

#### **CLOSURE REQUEST REPORT**

Site Location:

RDX 9-1 Eddy County, New Mexico Incident Number: nAB1728635377

August 1, 2023 Ensolum Project No. 03A1987060

Prepared for:

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#### **APPENDICES**

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Appendix B: Closure Criteria Support Documents

Appendix C: Lithologic Soil Sample Logs

Appendix D: Photographic Log

**Appendix E:** Laboratory Analytical Reports & Chain-of-Custody Documentation

Appendix F: Email Correspondence



#### 1.0 INTRODUCTION

Ensolum, LLC (Ensolum), on behalf of WPX Energy Permian, LLC (WPX), has prepared the following *Closure Request Report* (CRR) to document assessment, corrective actions performed to date, and subsequent soil sampling activities conducted on behalf of WPX at the RDX 9-1 (Site). 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 nAB1728635377.

#### 1.1 Site Description

The Site is located in Unit P, Section 9, Township 26 South, Range 30 East, in Eddy County, New Mexico (**Figure 1**). The Site is associated with oil and gas production of Federal Land managed by the Bureau of Land Management (BLM).

#### 1.2 Release Background

On October 2, 2017, a pressure gauge failed, which resulted in the release of approximately 10 barrels (bbls) of produced water and crude oil onto the caliche pad; approximately 1 bbl of fluid ran off-pad on the south side of the caliche pad. A vacuum truck was immediately dispatched to the Site and recovered 8 bbls of fluid. The incident was reported to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form (Form C-141) on October 6, 2017, and was subsequently assigned Incident Number nAB1728635377 (**Appendix A**).

#### 1.3 Site Characterization

The Site was characterized for 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 NMAC. Results from the characterization desktop review are presented on page 3 of Form C-141, Site Assessment/Characterization. Potential Site receptors are identified in **Figure 1**.

The New Mexico Office of the State Engineer (NMOSE) indicates the nearest data point with a depth to groundwater measurement indicates groundwater is greater than 55 feet below ground surface (bgs) and the water well, NMOSE file number well C-4655 (TW-1), is located approximately 0.22 miles south of the Site as shown in Figure 1. Soil boring TW-1 was installed on July 28, 2022, specifically to assess the depth to groundwater in this region and was determined groundwater is greater than 55 feet bgs, which reasonably determines depth to water beneath the Site. The well log and record are provided in Appendix B.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 680.2 feet north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from any occupied residence, school, hospital, institution, church, and wetland and greater than 1,000 feet to a freshwater well or spring. The Site 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 desktop review of nearby receptors and depth to groundwater determination at the Site, the following NMOCD Table I 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
- TPH: 2,500 mg/kg

Chloride: 10,000 mg/kg

Per 19.15.29.13 NMAC, a reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the off-pad area that was impacted by the release.

#### 2.0 INITIAL DELINEATION ACTIVITIES

#### 2.1 Delineation Sampling

On November 11, 2022, 10 delineation potholes (PH01 through PH10) were advanced via mechanical equipment in the area surrounding the release to assess for the presence or absence of impacted soil. Ensolum directed delineation activities by field screening soil for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. A minimum of two soil samples were collected from each delineation pothole location; the samples with the highest observed field screening and the terminus depth. The location of these delineation potholes were mapped utilizing a handheld Global Positioning System (GPS) unit and are shown on **Figures 2 and 3**, Field screening results and observations for each delineation soil sample were recorded on lithologic/soil sampling logs (**Appendix C**) and photographic documentation of delineation activities is included in (**Appendix D**).

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 under strict chain-of-custody procedures, to Eurofins LLC (Eurofins) in Carlsbad, New Mexico, for analysis of the following 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.

#### 2.2 Laboratory Analytical Results

Laboratory analytical results indicated there were three areas of concern (Area of Concern 1, Area of Concern 2, and Area of Concern 3) with delineation pothole samples that exceeded the strictest Closure Criteria. Sample locations PH01, PH09, and PH10 had chloride levels exceeding the reclamation requirement, however, all delineation samples were below the Closure Criteria for the Site. The initial delineation activities determined there was an absence of impacted soil related to the October 2017 release; however, waste-containing was documented within the release extent. Based on laboratory analytical results during the initial delineation activities, excavation of waste-containing within the three areas of concern appeared warranted.

