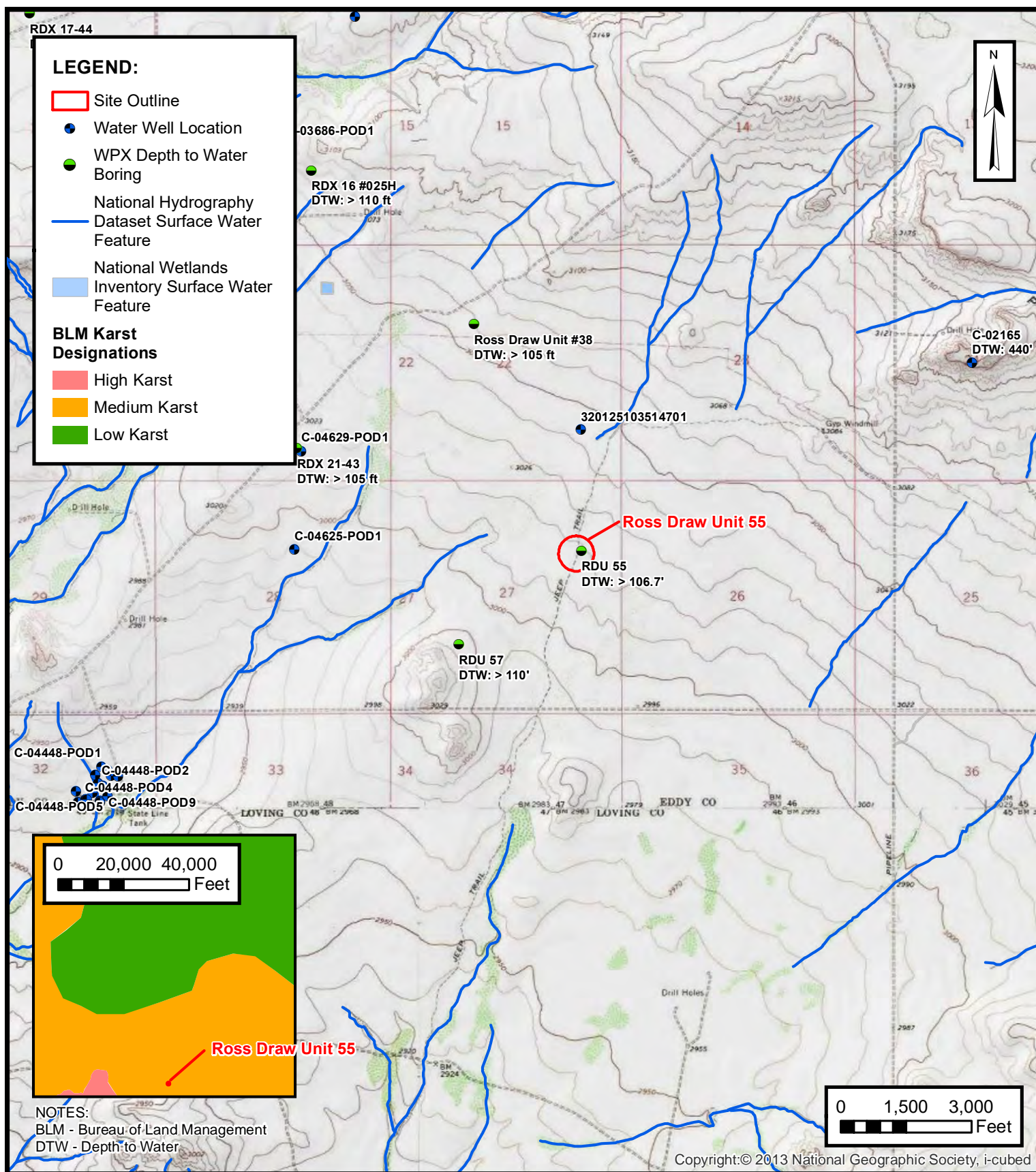
- Previously completed assessment activities conducted from April to May 2021 indicated impacted soil was observed in delineation soil samples DS11 at 2 feet bgs, and DS13 at 1-foot and 2 feet bgs. Based on the presence of impacted soil, WPX excavated approximately 80 cubic yards of waste-containing soil and transported for disposal at R360 landfill facility in Hobbs, New Mexico under WPX-approved manifests. Laboratory analytical results for composite soil samples FS01, FS02 and SW01 through SW04 were in compliance with the Site Closure Criteria and reclamation requirement;
- Upon further review, delineation soil sample DS12 collected at 1-foot bgs exceeded the reclamation requirement for TPH. As a result, WPX tasked Ensolum to oversee additional excavation activities;
- WPX excavated an additional 40 cubic yards of waste-containing soil for disposal at an R360 landfill facility in Orla, Texas under WPX-approved manifests. Laboratory analytical results for composite soil samples FS03 through FS05 and SW01 through SW04 were in compliance with the Site Closure Criteria and/or the reclamation requirement in the top 4 feet of the pasture;
- Based on excavation confirmation soil analytical results over an aerial extent of 1,000 square feet, an estimated total of **120 cubic yards** of impacted soil has been removed from the Site.
- The excavation has been backfilled with locally sourced topsoil to match pre-existing Site conditions.

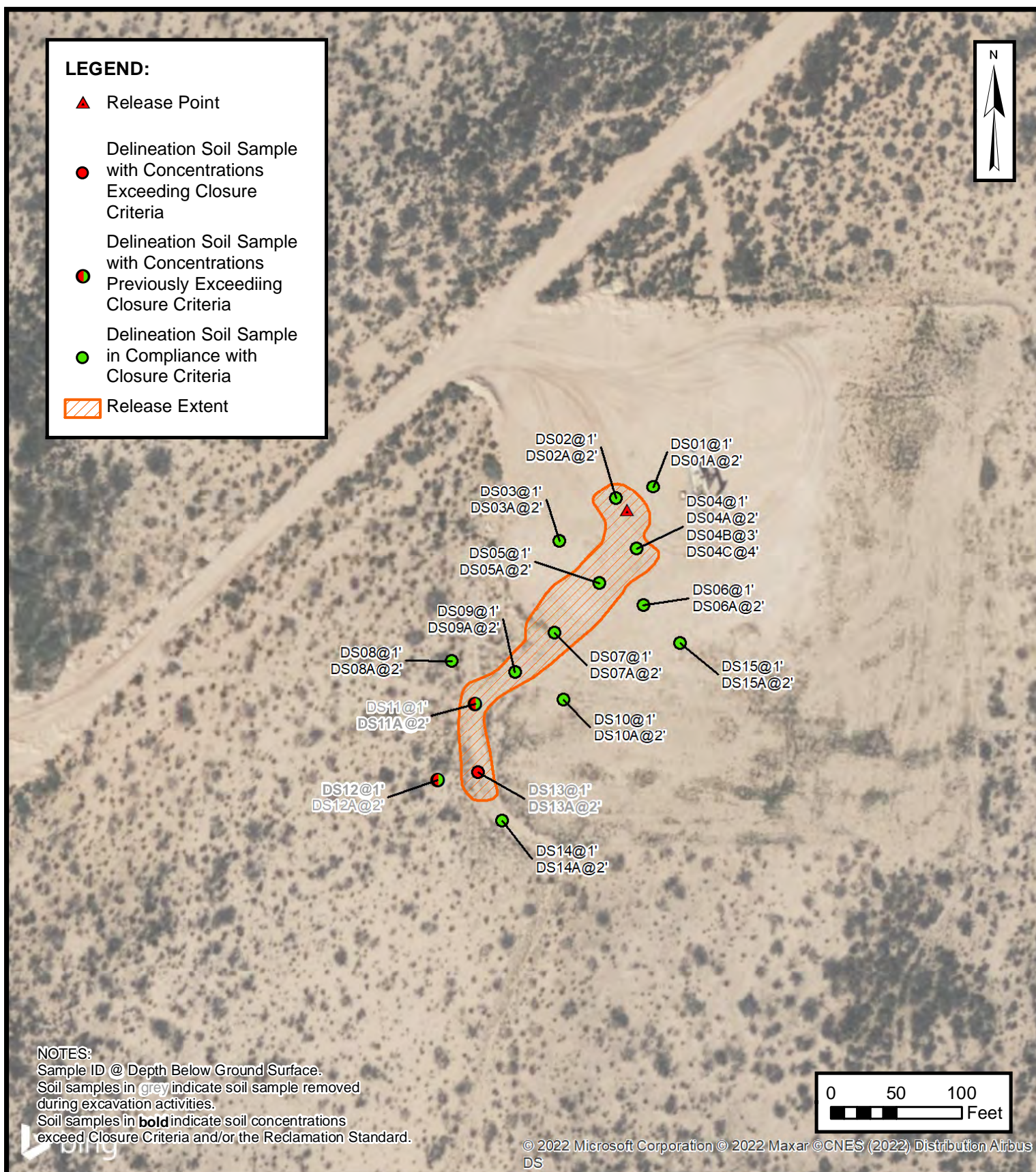
Based on the conclusions presented, WPX believes the remediation activities described above have met the requirements set forth in NMAC 19.15.29.13 to be protective of human health, the environment, and groundwater. As such, WPX respectfully requests NFA of Incident Number nAB1438549561.



APPENDIX A

Figures

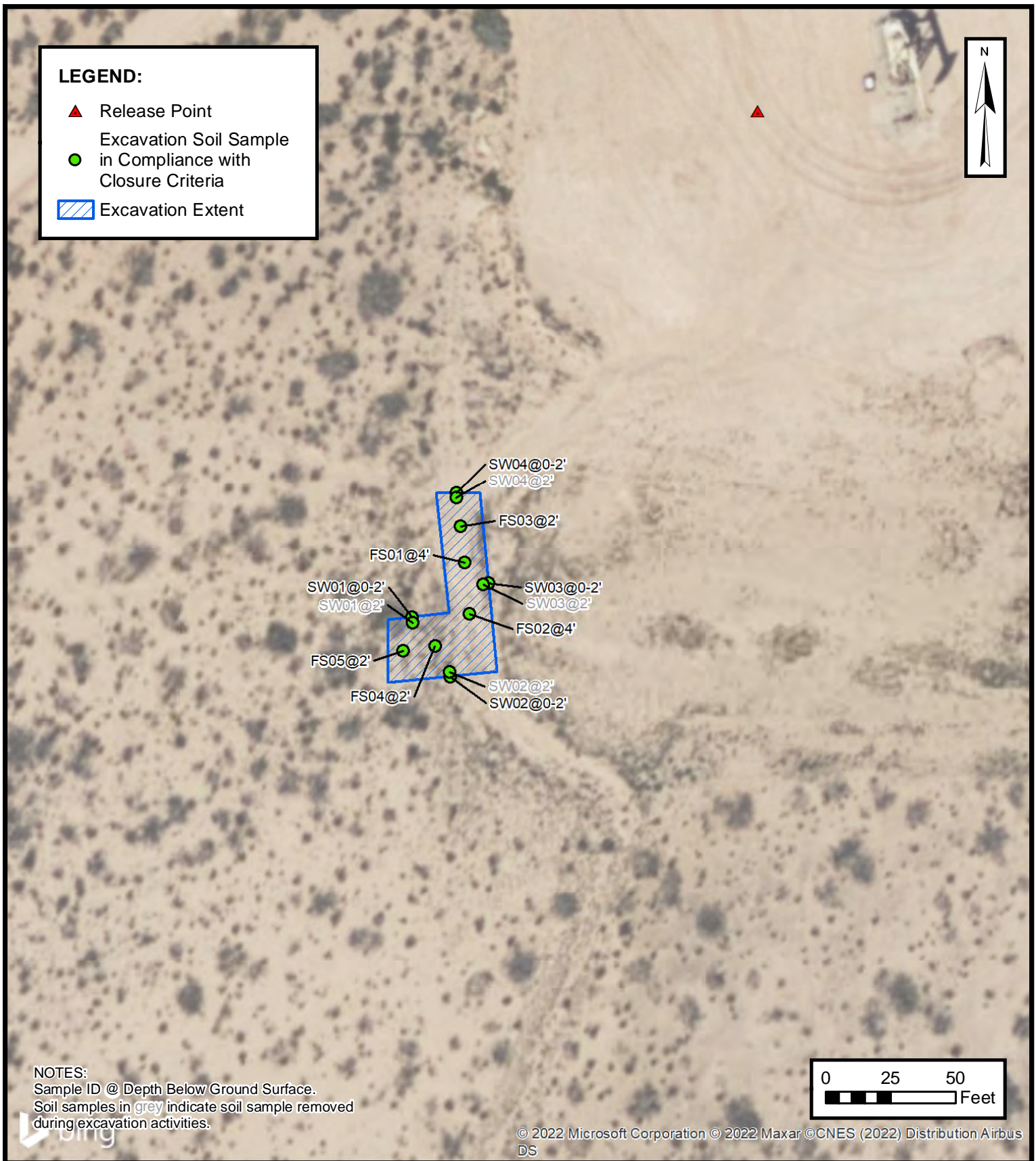




DELINEATION SOIL SAMPLE LOCATIONS

WPX ENERGY PERMIAN, LLC
 Ross Draw Unit 55
 Unit H Sec 27 T26S R30E
 Eddy County, New Mexico

FIGURE
2



EXCAVATION SOIL SAMPLE LOCATIONS


WPX ENERGY PERMIAN, LLC
 Ross Draw Unit 55
 Unit H Sec 27 T26S R30E
 Eddy County, New Mexico

FIGURE
3



APPENDIX B

Well Record and Log

 HRL COMPLIANCE SOLUTIONS							BORING LOG/MONITORING WELL COMPLETION DIAGRAM						
							Boring/Well Number: MW-1			Location: Ross Draw Unit #55			
							Date: 12/9/2020			Client: WPX Energy			
Drilling Method: Air Rotary			Sampling Method: None				Logged By: J. Linn, PG			Drilled By: Talon LPE			
Gravel Pack Type: 10/20 Sand			Gravel Pack Depth Interval: 3 Bags				Seal Type: None		Seal Depth Interval: None		Latitude: 32.016165		
Casing Type: PVC		Diameter: 2-inch		Depth Interval: 0-101'7"			Boring Total Depth (ft. BGS): 106'7"			Longitude: -103.86346			
Screen Type: PVC		Slot: 0.010-inch		Diameter: 2-inch		Depth Interval: 101'7" - 106'7"		Well Total Depth (ft. BGS): 106'7"			Depth to Water (ft. BTOC): >106' 7"		
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	SP	NS	Pale pink to buff colored poorly graded sand with minor silt				
5													
10													
15													
20	NM	L	D	N	N	NM	SW	NS	Pale tan orange well graded fine sand with minor medium and coarse sand				
25													
30													
35	NM	L	D	N	N	NM	SP	NS	Pale orange brown poorly graded fine sand with minor gravel				
40													
45													
50													
55													
60													
65													
70													
75	NM	L	D	N	N	NM	SP	NS	Grey poorly graded fine sand with minor gravel				
80													
85													
90													
95	NM	L	D	N	N	NM	SP	NS	Darker grey poorly graded fine sand with minor silt and minor medium sand				
100													
106'7"	NM	M	D	N	N	NM	SC	NS	Dark grey fine sand with moderate silt and clay - TD 106'7"				



APPENDIX C

Table



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 WPX Energy Permian, LLC - Ross Draw Unit 55
 Eddy County, New Mexico

Ensolum Project No. 03A1987036

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)	GRO+DRO (mg/kg)	Total 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 Soil Samples										
DS01	04/09/2021	1	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	55.8
DS01A	04/09/2021	2	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	181
DS02	04/09/2021	1	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	48.7
DS02A	04/09/2021	2	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	117
DS03	04/09/2021	1	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	147
DS03A	04/09/2021	2	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	208
DS04	04/09/2021	1	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	2,290
DS04A	04/09/2021	2	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	1,670
DS04B	05/06/2022	3	0.00300	0.0239	<49.9	<49.9	<49.9	<49.9	<49.9	7.60
DS04C	05/06/2022	4	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	14.6
DS05	04/09/2021	1	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	2,170
DS05A	04/09/2021	2	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	2,450
DS06	04/09/2021	1	<0.00202	<0.00202	<49.9	70.0	<49.9	70.0	70.0	1,100
DS06A	04/09/2021	2	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	941
DS07	04/09/2021	1	<0.00201	<0.00201	52.2	<50.0	<50.0	52.2	52.2	404
DS07A	04/09/2021	2	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	459
DS08	04/09/2021	1	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	475
DS08A	04/09/2021	2	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	580
DS09	04/09/2021	1	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	325
DS09A	04/09/2021	2	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	447
DS10	04/09/2021	1	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	515
DS10A	04/09/2021	2	<0.00198	<0.00198	50.6	<50.1	<50.1	50.6	50.6	575
DS11	04/09/2021	1	<0.00199	0.00418	<49.9	<49.9	<49.9	<49.9	<49.9	489
DS11A	04/09/2021	2	<0.00199	0.00444	<49.9	<49.9	<49.9	<49.9	<49.9	652
DS12	04/09/2021	1	<0.00202	<0.00202	<49.8	115	<49.8	165	115	180
DS12A	04/09/2021	2	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	387
DS13	04/09/2021	1	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	930
DS13A	04/09/2021	2	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,370
DS14	04/09/2021	1	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	26.1
DS14A	04/09/2021	2	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	165



TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS WPX Energy Permian, LLC - Ross Draw Unit 55 Eddy County, New Mexico Ensolum Project No. 03A1987036										
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)	GRO+DRO (mg/kg)	Total 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
DS15	05/06/2022	1	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	6.36
DS15A	05/06/2022	2	<0.00201	<0.00402	<49.7	<49.7	<49.7	<49.7	<49.7	37.4
Confirmation Soil Samples										
FS01	05/06/2021	4	0.00379	0.0112	<49.9	<49.9	<49.9	<49.9	<49.9	22.0
FS02	05/06/2021	4	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	19.9
FS03	07/12/2022	2	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	324
FS04	07/12/2022	2	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	309
FS05	07/12/2022	2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	26.9
SW01	05/06/2021	2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	191
SW01	07/12/2022	0 - 2	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	5.97
SW02	05/06/2021	2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	259
SW02	07/12/2022	0 - 2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	20.4
SW03	05/06/2021	2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	546
SW03	07/12/2022	0 - 2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	5.60
SW04	05/06/2021	2	<0.00198	<0.00397	<49.8	<49.8	<49.8	<49.8	<49.8	154
SW04	07/12/2022	0 - 2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	200

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in bold exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

Gray text indicates soil has been excavated and is no longer present



APPENDIX D

Photographic Log

**Photographic Log**

WPX Energy Permian, LLC

Ross Draw Unit 55

Incident Number nAB1438549561

Date & Time: Tue, Jul 12, 2022, 09:53:53 MDT
 Position: +032.015792° / -103.864239° (±15.1ft)
 Altitude: 3014ft (±11.6ft)
 Datum: WGS-84
 Azimuth: -089° -1582mils (±12°)
 Elevation Angle: +07.5°
 Horizon Angle: -24.3°
 Zoom: 0.5X
 DS12



Photograph 1

Date: 7/12/2022

Description: Excavation of additional waste-containing soil

Date & Time: Tue, Jul 12, 2022, 11:51:10 MDT
 Position: +032.015654° / -103.863949° (±15.2ft)
 Altitude: 3026ft (±11.5ft)
 Datum: WGS-84
 Azimuth: +039° +0693mils (±14°)
 Elevation Angle: +08.2°
 Horizon Angle: -24.5°
 Zoom: 0.5X
 DS12

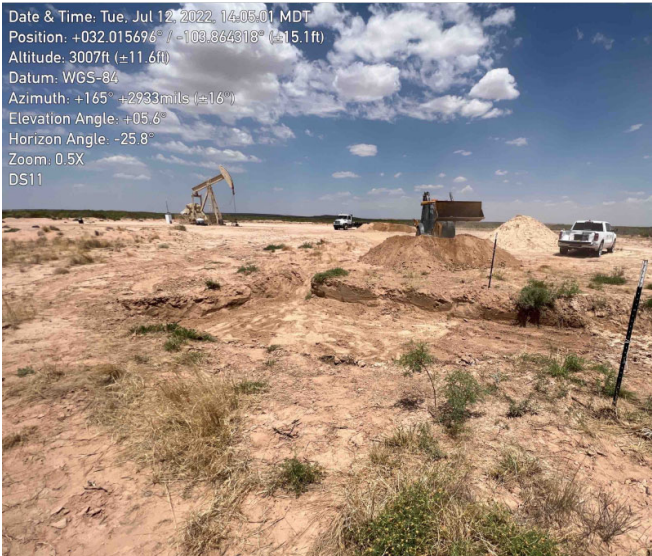


Photograph 2

Date: 7/12/2022

Description: Excavation of additional waste-containing soil

Date & Time: Tue, Jul 12, 2022, 14:05:01 MDT
 Position: +032.015696° / -103.864318° (±15.1ft)
 Altitude: 3007ft (±11.6ft)
 Datum: WGS-84
 Azimuth: +165° +2933mils (±16°)
 Elevation Angle: +05.6°
 Horizon Angle: -25.8°
 Zoom: 0.5X
 DS11



Photograph 3

Date: 7/12/2022

Description: Excavation of additional waste-containing soil

Date & Time: Tue, Jul 12, 2022, 14:04:46 MDT
 Position: +032.015822° / -103.864244° (±45.7ft)
 Altitude: 3029ft (±39.4ft)
 Datum: WGS-84
 Azimuth: -068° -1209mils (±16°)
 Elevation Angle: +07.6°
 Horizon Angle: -25.5°
 Zoom: 0.5X
 DS11



Photograph 4

Date: 7/12/2022

Description: Excavation of additional waste-containing soil



APPENDIX E

Laboratory Analytical Reports & Chain-of-Custody Documentation



Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-649-1
Client Project/Site: RDU 55

For:

WPX Energy Production LLC
5315 Buena Vista Dr
Carlsbad, New Mexico 88220

Attn: Lynda Laumbach

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:
5/11/2021 4:18:02 PM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

LINKS

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results through
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Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: WPX Energy Production LLC
Project/Site: RDU 55

Laboratory Job ID: 890-649-1

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Definitions/Glossary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Eurofins Xenco, Carlsbad

Case Narrative

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

Job ID: 890-649-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-649-1

Receipt

The samples were received on 5/7/2021 2:49 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.4°C

Receipt Exceptions

The following samples analyzed for method BTEX 8021 were received and analyzed from an unpreserved bulk soil jar: DS04B (890-649-1), DS04C (890-649-2), DS15 (890-649-3) and DS15A (890-649-4).