**Figure 2** summarizes delineation analytical results for Areas of Concern 1 and 2 and analytical results are presented on **Table 1**. **Figure 3** summarizes delineation analytical results for Area of Concern 3 and the analytical results are presented on **Table 2**. The analytical laboratory reports are included in **Appendix E**.

#### 3.0 EXCAVATION AND CONFIRMATION SAMPLING

#### 3.1 Excavation Activities

On March 27 and 28, 2023, Ensolum personnel oversaw the excavation of waste-containing soil in the three areas of concern. Following field screening indicating compliance with the Site



Closure Criteria and/or reclamation requirement, as applicable, Ensolum personnel collected 5-point composite soil samples representing up to 200 square feet from the floor 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.

Based on the presence of three excavations, the following confirmation floor and sidewalls samples are associated with three areas of concern:

- Area of Concern 3 is represented by confirmation soils samples FS01 and FS02 and sidewall samples SW01 and SW02.
- Area of Concern 2 is represented by FS03 through FS22 and sidewall samples SW03 through SW08.
- Area of concern 1 is represented by confirmation floor samples FS23 through FS28 and sidewalls samples SW09 through SW11

Excavation confirmation sample locations are depicted on **Figure 3**.

Laboratory analytical results indicated that sidewall sample SW01 exceeded the strictest Closure Criteria at 0-4 ft bgs and would require further excavation.

All samples were excavated in accordance with the reclamation requirement and all confirmation soil samples met the requirements set forth in 19.15.29.13 NMAC. The excavation soil samples were field screened, handled, and analyzed following the same procedures as described above.

#### 3.2 Laboratory Analytical Results

Laboratory analytical results indicated all COCs were in compliance with the Closure Criteria and/or reclamation requirement for all confirmation soil samples with the exception of sidewall soil sample SW01. Sidewall soil sample SW01, collected along the sidewall of the excavation associated with Area of Concern, contained a TPH concentration exceeding the reclamation requirement. As a result, additional delineation and excavation appeared warranted.

**Figure 3** depicts the soil analytical results for the three excavations. **Tables 3, 4 and 5** summarize laboratory analytical results for confirmation samples. The analytical laboratory reports are included in Appendix E.

#### 4.0 ADDITIONAL DELINEATION AND EXCAVATION ACTIVITIES

#### 4.1 Delineation and Excavation

Based on initial delineation potholing activities, three areas of concern were identified. Ensolum personnel oversaw the excavation and removal of waste-containing soil in all three areas and laboratory analytical results from final confirmation sampling indicated Area of Concern 3 still contained soil with elevated concentrations of TPH, specifically the sidewall associated with sidewall soil sample SW01. Beginning on April 20, 2023, 10 additional delineation potholes (PH01 through PH10) were advanced via mechanical equipment in the area surrounding the third excavation area. Samples were collected and transported to Envirotech Laboratory Analysis (Envirotech) and analyzed in the same manner previously described above. Delineation pothole locations are depicted on **Figure 4** and field screening results and observations for each delineation soil sample were recorded on lithologic/soil sampling logs (**Appendix C**).

Ensolum personnel returned to the Site on June 26, 2023, to oversee the excavation and removal of soils in confirmation sidewall sample location, SW01. An additional 1,196 yards were removed from the area of concern and final confirmation soil samples FS29 through FS53 and sidewall samples SW01 through SW06 were collected in locations shown in **Figure 5**.



The final excavation extent measured approximately 10,269 square feet. Approximately 2,428 yards of contaminated soil were removed. The impacted soil was transported and properly disposed of at the OWL Landfill Services LLC, Northern Delaware Basin Landfill. After completion of confirmation sampling, the excavation areas were secured with fencing. The off-pad excavation area will be backfilled and reseeded with a Bureau of Land Management (BLM) approved seed mixture in order to revegetate the off-pad area.

#### 4.2 Laboratory Analytical Results

Laboratory analytical results associated with the additional delineation soil samples indicated additional waste-containing soil was present in the vicinity of Area of Concern 3. Based on the final excavation soil analytical results, all COC concentrations for floor samples and sidewall samples for Area of Concern 3 were in compliance with the applicable Site Closure Criteria and reclamation requirement (**Table 5**).

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 releases.