GC VOA

Method 8021B: Internal standard responses were outside of acceptance limits for the following samples: DS04B (890-649-1) and DS15 (890-649-3). The sample(s) shows evidence of matrix interference.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

Client Sample ID: DS04B

Lab Sample ID: 890-649-1

Date Collected: 05/06/21 10:30

Matrix: Solid

Date Received: 05/07/21 14:49

Sample Depth: - 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00300		0.00202		mg/Kg		05/10/21 10:50	05/10/21 19:58	1
Toluene	<0.00202	U	0.00202		mg/Kg		05/10/21 10:50	05/10/21 19:58	1
Ethylbenzene	0.00527		0.00202		mg/Kg		05/10/21 10:50	05/10/21 19:58	1
m-Xylene & p-Xylene	0.00918		0.00404		mg/Kg		05/10/21 10:50	05/10/21 19:58	1
o-Xylene	0.00643		0.00202		mg/Kg		05/10/21 10:50	05/10/21 19:58	1
Xylenes, Total	0.0156		0.00404		mg/Kg		05/10/21 10:50	05/10/21 19:58	1
Total BTEX	0.0239		0.00404		mg/Kg		05/10/21 10:50	05/10/21 19:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	05/10/21 10:50	05/10/21 19:58	1
1,4-Difluorobenzene (Surr)	92		70 - 130	05/10/21 10:50	05/10/21 19:58	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/10/21 10:45	05/10/21 20:29	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/10/21 10:45	05/10/21 20:29	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/10/21 10:45	05/10/21 20:29	1
Total TPH	<49.9	U	49.9		mg/Kg		05/10/21 10:45	05/10/21 20:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	05/10/21 10:45	05/10/21 20:29	1
o-Terphenyl	115		70 - 130	05/10/21 10:45	05/10/21 20:29	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.60		4.95		mg/Kg			05/10/21 16:53	1

Client Sample ID: DS04C

Lab Sample ID: 890-649-2

Date Collected: 05/06/21 10:35

Matrix: Solid

Date Received: 05/07/21 14:49

Sample Depth: - 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		05/10/21 10:50	05/10/21 20:18	1
Toluene	<0.00201	U	0.00201		mg/Kg		05/10/21 10:50	05/10/21 20:18	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		05/10/21 10:50	05/10/21 20:18	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		05/10/21 10:50	05/10/21 20:18	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		05/10/21 10:50	05/10/21 20:18	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		05/10/21 10:50	05/10/21 20:18	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		05/10/21 10:50	05/10/21 20:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	05/10/21 10:50	05/10/21 20:18	1
1,4-Difluorobenzene (Surr)	98		70 - 130	05/10/21 10:50	05/10/21 20:18	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

Client Sample ID: DS04C

Lab Sample ID: 890-649-2

Date Collected: 05/06/21 10:35

Matrix: Solid

Date Received: 05/07/21 14:49

Sample Depth: - 4

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/10/21 10:45	05/10/21 20:50	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/10/21 10:45	05/10/21 20:50	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/10/21 10:45	05/10/21 20:50	1
Total TPH	<49.8	U	49.8		mg/Kg		05/10/21 10:45	05/10/21 20:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130	05/10/21 10:45	05/10/21 20:50	1
o-Terphenyl	117		70 - 130	05/10/21 10:45	05/10/21 20:50	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14.6		5.00		mg/Kg			05/10/21 16:58	1

Client Sample ID: DS15

Lab Sample ID: 890-649-3

Date Collected: 05/06/21 10:40

Matrix: Solid

Date Received: 05/07/21 14:49

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		05/10/21 10:50	05/10/21 20:39	1
Toluene	<0.00202	U	0.00202		mg/Kg		05/10/21 10:50	05/10/21 20:39	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		05/10/21 10:50	05/10/21 20:39	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		05/10/21 10:50	05/10/21 20:39	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		05/10/21 10:50	05/10/21 20:39	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		05/10/21 10:50	05/10/21 20:39	1
Total BTEX	<0.00403	U	0.00403		mg/Kg		05/10/21 10:50	05/10/21 20:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130	05/10/21 10:50	05/10/21 20:39	1
1,4-Difluorobenzene (Surr)	99		70 - 130	05/10/21 10:50	05/10/21 20:39	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/10/21 10:45	05/10/21 21:11	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/10/21 10:45	05/10/21 21:11	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/10/21 10:45	05/10/21 21:11	1
Total TPH	<49.8	U	49.8		mg/Kg		05/10/21 10:45	05/10/21 21:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	05/10/21 10:45	05/10/21 21:11	1
o-Terphenyl	115		70 - 130	05/10/21 10:45	05/10/21 21:11	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.36		5.01		mg/Kg			05/10/21 17:48	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

Client Sample ID: DS15A

Lab Sample ID: 890-649-4

Date Collected: 05/06/21 10:45

Matrix: Solid

Date Received: 05/07/21 14:49

Sample Depth: - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		05/10/21 10:50	05/10/21 20:59	1
Toluene	<0.00201	U	0.00201		mg/Kg		05/10/21 10:50	05/10/21 20:59	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		05/10/21 10:50	05/10/21 20:59	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		05/10/21 10:50	05/10/21 20:59	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		05/10/21 10:50	05/10/21 20:59	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		05/10/21 10:50	05/10/21 20:59	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		05/10/21 10:50	05/10/21 20:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	05/10/21 10:50	05/10/21 20:59	1
1,4-Difluorobenzene (Surr)	100		70 - 130	05/10/21 10:50	05/10/21 20:59	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		05/10/21 10:45	05/10/21 21:32	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		05/10/21 10:45	05/10/21 21:32	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		05/10/21 10:45	05/10/21 21:32	1
Total TPH	<49.7	U	49.7		mg/Kg		05/10/21 10:45	05/10/21 21:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	05/10/21 10:45	05/10/21 21:32	1
o-Terphenyl	114		70 - 130	05/10/21 10:45	05/10/21 21:32	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	37.4		5.00		mg/Kg			05/11/21 04:37	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-649-1	DS04B	101	92
890-649-2	DS04C	113	98
890-649-3	DS15	124	99
890-649-4	DS15A	112	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-649-1	DS04B	108	115
890-649-2	DS04C	110	117
890-649-3	DS15	105	115
890-649-4	DS15A	106	114
LCS 880-2896/2-A	Lab Control Sample	115	110
LCSD 880-2896/3-A	Lab Control Sample Dup	111	109
MB 880-2896/1-A	Method Blank	115	119

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-2896/1-A

Matrix: Solid

Analysis Batch: 2879

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2896

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/10/21 10:45	05/10/21 12:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/10/21 10:45	05/10/21 12:51	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/10/21 10:45	05/10/21 12:51	1
Total TPH	<50.0	U	50.0		mg/Kg		05/10/21 10:45	05/10/21 12:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	115		70 - 130	05/10/21 10:45	05/10/21 12:51	1
o-Terphenyl	119		70 - 130	05/10/21 10:45	05/10/21 12:51	1

Lab Sample ID: LCS 880-2896/2-A

Matrix: Solid

Analysis Batch: 2879

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2896

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	967.1		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1159		mg/Kg		116	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	115		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: LCSD 880-2896/3-A

Matrix: Solid

Analysis Batch: 2879

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2896

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	938.1		mg/Kg		94	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	1126		mg/Kg		113	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	111		70 - 130
o-Terphenyl	109		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-2873/1-A

Matrix: Solid

Analysis Batch: 2921

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/10/21 14:20	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-2873/2-A

Matrix: Solid

Analysis Batch: 2921

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	240.7		mg/Kg		96	90 - 110

Lab Sample ID: LCSD 880-2873/3-A

Matrix: Solid

Analysis Batch: 2921

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	245.3		mg/Kg		98	90 - 110	2	20

Lab Sample ID: MB 880-2922/1-A

Matrix: Solid

Analysis Batch: 2929

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/11/21 03:33	1

Lab Sample ID: LCS 880-2922/2-A

Matrix: Solid

Analysis Batch: 2929

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	241.1		mg/Kg		96	90 - 110

Lab Sample ID: LCSD 880-2922/3-A

Matrix: Solid

Analysis Batch: 2929

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	237.4		mg/Kg		95	90 - 110	2	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

GC VOA

Analysis Batch: 2884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-649-1	DS04B	Total/NA	Solid	8021B	2886
890-649-2	DS04C	Total/NA	Solid	8021B	2886
890-649-3	DS15	Total/NA	Solid	8021B	2886
890-649-4	DS15A	Total/NA	Solid	8021B	2886

Prep Batch: 2886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-649-1	DS04B	Total/NA	Solid	5035	
890-649-2	DS04C	Total/NA	Solid	5035	
890-649-3	DS15	Total/NA	Solid	5035	
890-649-4	DS15A	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 2879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-649-1	DS04B	Total/NA	Solid	8015B NM	2896
890-649-2	DS04C	Total/NA	Solid	8015B NM	2896
890-649-3	DS15	Total/NA	Solid	8015B NM	2896
890-649-4	DS15A	Total/NA	Solid	8015B NM	2896
MB 880-2896/1-A	Method Blank	Total/NA	Solid	8015B NM	2896
LCS 880-2896/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	2896
LCSD 880-2896/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	2896

Prep Batch: 2896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-649-1	DS04B	Total/NA	Solid	8015NM Prep	
890-649-2	DS04C	Total/NA	Solid	8015NM Prep	
890-649-3	DS15	Total/NA	Solid	8015NM Prep	
890-649-4	DS15A	Total/NA	Solid	8015NM Prep	
MB 880-2896/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-2896/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-2896/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 2873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-649-1	DS04B	Soluble	Solid	DI Leach	
890-649-2	DS04C	Soluble	Solid	DI Leach	
890-649-3	DS15	Soluble	Solid	DI Leach	
MB 880-2873/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2873/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2873/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 2921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-649-1	DS04B	Soluble	Solid	300.0	2873
890-649-2	DS04C	Soluble	Solid	300.0	2873
890-649-3	DS15	Soluble	Solid	300.0	2873
MB 880-2873/1-A	Method Blank	Soluble	Solid	300.0	2873
LCS 880-2873/2-A	Lab Control Sample	Soluble	Solid	300.0	2873

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

HPLC/IC (Continued)

Analysis Batch: 2921 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-2873/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2873

Leach Batch: 2922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-649-4	DS15A	Soluble	Solid	DI Leach	
MB 880-2922/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2922/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2922/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 2929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-649-4	DS15A	Soluble	Solid	300.0	2922
MB 880-2922/1-A	Method Blank	Soluble	Solid	300.0	2922
LCS 880-2922/2-A	Lab Control Sample	Soluble	Solid	300.0	2922
LCSD 880-2922/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2922

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

Client Sample ID: DS04B

Lab Sample ID: 890-649-1

Date Collected: 05/06/21 10:30

Matrix: Solid

Date Received: 05/07/21 14:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2886	05/10/21 10:50	MR	XM
Total/NA	Analysis	8021B		1	2884	05/10/21 19:58	MR	XM
Total/NA	Prep	8015NM Prep			2896	05/10/21 10:45	AM	XM
Total/NA	Analysis	8015B NM		1	2879	05/10/21 20:29	AJ	XM
Soluble	Leach	DI Leach			2873	05/08/21 13:31	SC	XM
Soluble	Analysis	300.0		1	2921	05/10/21 16:53	CH	XM

Client Sample ID: DS04C

Lab Sample ID: 890-649-2

Date Collected: 05/06/21 10:35

Matrix: Solid

Date Received: 05/07/21 14:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2886	05/10/21 10:50	MR	XM
Total/NA	Analysis	8021B		1	2884	05/10/21 20:18	MR	XM
Total/NA	Prep	8015NM Prep			2896	05/10/21 10:45	AM	XM
Total/NA	Analysis	8015B NM		1	2879	05/10/21 20:50	AJ	XM
Soluble	Leach	DI Leach			2873	05/08/21 13:31	SC	XM
Soluble	Analysis	300.0		1	2921	05/10/21 16:58	CH	XM

Client Sample ID: DS15

Lab Sample ID: 890-649-3

Date Collected: 05/06/21 10:40

Matrix: Solid

Date Received: 05/07/21 14:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2886	05/10/21 10:50	MR	XM
Total/NA	Analysis	8021B		1	2884	05/10/21 20:39	MR	XM
Total/NA	Prep	8015NM Prep			2896	05/10/21 10:45	AM	XM
Total/NA	Analysis	8015B NM		1	2879	05/10/21 21:11	AJ	XM
Soluble	Leach	DI Leach			2873	05/08/21 13:31	SC	XM
Soluble	Analysis	300.0		1	2921	05/10/21 17:48	CH	XM

Client Sample ID: DS15A

Lab Sample ID: 890-649-4

Date Collected: 05/06/21 10:45

Matrix: Solid

Date Received: 05/07/21 14:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2886	05/10/21 10:50	MR	XM
Total/NA	Analysis	8021B		1	2884	05/10/21 20:59	MR	XM
Total/NA	Prep	8015NM Prep			2896	05/10/21 10:45	AM	XM
Total/NA	Analysis	8015B NM		1	2879	05/10/21 21:32	AJ	XM
Soluble	Leach	DI Leach			2922	05/10/21 15:06	SC	XM
Soluble	Analysis	300.0		1	2929	05/11/21 04:37	CH	XM

Laboratory References:

XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XM
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XM
300.0	Anions, Ion Chromatography	MCAWW	XM
5035	Closed System Purge and Trap	SW846	XM
8015NM Prep	Microextraction	SW846	XM
DI Leach	Deionized Water Leaching Procedure	ASTM	XM

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Carlsbad

Sample Summary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-649-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-649-1	DS04B	Solid	05/06/21 10:30	05/07/21 14:49	- 3
890-649-2	DS04C	Solid	05/06/21 10:35	05/07/21 14:49	- 4
890-649-3	DS15	Solid	05/06/21 10:40	05/07/21 14:49	- 1
890-649-4	DS15A	Solid	05/06/21 10:45	05/07/21 14:49	- 2

1

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Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No.:

www.xenco.com Page 1 of 1

Project Manager:	Lynda Laumbach	Bill to: (if different)	→
Company Name:	Wpx Energy Permian LLC	Company Name:	→
Address:	5315 Buena Vista Dr	Address:	→
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	→
Phone:	575-725-1647	Email:	Lynda.Laumbach@wpxenergy.com

Work Order Comments	
Program: 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 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:	

[illegible][illegible][illegible]

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins 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 Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$3 for each sample submitted to Eurofins 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 <i>[Signature]</i>	<i>[Signature]</i>	5.7.21 1440			
2 <i>[Signature]</i>					
3					
4					
5					

Revised Date: 09/25/2020 Rev: 2020

1089 N Canal St.
Carlsbad NM 88220
Phone 575-988-3199 Fax: 575-988-3199

Chain of Custody Record



Environment Testing
America

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No:							
Client Contact:	Phone:	Kramer Jessica	State of Origin:	890-210 1	Page: 1 of 1							
Shipping/Receiving	E-Mail:	jessica.kramer@eurofins.com	New Mexico	Page 1 of 1	Job #:							
Company	Accreditations Required (See note)	NE LAP - Louisiana	NE LAP - Texas	890-649-1	Preservation Codes							
Address	Due Date Requested	5/13/2021			A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amthor H Ascorbic Acid I Ice J DI Water K EDTA L EDA Other:							
City	TAT Requested (days)	1211 W Florida Ave			M Hexane N None O AsnO2 P Na2O4S Q Na2SO3 R Na2S2O3 S H2SO4 T TSP Dodecylhydrate U Acetone V MCAA W pH 4.5 Z other (specify)							
Midland												
State, Zip												
TX 79701												
Phone:	PO #:	432-704-5440(Tel)										
Email	WO #:											
Project Name:	Project #:	RDU										
Site:	SSCW#:	88000204										
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/soil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/DI_LEACH Chloride	8016MOD_NM/8016NM_S_Prep Full TPH	8021B/6036FP_Calc BTEX	Total Number of containers	Special Instructions/Note
DS04B (890-649-1)	5/6/21	10 30	Mountain	Solid		X	X	X			1	
DS04C (890-649-2)	5/6/21	10 35	Mountain	Solid		X	X	X			1	
DS15 (890-649-3)	5/6/21	10 40	Mountain	Solid		X	X	X			1	
DS15A (890-649-4)	5/6/21	10 45	Mountain	Solid		X	X	X			1	
<p>Note: Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC.</p>												
<p>Possible Hazard Identification</p> <p>Unconfirmed</p> <p>Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2</p> <p>Empty Kit Relinquished by: Date: Time: Method of Shipment:</p> <p>Relinquished by: Date/Time: Company: Received by: Date/Time: Company:</p> <p>Relinquished by: Date/Time: Company: Received by: Date/Time: Company:</p> <p>Custody Seals Intact: Custody Seal No: Cooler Temperature(s) °C and Other Remarks:</p>												

Login Sample Receipt Checklist

Client: WPX Energy Production LLC

Job Number: 890-649-1

Login Number: 649

List Source: Eurofins Carlsbad

List Number: 1

Creator: Clifton, Cloe

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: WPX Energy Production LLC

Job Number: 890-649-1

Login Number: 649

List Number: 2

Creator: Copeland, Tatiana

List Source: Eurofins Midland

List Creation: 05/10/21 10:51 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	



Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-650-1
Client Project/Site: RDU 55

For:

WPX Energy Production LLC
5315 Buena Vista Dr
Carlsbad, New Mexico 88220

Attn: Lynda Laumbach

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:
5/11/2021 4:20:26 PM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: WPX Energy Production LLC
Project/Site: RDU 55

Laboratory Job ID: 890-650-1

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Definitions/Glossary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Job ID: 890-650-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-650-1

Receipt

The samples were received on 5/7/2021 2:49 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.4°C

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: SW04 (890-650-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Internal standard responses were outside of acceptance limits for the following samples: SW02 (890-650-2), SW04 (890-650-4), FS01 (890-650-5) and FS02 (890-650-6). The sample(s) shows evidence of matrix interference.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Client Sample ID: SW01

Lab Sample ID: 890-650-1

Date Collected: 05/06/21 14:10

Matrix: Solid

Date Received: 05/07/21 14:49

Sample Depth: - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/10/21 10:50	05/10/21 21:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/10/21 10:50	05/10/21 21:20	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/10/21 10:50	05/10/21 21:20	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		05/10/21 10:50	05/10/21 21:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/10/21 10:50	05/10/21 21:20	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		05/10/21 10:50	05/10/21 21:20	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		05/10/21 10:50	05/10/21 21:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	05/10/21 10:50	05/10/21 21:20	1
1,4-Difluorobenzene (Surr)	102		70 - 130	05/10/21 10:50	05/10/21 21:20	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/10/21 11:09	05/10/21 16:39	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/10/21 11:09	05/10/21 16:39	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/10/21 11:09	05/10/21 16:39	1
Total TPH	<49.9	U	49.9		mg/Kg		05/10/21 11:09	05/10/21 16:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	115		70 - 130	05/10/21 11:09	05/10/21 16:39	1
o-Terphenyl	132	S1+	70 - 130	05/10/21 11:09	05/10/21 16:39	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	191		5.00		mg/Kg			05/11/21 04:43	1

Client Sample ID: SW02

Lab Sample ID: 890-650-2

Date Collected: 05/06/21 14:15

Matrix: Solid

Date Received: 05/07/21 14:49

Sample Depth: - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/10/21 10:50	05/10/21 21:40	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/10/21 10:50	05/10/21 21:40	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/10/21 10:50	05/10/21 21:40	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/10/21 10:50	05/10/21 21:40	1
o-Xylene	0.00390		0.00199		mg/Kg		05/10/21 10:50	05/10/21 21:40	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/10/21 10:50	05/10/21 21:40	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		05/10/21 10:50	05/10/21 21:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	05/10/21 10:50	05/10/21 21:40	1
1,4-Difluorobenzene (Surr)	94		70 - 130	05/10/21 10:50	05/10/21 21:40	1

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Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Client Sample ID: SW02

Lab Sample ID: 890-650-2

Date Collected: 05/06/21 14:15

Matrix: Solid

Date Received: 05/07/21 14:49

Sample Depth: - 2

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/10/21 11:09	05/10/21 17:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/10/21 11:09	05/10/21 17:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/10/21 11:09	05/10/21 17:00	1
Total TPH	<50.0	U	50.0		mg/Kg		05/10/21 11:09	05/10/21 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	05/10/21 11:09	05/10/21 17:00	1
o-Terphenyl	123		70 - 130	05/10/21 11:09	05/10/21 17:00	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	259		5.02		mg/Kg			05/11/21 04:48	1

Client Sample ID: SW03

Lab Sample ID: 890-650-3

Date Collected: 05/06/21 14:20

Matrix: Solid

Date Received: 05/07/21 14:49

Sample Depth: - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/10/21 10:50	05/10/21 22:00	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/10/21 10:50	05/10/21 22:00	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/10/21 10:50	05/10/21 22:00	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/10/21 10:50	05/10/21 22:00	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/10/21 10:50	05/10/21 22:00	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/10/21 10:50	05/10/21 22:00	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		05/10/21 10:50	05/10/21 22:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	05/10/21 10:50	05/10/21 22:00	1
1,4-Difluorobenzene (Surr)	100		70 - 130	05/10/21 10:50	05/10/21 22:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/10/21 11:09	05/10/21 17:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/10/21 11:09	05/10/21 17:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/10/21 11:09	05/10/21 17:21	1
Total TPH	<50.0	U	50.0		mg/Kg		05/10/21 11:09	05/10/21 17:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	05/10/21 11:09	05/10/21 17:21	1
o-Terphenyl	115		70 - 130	05/10/21 11:09	05/10/21 17:21	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	546		5.03		mg/Kg			05/11/21 04:53	1

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Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Client Sample ID: SW04

Lab Sample ID: 890-650-4

Date Collected: 05/06/21 14:25

Matrix: Solid

Date Received: 05/07/21 14:49

Sample Depth: - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		05/10/21 10:50	05/10/21 22:21	1
Toluene	<0.00198	U	0.00198		mg/Kg		05/10/21 10:50	05/10/21 22:21	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		05/10/21 10:50	05/10/21 22:21	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		05/10/21 10:50	05/10/21 22:21	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		05/10/21 10:50	05/10/21 22:21	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		05/10/21 10:50	05/10/21 22:21	1
Total BTEX	<0.00397	U	0.00397		mg/Kg		05/10/21 10:50	05/10/21 22:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	139	S1+	70 - 130	05/10/21 10:50	05/10/21 22:21	1
1,4-Difluorobenzene (Surr)	89		70 - 130	05/10/21 10:50	05/10/21 22:21	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/10/21 11:09	05/10/21 17:42	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/10/21 11:09	05/10/21 17:42	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/10/21 11:09	05/10/21 17:42	1
Total TPH	<49.8	U	49.8		mg/Kg		05/10/21 11:09	05/10/21 17:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	05/10/21 11:09	05/10/21 17:42	1
o-Terphenyl	120		70 - 130	05/10/21 11:09	05/10/21 17:42	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	154		5.00		mg/Kg			05/11/21 04:59	1

Client Sample ID: FS01

Lab Sample ID: 890-650-5

Date Collected: 05/06/21 14:30

Matrix: Solid

Date Received: 05/07/21 14:49

Sample Depth: - 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00379		0.00199		mg/Kg		05/10/21 10:50	05/10/21 22:41	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/10/21 10:50	05/10/21 22:41	1
Ethylbenzene	0.00199		0.00199		mg/Kg		05/10/21 10:50	05/10/21 22:41	1
m-Xylene & p-Xylene	0.00543		0.00398		mg/Kg		05/10/21 10:50	05/10/21 22:41	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/10/21 10:50	05/10/21 22:41	1
Xylenes, Total	0.00543		0.00398		mg/Kg		05/10/21 10:50	05/10/21 22:41	1
Total BTEX	0.0112		0.00398		mg/Kg		05/10/21 10:50	05/10/21 22:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	05/10/21 10:50	05/10/21 22:41	1
1,4-Difluorobenzene (Surr)	107		70 - 130	05/10/21 10:50	05/10/21 22:41	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Client Sample ID: FS01

Lab Sample ID: 890-650-5

Date Collected: 05/06/21 14:30

Matrix: Solid

Date Received: 05/07/21 14:49

Sample Depth: - 4

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/10/21 11:09	05/10/21 18:24	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/10/21 11:09	05/10/21 18:24	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/10/21 11:09	05/10/21 18:24	1
Total TPH	<49.9	U	49.9		mg/Kg		05/10/21 11:09	05/10/21 18:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	05/10/21 11:09	05/10/21 18:24	1
o-Terphenyl	127		70 - 130	05/10/21 11:09	05/10/21 18:24	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.0		4.95		mg/Kg			05/11/21 05:04	1

Client Sample ID: FS02

Lab Sample ID: 890-650-6

Date Collected: 05/06/21 14:35

Matrix: Solid

Date Received: 05/07/21 14:49

Sample Depth: - 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		05/10/21 10:50	05/10/21 23:02	1
Toluene	<0.00198	U	0.00198		mg/Kg		05/10/21 10:50	05/10/21 23:02	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		05/10/21 10:50	05/10/21 23:02	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		05/10/21 10:50	05/10/21 23:02	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		05/10/21 10:50	05/10/21 23:02	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		05/10/21 10:50	05/10/21 23:02	1
Total BTEX	<0.00396	U	0.00396		mg/Kg		05/10/21 10:50	05/10/21 23:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130	05/10/21 10:50	05/10/21 23:02	1
1,4-Difluorobenzene (Surr)	96		70 - 130	05/10/21 10:50	05/10/21 23:02	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/10/21 11:09	05/10/21 18:45	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/10/21 11:09	05/10/21 18:45	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/10/21 11:09	05/10/21 18:45	1
Total TPH	<49.9	U	49.9		mg/Kg		05/10/21 11:09	05/10/21 18:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	119		70 - 130	05/10/21 11:09	05/10/21 18:45	1
o-Terphenyl	137	S1+	70 - 130	05/10/21 11:09	05/10/21 18:45	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19.9		5.03		mg/Kg			05/11/21 05:20	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-650-1	SW01	112	102
890-650-2	SW02	112	94
890-650-3	SW03	117	100
890-650-4	SW04	139 S1+	89
890-650-5	FS01	120	107
890-650-6	FS02	123	96
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-650-1	SW01	115	132 S1+
890-650-2	SW02	104	123
890-650-3	SW03	97	115
890-650-4	SW04	101	120
890-650-5	FS01	106	127
890-650-6	FS02	119	137 S1+
LCS 880-2900/2-A	Lab Control Sample	112	121
LCSD 880-2900/3-A	Lab Control Sample Dup	111	117
MB 880-2900/1-A	Method Blank	104	121
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-2900/1-A

Matrix: Solid

Analysis Batch: 2881

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2900

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/10/21 11:09	05/10/21 12:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/10/21 11:09	05/10/21 12:51	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/10/21 11:09	05/10/21 12:51	1
Total TPH	<50.0	U	50.0		mg/Kg		05/10/21 11:09	05/10/21 12:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	05/10/21 11:09	05/10/21 12:51	1
o-Terphenyl	121		70 - 130	05/10/21 11:09	05/10/21 12:51	1

Lab Sample ID: LCS 880-2900/2-A

Matrix: Solid

Analysis Batch: 2881

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2900

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	943.7		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1225		mg/Kg		122	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	121		70 - 130

Lab Sample ID: LCSD 880-2900/3-A

Matrix: Solid

Analysis Batch: 2881

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2900

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	925.1		mg/Kg		93	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	1221		mg/Kg		122	70 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	111		70 - 130
o-Terphenyl	117		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-2922/1-A

Matrix: Solid

Analysis Batch: 2929

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/11/21 03:33	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-2922/2-A

Matrix: Solid

Analysis Batch: 2929

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	241.1		mg/Kg		96	90 - 110		

Lab Sample ID: LCSD 880-2922/3-A

Matrix: Solid

Analysis Batch: 2929

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	237.4		mg/Kg		95	90 - 110	2	20

Lab Sample ID: 890-650-5 MS

Matrix: Solid

Analysis Batch: 2929

Client Sample ID: FS01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	22.0		248	256.0		mg/Kg		95	90 - 110		

Lab Sample ID: 890-650-5 MSD

Matrix: Solid

Analysis Batch: 2929

Client Sample ID: FS01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	22.0		248	261.3		mg/Kg		97	90 - 110	2	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

GC VOA

Analysis Batch: 2884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-650-1	SW01	Total/NA	Solid	8021B	2886
890-650-2	SW02	Total/NA	Solid	8021B	2886
890-650-3	SW03	Total/NA	Solid	8021B	2886
890-650-4	SW04	Total/NA	Solid	8021B	2886
890-650-5	FS01	Total/NA	Solid	8021B	2886
890-650-6	FS02	Total/NA	Solid	8021B	2886

Prep Batch: 2886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-650-1	SW01	Total/NA	Solid	5035	
890-650-2	SW02	Total/NA	Solid	5035	
890-650-3	SW03	Total/NA	Solid	5035	
890-650-4	SW04	Total/NA	Solid	5035	
890-650-5	FS01	Total/NA	Solid	5035	
890-650-6	FS02	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 2881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-650-1	SW01	Total/NA	Solid	8015B NM	2900
890-650-2	SW02	Total/NA	Solid	8015B NM	2900
890-650-3	SW03	Total/NA	Solid	8015B NM	2900
890-650-4	SW04	Total/NA	Solid	8015B NM	2900
890-650-5	FS01	Total/NA	Solid	8015B NM	2900
890-650-6	FS02	Total/NA	Solid	8015B NM	2900
MB 880-2900/1-A	Method Blank	Total/NA	Solid	8015B NM	2900
LCS 880-2900/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	2900
LCSD 880-2900/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	2900

Prep Batch: 2900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-650-1	SW01	Total/NA	Solid	8015NM Prep	
890-650-2	SW02	Total/NA	Solid	8015NM Prep	
890-650-3	SW03	Total/NA	Solid	8015NM Prep	
890-650-4	SW04	Total/NA	Solid	8015NM Prep	
890-650-5	FS01	Total/NA	Solid	8015NM Prep	
890-650-6	FS02	Total/NA	Solid	8015NM Prep	
MB 880-2900/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-2900/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-2900/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 2922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-650-1	SW01	Soluble	Solid	DI Leach	
890-650-2	SW02	Soluble	Solid	DI Leach	
890-650-3	SW03	Soluble	Solid	DI Leach	
890-650-4	SW04	Soluble	Solid	DI Leach	
890-650-5	FS01	Soluble	Solid	DI Leach	
890-650-6	FS02	Soluble	Solid	DI Leach	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

HPLC/IC (Continued)

Leach Batch: 2922 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-2922/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2922/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2922/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-650-5 MS	FS01	Soluble	Solid	DI Leach	
890-650-5 MSD	FS01	Soluble	Solid	DI Leach	

Analysis Batch: 2929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-650-1	SW01	Soluble	Solid	300.0	2922
890-650-2	SW02	Soluble	Solid	300.0	2922
890-650-3	SW03	Soluble	Solid	300.0	2922
890-650-4	SW04	Soluble	Solid	300.0	2922
890-650-5	FS01	Soluble	Solid	300.0	2922
890-650-6	FS02	Soluble	Solid	300.0	2922
MB 880-2922/1-A	Method Blank	Soluble	Solid	300.0	2922
LCS 880-2922/2-A	Lab Control Sample	Soluble	Solid	300.0	2922
LCSD 880-2922/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2922
890-650-5 MS	FS01	Soluble	Solid	300.0	2922
890-650-5 MSD	FS01	Soluble	Solid	300.0	2922

Lab Chronicle

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Client Sample ID: SW01

Lab Sample ID: 890-650-1

Date Collected: 05/06/21 14:10

Matrix: Solid

Date Received: 05/07/21 14:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2886	05/10/21 10:50	MR	XM
Total/NA	Analysis	8021B		1	2884	05/10/21 21:20	MR	XM
Total/NA	Prep	8015NM Prep			2900	05/10/21 11:09	AM	XM
Total/NA	Analysis	8015B NM		1	2881	05/10/21 16:39	AJ	XM
Soluble	Leach	DI Leach			2922	05/10/21 15:06	SC	XM
Soluble	Analysis	300.0		1	2929	05/11/21 04:43	CH	XM

Client Sample ID: SW02

Lab Sample ID: 890-650-2

Date Collected: 05/06/21 14:15

Matrix: Solid

Date Received: 05/07/21 14:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2886	05/10/21 10:50	MR	XM
Total/NA	Analysis	8021B		1	2884	05/10/21 21:40	MR	XM
Total/NA	Prep	8015NM Prep			2900	05/10/21 11:09	AM	XM
Total/NA	Analysis	8015B NM		1	2881	05/10/21 17:00	AJ	XM
Soluble	Leach	DI Leach			2922	05/10/21 15:06	SC	XM
Soluble	Analysis	300.0		1	2929	05/11/21 04:48	CH	XM

Client Sample ID: SW03

Lab Sample ID: 890-650-3

Date Collected: 05/06/21 14:20

Matrix: Solid

Date Received: 05/07/21 14:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2886	05/10/21 10:50	MR	XM
Total/NA	Analysis	8021B		1	2884	05/10/21 22:00	MR	XM
Total/NA	Prep	8015NM Prep			2900	05/10/21 11:09	AM	XM
Total/NA	Analysis	8015B NM		1	2881	05/10/21 17:21	AJ	XM
Soluble	Leach	DI Leach			2922	05/10/21 15:06	SC	XM
Soluble	Analysis	300.0		1	2929	05/11/21 04:53	CH	XM

Client Sample ID: SW04

Lab Sample ID: 890-650-4

Date Collected: 05/06/21 14:25

Matrix: Solid

Date Received: 05/07/21 14:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2886	05/10/21 10:50	MR	XM
Total/NA	Analysis	8021B		1	2884	05/10/21 22:21	MR	XM
Total/NA	Prep	8015NM Prep			2900	05/10/21 11:09	AM	XM
Total/NA	Analysis	8015B NM		1	2881	05/10/21 17:42	AJ	XM
Soluble	Leach	DI Leach			2922	05/10/21 15:06	SC	XM
Soluble	Analysis	300.0		1	2929	05/11/21 04:59	CH	XM

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Client Sample ID: FS01
Date Collected: 05/06/21 14:30
Date Received: 05/07/21 14:49

Lab Sample ID: 890-650-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2886	05/10/21 10:50	MR	XM
Total/NA	Analysis	8021B		1	2884	05/10/21 22:41	MR	XM
Total/NA	Prep	8015NM Prep			2900	05/10/21 11:09	AM	XM
Total/NA	Analysis	8015B NM		1	2881	05/10/21 18:24	AJ	XM
Soluble	Leach	DI Leach			2922	05/10/21 15:06	SC	XM
Soluble	Analysis	300.0		1	2929	05/11/21 05:04	CH	XM

Client Sample ID: FS02
Date Collected: 05/06/21 14:35
Date Received: 05/07/21 14:49

Lab Sample ID: 890-650-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2886	05/10/21 10:50	MR	XM
Total/NA	Analysis	8021B		1	2884	05/10/21 23:02	MR	XM
Total/NA	Prep	8015NM Prep			2900	05/10/21 11:09	AM	XM
Total/NA	Analysis	8015B NM		1	2881	05/10/21 18:45	AJ	XM
Soluble	Leach	DI Leach			2922	05/10/21 15:06	SC	XM
Soluble	Analysis	300.0		1	2929	05/11/21 05:20	CH	XM

Laboratory References:
XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XM
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XM
300.0	Anions, Ion Chromatography	MCAWW	XM
5035	Closed System Purge and Trap	SW846	XM
8015NM Prep	Microextraction	SW846	XM
DI Leach	Deionized Water Leaching Procedure	ASTM	XM

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: WPX Energy Production LLC
Project/Site: RDU 55

Job ID: 890-650-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-650-1	SW01	Solid	05/06/21 14:10	05/07/21 14:49	- 2
890-650-2	SW02	Solid	05/06/21 14:15	05/07/21 14:49	- 2
890-650-3	SW03	Solid	05/06/21 14:20	05/07/21 14:49	- 2
890-650-4	SW04	Solid	05/06/21 14:25	05/07/21 14:49	- 2
890-650-5	FS01	Solid	05/06/21 14:30	05/07/21 14:49	- 4
890-650-6	FS02	Solid	05/06/21 14:35	05/07/21 14:49	- 4

Eurofins Xenco, Carlsbad



Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

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Project Manager:	Lynda Laumbach	Bill to (Company):	
Company Name:	WDX Energy Permian LLC	Company Name:	
Address:	5315 Buena Vista Dr	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	575-725-1647	Email:	Lynda.Laumbach@WDXenergy.com

Project Name:	RDU 55	Turn Around	
Project Number:		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code
Project Location:		Due Date:	
Sampler's Name:	Tyler Dominguez	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT	Temp Blank:	Yes <input checked="" type="radio"/> No <input type="radio"/>	Well Ice:	Yes <input checked="" type="radio"/> No <input type="radio"/>	Parameters
Samples Received Intact:	Yes <input checked="" type="radio"/> No <input type="radio"/>	Thermometer ID:	27716007		
Cooler Custody Seals:	Yes <input checked="" type="radio"/> No <input type="radio"/>	Correction Factor:	-0.2		
Sample Custody Seals:	Yes <input checked="" type="radio"/> No <input type="radio"/>	Temperature Reading:	3.6		
Total Containers:		Corrected Temperature:	3.4		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Cont	# of	Chlorides (EPA 300.09)	BTEX (Method 8021)	TPH (Method 8015)
SW01	S	5-6-21	2:16	2'	G	1	X	X	X
SW02			2:15	2'					
SW03			2:26	2'					
SW04			2:25	2'					
FS01			2:30	4'	C				
FS02			2:35	4'	C				



890-650 Chain of Custody

ANALYSIS REQUEST

Program: 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 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:

Preservative Codes

None: NO	DI Water: H ₂ O
Cool: Cool	MeOH: Me
HCL: HC	HNO ₃ : HN
H ₂ SO ₄ : H ₂	NaOH: Na
H ₃ PO ₄ : HP	
NaHSO ₄ : NABIS	
Na ₂ S ₂ O ₃ : NaSO ₃	
Zn Acetate+NaOH: Zn	
NaOH+Ascorbic Acid: SAPC	

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 As SiO ₂ 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 Hg: 1631 / 245.1 / 7470 / 7471		

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco and its affiliates 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 Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins 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

1089 N Canal St
Carlsbad NM 88220
Phone 575-988-3199 Fax 575-988-3199

Chain of Custody Record



eurofins
America

Environment Testing
America

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No:							
Client Contact:	Phone:	Kramer, Jessica	State of Origin	890-210 1	Page:							
Shipping/Receiving	E-Mail	Jessica.kramer@eurofins.com	New Mexico	Page 1 of 1	Job #:							
Company	Eurofins Xenco	Accreditations Required (See note)	NEIAP - Louisiana NEIAP - Texas	890-650-1	Preservation Codes							
Address:	1211 W Florida Ave	Due Date Requested	5/13/2021	Analysis Requested								
City:	Midland	TAT Requested (days):										
State, Zip	TX 79701	PO #										
Phone	432-704-5440(Tel)	WO #										
Email		Project #:	88000204									
Project Name:	RDU55	SSOW#										
Site:												
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=solid, O=waste/oil, BT=Tissue, A=NA)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/DI_LEACH Chloride	8015MOD_NM/8015NM_S_Prep Full TPH	8021B/8035FP_Calc BTEX	Total Number of containers	Special Instructions/Note:
SW01 (890-650-1)	5/6/21	14 10	Mountain		Solid	X	X	X				
SW02 (890-650-2)	5/6/21	14 15	Mountain		Solid	X	X	X				
SW03 (890-650-3)	5/6/21	14 20	Mountain		Solid	X	X	X				
SW04 (890-650-4)	5/6/21	14 25	Mountain		Solid	X	X	X				
FS01 (890-650-5)	5/6/21	14 30	Mountain		Solid	X	X	X				
FS02 (890-650-6)	5/6/21	14 35	Mountain		Solid	X	X	X				
<p>Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/estimation, being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC.</p>												
<p>Possible Hazard Identification</p> <p>Unconfirmed</p> <p>Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2</p> <p>Empty Kit Relinquished by Date Time Date</p> <p>Relinquished by Date Time Company</p> <p>Relinquished by Date Time Company</p> <p>Relinquished by Date Time Company</p> <p>Custody Seals Intact Custody Seal No Cooler Temperature(s) °C and Other Remarks</p>												
<p>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</p> <p>Return To Client Disposal By Lab Archive For Months</p> <p>Special Instructions/QC Requirements.</p>												

- 1
- 2
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- 9
- 10
- 11
- 12
- 13
- 14

Bottle Order
Bottle Order #
Request From Client 5/7/2021
Date Order Posted
Order Status
Prepared By
Ready To Process
Deliver By Date: 5/7/2021 11:59:00PM
Lab Project Number

Order Completion Information
Creator Cioe Clifton
Filled by
Sent Date
Sent Via
Tracking #

Seis	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
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Notes to Field Staff:



Scan QR code for field
sampler instructions

Health and Safety Notes:
Preservative

Comment

Relinquished By	Company	Date	Time	Received By	Company	Seal #
Relinquished By	Company	Date	Time	Received By	Company	Seal #

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

Chemical Analysis

Page 65 of 153

Received on 5/7/2021 9:00:04 PM

Login Sample Receipt Checklist

Client: WPX Energy Production LLC

Job Number: 890-650-1

Login Number: 650

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: WPX Energy Production LLC

Job Number: 890-650-1

Login Number: 650

List Number: 2

Creator: Copeland, Tatiana

List Source: Eurofins Midland

List Creation: 05/10/21 10:50 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	



Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-511-1
Client Project/Site: RDU-55

For:

WPX Energy Production LLC
5315 Buena Vista Dr
Carlsbad, New Mexico 88220

Attn: Lynda Laumbach

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:
4/19/2021 11:33:17 AM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: WPX Energy Production LLC
Project/Site: RDU-55

Laboratory Job ID: 890-511-1

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Definitions/Glossary

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Eurofins Xenco, Carlsbad

Case Narrative

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Job ID: 890-511-1**Laboratory: Eurofins Xenco, Carlsbad****Narrative****Job Narrative
890-511-1****Comments**

No additional comments.

Receipt

The samples were received on 4/9/2021 3:51 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 8.6° C.

Receipt Exceptions

The following samples analyzed for method BTEX 8021 were received and analyzed from an unpreserved bulk soil jar: DS01 (890-511-1), DS01A (890-511-2), DS02 (890-511-3), DS02A (890-511-4), DS03 (890-511-5), DS03A (890-511-6), DS04 (890-511-7), DS04A (890-511-8), DS05 (890-511-9), DS05A (890-511-10), DS06 (890-511-11), DS06A (890-511-12), DS07 (890-511-13), DS07A (890-511-14), DS08 (890-511-15), DS08A (890-511-16), DS09 (890-511-17), DS09A (890-511-18), DS10 (890-511-19), DS10A (890-511-20), DS11 (890-511-21), DS11A (890-511-22), DS12 (890-511-23), DS12A (890-511-24), DS13 (890-511-25), DS13A (890-511-26), DS14 (890-511-27) and DS14A (890-511-28).