#### 5.0 CLOSURE REQUEST

The primary objective of Ensolum's scope of service was to document remediation activities performed at the Site in accordance with the applicable NMOCD regulatory guidelines. Based on the results documented in this CRR, the following findings and conclusions regarding the subject release is presented:

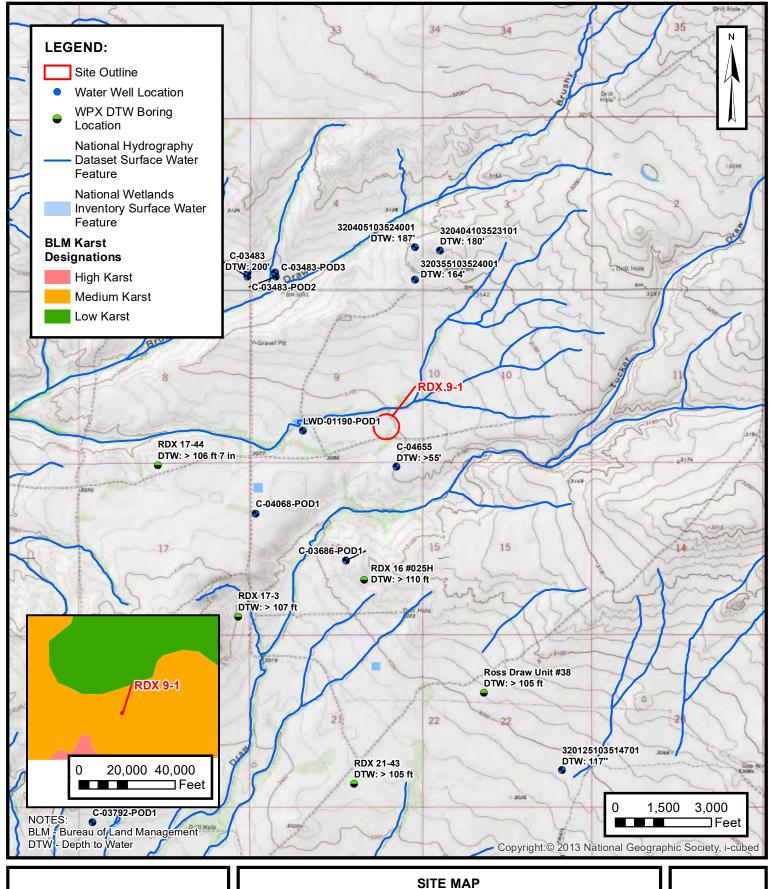
- Laboratory analytical results for delineation soil samples from initial delineation potholes PH04 through PH08 were in compliance with the Site Closure Criteria, thus provide confirmation for the lateral delineation of soil impacts;
- All soil samples were compliant with the Closure Criteria, but waste-containing soil was documented in the top 4 feet of soil in selective areas associated with Areas of Concern 3;
- Laboratory analytical results for all final excavation confirmation soil samples indicated all COC concentrations were below the applicable Site Closure Criteria and reclamation requirement, confirming all waste-containing soil had been removed from the top 4 feet of the Site.

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 closure of Incident Number nAB1728635377.