GC VOA

Method 8021B: Due to the high concentration of Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene, o-Xylene, Xylenes, Total, Total BTEX, 1,4-Difluorobenzene (Surr) and 4-Bromofluorobenzene (Surr), the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 880-1681 and analytical batch 880-1638 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS01

Lab Sample ID: 890-511-1

Date Collected: 04/09/21 09:20

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 02:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 02:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 02:25	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		04/12/21 13:43	04/13/21 02:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 02:25	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		04/12/21 13:43	04/13/21 02:25	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 02:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	04/12/21 13:43	04/13/21 02:25	1
1,4-Difluorobenzene (Surr)	102		70 - 130	04/12/21 13:43	04/13/21 02:25	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/12/21 11:06	04/12/21 20:19	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/12/21 11:06	04/12/21 20:19	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/12/21 11:06	04/12/21 20:19	1
Total TPH	<49.9	U	49.9		mg/Kg		04/12/21 11:06	04/12/21 20:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	04/12/21 11:06	04/12/21 20:19	1
o-Terphenyl	114		70 - 130	04/12/21 11:06	04/12/21 20:19	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	55.8		4.95		mg/Kg			04/17/21 20:42	1

Client Sample ID: DS01A

Lab Sample ID: 890-511-2

Date Collected: 04/09/21 09:25

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 02:46	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 02:46	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 02:46	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/12/21 13:43	04/13/21 02:46	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 02:46	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/12/21 13:43	04/13/21 02:46	1
Total BTEX	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 02:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	325	S1+	70 - 130	04/12/21 13:43	04/13/21 02:46	1
1,4-Difluorobenzene (Surr)	290	S1+	70 - 130	04/12/21 13:43	04/13/21 02:46	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS01A

Lab Sample ID: 890-511-2

Date Collected: 04/09/21 09:25

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/12/21 11:06	04/12/21 20:40	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/12/21 11:06	04/12/21 20:40	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/12/21 11:06	04/12/21 20:40	1
Total TPH	<49.9	U	49.9		mg/Kg		04/12/21 11:06	04/12/21 20:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	04/12/21 11:06	04/12/21 20:40	1
o-Terphenyl	116		70 - 130	04/12/21 11:06	04/12/21 20:40	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	181		5.03		mg/Kg			04/17/21 20:57	1

Client Sample ID: DS02

Lab Sample ID: 890-511-3

Date Collected: 04/09/21 09:30

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 03:06	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 03:06	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 03:06	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/12/21 13:43	04/13/21 03:06	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 03:06	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/12/21 13:43	04/13/21 03:06	1
Total BTEX	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 03:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	04/12/21 13:43	04/13/21 03:06	1
1,4-Difluorobenzene (Surr)	103		70 - 130	04/12/21 13:43	04/13/21 03:06	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 21:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 21:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 21:00	1
Total TPH	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 21:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	04/12/21 11:06	04/12/21 21:00	1
o-Terphenyl	113		70 - 130	04/12/21 11:06	04/12/21 21:00	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48.7		5.00		mg/Kg			04/17/21 21:03	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS02A

Lab Sample ID: 890-511-4

Date Collected: 04/09/21 09:35

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 03:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 03:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 03:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/12/21 13:43	04/13/21 03:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 03:26	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/12/21 13:43	04/13/21 03:26	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 03:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	04/12/21 13:43	04/13/21 03:26	1
1,4-Difluorobenzene (Surr)	100		70 - 130	04/12/21 13:43	04/13/21 03:26	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 21:22	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 21:22	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 21:22	1
Total TPH	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 21:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	04/12/21 11:06	04/12/21 21:22	1
o-Terphenyl	115		70 - 130	04/12/21 11:06	04/12/21 21:22	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	117		4.97		mg/Kg			04/17/21 21:18	1

Client Sample ID: DS03

Lab Sample ID: 890-511-5

Date Collected: 04/09/21 09:40

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 03:47	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 03:47	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 03:47	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/12/21 13:43	04/13/21 03:47	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 03:47	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/12/21 13:43	04/13/21 03:47	1
Total BTEX	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 03:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	04/12/21 13:43	04/13/21 03:47	1
1,4-Difluorobenzene (Surr)	99		70 - 130	04/12/21 13:43	04/13/21 03:47	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS03

Lab Sample ID: 890-511-5

Date Collected: 04/09/21 09:40

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 21:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 21:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 21:43	1
Total TPH	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	04/12/21 11:06	04/12/21 21:43	1
o-Terphenyl	114		70 - 130	04/12/21 11:06	04/12/21 21:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	147		5.00		mg/Kg			04/17/21 21:23	1

Client Sample ID: DS03A

Lab Sample ID: 890-511-6

Date Collected: 04/09/21 09:45

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 04:07	1
Toluene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 04:07	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 04:07	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		04/12/21 13:43	04/13/21 04:07	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 04:07	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		04/12/21 13:43	04/13/21 04:07	1
Total BTEX	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 04:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	04/12/21 13:43	04/13/21 04:07	1
1,4-Difluorobenzene (Surr)	99		70 - 130	04/12/21 13:43	04/13/21 04:07	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/12/21 11:06	04/12/21 22:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/12/21 11:06	04/12/21 22:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/12/21 11:06	04/12/21 22:04	1
Total TPH	<49.9	U	49.9		mg/Kg		04/12/21 11:06	04/12/21 22:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	04/12/21 11:06	04/12/21 22:04	1
o-Terphenyl	111		70 - 130	04/12/21 11:06	04/12/21 22:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	208		4.96		mg/Kg			04/17/21 21:28	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS04

Lab Sample ID: 890-511-7

Date Collected: 04/09/21 09:50

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 04:28	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 04:28	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 04:28	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/12/21 13:43	04/13/21 04:28	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 04:28	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/12/21 13:43	04/13/21 04:28	1
Total BTEX	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 04:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	04/12/21 13:43	04/13/21 04:28	1
1,4-Difluorobenzene (Surr)	98		70 - 130	04/12/21 13:43	04/13/21 04:28	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		04/12/21 11:06	04/12/21 22:26	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/12/21 11:06	04/12/21 22:26	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/12/21 11:06	04/12/21 22:26	1
Total TPH	<49.8	U	49.8		mg/Kg		04/12/21 11:06	04/12/21 22:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	04/12/21 11:06	04/12/21 22:26	1
o-Terphenyl	112		70 - 130	04/12/21 11:06	04/12/21 22:26	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2290		25.0		mg/Kg			04/17/21 21:33	5

Client Sample ID: DS04A

Lab Sample ID: 890-511-8

Date Collected: 04/09/21 09:55

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 04:48	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 04:48	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 04:48	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		04/12/21 13:43	04/13/21 04:48	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 04:48	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		04/12/21 13:43	04/13/21 04:48	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 04:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	04/12/21 13:43	04/13/21 04:48	1
1,4-Difluorobenzene (Surr)	101		70 - 130	04/12/21 13:43	04/13/21 04:48	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS04A

Lab Sample ID: 890-511-8

Date Collected: 04/09/21 09:55

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		04/12/21 11:06	04/12/21 22:47	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/12/21 11:06	04/12/21 22:47	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/12/21 11:06	04/12/21 22:47	1
Total TPH	<49.8	U	49.8		mg/Kg		04/12/21 11:06	04/12/21 22:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	04/12/21 11:06	04/12/21 22:47	1
o-Terphenyl	112		70 - 130	04/12/21 11:06	04/12/21 22:47	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1670		24.8		mg/Kg			04/17/21 21:38	5

Client Sample ID: DS05

Lab Sample ID: 890-511-9

Date Collected: 04/09/21 10:00

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 05:09	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 05:09	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 05:09	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/12/21 13:43	04/13/21 05:09	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 05:09	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/12/21 13:43	04/13/21 05:09	1
Total BTEX	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 05:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	04/12/21 13:43	04/13/21 05:09	1
1,4-Difluorobenzene (Surr)	101		70 - 130	04/12/21 13:43	04/13/21 05:09	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 23:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 23:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 23:09	1
Total TPH	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 23:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	04/12/21 11:06	04/12/21 23:09	1
o-Terphenyl	119		70 - 130	04/12/21 11:06	04/12/21 23:09	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2170		24.8		mg/Kg			04/17/21 21:43	5

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS05A

Lab Sample ID: 890-511-10

Date Collected: 04/09/21 10:05

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 05:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 05:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 05:29	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/12/21 13:43	04/13/21 05:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 05:29	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/12/21 13:43	04/13/21 05:29	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 05:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	04/12/21 13:43	04/13/21 05:29	1
1,4-Difluorobenzene (Surr)	100		70 - 130	04/12/21 13:43	04/13/21 05:29	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		04/12/21 11:06	04/12/21 23:30	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		04/12/21 11:06	04/12/21 23:30	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		04/12/21 11:06	04/12/21 23:30	1
Total TPH	<50.1	U	50.1		mg/Kg		04/12/21 11:06	04/12/21 23:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	04/12/21 11:06	04/12/21 23:30	1
o-Terphenyl	116		70 - 130	04/12/21 11:06	04/12/21 23:30	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2450		25.0		mg/Kg			04/17/21 21:48	5

Client Sample ID: DS06

Lab Sample ID: 890-511-11

Date Collected: 04/09/21 10:10

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		04/12/21 13:43	04/13/21 06:50	1
Toluene	<0.00202	U	0.00202		mg/Kg		04/12/21 13:43	04/13/21 06:50	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		04/12/21 13:43	04/13/21 06:50	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		04/12/21 13:43	04/13/21 06:50	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		04/12/21 13:43	04/13/21 06:50	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		04/12/21 13:43	04/13/21 06:50	1
Total BTEX	<0.00202	U	0.00202		mg/Kg		04/12/21 13:43	04/13/21 06:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	04/12/21 13:43	04/13/21 06:50	1
1,4-Difluorobenzene (Surr)	103		70 - 130	04/12/21 13:43	04/13/21 06:50	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS06

Lab Sample ID: 890-511-11

Date Collected: 04/09/21 10:10

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/12/21 11:22	04/12/21 20:19	1
Diesel Range Organics (Over C10-C28)	70.0		49.9		mg/Kg		04/12/21 11:22	04/12/21 20:19	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/12/21 11:22	04/12/21 20:19	1
Total TPH	70.0		49.9		mg/Kg		04/12/21 11:22	04/12/21 20:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	04/12/21 11:22	04/12/21 20:19	1
o-Terphenyl	96		70 - 130	04/12/21 11:22	04/12/21 20:19	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100		25.3		mg/Kg			04/18/21 00:43	5

Client Sample ID: DS06A

Lab Sample ID: 890-511-12

Date Collected: 04/09/21 10:15

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 07:11	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 07:11	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 07:11	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/12/21 13:43	04/13/21 07:11	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 07:11	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/12/21 13:43	04/13/21 07:11	1
Total BTEX	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 07:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	04/12/21 13:43	04/13/21 07:11	1
1,4-Difluorobenzene (Surr)	100		70 - 130	04/12/21 13:43	04/13/21 07:11	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/12/21 11:22	04/12/21 20:40	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/12/21 11:22	04/12/21 20:40	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/12/21 11:22	04/12/21 20:40	1
Total TPH	<49.9	U	49.9		mg/Kg		04/12/21 11:22	04/12/21 20:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	04/12/21 11:22	04/12/21 20:40	1
o-Terphenyl	86		70 - 130	04/12/21 11:22	04/12/21 20:40	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	941		5.02		mg/Kg			04/18/21 00:49	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS07

Lab Sample ID: 890-511-13

Date Collected: 04/09/21 10:20

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 07:31	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 07:31	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 07:31	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/12/21 13:43	04/13/21 07:31	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 07:31	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/12/21 13:43	04/13/21 07:31	1
Total BTEX	<0.00201	U	0.00201		mg/Kg		04/12/21 13:43	04/13/21 07:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	04/12/21 13:43	04/13/21 07:31	1
1,4-Difluorobenzene (Surr)	101		70 - 130	04/12/21 13:43	04/13/21 07:31	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	52.2		50.0		mg/Kg		04/12/21 11:22	04/12/21 21:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 21:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 21:00	1
Total TPH	52.2		50.0		mg/Kg		04/12/21 11:22	04/12/21 21:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	04/12/21 11:22	04/12/21 21:00	1
o-Terphenyl	87		70 - 130	04/12/21 11:22	04/12/21 21:00	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	404		4.98		mg/Kg			04/18/21 00:54	1

Client Sample ID: DS07A

Lab Sample ID: 890-511-14

Date Collected: 04/09/21 10:25

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 07:52	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 07:52	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 07:52	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/12/21 13:43	04/13/21 07:52	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 07:52	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/12/21 13:43	04/13/21 07:52	1
Total BTEX	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 07:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	04/12/21 13:43	04/13/21 07:52	1
1,4-Difluorobenzene (Surr)	103		70 - 130	04/12/21 13:43	04/13/21 07:52	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS07A

Lab Sample ID: 890-511-14

Date Collected: 04/09/21 10:25

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 21:22	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 21:22	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 21:22	1
Total TPH	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 21:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130	04/12/21 11:22	04/12/21 21:22	1
o-Terphenyl	82		70 - 130	04/12/21 11:22	04/12/21 21:22	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	459		4.97		mg/Kg			04/18/21 00:59	1

Client Sample ID: DS08

Lab Sample ID: 890-511-15

Date Collected: 04/09/21 10:30

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 08:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 08:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 08:12	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/12/21 13:43	04/13/21 08:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 08:12	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/12/21 13:43	04/13/21 08:12	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 08:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	04/12/21 13:43	04/13/21 08:12	1
1,4-Difluorobenzene (Surr)	99		70 - 130	04/12/21 13:43	04/13/21 08:12	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 21:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 21:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 21:43	1
Total TPH	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130	04/12/21 11:22	04/12/21 21:43	1
o-Terphenyl	82		70 - 130	04/12/21 11:22	04/12/21 21:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	475		24.8		mg/Kg			04/18/21 01:14	5

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS08A

Lab Sample ID: 890-511-16

Date Collected: 04/09/21 10:35

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 08:33	1
Toluene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 08:33	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 08:33	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		04/12/21 13:43	04/13/21 08:33	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 08:33	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		04/12/21 13:43	04/13/21 08:33	1
Total BTEX	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 08:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	04/12/21 13:43	04/13/21 08:33	1
1,4-Difluorobenzene (Surr)	101		70 - 130	04/12/21 13:43	04/13/21 08:33	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/12/21 11:22	04/12/21 22:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/12/21 11:22	04/12/21 22:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/12/21 11:22	04/12/21 22:04	1
Total TPH	<49.9	U	49.9		mg/Kg		04/12/21 11:22	04/12/21 22:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130	04/12/21 11:22	04/12/21 22:04	1
o-Terphenyl	82		70 - 130	04/12/21 11:22	04/12/21 22:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	580		4.95		mg/Kg			04/18/21 01:19	1

Client Sample ID: DS09

Lab Sample ID: 890-511-17

Date Collected: 04/09/21 10:40

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 08:53	1
Toluene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 08:53	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 08:53	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		04/12/21 13:43	04/13/21 08:53	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 08:53	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		04/12/21 13:43	04/13/21 08:53	1
Total BTEX	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 08:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	04/12/21 13:43	04/13/21 08:53	1
1,4-Difluorobenzene (Surr)	102		70 - 130	04/12/21 13:43	04/13/21 08:53	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS09

Lab Sample ID: 890-511-17

Date Collected: 04/09/21 10:40

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		04/12/21 11:22	04/12/21 22:26	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/12/21 11:22	04/12/21 22:26	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/12/21 11:22	04/12/21 22:26	1
Total TPH	<49.8	U	49.8		mg/Kg		04/12/21 11:22	04/12/21 22:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130	04/12/21 11:22	04/12/21 22:26	1
o-Terphenyl	82		70 - 130	04/12/21 11:22	04/12/21 22:26	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	325		5.00		mg/Kg			04/18/21 01:24	1

Client Sample ID: DS09A

Lab Sample ID: 890-511-18

Date Collected: 04/09/21 10:45

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 09:13	1
Toluene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 09:13	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 09:13	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		04/12/21 13:43	04/13/21 09:13	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 09:13	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		04/12/21 13:43	04/13/21 09:13	1
Total BTEX	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 09:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	04/12/21 13:43	04/13/21 09:13	1
1,4-Difluorobenzene (Surr)	100		70 - 130	04/12/21 13:43	04/13/21 09:13	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		04/12/21 11:22	04/12/21 22:47	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/12/21 11:22	04/12/21 22:47	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/12/21 11:22	04/12/21 22:47	1
Total TPH	<49.8	U	49.8		mg/Kg		04/12/21 11:22	04/12/21 22:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130	04/12/21 11:22	04/12/21 22:47	1
o-Terphenyl	81		70 - 130	04/12/21 11:22	04/12/21 22:47	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	447		5.04		mg/Kg			04/18/21 01:29	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS10

Lab Sample ID: 890-511-19

Date Collected: 04/09/21 10:50

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 09:34	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 09:34	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 09:34	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/12/21 13:43	04/13/21 09:34	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 09:34	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/12/21 13:43	04/13/21 09:34	1
Total BTEX	<0.00199	U	0.00199		mg/Kg		04/12/21 13:43	04/13/21 09:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	04/12/21 13:43	04/13/21 09:34	1
1,4-Difluorobenzene (Surr)	105		70 - 130	04/12/21 13:43	04/13/21 09:34	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 23:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 23:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 23:09	1
Total TPH	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 23:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130	04/12/21 11:22	04/12/21 23:09	1
o-Terphenyl	77		70 - 130	04/12/21 11:22	04/12/21 23:09	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	515		25.3		mg/Kg			04/18/21 01:34	5

Client Sample ID: DS10A

Lab Sample ID: 890-511-20

Date Collected: 04/09/21 10:55

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 09:54	1
Toluene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 09:54	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 09:54	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		04/12/21 13:43	04/13/21 09:54	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 09:54	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		04/12/21 13:43	04/13/21 09:54	1
Total BTEX	<0.00198	U	0.00198		mg/Kg		04/12/21 13:43	04/13/21 09:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	04/12/21 13:43	04/13/21 09:54	1
1,4-Difluorobenzene (Surr)	102		70 - 130	04/12/21 13:43	04/13/21 09:54	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS10A

Lab Sample ID: 890-511-20

Date Collected: 04/09/21 10:55

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	50.6		50.1		mg/Kg		04/12/21 11:22	04/12/21 23:30	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		04/12/21 11:22	04/12/21 23:30	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		04/12/21 11:22	04/12/21 23:30	1
Total TPH	50.6		50.1		mg/Kg		04/12/21 11:22	04/12/21 23:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	04/12/21 11:22	04/12/21 23:30	1
o-Terphenyl	89		70 - 130	04/12/21 11:22	04/12/21 23:30	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	575	F1	4.98		mg/Kg			04/18/21 01:39	1

Client Sample ID: DS11

Lab Sample ID: 890-511-21

Date Collected: 04/09/21 11:00

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/12/21 16:18	04/12/21 20:41	1
Toluene	0.00418		0.00199		mg/Kg		04/12/21 16:18	04/12/21 20:41	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/12/21 16:18	04/12/21 20:41	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/12/21 16:18	04/12/21 20:41	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/12/21 16:18	04/12/21 20:41	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/12/21 16:18	04/12/21 20:41	1
Total BTEX	0.00418		0.00199		mg/Kg		04/12/21 16:18	04/12/21 20:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130	04/12/21 16:18	04/12/21 20:41	1
1,4-Difluorobenzene (Surr)	101		70 - 130	04/12/21 16:18	04/12/21 20:41	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	49.9		mg/Kg		04/12/21 15:32	04/13/21 01:15	1
Diesel Range Organics (Over C10-C28)	<49.9	U F1	49.9		mg/Kg		04/12/21 15:32	04/13/21 01:15	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 01:15	1
Total TPH	<49.9	U F1	49.9		mg/Kg		04/12/21 15:32	04/13/21 01:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130	04/12/21 15:32	04/13/21 01:15	1
o-Terphenyl	119		70 - 130	04/12/21 15:32	04/13/21 01:15	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	489		5.04		mg/Kg			04/18/21 01:55	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS11A

Lab Sample ID: 890-511-22

Date Collected: 04/09/21 11:05

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/12/21 16:18	04/12/21 21:07	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/12/21 16:18	04/12/21 21:07	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/12/21 16:18	04/12/21 21:07	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/12/21 16:18	04/12/21 21:07	1
o-Xylene	0.00444		0.00199		mg/Kg		04/12/21 16:18	04/12/21 21:07	1
Xylenes, Total	0.00444		0.00398		mg/Kg		04/12/21 16:18	04/12/21 21:07	1
Total BTEX	0.00444		0.00199		mg/Kg		04/12/21 16:18	04/12/21 21:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	04/12/21 16:18	04/12/21 21:07	1
1,4-Difluorobenzene (Surr)	97		70 - 130	04/12/21 16:18	04/12/21 21:07	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 02:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 02:18	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 02:18	1
Total TPH	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 02:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	04/12/21 15:32	04/13/21 02:18	1
o-Terphenyl	116		70 - 130	04/12/21 15:32	04/13/21 02:18	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	652		4.97		mg/Kg			04/18/21 02:00	1

Client Sample ID: DS12

Lab Sample ID: 890-511-23

Date Collected: 04/09/21 11:10

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		04/12/21 16:18	04/12/21 21:32	1
Toluene	<0.00202	U	0.00202		mg/Kg		04/12/21 16:18	04/12/21 21:32	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		04/12/21 16:18	04/12/21 21:32	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		04/12/21 16:18	04/12/21 21:32	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		04/12/21 16:18	04/12/21 21:32	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		04/12/21 16:18	04/12/21 21:32	1
Total BTEX	<0.00202	U	0.00202		mg/Kg		04/12/21 16:18	04/12/21 21:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130	04/12/21 16:18	04/12/21 21:32	1
1,4-Difluorobenzene (Surr)	102		70 - 130	04/12/21 16:18	04/12/21 21:32	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS12