**Figures** 



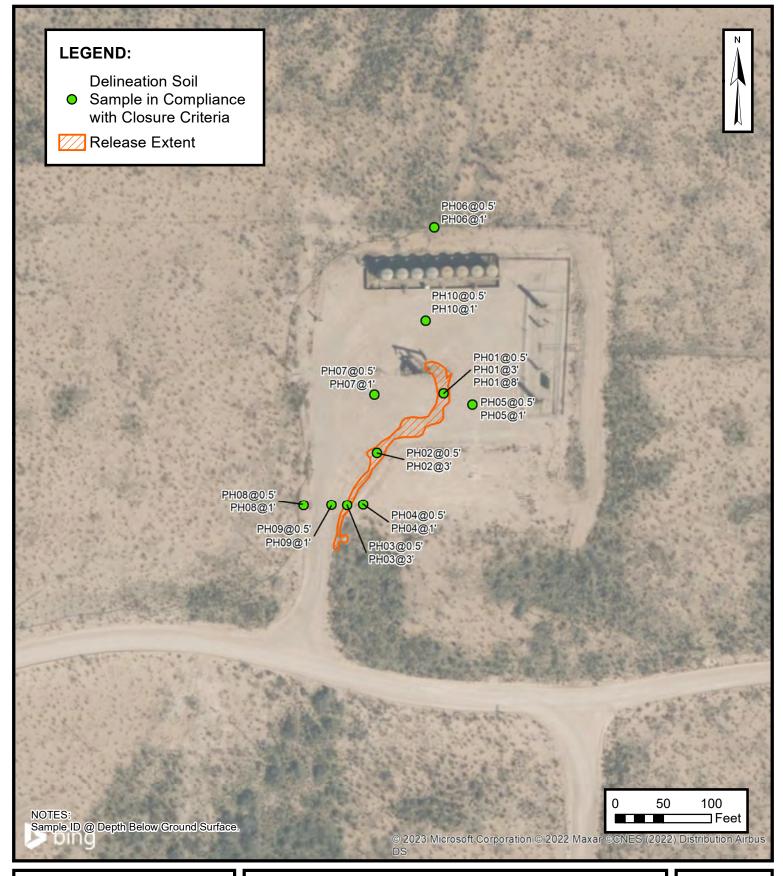


WPX ENERGY PERMIAN, LLC **RDX 9-1** 

Incident Number: NAB1728635377 Unit P Sec 9 T26S R30E Eddy County, New Mexico

**FIGURE** 

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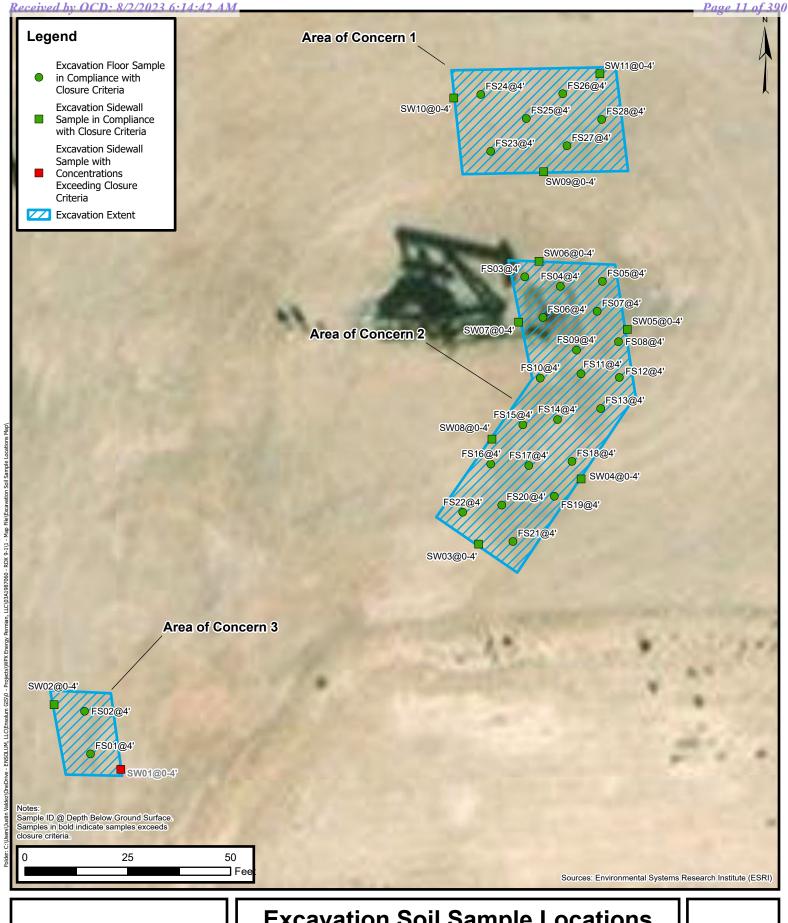


# DELINEATION SOIL SAMPLE LOCATIONS WPX ENERGY PERMIAN, LLC

RDX 9-1

Incident Number: NAB1728635377 Unit P Sec 9 T26S R30E Eddy County, New Mexico **FIGURE** 

2



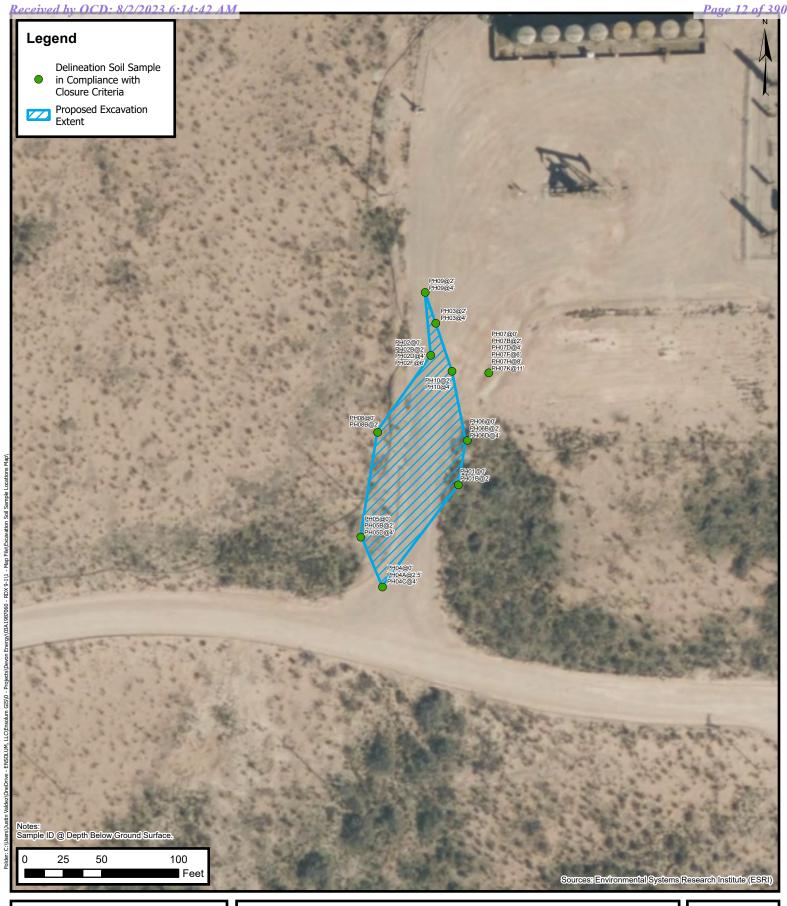


## **Excavation Soil Sample Locations**

WPX Energy Permian, LLC **RDX 9-1** Incident Number: nAB1728635377 Unit P Sec 29 T26S R30E Eddy County, New Mexico

**FIGURE** 3

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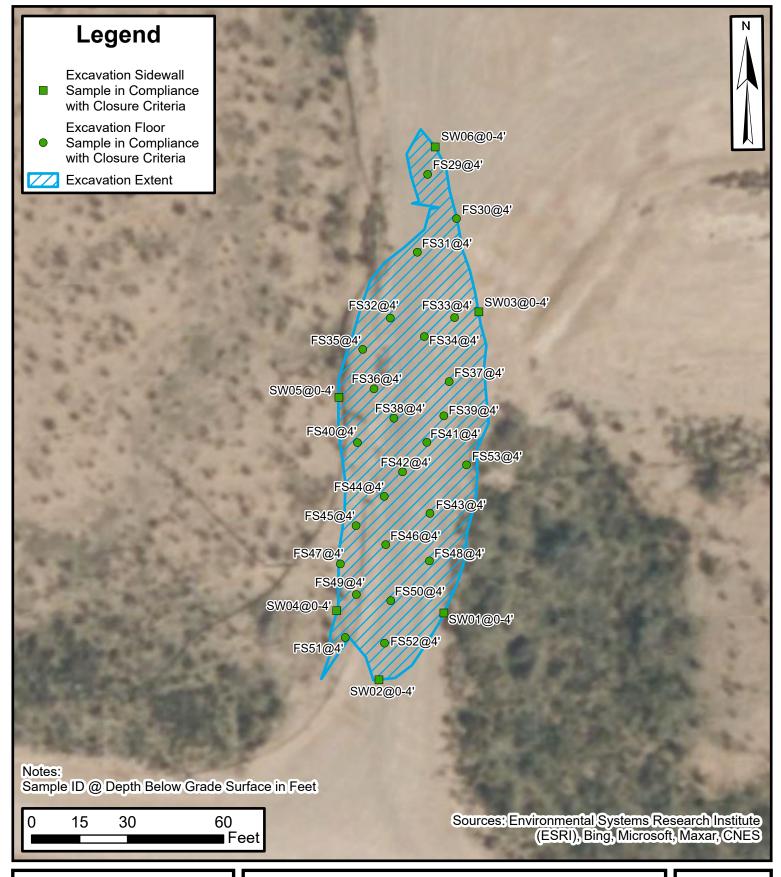
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# Delineation Soil Sample Locations (Area of Concern 3) WPX Energy Permian, LLC