Lab Sample ID: 890-511-23

Date Collected: 04/09/21 11:10

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		04/12/21 15:32	04/13/21 10:48	1
Diesel Range Organics (Over C10-C28)	115		49.8		mg/Kg		04/12/21 15:32	04/13/21 10:48	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/12/21 15:32	04/13/21 10:48	1
Total TPH	115		49.8		mg/Kg		04/12/21 15:32	04/13/21 10:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	04/12/21 15:32	04/13/21 10:48	1
o-Terphenyl	113		70 - 130	04/12/21 15:32	04/13/21 10:48	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180		4.95		mg/Kg			04/18/21 02:15	1

Client Sample ID: DS12A

Lab Sample ID: 890-511-24

Date Collected: 04/09/21 11:15

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		04/12/21 16:18	04/12/21 21:57	1
Toluene	<0.00202	U	0.00202		mg/Kg		04/12/21 16:18	04/12/21 21:57	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		04/12/21 16:18	04/12/21 21:57	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		04/12/21 16:18	04/12/21 21:57	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		04/12/21 16:18	04/12/21 21:57	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		04/12/21 16:18	04/12/21 21:57	1
Total BTEX	<0.00202	U	0.00202		mg/Kg		04/12/21 16:18	04/12/21 21:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130	04/12/21 16:18	04/12/21 21:57	1
1,4-Difluorobenzene (Surr)	103		70 - 130	04/12/21 16:18	04/12/21 21:57	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 03:00	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 03:00	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 03:00	1
Total TPH	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 03:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130	04/12/21 15:32	04/13/21 03:00	1
o-Terphenyl	126		70 - 130	04/12/21 15:32	04/13/21 03:00	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	387		5.05		mg/Kg			04/18/21 02:20	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS13

Lab Sample ID: 890-511-25

Date Collected: 04/09/21 11:20

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		04/12/21 16:18	04/13/21 00:31	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/12/21 16:18	04/13/21 00:31	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/12/21 16:18	04/13/21 00:31	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/12/21 16:18	04/13/21 00:31	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/12/21 16:18	04/13/21 00:31	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/12/21 16:18	04/13/21 00:31	1
Total BTEX	<0.00201	U	0.00201		mg/Kg		04/12/21 16:18	04/13/21 00:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	04/12/21 16:18	04/13/21 00:31	1
1,4-Difluorobenzene (Surr)	93		70 - 130	04/12/21 16:18	04/13/21 00:31	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/12/21 15:32	04/13/21 03:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/12/21 15:32	04/13/21 03:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/12/21 15:32	04/13/21 03:21	1
Total TPH	<50.0	U	50.0		mg/Kg		04/12/21 15:32	04/13/21 03:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	04/12/21 15:32	04/13/21 03:21	1
o-Terphenyl	118		70 - 130	04/12/21 15:32	04/13/21 03:21	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	930		25.3		mg/Kg			04/18/21 02:25	5

Client Sample ID: DS13A

Lab Sample ID: 890-511-26

Date Collected: 04/09/21 11:25

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/13/21 00:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/13/21 00:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/13/21 00:56	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/12/21 16:18	04/13/21 00:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/13/21 00:56	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/12/21 16:18	04/13/21 00:56	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/13/21 00:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	04/12/21 16:18	04/13/21 00:56	1
1,4-Difluorobenzene (Surr)	97		70 - 130	04/12/21 16:18	04/13/21 00:56	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS13A

Lab Sample ID: 890-511-26

Date Collected: 04/09/21 11:25

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		04/12/21 15:32	04/13/21 00:12	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		04/12/21 15:32	04/13/21 00:12	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		04/12/21 15:32	04/13/21 00:12	1
Total TPH	<50.1	U	50.1		mg/Kg		04/12/21 15:32	04/13/21 00:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	04/12/21 15:32	04/13/21 00:12	1
o-Terphenyl	94		70 - 130	04/12/21 15:32	04/13/21 00:12	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1370		24.9		mg/Kg			04/18/21 02:30	5

Client Sample ID: DS14

Lab Sample ID: 890-511-27

Date Collected: 04/09/21 11:30

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/12/21 16:18	04/13/21 01:21	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/12/21 16:18	04/13/21 01:21	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/12/21 16:18	04/13/21 01:21	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/12/21 16:18	04/13/21 01:21	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/12/21 16:18	04/13/21 01:21	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/12/21 16:18	04/13/21 01:21	1
Total BTEX	<0.00199	U	0.00199		mg/Kg		04/12/21 16:18	04/13/21 01:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	04/12/21 16:18	04/13/21 01:21	1
1,4-Difluorobenzene (Surr)	104		70 - 130	04/12/21 16:18	04/13/21 01:21	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 00:33	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 00:33	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 00:33	1
Total TPH	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 00:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	04/12/21 15:32	04/13/21 00:33	1
o-Terphenyl	89		70 - 130	04/12/21 15:32	04/13/21 00:33	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.1		5.00		mg/Kg			04/18/21 02:35	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS14A

Lab Sample ID: 890-511-28

Date Collected: 04/09/21 11:35

Matrix: Solid

Date Received: 04/09/21 15:51

Sample Depth: - 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/13/21 01:47	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/13/21 01:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/13/21 01:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/12/21 16:18	04/13/21 01:47	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/13/21 01:47	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/12/21 16:18	04/13/21 01:47	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/13/21 01:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	138	S1+	70 - 130	04/12/21 16:18	04/13/21 01:47	1
1,4-Difluorobenzene (Surr)	107		70 - 130	04/12/21 16:18	04/13/21 01:47	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 00:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 00:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 00:54	1
Total TPH	<49.9	U	49.9		mg/Kg		04/12/21 15:32	04/13/21 00:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	04/12/21 15:32	04/13/21 00:54	1
o-Terphenyl	95		70 - 130	04/12/21 15:32	04/13/21 00:54	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	165		5.00		mg/Kg			04/18/21 02:40	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
890-511-1	DS01	115	102
890-511-1 MS	DS01	128	110
890-511-1 MSD	DS01	129	111
890-511-2	DS01A	325 S1+	290 S1+
890-511-3	DS02	110	103
890-511-4	DS02A	107	100
890-511-5	DS03	114	99
890-511-6	DS03A	107	99
890-511-7	DS04	110	98
890-511-8	DS04A	107	101
890-511-9	DS05	110	101
890-511-10	DS05A	117	100
890-511-11	DS06	107	103
890-511-12	DS06A	110	100
890-511-13	DS07	107	101
890-511-14	DS07A	113	103
890-511-15	DS08	112	99
890-511-16	DS08A	114	101
890-511-17	DS09	106	102
890-511-18	DS09A	107	100
890-511-19	DS10	107	105
890-511-20	DS10A	114	102
890-511-21	DS11	132 S1+	101
890-511-22	DS11A	122	97
890-511-23	DS12	127	102
890-511-24	DS12A	123	103
890-511-25	DS13	118	93
890-511-26	DS13A	115	97
890-511-27	DS14	119	104
890-511-28	DS14A	138 S1+	107
LCS 880-1671/1-A	Lab Control Sample	108	97
LCS 880-1681/1-A	Lab Control Sample	103	105
LCSD 880-1671/2-A	Lab Control Sample Dup	104	101
LCSD 880-1681/2-A	Lab Control Sample Dup	112	110
MB 880-1645/5-A	Method Blank	98	98
MB 880-1671/5-A	Method Blank	97	98
MB 880-1681/5-A	Method Blank	71	88

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
890-511-1	DS01	102	114
890-511-2	DS01A	107	116

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WPX Energy Production LLC

Job ID: 890-511-1

Project/Site: RDU-55

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-511-3	DS02	102	113
890-511-4	DS02A	103	115
890-511-5	DS03	104	114
890-511-6	DS03A	101	111
890-511-7	DS04	102	112
890-511-8	DS04A	100	112
890-511-9	DS05	105	119
890-511-10	DS05A	104	116
890-511-11	DS06	100	96
890-511-12	DS06A	93	86
890-511-13	DS07	95	87
890-511-14	DS07A	92	82
890-511-15	DS08	89	82
890-511-16	DS08A	88	82
890-511-17	DS09	87	82
890-511-18	DS09A	87	81
890-511-19	DS10	84	77
890-511-20	DS10A	99	89
890-511-21	DS11	110	119
890-511-21 MS	DS11	118	114
890-511-21 MSD	DS11	118	113
890-511-22	DS11A	106	116
890-511-23	DS12	107	113
890-511-24	DS12A	114	126
890-511-25	DS13	109	118
890-511-26	DS13A	98	94
890-511-27	DS14	97	89
890-511-28	DS14A	101	95
LCS 880-1660/2-A	Lab Control Sample	114	112
LCS 880-1666/2-A	Lab Control Sample	93	80
LCS 880-1677/2-A	Lab Control Sample	110	115
LCSD 880-1660/3-A	Lab Control Sample Dup	110	107
LCSD 880-1666/3-A	Lab Control Sample Dup	97	83
LCSD 880-1677/3-A	Lab Control Sample Dup	108	112
MB 880-1660/1-A	Method Blank	104	118
MB 880-1666/1-A	Method Blank	93	92
MB 880-1677/1-A	Method Blank	106	124

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-1645/5-A

Matrix: Solid

Analysis Batch: 1640

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 1645

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/12/21 09:50	04/12/21 15:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/12/21 09:50	04/12/21 15:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/12/21 09:50	04/12/21 15:13	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/12/21 09:50	04/12/21 15:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/12/21 09:50	04/12/21 15:13	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/12/21 09:50	04/12/21 15:13	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		04/12/21 09:50	04/12/21 15:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	04/12/21 09:50	04/12/21 15:13	1
1,4-Difluorobenzene (Surr)	98		70 - 130	04/12/21 09:50	04/12/21 15:13	1

Lab Sample ID: MB 880-1671/5-A

Matrix: Solid

Analysis Batch: 1640

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 1671

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 02:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 02:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 02:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/12/21 13:43	04/13/21 02:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 02:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/12/21 13:43	04/13/21 02:04	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		04/12/21 13:43	04/13/21 02:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	04/12/21 13:43	04/13/21 02:04	1
1,4-Difluorobenzene (Surr)	98		70 - 130	04/12/21 13:43	04/13/21 02:04	1

Lab Sample ID: LCS 880-1671/1-A

Matrix: Solid

Analysis Batch: 1640

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 1671

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08777		mg/Kg		88	70 - 130
Toluene	0.100	0.08780		mg/Kg		88	70 - 130
Ethylbenzene	0.100	0.09602		mg/Kg		96	70 - 130
m-Xylene & p-Xylene	0.200	0.1898		mg/Kg		95	70 - 130
o-Xylene	0.100	0.09401		mg/Kg		94	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-1671/2-A

Matrix: Solid

Analysis Batch: 1640

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 1671

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09909		mg/Kg		99	70 - 130	12	35
Toluene	0.100	0.09683		mg/Kg		97	70 - 130	10	35
Ethylbenzene	0.100	0.1014		mg/Kg		101	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.1975		mg/Kg		99	70 - 130	4	35
o-Xylene	0.100	0.09912		mg/Kg		99	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-511-1 MS

Matrix: Solid

Analysis Batch: 1640

Client Sample ID: DS01

Prep Type: Total/NA

Prep Batch: 1671

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.1119		mg/Kg		112	70 - 130		
Toluene	<0.00200	U	0.0998	0.1024		mg/Kg		103	70 - 130		
Ethylbenzene	<0.00200	U	0.0998	0.1053		mg/Kg		106	70 - 130		
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2106		mg/Kg		106	70 - 130		
o-Xylene	<0.00200	U	0.0998	0.1160		mg/Kg		116	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	128		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: 890-511-1 MSD

Matrix: Solid

Analysis Batch: 1640

Client Sample ID: DS01

Prep Type: Total/NA

Prep Batch: 1671

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0992	0.1150		mg/Kg		116	70 - 130	3	35
Toluene	<0.00200	U	0.0992	0.1047		mg/Kg		106	70 - 130	2	35
Ethylbenzene	<0.00200	U	0.0992	0.1071		mg/Kg		108	70 - 130	2	35
m-Xylene & p-Xylene	<0.00401	U	0.198	0.2132		mg/Kg		107	70 - 130	1	35
o-Xylene	<0.00200	U	0.0992	0.1167		mg/Kg		118	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	129		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Lab Sample ID: MB 880-1681/5-A

Matrix: Solid

Analysis Batch: 1638

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 1681

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/12/21 18:07	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/12/21 18:07	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/12/21 18:07	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-1681/5-A

Matrix: Solid

Analysis Batch: 1638

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 1681

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/12/21 16:18	04/12/21 18:07	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/12/21 18:07	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/12/21 16:18	04/12/21 18:07	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		04/12/21 16:18	04/12/21 18:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		70 - 130	04/12/21 16:18	04/12/21 18:07	1
1,4-Difluorobenzene (Surr)	88		70 - 130	04/12/21 16:18	04/12/21 18:07	1

Lab Sample ID: LCS 880-1681/1-A

Matrix: Solid

Analysis Batch: 1638

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 1681

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1082		mg/Kg		108	70 - 130
Toluene	0.100	0.1180		mg/Kg		118	70 - 130
Ethylbenzene	0.100	0.1085		mg/Kg		109	70 - 130
m-Xylene & p-Xylene	0.200	0.2204		mg/Kg		110	70 - 130
o-Xylene	0.100	0.1176		mg/Kg		118	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: LCSD 880-1681/2-A

Matrix: Solid

Analysis Batch: 1638

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 1681

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1129		mg/Kg		113	70 - 130	4	35
Toluene	0.100	0.1215		mg/Kg		121	70 - 130	3	35
Ethylbenzene	0.100	0.1159		mg/Kg		116	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2382		mg/Kg		119	70 - 130	8	35
o-Xylene	0.100	0.1297		mg/Kg		130	70 - 130	10	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-1660/1-A

Matrix: Solid

Analysis Batch: 1662

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 1660

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 12:28	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-1660/1-A

Matrix: Solid

Analysis Batch: 1662

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 1660

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 12:28	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 12:28	1
Total TPH	<50.0	U	50.0		mg/Kg		04/12/21 11:06	04/12/21 12:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	04/12/21 11:06	04/12/21 12:28	1
o-Terphenyl	118		70 - 130	04/12/21 11:06	04/12/21 12:28	1

Lab Sample ID: LCS 880-1660/2-A

Matrix: Solid

Analysis Batch: 1662

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 1660

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1182		mg/Kg		118	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1199		mg/Kg		120	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	112		70 - 130

Lab Sample ID: LCSD 880-1660/3-A

Matrix: Solid

Analysis Batch: 1662

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 1660

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1186		mg/Kg		119	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	1000	1170		mg/Kg		117	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: MB 880-1666/1-A

Matrix: Solid

Analysis Batch: 1664

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 1666

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 12:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 12:28	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 12:28	1
Total TPH	<50.0	U	50.0		mg/Kg		04/12/21 11:22	04/12/21 12:28	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-1666/1-A

Matrix: Solid

Analysis Batch: 1664

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 1666

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	04/12/21 11:22	04/12/21 12:28	1
o-Terphenyl	92		70 - 130	04/12/21 11:22	04/12/21 12:28	1

Lab Sample ID: LCS 880-1666/2-A

Matrix: Solid

Analysis Batch: 1664

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 1666

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1072		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	1000	855.9		mg/Kg		86	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	80		70 - 130

Lab Sample ID: LCSD 880-1666/3-A

Matrix: Solid

Analysis Batch: 1664

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 1666

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1196		mg/Kg		120	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	1000	927.7		mg/Kg		93	70 - 130	8	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: MB 880-1677/1-A

Matrix: Solid

Analysis Batch: 1662

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 1677

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/12/21 15:32	04/13/21 00:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/12/21 15:32	04/13/21 00:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/12/21 15:32	04/13/21 00:12	1
Total TPH	<50.0	U	50.0		mg/Kg		04/12/21 15:32	04/13/21 00:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	04/12/21 15:32	04/13/21 00:12	1
o-Terphenyl	124		70 - 130	04/12/21 15:32	04/13/21 00:12	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-1677/2-A

Matrix: Solid

Analysis Batch: 1662

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 1677

Analyte			Spike	LCS	LCS	Unit	D	%Rec	%Rec.		
			Added	Result	Qualifier				Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1212		mg/Kg		121	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1226		mg/Kg		123	70 - 130		
		</									

Lab Sample ID: LCSD 880-1677/3-A

Matrix: Solid

Analysis Batch: 1662

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 1677

Top Data: 10/1/2017												
Analyte				Spike	LCSD	LCSD	%Rec.			RPD		
				Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10				1000	1151		mg/Kg		115	70 - 130	5	20
Diesel Range Organics (Over C10-C28)				1000	1154		mg/Kg		115	70 - 130	6	20
Bottom Data: 10/1/2017												
Surrogate	LCSD		Limits									
	%Recovery	Qualifier										
1-Chlorooctane	108		70 - 130									
o-Terphenyl	112		70 - 130									

Lab Sample ID: 890-511-21 MS

Matrix: Solid

Analysis Batch: 1662

Client Sample ID: DS11

Prep Type: Total/NA

Prep Batch: 1677

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	998	1340		mg/Kg		130	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U F1	998	1412	F1	mg/Kg		141	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	118		70 - 130								
o-Terphenyl	114		70 - 130								

Lab Sample ID: 890-511-21 MSD

Matrix: Solid

Analysis Batch: 1662

Client Sample ID: DS11

Prep Type: Total/NA

Prep Batch: 1677

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	998	1489	F1	mg/Kg		145	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	998	1394	F1	mg/Kg		140	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	118		70 - 130								

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-511-21 MSD

Matrix: Solid

Analysis Batch: 1662

Client Sample ID: DS11

Prep Type: Total/NA

Prep Batch: 1677

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
<i>o</i> -Terphenyl	113		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-1892/1-A

Matrix: Solid

Analysis Batch: 1933

Client Sample ID: Method Blank

Prep Type: Soluble

	MB	MB								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
Chloride	<5.00	U	5.00		mg/Kg			04/17/21 19:16		1

Lab Sample ID: LCS 880-1892/2-A

Matrix: Solid

Analysis Batch: 1933

Client Sample ID: Lab Control Sample

Prep Type: Soluble

			Spike	LCS	LCS				%Rec.	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride			250	249.3		mg/Kg		100	90 - 110	

Lab Sample ID: LCSD 880-1892/3-A

Matrix: Solid

Analysis Batch: 1933

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride			250	251.7		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 890-511-1 MS

Matrix: Solid

Analysis Batch: 1933

Client Sample ID: DS01

Prep Type: Soluble

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	55.8		248	306.8		mg/Kg		101	90 - 110		

Lab Sample ID: 890-511-1 MSD

Matrix: Solid

Analysis Batch: 1933

Client Sample ID: DS01

Prep Type: Soluble

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	55.8		248	303.8		mg/Kg		100	90 - 110	1	20

Lab Sample ID: MB 880-1893/1-A

Matrix: Solid

Analysis Batch: 1951

Client Sample ID: Method Blank

Prep Type: Soluble

	MB	MB									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac	
Chloride	<5.00	U	5.00		mg/Kg			04/18/21 00:13		1	

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-1893/2-A

Matrix: Solid

Analysis Batch: 1951

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	246.7		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-1893/3-A

Matrix: Solid

Analysis Batch: 1951

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	244.6		mg/Kg		98	90 - 110	1	20

Lab Sample ID: 890-511-20 MS

Matrix: Solid

Analysis Batch: 1951

Client Sample ID: DS10A

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	575	F1	249	778.4	F1	mg/Kg		82	90 - 110		

Lab Sample ID: 890-511-20 MSD

Matrix: Solid

Analysis Batch: 1951

Client Sample ID: DS10A

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	575	F1	249	781.4	F1	mg/Kg		83	90 - 110	0	20

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QC Association Summary

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

GC VOA

Analysis Batch: 1638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-21	DS11	Total/NA	Solid	8021B	1681
890-511-22	DS11A	Total/NA	Solid	8021B	1681
890-511-23	DS12	Total/NA	Solid	8021B	1681
890-511-24	DS12A	Total/NA	Solid	8021B	1681
890-511-25	DS13	Total/NA	Solid	8021B	1681
890-511-26	DS13A	Total/NA	Solid	8021B	1681
890-511-27	DS14	Total/NA	Solid	8021B	1681
890-511-28	DS14A	Total/NA	Solid	8021B	1681
MB 880-1681/5-A	Method Blank	Total/NA	Solid	8021B	1681
LCS 880-1681/1-A	Lab Control Sample	Total/NA	Solid	8021B	1681
LCSD 880-1681/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	1681

Analysis Batch: 1640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-1	DS01	Total/NA	Solid	8021B	1671
890-511-2	DS01A	Total/NA	Solid	8021B	1671
890-511-3	DS02	Total/NA	Solid	8021B	1671
890-511-4	DS02A	Total/NA	Solid	8021B	1671
890-511-5	DS03	Total/NA	Solid	8021B	1671
890-511-6	DS03A	Total/NA	Solid	8021B	1671
890-511-7	DS04	Total/NA	Solid	8021B	1671
890-511-8	DS04A	Total/NA	Solid	8021B	1671
890-511-9	DS05	Total/NA	Solid	8021B	1671
890-511-10	DS05A	Total/NA	Solid	8021B	1671
890-511-11	DS06	Total/NA	Solid	8021B	1671
890-511-12	DS06A	Total/NA	Solid	8021B	1671
890-511-13	DS07	Total/NA	Solid	8021B	1671
890-511-14	DS07A	Total/NA	Solid	8021B	1671
890-511-15	DS08	Total/NA	Solid	8021B	1671
890-511-16	DS08A	Total/NA	Solid	8021B	1671
890-511-17	DS09	Total/NA	Solid	8021B	1671
890-511-18	DS09A	Total/NA	Solid	8021B	1671
890-511-19	DS10	Total/NA	Solid	8021B	1671
890-511-20	DS10A	Total/NA	Solid	8021B	1671
MB 880-1645/5-A	Method Blank	Total/NA	Solid	8021B	1645
MB 880-1671/5-A	Method Blank	Total/NA	Solid	8021B	1671
LCS 880-1671/1-A	Lab Control Sample	Total/NA	Solid	8021B	1671
LCSD 880-1671/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	1671
890-511-1 MS	DS01	Total/NA	Solid	8021B	1671
890-511-1 MSD	DS01	Total/NA	Solid	8021B	1671

Prep Batch: 1645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-1645/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 1671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-1	DS01	Total/NA	Solid	5035	
890-511-2	DS01A	Total/NA	Solid	5035	
890-511-3	DS02	Total/NA	Solid	5035	
890-511-4	DS02A	Total/NA	Solid	5035	

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QC Association Summary

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

GC VOA (Continued)

Prep Batch: 1671 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-5	DS03	Total/NA	Solid	5035	
890-511-6	DS03A	Total/NA	Solid	5035	
890-511-7	DS04	Total/NA	Solid	5035	
890-511-8	DS04A	Total/NA	Solid	5035	
890-511-9	DS05	Total/NA	Solid	5035	
890-511-10	DS05A	Total/NA	Solid	5035	
890-511-11	DS06	Total/NA	Solid	5035	
890-511-12	DS06A	Total/NA	Solid	5035	
890-511-13	DS07	Total/NA	Solid	5035	
890-511-14	DS07A	Total/NA	Solid	5035	
890-511-15	DS08	Total/NA	Solid	5035	
890-511-16	DS08A	Total/NA	Solid	5035	
890-511-17	DS09	Total/NA	Solid	5035	
890-511-18	DS09A	Total/NA	Solid	5035	
890-511-19	DS10	Total/NA	Solid	5035	
890-511-20	DS10A	Total/NA	Solid	5035	
MB 880-1671/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-1671/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-1671/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-511-1 MS	DS01	Total/NA	Solid	5035	
890-511-1 MSD	DS01	Total/NA	Solid	5035	

Prep Batch: 1681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-21	DS11	Total/NA	Solid	5035	
890-511-22	DS11A	Total/NA	Solid	5035	
890-511-23	DS12	Total/NA	Solid	5035	
890-511-24	DS12A	Total/NA	Solid	5035	
890-511-25	DS13	Total/NA	Solid	5035	
890-511-26	DS13A	Total/NA	Solid	5035	
890-511-27	DS14	Total/NA	Solid	5035	
890-511-28	DS14A	Total/NA	Solid	5035	
MB 880-1681/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-1681/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-1681/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 1660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-1	DS01	Total/NA	Solid	8015NM Prep	
890-511-2	DS01A	Total/NA	Solid	8015NM Prep	
890-511-3	DS02	Total/NA	Solid	8015NM Prep	
890-511-4	DS02A	Total/NA	Solid	8015NM Prep	
890-511-5	DS03	Total/NA	Solid	8015NM Prep	
890-511-6	DS03A	Total/NA	Solid	8015NM Prep	
890-511-7	DS04	Total/NA	Solid	8015NM Prep	
890-511-8	DS04A	Total/NA	Solid	8015NM Prep	
890-511-9	DS05	Total/NA	Solid	8015NM Prep	
890-511-10	DS05A	Total/NA	Solid	8015NM Prep	
MB 880-1660/1-A	Method Blank	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

GC Semi VOA (Continued)

Prep Batch: 1660 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-1660/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-1660/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 1662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-1	DS01	Total/NA	Solid	8015B NM	1660
890-511-2	DS01A	Total/NA	Solid	8015B NM	1660
890-511-3	DS02	Total/NA	Solid	8015B NM	1660
890-511-4	DS02A	Total/NA	Solid	8015B NM	1660
890-511-5	DS03	Total/NA	Solid	8015B NM	1660
890-511-6	DS03A	Total/NA	Solid	8015B NM	1660
890-511-7	DS04	Total/NA	Solid	8015B NM	1660
890-511-8	DS04A	Total/NA	Solid	8015B NM	1660
890-511-9	DS05	Total/NA	Solid	8015B NM	1660
890-511-10	DS05A	Total/NA	Solid	8015B NM	1660
890-511-21	DS11	Total/NA	Solid	8015B NM	1677
890-511-22	DS11A	Total/NA	Solid	8015B NM	1677
890-511-23	DS12	Total/NA	Solid	8015B NM	1677
890-511-24	DS12A	Total/NA	Solid	8015B NM	1677
890-511-25	DS13	Total/NA	Solid	8015B NM	1677
MB 880-1660/1-A	Method Blank	Total/NA	Solid	8015B NM	1660
MB 880-1677/1-A	Method Blank	Total/NA	Solid	8015B NM	1677
LCS 880-1660/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	1660
LCS 880-1677/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	1677
LCSD 880-1660/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	1660
LCSD 880-1677/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	1677
890-511-21 MS	DS11	Total/NA	Solid	8015B NM	1677
890-511-21 MSD	DS11	Total/NA	Solid	8015B NM	1677

Analysis Batch: 1664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-11	DS06	Total/NA	Solid	8015B NM	1666
890-511-12	DS06A	Total/NA	Solid	8015B NM	1666
890-511-13	DS07	Total/NA	Solid	8015B NM	1666
890-511-14	DS07A	Total/NA	Solid	8015B NM	1666
890-511-15	DS08	Total/NA	Solid	8015B NM	1666
890-511-16	DS08A	Total/NA	Solid	8015B NM	1666
890-511-17	DS09	Total/NA	Solid	8015B NM	1666
890-511-18	DS09A	Total/NA	Solid	8015B NM	1666
890-511-19	DS10	Total/NA	Solid	8015B NM	1666
890-511-20	DS10A	Total/NA	Solid	8015B NM	1666
890-511-26	DS13A	Total/NA	Solid	8015B NM	1677
890-511-27	DS14	Total/NA	Solid	8015B NM	1677
890-511-28	DS14A	Total/NA	Solid	8015B NM	1677
MB 880-1666/1-A	Method Blank	Total/NA	Solid	8015B NM	1666
LCS 880-1666/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	1666
LCSD 880-1666/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	1666

Prep Batch: 1666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-11	DS06	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

GC Semi VOA (Continued)

Prep Batch: 1666 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-12	DS06A	Total/NA	Solid	8015NM Prep	
890-511-13	DS07	Total/NA	Solid	8015NM Prep	
890-511-14	DS07A	Total/NA	Solid	8015NM Prep	
890-511-15	DS08	Total/NA	Solid	8015NM Prep	
890-511-16	DS08A	Total/NA	Solid	8015NM Prep	
890-511-17	DS09	Total/NA	Solid	8015NM Prep	
890-511-18	DS09A	Total/NA	Solid	8015NM Prep	
890-511-19	DS10	Total/NA	Solid	8015NM Prep	
890-511-20	DS10A	Total/NA	Solid	8015NM Prep	
MB 880-1666/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-1666/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-1666/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Prep Batch: 1677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-21	DS11	Total/NA	Solid	8015NM Prep	
890-511-22	DS11A	Total/NA	Solid	8015NM Prep	
890-511-23	DS12	Total/NA	Solid	8015NM Prep	
890-511-24	DS12A	Total/NA	Solid	8015NM Prep	
890-511-25	DS13	Total/NA	Solid	8015NM Prep	
890-511-26	DS13A	Total/NA	Solid	8015NM Prep	
890-511-27	DS14	Total/NA	Solid	8015NM Prep	
890-511-28	DS14A	Total/NA	Solid	8015NM Prep	
MB 880-1677/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-1677/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-1677/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-511-21 MS	DS11	Total/NA	Solid	8015NM Prep	
890-511-21 MSD	DS11	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 1892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-1	DS01	Soluble	Solid	DI Leach	
890-511-2	DS01A	Soluble	Solid	DI Leach	
890-511-3	DS02	Soluble	Solid	DI Leach	
890-511-4	DS02A	Soluble	Solid	DI Leach	
890-511-5	DS03	Soluble	Solid	DI Leach	
890-511-6	DS03A	Soluble	Solid	DI Leach	
890-511-7	DS04	Soluble	Solid	DI Leach	
890-511-8	DS04A	Soluble	Solid	DI Leach	
890-511-9	DS05	Soluble	Solid	DI Leach	
890-511-10	DS05A	Soluble	Solid	DI Leach	
MB 880-1892/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-1892/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-1892/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-511-1 MS	DS01	Soluble	Solid	DI Leach	
890-511-1 MSD	DS01	Soluble	Solid	DI Leach	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

HPLC/IC

Leach Batch: 1893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-11	DS06	Soluble	Solid	DI Leach	
890-511-12	DS06A	Soluble	Solid	DI Leach	
890-511-13	DS07	Soluble	Solid	DI Leach	
890-511-14	DS07A	Soluble	Solid	DI Leach	
890-511-15	DS08	Soluble	Solid	DI Leach	
890-511-16	DS08A	Soluble	Solid	DI Leach	
890-511-17	DS09	Soluble	Solid	DI Leach	
890-511-18	DS09A	Soluble	Solid	DI Leach	
890-511-19	DS10	Soluble	Solid	DI Leach	
890-511-20	DS10A	Soluble	Solid	DI Leach	
890-511-21	DS11	Soluble	Solid	DI Leach	
890-511-22	DS11A	Soluble	Solid	DI Leach	
890-511-23	DS12	Soluble	Solid	DI Leach	
890-511-24	DS12A	Soluble	Solid	DI Leach	
890-511-25	DS13	Soluble	Solid	DI Leach	
890-511-26	DS13A	Soluble	Solid	DI Leach	
890-511-27	DS14	Soluble	Solid	DI Leach	
890-511-28	DS14A	Soluble	Solid	DI Leach	
MB 880-1893/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-1893/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-1893/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-511-20 MS	DS10A	Soluble	Solid	DI Leach	
890-511-20 MSD	DS10A	Soluble	Solid	DI Leach	

Analysis Batch: 1933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-1	DS01	Soluble	Solid	300.0	1892
890-511-2	DS01A	Soluble	Solid	300.0	1892
890-511-3	DS02	Soluble	Solid	300.0	1892
890-511-4	DS02A	Soluble	Solid	300.0	1892
890-511-5	DS03	Soluble	Solid	300.0	1892
890-511-6	DS03A	Soluble	Solid	300.0	1892
890-511-7	DS04	Soluble	Solid	300.0	1892
890-511-8	DS04A	Soluble	Solid	300.0	1892
890-511-9	DS05	Soluble	Solid	300.0	1892
890-511-10	DS05A	Soluble	Solid	300.0	1892
MB 880-1892/1-A	Method Blank	Soluble	Solid	300.0	1892
LCS 880-1892/2-A	Lab Control Sample	Soluble	Solid	300.0	1892
LCSD 880-1892/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	1892
890-511-1 MS	DS01	Soluble	Solid	300.0	1892
890-511-1 MSD	DS01	Soluble	Solid	300.0	1892

Analysis Batch: 1951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-11	DS06	Soluble	Solid	300.0	1893
890-511-12	DS06A	Soluble	Solid	300.0	1893
890-511-13	DS07	Soluble	Solid	300.0	1893
890-511-14	DS07A	Soluble	Solid	300.0	1893
890-511-15	DS08	Soluble	Solid	300.0	1893
890-511-16	DS08A	Soluble	Solid	300.0	1893
890-511-17	DS09	Soluble	Solid	300.0	1893

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QC Association Summary

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

HPLC/IC (Continued)

Analysis Batch: 1951 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-511-18	DS09A	Soluble	Solid	300.0	1893
890-511-19	DS10	Soluble	Solid	300.0	1893
890-511-20	DS10A	Soluble	Solid	300.0	1893
890-511-21	DS11	Soluble	Solid	300.0	1893
890-511-22	DS11A	Soluble	Solid	300.0	1893
890-511-23	DS12	Soluble	Solid	300.0	1893
890-511-24	DS12A	Soluble	Solid	300.0	1893
890-511-25	DS13	Soluble	Solid	300.0	1893
890-511-26	DS13A	Soluble	Solid	300.0	1893
890-511-27	DS14	Soluble	Solid	300.0	1893
890-511-28	DS14A	Soluble	Solid	300.0	1893
MB 880-1893/1-A	Method Blank	Soluble	Solid	300.0	1893
LCS 880-1893/2-A	Lab Control Sample	Soluble	Solid	300.0	1893
LCSD 880-1893/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	1893
890-511-20 MS	DS10A	Soluble	Solid	300.0	1893
890-511-20 MSD	DS10A	Soluble	Solid	300.0	1893

Lab Chronicle

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS01

Lab Sample ID: 890-511-1

Date Collected: 04/09/21 09:20

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 02:25	KL	XM
Total/NA	Prep	8015NM Prep			1660	04/12/21 11:06	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/12/21 20:19	AJ	XM
Soluble	Leach	DI Leach			1892	04/16/21 11:52	SC	XM
Soluble	Analysis	300.0		1	1933	04/17/21 20:42	WP	XM

Client Sample ID: DS01A

Lab Sample ID: 890-511-2

Date Collected: 04/09/21 09:25

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 02:46	KL	XM
Total/NA	Prep	8015NM Prep			1660	04/12/21 11:06	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/12/21 20:40	AJ	XM
Soluble	Leach	DI Leach			1892	04/16/21 11:52	SC	XM
Soluble	Analysis	300.0		1	1933	04/17/21 20:57	WP	XM

Client Sample ID: DS02

Lab Sample ID: 890-511-3

Date Collected: 04/09/21 09:30

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 03:06	KL	XM
Total/NA	Prep	8015NM Prep			1660	04/12/21 11:06	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/12/21 21:00	AJ	XM
Soluble	Leach	DI Leach			1892	04/16/21 11:52	SC	XM
Soluble	Analysis	300.0		1	1933	04/17/21 21:03	WP	XM

Client Sample ID: DS02A

Lab Sample ID: 890-511-4

Date Collected: 04/09/21 09:35

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 03:26	KL	XM
Total/NA	Prep	8015NM Prep			1660	04/12/21 11:06	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/12/21 21:22	AJ	XM
Soluble	Leach	DI Leach			1892	04/16/21 11:52	SC	XM
Soluble	Analysis	300.0		1	1933	04/17/21 21:18	WP	XM

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Lab Chronicle

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS03

Lab Sample ID: 890-511-5

Date Collected: 04/09/21 09:40

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 03:47	KL	XM
Total/NA	Prep	8015NM Prep			1660	04/12/21 11:06	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/12/21 21:43	AJ	XM
Soluble	Leach	DI Leach			1892	04/16/21 11:52	SC	XM
Soluble	Analysis	300.0		1	1933	04/17/21 21:23	WP	XM

Client Sample ID: DS03A

Lab Sample ID: 890-511-6

Date Collected: 04/09/21 09:45

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 04:07	KL	XM
Total/NA	Prep	8015NM Prep			1660	04/12/21 11:06	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/12/21 22:04	AJ	XM
Soluble	Leach	DI Leach			1892	04/16/21 11:52	SC	XM
Soluble	Analysis	300.0		1	1933	04/17/21 21:28	WP	XM

Client Sample ID: DS04

Lab Sample ID: 890-511-7

Date Collected: 04/09/21 09:50

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 04:28	KL	XM
Total/NA	Prep	8015NM Prep			1660	04/12/21 11:06	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/12/21 22:26	AJ	XM
Soluble	Leach	DI Leach			1892	04/16/21 11:52	SC	XM
Soluble	Analysis	300.0		5	1933	04/17/21 21:33	WP	XM

Client Sample ID: DS04A

Lab Sample ID: 890-511-8

Date Collected: 04/09/21 09:55

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 04:48	KL	XM
Total/NA	Prep	8015NM Prep			1660	04/12/21 11:06	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/12/21 22:47	AJ	XM
Soluble	Leach	DI Leach			1892	04/16/21 11:52	SC	XM
Soluble	Analysis	300.0		5	1933	04/17/21 21:38	WP	XM

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Lab Chronicle

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS05

Lab Sample ID: 890-511-9

Date Collected: 04/09/21 10:00

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 05:09	KL	XM
Total/NA	Prep	8015NM Prep			1660	04/12/21 11:06	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/12/21 23:09	AJ	XM
Soluble	Leach	DI Leach			1892	04/16/21 11:52	SC	XM
Soluble	Analysis	300.0		5	1933	04/17/21 21:43	WP	XM

Client Sample ID: DS05A

Lab Sample ID: 890-511-10

Date Collected: 04/09/21 10:05

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 05:29	KL	XM
Total/NA	Prep	8015NM Prep			1660	04/12/21 11:06	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/12/21 23:30	AJ	XM
Soluble	Leach	DI Leach			1892	04/16/21 11:52	SC	XM
Soluble	Analysis	300.0		5	1933	04/17/21 21:48	WP	XM

Client Sample ID: DS06

Lab Sample ID: 890-511-11

Date Collected: 04/09/21 10:10

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 06:50	KL	XM
Total/NA	Prep	8015NM Prep			1666	04/12/21 11:22	DM	XM
Total/NA	Analysis	8015B NM		1	1664	04/12/21 20:19	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		5	1951	04/18/21 00:43	WP	XM

Client Sample ID: DS06A

Lab Sample ID: 890-511-12

Date Collected: 04/09/21 10:15

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 07:11	KL	XM
Total/NA	Prep	8015NM Prep			1666	04/12/21 11:22	DM	XM
Total/NA	Analysis	8015B NM		1	1664	04/12/21 20:40	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		1	1951	04/18/21 00:49	WP	XM

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS07

Lab Sample ID: 890-511-13

Date Collected: 04/09/21 10:20

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 07:31	KL	XM
Total/NA	Prep	8015NM Prep			1666	04/12/21 11:22	DM	XM
Total/NA	Analysis	8015B NM		1	1664	04/12/21 21:00	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		1	1951	04/18/21 00:54	WP	XM

Client Sample ID: DS07A

Lab Sample ID: 890-511-14

Date Collected: 04/09/21 10:25

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 07:52	KL	XM
Total/NA	Prep	8015NM Prep			1666	04/12/21 11:22	DM	XM
Total/NA	Analysis	8015B NM		1	1664	04/12/21 21:22	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		1	1951	04/18/21 00:59	WP	XM

Client Sample ID: DS08

Lab Sample ID: 890-511-15

Date Collected: 04/09/21 10:30

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 08:12	KL	XM
Total/NA	Prep	8015NM Prep			1666	04/12/21 11:22	DM	XM
Total/NA	Analysis	8015B NM		1	1664	04/12/21 21:43	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		5	1951	04/18/21 01:14	WP	XM

Client Sample ID: DS08A

Lab Sample ID: 890-511-16

Date Collected: 04/09/21 10:35

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 08:33	KL	XM
Total/NA	Prep	8015NM Prep			1666	04/12/21 11:22	DM	XM
Total/NA	Analysis	8015B NM		1	1664	04/12/21 22:04	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		1	1951	04/18/21 01:19	WP	XM

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS09

Lab Sample ID: 890-511-17

Date Collected: 04/09/21 10:40

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 08:53	KL	XM
Total/NA	Prep	8015NM Prep			1666	04/12/21 11:22	DM	XM
Total/NA	Analysis	8015B NM		1	1664	04/12/21 22:26	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		1	1951	04/18/21 01:24	WP	XM

Client Sample ID: DS09A

Lab Sample ID: 890-511-18

Date Collected: 04/09/21 10:45

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 09:13	KL	XM
Total/NA	Prep	8015NM Prep			1666	04/12/21 11:22	DM	XM
Total/NA	Analysis	8015B NM		1	1664	04/12/21 22:47	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		1	1951	04/18/21 01:29	WP	XM

Client Sample ID: DS10

Lab Sample ID: 890-511-19

Date Collected: 04/09/21 10:50

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 09:34	KL	XM
Total/NA	Prep	8015NM Prep			1666	04/12/21 11:22	DM	XM
Total/NA	Analysis	8015B NM		1	1664	04/12/21 23:09	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		5	1951	04/18/21 01:34	WP	XM

Client Sample ID: DS10A

Lab Sample ID: 890-511-20

Date Collected: 04/09/21 10:55

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1671	04/12/21 13:43	KL	XM
Total/NA	Analysis	8021B		1	1640	04/13/21 09:54	KL	XM
Total/NA	Prep	8015NM Prep			1666	04/12/21 11:22	DM	XM
Total/NA	Analysis	8015B NM		1	1664	04/12/21 23:30	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		1	1951	04/18/21 01:39	WP	XM

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS11

Lab Sample ID: 890-511-21

Date Collected: 04/09/21 11:00

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1681	04/12/21 16:18	MR	XM
Total/NA	Analysis	8021B		1	1638	04/12/21 20:41	MR	XM
Total/NA	Prep	8015NM Prep			1677	04/12/21 15:32	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/13/21 01:15	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		1	1951	04/18/21 01:55	WP	XM

Client Sample ID: DS11A

Lab Sample ID: 890-511-22

Date Collected: 04/09/21 11:05

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1681	04/12/21 16:18	MR	XM
Total/NA	Analysis	8021B		1	1638	04/12/21 21:07	MR	XM
Total/NA	Prep	8015NM Prep			1677	04/12/21 15:32	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/13/21 02:18	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		1	1951	04/18/21 02:00	WP	XM

Client Sample ID: DS12

Lab Sample ID: 890-511-23

Date Collected: 04/09/21 11:10

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1681	04/12/21 16:18	MR	XM
Total/NA	Analysis	8021B		1	1638	04/12/21 21:32	MR	XM
Total/NA	Prep	8015NM Prep			1677	04/12/21 15:32	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/13/21 10:48	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		1	1951	04/18/21 02:15	WP	XM

Client Sample ID: DS12A

Lab Sample ID: 890-511-24

Date Collected: 04/09/21 11:15

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1681	04/12/21 16:18	MR	XM
Total/NA	Analysis	8021B		1	1638	04/12/21 21:57	MR	XM
Total/NA	Prep	8015NM Prep			1677	04/12/21 15:32	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/13/21 03:00	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		1	1951	04/18/21 02:20	WP	XM