**RDX 9-1** 

Incident Number: NAB1728635377 Unit P, Sec. 9, T 26S, R 30E Eddy County, New Mexico

**FIGURE** 





# Excavation Soil Sample Locations (Area of Concern 3)

WPX Energy Permian, LLC RDX 9-1 Incident Number: nAB1728635377

Incident Number: nAB172863533 Unit P, Sec 29, T26S, R30E Eddy County, New Mexico FIGURE 5



**Tables** 



#### **SOIL SAMPLE ANALYTICAL RESULTS**

WPX Energy Permian, LLC RDX 9-1

**Eddy County, New Mexico** 

					County, New IVI	SAIOO .						
Sample Designation	Date	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 I	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	10,000		
	Delineation Soil Sample Analytical Results (Area of Concern 1 & 2)											
PH01	11/11/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	1,210		
PH01	11/11/2022	3	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	2,320		
PH01	11/11/2022	8	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	399		
PH02	11/11/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	281		
PH02	11/11/2022	3	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	370		
PH03	11/11/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	24.7		
PH03	11/11/2022	3	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	454		
PH04	11/11/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	16.6		
PH04	11/11/2022	1	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	16.7		
PH05	11/11/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	182		
PH05	11/11/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	207		
PH06	11/11/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	22.3		
PH06	11/11/2022	1	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	12.3		
PH07	11/11/2022	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	15.5		
PH07	11/11/2022	1	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	15.4		
PH08	11/11/2022	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	13.6		
PH08	11/11/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	15		
PH09	11/11/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	1,080		
PH09	11/11/2022	1	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	1,400		
PH10	11/11/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	1,030		
PH10	11/11/2022	1	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	1,800		

#### Notes:

bgs: below ground surface mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Grey text represents samples that have been excavated

"<": Laboratory Analytical result is less than reporting limit

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

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

<sup>\*</sup> Indicates sample was collected in area to be reclaimed after remediation is complete; reclamation for chloride in the top 4 feet is 600 mg/kg and total TPH is 100 mg/kg.

GRO: Gasoline Range Organics



#### **SOIL SAMPLE ANALYTICAL RESULTS**

WPX Energy Permian, LLC **RDX 9-1** 

**Eddy County, New Mexico** 

					Ocurry, New III	OXIO0				
Sample Designation	Date	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 I	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	NE	100	600
			Deline	eation Soil Sampl	e Analytical Res	ults (Area of Cond	cern 3)			
PH01	4/20/2023	0	< 0.0250	< 0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	788
PH01B	4/20/2023	2	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	<25.0
PH02	4/20/2023	0	< 0.0250	< 0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	101
PH02B	4/20/2023	2	< 0.0250	< 0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	1780
PH02D	4/20/2023	4	< 0.0250	< 0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	1550
PH02F	4/20/2023	6	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	110
PH03	5/9/2023	2	< 0.0250	< 0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	1510
PH03	5/9/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	1440
PH04	4/20/2023	0	< 0.0250	< 0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	3140
PH04A	4/20/2023	2.5	< 0.0250	< 0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	673
PH04C	4/20/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	268
PH05	4/20/2023	0	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	<25.0
PH05B	4/20/2023	2	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	<25.0
PH05D	4/20/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	105

#### Notes:

bgs: below ground surface mg/kg: milligrams per kilogram

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NMAC: New Mexico Administrative Code

Grey text represents samples that have been excavated

"<": Laboratory Analytical result is less than reporting limit Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation standard where applicable.

DRO: Diesel Range Organics ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

GRO: Gasoline Range Organics

<sup>\*</sup> Indicates sample was collected in area to be reclaimed after remediation is complete; reclamation for chloride in the top 4 feet is 600 mg/kg and total TPH is 100 mg/kg.