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Client Sample ID: DS13

Lab Sample ID: 890-511-25

Date Collected: 04/09/21 11:20

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1681	04/12/21 16:18	MR	XM
Total/NA	Analysis	8021B		1	1638	04/13/21 00:31	MR	XM
Total/NA	Prep	8015NM Prep			1677	04/12/21 15:32	DM	XM
Total/NA	Analysis	8015B NM		1	1662	04/13/21 03:21	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		5	1951	04/18/21 02:25	WP	XM

Client Sample ID: DS13A

Lab Sample ID: 890-511-26

Date Collected: 04/09/21 11:25

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1681	04/12/21 16:18	MR	XM
Total/NA	Analysis	8021B		1	1638	04/13/21 00:56	MR	XM
Total/NA	Prep	8015NM Prep			1677	04/12/21 15:32	DM	XM
Total/NA	Analysis	8015B NM		1	1664	04/13/21 00:12	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		5	1951	04/18/21 02:30	WP	XM

Client Sample ID: DS14

Lab Sample ID: 890-511-27

Date Collected: 04/09/21 11:30

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1681	04/12/21 16:18	MR	XM
Total/NA	Analysis	8021B		1	1638	04/13/21 01:21	MR	XM
Total/NA	Prep	8015NM Prep			1677	04/12/21 15:32	DM	XM
Total/NA	Analysis	8015B NM		1	1664	04/13/21 00:33	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		1	1951	04/18/21 02:35	WP	XM

Client Sample ID: DS14A

Lab Sample ID: 890-511-28

Date Collected: 04/09/21 11:35

Matrix: Solid

Date Received: 04/09/21 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1681	04/12/21 16:18	MR	XM
Total/NA	Analysis	8021B		1	1638	04/13/21 01:47	MR	XM
Total/NA	Prep	8015NM Prep			1677	04/12/21 15:32	DM	XM
Total/NA	Analysis	8015B NM		1	1664	04/13/21 00:54	AJ	XM
Soluble	Leach	DI Leach			1893	04/16/21 11:56	SC	XM
Soluble	Analysis	300.0		1	1951	04/18/21 02:40	WP	XM

Laboratory References:

XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

1
2
3
4
5
6
7
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10
11
12
13
14

Method Summary

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XM
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XM
300.0	Anions, Ion Chromatography	MCAWW	XM
5035	Closed System Purge and Trap	SW846	XM
8015NM Prep	Microextraction	SW846	XM
DI Leach	Deionized Water Leaching Procedure	ASTM	XM

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Carlsbad

Sample Summary

Client: WPX Energy Production LLC
Project/Site: RDU-55

Job ID: 890-511-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-511-1	DS01	Solid	04/09/21 09:20	04/09/21 15:51	- 1'
890-511-2	DS01A	Solid	04/09/21 09:25	04/09/21 15:51	- 2'
890-511-3	DS02	Solid	04/09/21 09:30	04/09/21 15:51	- 1'
890-511-4	DS02A	Solid	04/09/21 09:35	04/09/21 15:51	- 2'
890-511-5	DS03	Solid	04/09/21 09:40	04/09/21 15:51	- 1'
890-511-6	DS03A	Solid	04/09/21 09:45	04/09/21 15:51	- 2'
890-511-7	DS04	Solid	04/09/21 09:50	04/09/21 15:51	- 1'
890-511-8	DS04A	Solid	04/09/21 09:55	04/09/21 15:51	- 2'
890-511-9	DS05	Solid	04/09/21 10:00	04/09/21 15:51	- 1'
890-511-10	DS05A	Solid	04/09/21 10:05	04/09/21 15:51	- 2'
890-511-11	DS06	Solid	04/09/21 10:10	04/09/21 15:51	- 1'
890-511-12	DS06A	Solid	04/09/21 10:15	04/09/21 15:51	- 2'
890-511-13	DS07	Solid	04/09/21 10:20	04/09/21 15:51	- 1'
890-511-14	DS07A	Solid	04/09/21 10:25	04/09/21 15:51	- 2'
890-511-15	DS08	Solid	04/09/21 10:30	04/09/21 15:51	- 1'
890-511-16	DS08A	Solid	04/09/21 10:35	04/09/21 15:51	- 2'
890-511-17	DS09	Solid	04/09/21 10:40	04/09/21 15:51	- 1'
890-511-18	DS09A	Solid	04/09/21 10:45	04/09/21 15:51	- 2'
890-511-19	DS10	Solid	04/09/21 10:50	04/09/21 15:51	- 1'
890-511-20	DS10A	Solid	04/09/21 10:55	04/09/21 15:51	- 2'
890-511-21	DS11	Solid	04/09/21 11:00	04/09/21 15:51	- 1'
890-511-22	DS11A	Solid	04/09/21 11:05	04/09/21 15:51	- 2'
890-511-23	DS12	Solid	04/09/21 11:10	04/09/21 15:51	- 1'
890-511-24	DS12A	Solid	04/09/21 11:15	04/09/21 15:51	- 2'
890-511-25	DS13	Solid	04/09/21 11:20	04/09/21 15:51	- 1'
890-511-26	DS13A	Solid	04/09/21 11:25	04/09/21 15:51	- 2'
890-511-27	DS14	Solid	04/09/21 11:30	04/09/21 15:51	- 1'
890-511-28	DS14A	Solid	04/09/21 11:35	04/09/21 15:51	- 2'

Eurofins Xenco, Carlsbad

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Environment Testing

Xenco

Work Order No:

Page 1 of 1
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M



Project Manager:	Lynda Laumbach	Bill to: (if different)	
Company Name:	WPX Energy Permian LLC	Company Name:	
Address:	5315 Buena Vista Dr	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	505 - 725-1647	Email:	lynda_laumbach@wpxenergy.com

Work Order Comments	
Program: <input type="checkbox"/> UST/PTST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> HRC <input type="checkbox"/> Superfund <input type="checkbox"/> State of Project: Reporting: 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:		RDU-55		Turn Around		Pres. Code		ANALYSIS REQUEST		Preservative Codes	
Project Number:				<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush						None: NO DI Water: H ₂ O Cool: Cool MeOH: Me HCL: HC HNO ₃ : HN H ₂ SO ₄ : H ₂ H ₃ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ S ₂ O ₃ : NaSO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC	
Project Location:				Due Date:							
Sampler's Name:		Tyler Dominguez		TAT starts the day received by the lab, if received by 4:30pm							
PO #:											
SAMPLE RECEIPT				Temp Blank: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Wet Ice: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>					
Samples Received Intact:				Thermometer ID: 21111111		EPA					
Cooler Custody Seals:				Correction Factor: 0.2							
Sample Custody Seals:				Temperature Reading: 8.8							
Total Containers:				Corrected Temperature: 8.6							
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters		Sample Comments	
DS01	S	4-9-21	9:20	1'	G	1		Chlorides (300.00)	BTEX (Method 8021)	TPH (Method 8015)	
DS01A	S		9:25	2'							
DS02	S		9:30	1'							
DS02A	S		9:35	2'							
DS03	S		9:40	1'							
DS03A	S		9:45	2'							
DS04	S		9:50	1'							
DS04A	S		9:55	2'							
DS05	S		10:00	1'							
DS05A	S		10:05	2'							

[illegible]

Notice: Signature of this document constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins 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 service. A minimum charge of \$65.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins 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			4-9-21 5:19-21			
2						
3						
4						
5						
6						

Revised Date: 08/25/2020 Rev 2020.2

Chain of Custody



Environment Testing

Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 505-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No:

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Project Manager: _____ Bill to: (if different) _____
Company Name: _____ Company Name: _____
Address: _____ Address: _____
City, State ZIP: _____ City, State ZIP: _____
Phone: _____ Email: _____

Work Order Comments: _____
Program: ☐ BSL ☐ PMP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project: _____
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADAPT ☐ Other: _____

Project Name: **RDU 55**
Project Number: _____
Project Location: _____
Sampler's Name: **Tyler Dominguez**
P.O. #: _____

Temp Blank: Yes ☐ No ☒
Thermometer ID: _____
Cooler Custody Seals: Yes ☐ No ☒
Sample Custody Seals: Yes ☐ No ☒
Total Containers: _____

Turn Around: ☒ Routine ☐ Rush
Due Date: _____
TAT starts the day received by the lab, if received by 4:30pm

Wet Ice: Yes ☐ No ☒
Thermometer ID: _____
Correction Factor: _____
Temperature Reading: _____
Corrected Temperature: _____

ANALYSIS REQUEST										Preservative Codes	
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Pres. Code			
DS06	S	4-9-21	10:10	1'	G	1	Chlorides (EPA 300.00)			None: NO	DI Water: H ₂ O
DS06A	S		10:15	2'			BTEX (Method 8021)			Cool: Cool	MeOH: Me
DS07	S		10:20	1'			TPH (Method 8015)			HCL: HC	HNO ₃ : HN
DS07A	S		10:25	2'						H ₂ SO ₄ : H ₂	NaOH: Na
DS08	S		10:30	1'						H ₃ PO ₄ : HP	
DS08A	S		10:35	2'						NaHSO ₄ : NABIS	
DS09	S		10:40	1'						Na ₂ S ₂ O ₃ : NaSO ₃	
DS09A	S		10:45	2'						Zn Acetate+NaOH: Zn	
DS10	S		10:50	1'						NaOH+Ascorbic Acid: SACP	
DS10A	S		10:55	2'							
Total 200.7/6010 200.8/6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn										Sample Comments	
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 Hg: 1631 / 245.1 / 7470 / 7471											

Total 200.7/6010 200.8/6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd 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 Hg: 1631 / 245.1 / 7470 / 7471

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>Tyler Dominguez</i>	<i>Cloe</i>	4-9-21 1351	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Environment Testing
Xenco

Work Order No: _____

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Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:		Email:	

Project Name:		Turn Around	
Project Number:		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
P.O. #:			

Project Name:		RDV 55	
Project Number:			
Project Location:			
Sampler's Name:		Tyler Dominguez	
P.O. #:			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Pres. Code
DS11	S	4-9-21	11:06	1'	G	1	Chlorides (EPA 300.0)	
DS1A			11:05	2'			XX TPH (Method 8015)	
DS12			11:10	1'			XX BTEX (Method 8021)	
DS12A			11:15	2'			XX	
DS13			11:20	1'			XX	
DS13A			11:25	2'			XX	
DS14			11:30	1'			XX	
DS14A			11:35	2'			XX	

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 ₂ 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 Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins 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 Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins 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 <i>[Signature]</i>	<i>[Signature]</i>	4-9-21	2		
3 <i>[Signature]</i>			4		
5 <i>[Signature]</i>			6		

Revised Date 08/25/2020 Rev. 2020.2

Eurofins Xenco, Carlsbad
1089 N Canal St
Carlsbad NM 88220
Phone 575-988-3199 Fax 575-988-3199

Chain of Custody Record



eurofins
Environment Testing
America

Client Information (Sub Contract Lab)				Sampler	Lab P/N	Carrier Tracking No(s)	COC No:							
Client Contact:				Phone	Kramer, Jessica		890-158 1							
Shipping/Receiving					E-Mail: jessica.kramer@eurofins.com	State of Origin: New Mexico	Page 1 of 4							
Company: Eurofins Xenco					Accreditations Required (See note) NELAP - Louisiana, NELAP - Texas		Job #: 890-511-1							
Address: 1211 W Florida Ave				Due Date Requested: 4/15/2021	Analysis Requested			Preservation Codes						
City: Midland				TAT Requested (days)				A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchor H - Ascorbic Acid I - Ice						
State, Zip: TX, 79701								M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone						
Phone: 432-704-5440(Te)				PO #:				V - MCAA W - pH 4-5 Z - other (specify)						
Email:				MO #:				Other:						
Project Name: RDU-55				Project #: 88000204										
Site:				SSOW#:										
Sample Identification - Client ID (Lab ID)				Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=solid, O=soil, BT=issue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/DI_LEACH Chloride	8016MOD_NM/8016NM_S_Prep Full TPH	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note:
DS01 (890-511-1)				4/9/21	09 20	Mountain	Solid	X	X	X	X	X	1	
DS01A (890-511-2)				4/9/21	09 25	Mountain	Solid	X	X	X	X	X	1	
DS02 (890-511-3)				4/9/21	09 30	Mountain	Solid	X	X	X	X	X	1	
DS02A (890-511-4)				4/9/21	09 35	Mountain	Solid	X	X	X	X	X	1	
DS03 (890-511-5)				4/9/21	09 40	Mountain	Solid	X	X	X	X	X	1	
DS03A (890-511-6)				4/9/21	09 45	Mountain	Solid	X	X	X	X	X	1	
DS04 (890-511-7)				4/9/21	09 50	Mountain	Solid	X	X	X	X	X	1	
DS04A (890-511-8)				4/9/21	09 55	Mountain	Solid	X	X	X	X	X	1	
DS05 (890-511-9)				4/9/21	10 00	Mountain	Solid	X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/estimation, being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC.

Possible Hazard Identification
Unconfirmed
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2
Empty Kit Relinquished by Date Time
Relinquished by Date Time Company
Relinquished by Date Time Company
Relinquished by Date Time Company
Custody Seals Intact Custody Seal No
A Yes A No

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Return To Client Disposal By Lab Archive For Months
Special Instructions/QC Requirements
Method of Shipment: Date/Time Company
Date/Time Company
Date/Time Company
Date/Time Company
Cooler Temperature(s) °C and Other Remarks.

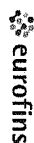
Eurofins Xenco, Carlsbad

1089 N Canal St.

Carlsbad NM 88220

Phone 575-988-3199 Fax: 575-988-3199

Chain of Custody Record



Environment Testing America

Client Information (Sub Contract Lab)										Sampler		Lab PM		Carrier Tracking No(s)		COC No.															
Client Contact: Kramer Jessica										Phone		E-Mail		State of Origin:		Page 3 of 4															
Shipping/Receiving										Phone		Jessica Kramer@eurofinsnet.com		New Mexico		Page 3 of 4															
Company: Eurofins Xenco										Due Date Requested		Accreditations Required (See note)		Job #		890-511-1															
Address: 1211 W Florida Ave.										4/15/2021		NELAP - Louisiana NELAP - Texas																			
City: Midland										TAT Requested (days)																					
State Zip: TX. 79701																															
Phone: 432-704-5440(Tel)										PO #																					
Email										WFO #																					
Project Name: RDU-55										Project #		88000204																			
Site:										SSOW#																					
Sample Identification - Client ID (Lab ID)										Sample Date		Sample Time		Sample Type (G=comp, G=grab)		Matrix (W=water, S=solid, L=liquid, A=air)		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		300_ORGFEM_28D/DI_LEACH Chloride		8015MOD_NM/8016NM_S_Prep Full TPH		8021B/5035FP_Calc BTEX		Total Number of containers		Special Instructions/Note	
DS10 (890-511-19)										4/9/21		10 50		Mountain		Solid				X		X		X		X		1			
DS10A (890-511-20)										4/9/21		10 55		Mountain		Solid				X		X		X		X		1			
DS11 (890-511-21)										4/9/21		11 00		Mountain		Solid				X		X		X		X		1			
DS11A (890-511-22)										4/9/21		11 05		Mountain		Solid				X		X		X		X		1			
DS12 (890-511-23)										4/9/21		11 10		Mountain		Solid				X		X		X		X		1			
DS12A (890-511-24)										4/9/21		11 15		Mountain		Solid				X		X		X		X		1			
DS13 (890-511-25)										4/9/21		11 20		Mountain		Solid				X		X		X		X		1			
DS13A (890-511-26)										4/9/21		11 25		Mountain		Solid				X		X		X		X		1			
DS14 (890-511-27)										4/9/21		11 30		Mountain		Solid				X		X		X		X		1			
<p>Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC.</p>																															
Possible Hazard Identification										Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																					
Unconfirmed										<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																					
Deliverable Requested I II III, IV Other (specify)										Primary Deliverable Rank 2										Special Instructions/QC Requirements											
Empty Kit Relinquished by										Date										Time											
Relinquished by										Date/Time										Company											
Relinquished by										Date/Time										Company											
Relinquished by										Date/Time										Company											
Custody Seals Intact										Custody Seal No										Cooler Temperature(s) °C and Other Remarks											
Δ Yes Δ No																															

Login Sample Receipt Checklist

Client: WPX Energy Production LLC

Job Number: 890-511-1

Login Number: 511

List Source: Eurofins Carlsbad

List Number: 1

Creator: Clifton, Cloe

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: WPX Energy Production LLC

Job Number: 890-511-1

Login Number: 511

List Number: 2

Creator: Copeland, Tatiana

List Source: Eurofins Midland

List Creation: 04/12/21 03:17 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	



Environment Testing America

ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-2549-1

Laboratory Sample Delivery Group: 03A1987036

Client Project/Site: Ross Draw Unit 55

For:

Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Joseph Hernandez

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:

7/18/2022 3:03:33 PM

Jessica Kramer, Project Manager
(432)704-5440

Jessica.Kramer@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



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www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: Ross Draw Unit 55

Laboratory Job ID: 890-2549-1
SDG: 03A1987036

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Definitions/Glossary

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
SQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Job ID: 890-2549-1

Laboratory: Eurofins Carlsbad

Narrative

**Job Narrative
890-2549-1**

Receipt

The samples were received on 7/12/2022 4:36 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.4°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-29796 and analytical batch 880-29885 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: Spike compounds were inadvertently omitted during the extraction process for the matrix spike duplicate (MSD); therefore, matrix spike recoveries are unavailable for preparation batch 880-29796 and analytical batch 880-29885. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: The method blank for preparation batch 880-29794 and analytical batch 880-29786 contained Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Client Sample ID: SW01

Lab Sample ID: 890-2549-1

Date Collected: 07/12/22 11:10

Matrix: Solid

Date Received: 07/12/22 16:36

Sample Depth: 0 - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 21:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 21:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 21:14	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/15/22 08:47	07/17/22 21:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 21:14	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/15/22 08:47	07/17/22 21:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	07/15/22 08:47	07/17/22 21:14	1
1,4-Difluorobenzene (Surr)	100		70 - 130	07/15/22 08:47	07/17/22 21:14	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			07/18/22 15:14	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/18/22 09:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 11:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 11:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 11:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130	07/15/22 08:39	07/15/22 11:12	1
o-Terphenyl	99		70 - 130	07/15/22 08:39	07/15/22 11:12	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.97		5.05		mg/Kg			07/16/22 22:53	1

Client Sample ID: SW02

Lab Sample ID: 890-2549-2

Date Collected: 07/12/22 11:00

Matrix: Solid

Date Received: 07/12/22 16:36

Sample Depth: 0 - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 21:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 21:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 21:42	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/15/22 08:47	07/17/22 21:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 21:42	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/15/22 08:47	07/17/22 21:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	07/15/22 08:47	07/17/22 21:42	1

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Client Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Client Sample ID: SW02

Lab Sample ID: 890-2549-2

Date Collected: 07/12/22 11:00

Matrix: Solid

Date Received: 07/12/22 16:36

Sample Depth: 0 - 2

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	95		70 - 130	07/15/22 08:47	07/17/22 21:42	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/18/22 15:14	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/18/22 09:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/15/22 08:39	07/15/22 12:16	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/15/22 08:39	07/15/22 12:16	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/15/22 08:39	07/15/22 12:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130				07/15/22 08:39	07/15/22 12:16	1
o-Terphenyl	97		70 - 130				07/15/22 08:39	07/15/22 12:16	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.4		5.02		mg/Kg			07/16/22 23:01	1

Client Sample ID: SW03

Lab Sample ID: 890-2549-3

Date Collected: 07/12/22 10:50

Matrix: Solid

Date Received: 07/12/22 16:36

Sample Depth: 0 - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/15/22 08:47	07/17/22 22:09	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/15/22 08:47	07/17/22 22:09	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/15/22 08:47	07/17/22 22:09	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/15/22 08:47	07/17/22 22:09	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/15/22 08:47	07/17/22 22:09	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/15/22 08:47	07/17/22 22:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	07/15/22 08:47	07/17/22 22:09	1
1,4-Difluorobenzene (Surr)	88		70 - 130	07/15/22 08:47	07/17/22 22:09	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/18/22 15:14	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/18/22 09:00	1

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Client Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Client Sample ID: SW03

Lab Sample ID: 890-2549-3

Date Collected: 07/12/22 10:50

Matrix: Solid

Date Received: 07/12/22 16:36

Sample Depth: 0 - 2

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 12:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 12:37	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 12:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130				07/15/22 08:39	07/15/22 12:37	1
o-Terphenyl	101		70 - 130				07/15/22 08:39	07/15/22 12:37	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.60		4.99		mg/Kg			07/16/22 23:09	1

Client Sample ID: SW04

Lab Sample ID: 890-2549-4

Date Collected: 07/12/22 12:00

Matrix: Solid

Date Received: 07/12/22 16:36

Sample Depth: 0 - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/15/22 08:47	07/17/22 22:35	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/15/22 08:47	07/17/22 22:35	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/15/22 08:47	07/17/22 22:35	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/15/22 08:47	07/17/22 22:35	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/15/22 08:47	07/17/22 22:35	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/15/22 08:47	07/17/22 22:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130				07/15/22 08:47	07/17/22 22:35	1
1,4-Difluorobenzene (Surr)	89		70 - 130				07/15/22 08:47	07/17/22 22:35	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/18/22 15:14	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/18/22 09:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 12:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 12:58	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 12:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130				07/15/22 08:39	07/15/22 12:58	1
o-Terphenyl	99		70 - 130				07/15/22 08:39	07/15/22 12:58	1

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Client Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Client Sample ID: SW04

Lab Sample ID: 890-2549-4

Date Collected: 07/12/22 12:00

Matrix: Solid

Date Received: 07/12/22 16:36

Sample Depth: 0 - 2

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	200		4.96		mg/Kg			07/16/22 23:32	1

Client Sample ID: FS03

Lab Sample ID: 890-2549-5

Date Collected: 07/12/22 12:30

Matrix: Solid

Date Received: 07/12/22 16:36

Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/18/22 00:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/18/22 00:20	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/18/22 00:20	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/15/22 08:47	07/18/22 00:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/18/22 00:20	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/15/22 08:47	07/18/22 00:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130				07/15/22 08:47	07/18/22 00:20	1
1,4-Difluorobenzene (Surr)	92		70 - 130				07/15/22 08:47	07/18/22 00:20	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			07/18/22 15:14	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/18/22 09:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 13:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 13:19	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 13:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130				07/15/22 08:39	07/15/22 13:19	1
o-Terphenyl	99		70 - 130				07/15/22 08:39	07/15/22 13:19	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	324		4.99		mg/Kg			07/16/22 23:40	1

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Client Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Client Sample ID: FS04

Lab Sample ID: 890-2549-6

Date Collected: 07/12/22 10:40

Matrix: Solid

Date Received: 07/12/22 16:36

Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/15/22 08:47	07/18/22 00:46	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/15/22 08:47	07/18/22 00:46	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/15/22 08:47	07/18/22 00:46	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		07/15/22 08:47	07/18/22 00:46	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/15/22 08:47	07/18/22 00:46	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/15/22 08:47	07/18/22 00:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	07/15/22 08:47	07/18/22 00:46	1
1,4-Difluorobenzene (Surr)	97		70 - 130	07/15/22 08:47	07/18/22 00:46	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			07/18/22 15:14	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/18/22 09:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 13:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 13:41	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 13:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130	07/15/22 08:39	07/15/22 13:41	1
o-Terphenyl	100		70 - 130	07/15/22 08:39	07/15/22 13:41	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	309		5.00		mg/Kg			07/17/22 00:04	1

Client Sample ID: FS05

Lab Sample ID: 890-2549-7

Date Collected: 07/12/22 10:50

Matrix: Solid

Date Received: 07/12/22 16:36

Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/18/22 01:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/18/22 01:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/18/22 01:12	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/15/22 08:47	07/18/22 01:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/18/22 01:12	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/15/22 08:47	07/18/22 01:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	07/15/22 08:47	07/18/22 01:12	1

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Client Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Client Sample ID: FS05

Lab Sample ID: 890-2549-7

Date Collected: 07/12/22 10:50

Matrix: Solid

Date Received: 07/12/22 16:36

Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	92		70 - 130	07/15/22 08:47	07/18/22 01:12	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/18/22 15:14	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/18/22 09:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/15/22 08:39	07/15/22 14:02	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/15/22 08:39	07/15/22 14:02	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/15/22 08:39	07/15/22 14:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130				07/15/22 08:39	07/15/22 14:02	1
o-Terphenyl	95		70 - 130				07/15/22 08:39	07/15/22 14:02	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.9		4.95		mg/Kg			07/17/22 00:12	1

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Surrogate Summary

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2537-A-1-D MS	Matrix Spike	100	106
890-2537-A-1-E MSD	Matrix Spike Duplicate	77	90
890-2549-1	SW01	113	100
890-2549-2	SW02	112	95
890-2549-3	SW03	109	88
890-2549-4	SW04	100	89
890-2549-5	FS03	110	92
890-2549-6	FS04	110	97
890-2549-7	FS05	112	92
LCS 880-29796/1-A	Lab Control Sample	102	106
LCSD 880-29796/2-A	Lab Control Sample Dup	108	108
MB 880-29796/5-A	Method Blank	78	92
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2549-1	SW01	86	99
890-2549-1 MS	SW01	79	83
890-2549-1 MSD	SW01	89	97
890-2549-2	SW02	87	97
890-2549-3	SW03	88	101
890-2549-4	SW04	88	99
890-2549-5	FS03	88	99
890-2549-6	FS04	89	100
890-2549-7	FS05	85	95
LCS 880-29794/2-A	Lab Control Sample	108	118
LCSD 880-29794/3-A	Lab Control Sample Dup	114	122
MB 880-29794/1-A	Method Blank	103	119
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-29796/5-A

Matrix: Solid

Analysis Batch: 29885

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 29796

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 18:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 18:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 18:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/15/22 08:47	07/17/22 18:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/15/22 08:47	07/17/22 18:01	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/15/22 08:47	07/17/22 18:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		70 - 130	07/15/22 08:47	07/17/22 18:01	1
1,4-Difluorobenzene (Surr)	92		70 - 130	07/15/22 08:47	07/17/22 18:01	1

Lab Sample ID: LCS 880-29796/1-A

Matrix: Solid

Analysis Batch: 29885

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 29796

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1156		mg/Kg		116	70 - 130
Toluene	0.100	0.09972		mg/Kg		100	70 - 130
Ethylbenzene	0.100	0.1045		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	0.200	0.2034		mg/Kg		102	70 - 130
o-Xylene	0.100	0.1062		mg/Kg		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: LCSD 880-29796/2-A

Matrix: Solid

Analysis Batch: 29885

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 29796

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1151		mg/Kg		115	70 - 130	0	35
Toluene	0.100	0.08663		mg/Kg		87	70 - 130	14	35
Ethylbenzene	0.100	0.07643		mg/Kg		76	70 - 130	31	35
m-Xylene & p-Xylene	0.200	0.1457		mg/Kg		73	70 - 130	33	35
o-Xylene	0.100	0.07784		mg/Kg		78	70 - 130	31	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 890-2537-A-1-D MS

Matrix: Solid

Analysis Batch: 29885

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 29796

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U F1	0.100	0.1089		mg/Kg		109	70 - 130
Toluene	<0.00199	U F1	0.100	0.08023		mg/Kg		80	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-2537-A-1-D MS

Matrix: Solid

Analysis Batch: 29885

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 29796

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U F1	0.100	0.06821	F1	mg/Kg		68	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1290	F1	mg/Kg		64	70 - 130
o-Xylene	<0.00199	U F1	0.100	0.06830	F1	mg/Kg		68	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 890-2537-A-1-E MSD

Matrix: Solid

Analysis Batch: 29885

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 29796

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	<0.00199	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00199	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00398	U F1	0.200	<0.00399	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	<0.00199	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	77		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-29794/1-A

Matrix: Solid

Analysis Batch: 29786

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 29794

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 10:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 10:08	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/15/22 08:39	07/15/22 10:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	07/15/22 08:39	07/15/22 10:08	1
o-Terphenyl	119		70 - 130	07/15/22 08:39	07/15/22 10:08	1

Lab Sample ID: LCS 880-29794/2-A

Matrix: Solid

Analysis Batch: 29786

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 29794

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	967.8		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)	1000	935.7		mg/Kg		94	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-29794/2-A

Matrix: Solid

Analysis Batch: 29786

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 29794

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	118		70 - 130

Lab Sample ID: LCSD 880-29794/3-A

Matrix: Solid

Analysis Batch: 29786

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 29794

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1074		mg/Kg		107	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	1000	1032		mg/Kg		103	70 - 130	10	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	122		70 - 130

Lab Sample ID: 890-2549-1 MS

Matrix: Solid

Analysis Batch: 29786

Client Sample ID: SW01

Prep Type: Total/NA

Prep Batch: 29794

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	863.4		mg/Kg		86	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	719.1		mg/Kg		72	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	79		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: 890-2549-1 MSD

Matrix: Solid

Analysis Batch: 29786

Client Sample ID: SW01

Prep Type: Total/NA

Prep Batch: 29794

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	941.1		mg/Kg		94	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	836.7		mg/Kg		84	70 - 130	15	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	89		70 - 130
o-Terphenyl	97		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-29756/1-A

Matrix: Solid

Analysis Batch: 29890

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/16/22 20:55	1

Lab Sample ID: LCS 880-29756/2-A

Matrix: Solid

Analysis Batch: 29890

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	260.6		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-29756/3-A

Matrix: Solid

Analysis Batch: 29890

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	261.6		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-2549-3 MS

Matrix: Solid

Analysis Batch: 29890

Client Sample ID: SW03

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	5.60		250	279.5		mg/Kg		110	90 - 110

Lab Sample ID: 890-2549-3 MSD

Matrix: Solid

Analysis Batch: 29890

Client Sample ID: SW03

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5.60		250	279.1		mg/Kg		110	90 - 110	0	20

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QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

GC VOA

Prep Batch: 29796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2549-1	SW01	Total/NA	Solid	5035	
890-2549-2	SW02	Total/NA	Solid	5035	
890-2549-3	SW03	Total/NA	Solid	5035	
890-2549-4	SW04	Total/NA	Solid	5035	
890-2549-5	FS03	Total/NA	Solid	5035	
890-2549-6	FS04	Total/NA	Solid	5035	
890-2549-7	FS05	Total/NA	Solid	5035	
MB 880-29796/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-29796/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-29796/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2537-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-2537-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 29885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2549-1	SW01	Total/NA	Solid	8021B	29796
890-2549-2	SW02	Total/NA	Solid	8021B	29796
890-2549-3	SW03	Total/NA	Solid	8021B	29796
890-2549-4	SW04	Total/NA	Solid	8021B	29796
890-2549-5	FS03	Total/NA	Solid	8021B	29796
890-2549-6	FS04	Total/NA	Solid	8021B	29796
890-2549-7	FS05	Total/NA	Solid	8021B	29796
MB 880-29796/5-A	Method Blank	Total/NA	Solid	8021B	29796
LCS 880-29796/1-A	Lab Control Sample	Total/NA	Solid	8021B	29796
LCSD 880-29796/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	29796
890-2537-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	29796
890-2537-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	29796

Analysis Batch: 29983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2549-1	SW01	Total/NA	Solid	Total BTEX	
890-2549-2	SW02	Total/NA	Solid	Total BTEX	
890-2549-3	SW03	Total/NA	Solid	Total BTEX	
890-2549-4	SW04	Total/NA	Solid	Total BTEX	
890-2549-5	FS03	Total/NA	Solid	Total BTEX	
890-2549-6	FS04	Total/NA	Solid	Total BTEX	
890-2549-7	FS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 29786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2549-1	SW01	Total/NA	Solid	8015B NM	29794
890-2549-2	SW02	Total/NA	Solid	8015B NM	29794
890-2549-3	SW03	Total/NA	Solid	8015B NM	29794
890-2549-4	SW04	Total/NA	Solid	8015B NM	29794
890-2549-5	FS03	Total/NA	Solid	8015B NM	29794
890-2549-6	FS04	Total/NA	Solid	8015B NM	29794
890-2549-7	FS05	Total/NA	Solid	8015B NM	29794
MB 880-29794/1-A	Method Blank	Total/NA	Solid	8015B NM	29794
LCS 880-29794/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	29794

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QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

GC Semi VOA (Continued)

Analysis Batch: 29786 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-29794/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	29794
890-2549-1 MS	SW01	Total/NA	Solid	8015B NM	29794
890-2549-1 MSD	SW01	Total/NA	Solid	8015B NM	29794

Prep Batch: 29794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2549-1	SW01	Total/NA	Solid	8015NM Prep	
890-2549-2	SW02	Total/NA	Solid	8015NM Prep	
890-2549-3	SW03	Total/NA	Solid	8015NM Prep	
890-2549-4	SW04	Total/NA	Solid	8015NM Prep	
890-2549-5	FS03	Total/NA	Solid	8015NM Prep	
890-2549-6	FS04	Total/NA	Solid	8015NM Prep	
890-2549-7	FS05	Total/NA	Solid	8015NM Prep	
MB 880-29794/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-29794/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-29794/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2549-1 MS	SW01	Total/NA	Solid	8015NM Prep	
890-2549-1 MSD	SW01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 29902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2549-1	SW01	Total/NA	Solid	8015 NM	
890-2549-2	SW02	Total/NA	Solid	8015 NM	
890-2549-3	SW03	Total/NA	Solid	8015 NM	
890-2549-4	SW04	Total/NA	Solid	8015 NM	
890-2549-5	FS03	Total/NA	Solid	8015 NM	
890-2549-6	FS04	Total/NA	Solid	8015 NM	
890-2549-7	FS05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 29756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2549-1	SW01	Soluble	Solid	DI Leach	
890-2549-2	SW02	Soluble	Solid	DI Leach	
890-2549-3	SW03	Soluble	Solid	DI Leach	
890-2549-4	SW04	Soluble	Solid	DI Leach	
890-2549-5	FS03	Soluble	Solid	DI Leach	
890-2549-6	FS04	Soluble	Solid	DI Leach	
890-2549-7	FS05	Soluble	Solid	DI Leach	
MB 880-29756/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-29756/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-29756/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2549-3 MS	SW03	Soluble	Solid	DI Leach	
890-2549-3 MSD	SW03	Soluble	Solid	DI Leach	

Analysis Batch: 29890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2549-1	SW01	Soluble	Solid	300.0	29756
890-2549-2	SW02	Soluble	Solid	300.0	29756
890-2549-3	SW03	Soluble	Solid	300.0	29756

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QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

HPLC/IC (Continued)

Analysis Batch: 29890 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2549-4	SW04	Soluble	Solid	300.0	29756
890-2549-5	FS03	Soluble	Solid	300.0	29756
890-2549-6	FS04	Soluble	Solid	300.0	29756
890-2549-7	FS05	Soluble	Solid	300.0	29756
MB 880-29756/1-A	Method Blank	Soluble	Solid	300.0	29756
LCS 880-29756/2-A	Lab Control Sample	Soluble	Solid	300.0	29756
LCSD 880-29756/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	29756
890-2549-3 MS	SW03	Soluble	Solid	300.0	29756
890-2549-3 MSD	SW03	Soluble	Solid	300.0	29756

Lab Chronicle

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Client Sample ID: SW01

Lab Sample ID: 890-2549-1

Date Collected: 07/12/22 11:10

Matrix: Solid

Date Received: 07/12/22 16:36

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	29796	07/15/22 08:47	MR	XEN MID
Total/NA	Analysis	8021B		1			29885	07/17/22 21:14	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29983	07/18/22 15:14	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29902	07/18/22 09:00	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	29794	07/15/22 08:39	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29786	07/15/22 11:12	SM	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	29756	07/14/22 12:54	SMC	XEN MID
Soluble	Analysis	300.0		1			29890	07/16/22 22:53	CH	XEN MID

Client Sample ID: SW02

Lab Sample ID: 890-2549-2

Date Collected: 07/12/22 11:00

Matrix: Solid

Date Received: 07/12/22 16:36

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	29796	07/15/22 08:47	MR	XEN MID
Total/NA	Analysis	8021B		1			29885	07/17/22 21:42	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29983	07/18/22 15:14	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29902	07/18/22 09:00	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	29794	07/15/22 08:39	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29786	07/15/22 12:16	SM	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	29756	07/14/22 12:54	SMC	XEN MID
Soluble	Analysis	300.0		1			29890	07/16/22 23:01	CH	XEN MID

Client Sample ID: SW03

Lab Sample ID: 890-2549-3

Date Collected: 07/12/22 10:50

Matrix: Solid

Date Received: 07/12/22 16:36

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	29796	07/15/22 08:47	MR	XEN MID
Total/NA	Analysis	8021B		1			29885	07/17/22 22:09	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29983	07/18/22 15:14	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29902	07/18/22 09:00	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	29794	07/15/22 08:39	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29786	07/15/22 12:37	SM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	29756	07/14/22 12:54	SMC	XEN MID
Soluble	Analysis	300.0		1			29890	07/16/22 23:09	CH	XEN MID

Client Sample ID: SW04

Lab Sample ID: 890-2549-4

Date Collected: 07/12/22 12:00

Matrix: Solid

Date Received: 07/12/22 16:36

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	29796	07/15/22 08:47	MR	XEN MID
Total/NA	Analysis	8021B		1			29885	07/17/22 22:35	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29983	07/18/22 15:14	SM	XEN MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Client Sample ID: SW04

Lab Sample ID: 890-2549-4

Date Collected: 07/12/22 12:00

Matrix: Solid

Date Received: 07/12/22 16:36

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			29902	07/18/22 09:00	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	29794	07/15/22 08:39	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29786	07/15/22 12:58	SM	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	29756	07/14/22 12:54	SMC	XEN MID
Soluble	Analysis	300.0		1			29890	07/16/22 23:32	CH	XEN MID

Client Sample ID: FS03

Lab Sample ID: 890-2549-5

Date Collected: 07/12/22 12:30

Matrix: Solid

Date Received: 07/12/22 16:36

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	29796	07/15/22 08:47	MR	XEN MID
Total/NA	Analysis	8021B		1			29885	07/18/22 00:20	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29983	07/18/22 15:14	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29902	07/18/22 09:00	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	29794	07/15/22 08:39	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29786	07/15/22 13:19	SM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	29756	07/14/22 12:54	SMC	XEN MID
Soluble	Analysis	300.0		1			29890	07/16/22 23:40	CH	XEN MID

Client Sample ID: FS04

Lab Sample ID: 890-2549-6

Date Collected: 07/12/22 10:40

Matrix: Solid

Date Received: 07/12/22 16:36

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	29796	07/15/22 08:47	MR	XEN MID
Total/NA	Analysis	8021B		1			29885	07/18/22 00:46	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29983	07/18/22 15:14	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29902	07/18/22 09:00	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	29794	07/15/22 08:39	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29786	07/15/22 13:41	SM	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	29756	07/14/22 12:54	SMC	XEN MID
Soluble	Analysis	300.0		1			29890	07/17/22 00:04	CH	XEN MID

Client Sample ID: FS05

Lab Sample ID: 890-2549-7

Date Collected: 07/12/22 10:50

Matrix: Solid

Date Received: 07/12/22 16:36

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	29796	07/15/22 08:47	MR	XEN MID
Total/NA	Analysis	8021B		1			29885	07/18/22 01:12	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29983	07/18/22 15:14	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29902	07/18/22 09:00	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	29794	07/15/22 08:39	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29786	07/15/22 14:02	SM	XEN MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Client Sample ID: FS05
Date Collected: 07/12/22 10:50
Date Received: 07/12/22 16:36

Lab Sample ID: 890-2549-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	29756	07/14/22 12:54	SMC	XEN MID
Soluble	Analysis	300.0		1			29890	07/17/22 00:12	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
- 2
- 3
- 4
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Method Summary

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: Ross Draw Unit 55

Job ID: 890-2549-1
SDG: 03A1987036

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2549-1	SW01	Solid	07/12/22 11:10	07/12/22 16:36	0 - 2
890-2549-2	SW02	Solid	07/12/22 11:00	07/12/22 16:36	0 - 2
890-2549-3	SW03	Solid	07/12/22 10:50	07/12/22 16:36	0 - 2
890-2549-4	SW04	Solid	07/12/22 12:00	07/12/22 16:36	0 - 2
890-2549-5	FS03	Solid	07/12/22 12:30	07/12/22 16:36	2
890-2549-6	FS04	Solid	07/12/22 10:40	07/12/22 16:36	2
890-2549-7	FS05	Solid	07/12/22 10:50	07/12/22 16:36	2

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- 12
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- 14



Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

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Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	jhernandez@Ensolum.com, jim.raley@dyn.com

Work Order Comments	
Program: 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 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:	Ross Draw Unit 55	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03A1987036	Due Date:	5 DAY TAT		
Project Location:	Rural Eddy, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Gilbert Moreno				
CC #:	1061103001	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
SAMPLE RECEIPT		Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Samples Received In tact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID:	NW-2057		
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	Temperature Reading:	4.6		
Total Containers:		Corrected Temperature:	4.4		
Parameters					
CHLORIDES (EPA: 300.0)					
TPH (8015)					
BTEX (8021)					
ANALYSIS REQUEST					
Preservative Codes					
None: NO DI Water: H ₂ O					
Cool: Cool MeOH: Me					
HCL: HC HNO ₃ : HN					
H ₂ SO ₄ : H ₂ NaOH: Na					
H ₃ PO ₄ : HP					
NaHSO ₄ : NABIS					
Na ₂ S ₂ O ₃ : NaSO ₃					
Zn Acetate+NaOH: Zn					
NaOH+Ascorbic Acid: SACP					



890-2549 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Incident ID	Sample Comments
SW01	S	7.12.22	11:10	0-2'	Comp	1	X	X	X		
SW02	S	7.12.22	11:00	0-2'	Comp	1	X	X	X		
SW03	S	7.12.22	10:50	0-2'	Comp	1	X	X	X		
SW04	S	7.12.22	12:00	0-2'	Comp	1	X	X	X		nAB1728549561
FS03	S	7.12.22	12:30	2'	Comp	1	X	X	X		
FS04	S	7.12.22	10:40	1-2'	Comp	1	X	X	X		
FS05	S	7.12.22	10:50	1-2'	Comp	1	X	X	X		

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ 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	Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins 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 Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins 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
		7-12-22 1636			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2549-1

SDG Number: 03A1987036

Login Number: 2549

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2549-1

SDG Number: 03A1987036

Login Number: 2549

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 07/14/22 10:49 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



APPENDIX G

Email Correspondence

From: [Joseph Hernandez](#)
To: ocd.enviro@state.nm.us; "[CFO Spill, BLM NM](#)"
Cc: [Raley, Jim](#); [Ben Belill](#)
Subject: WPX Site Sampling Activity Update (7/11-7/16/22)
Date: Friday, July 8, 2022 11:48:59 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

Good morning,

WPX anticipates conducting final confirmation soil sampling activities at the following sites between July 11 through July 16, 2022:

Site: RDU 55

API: 30-015-41976

Incident ID: NAB1728549561

Site: RDU 14

API: 30-015-25208

Incident ID's: NAB1504757628, NAB1636431146, & NAB1902951984

Site: North Brushy 35-4H

API: 30-015-42290

Incident ID: NRM2019550034

Site: RDX Federal 21 #044

API: 30-015-41193

Incident Number: nAPP2115533694

Site: EP USA #005

API: 30-015-25020

Incident Number: NMAP1826970471

Site: Tucker Draw 9-4-4

API: 30-015-44487

Incident Number: nAB1812338789



Joseph Hernandez

Senior Geologist

281-702-2329

Ensolum, LLC



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 167495

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 167495
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	2/16/2023