#### SOIL SAMPLE ANALYTICAL RESULTS

WPX Energy Permian, LLC RDX 9-1

**Eddy County, New Mexico** 

Sample Designation	Date	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 I	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	NE	100	600		
	Delineation Soil Sample Analytical Results (Area of Concern 3) Cont'd											
PH06	4/20/2023	0	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	<25.0		
PH06B	4/20/2023	2	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	<25.0		
PH06D	4/20/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	80.3		
PH07	4/20/2023	0	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	268		
PH07B	4/20/2023	2	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	2,830		
PH07D	4/20/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	1,980		
PH07F	4/20/2023	6	<0.0250	<0.0500	<20.0	58.2	65.7	58.2	123.9	1,360		
PH07H	4/20/2023	8	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	1,260		
PH07K	4/20/2023	11	<0.0250	<0.0500	<20.0	86.7	<50.0	86.7	86.7	1,600		
PH08	4/20/2023	0	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	25.5		
PH08B	4/20/2023	2	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	540		
PH09	5/9/2023	2	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	565		
PH09	5/9/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	237		
PH10	5/9/2023	2	< 0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	878		
PH10	5/9/2023	4	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	395		

#### Notes:

bgs: below ground surface mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Grey text represents samples that have been excavated

"<": Laboratory Analytical result is less than reporting limit

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

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

<sup>\*</sup> Indicates sample was collected in area to be reclaimed after remediation is complete; reclamation for chloride in the top 4 feet is 600 mg/kg and total TPH is 100 mg/kg.



#### TABLE 3 **SOIL SAMPLE ANALYTICAL RESULTS** WPX Energy Permian, LLC **RDX 9-1**

**Eddy County, New Mexico** 

					County, New Mi								
Sample Designation	Date	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 I	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	10,000			
	Confirmation Soil Sample Analytical Results (Area of Concern 1)												
FS23	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	788			
FS24	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	801			
FS25	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	774			
FS26	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	1,390			
FS27	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	1,400			
FS28	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	1,400			
SW09	03/28/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	200			
SW10	03/28/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	179			
SW11	03/28/2023	0-4	<0.00199	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	114			

#### Notes:

bgs: below ground surface mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Grey text represents samples that have been excavated "<": Laboratory Analytical result is less than reporting limit

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

GRO: Gasoline Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

<sup>\*</sup> Indicates sample was collected in area to be reclaimed after remediation is complete; reclamation for chloride in the top 4 feet is 600 mg/kg and total TPH is 100 mg/kg.

DRO: Diesel Range Organics



#### **SOIL SAMPLE ANALYTICAL RESULTS**

WPX Energy Permian, LLC RDX 9-1

**Eddy County, New Mexico** 

					County, New Mic	JA100							
Sample Designation	Date	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 I	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	10,000			
	Confirmation Soil Sample Analytical Results (Area of Concern 2)												
FS03	03/27/2023	4	<0.0250	<0.0250	<20.0	57.1	79.6	57	136.7	4,880			
FS04	03/27/2023	4	<0.0250	<0.0250	<20.0	42.7	87.3	42.7	130	4,870			
FS05	03/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	3,660			
FS06	03/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	3,990			
FS07	03/27/2023	4	<0.0250	<0.0250	<20.0	41.8	63.5	42	105.3	4,180			
FS08	03/27/2023	4	<0.0250	<0.0250	<20.0	117	121.0	117	242	4,820			
FS09	03/27/2023	4	<0.0250	<0.0250	<20.0	75.4	96.5	75	171.9	5,210			
FS10	03/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	1,200			
FS11	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	3,050			
FS12	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	2,830			
FS13	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	2,870			
FS14	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	1,350			
FS15	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	65.5			
FS16	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	627			
FS17	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	881			

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#### **SOIL SAMPLE ANALYTICAL RESULTS**

**WPX Energy Permian, LLC RDX 9-1** 

**Eddy County, New Mexico** 

					o ourity, itom in							
Sample Designation	Date	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 I	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	10,000		
	Confirmation Soil Sample Analytical Results (Area of Concern 2) Cont'd											
FS18	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	2,760		
FS19	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	306		
FS20	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	321		
FS21	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	289		
FS22	03/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	342		
SW03	03/28/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	45.8		
SW04	03/28/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	44.3		
SW05	03/28/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	209		
SW06	03/28/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	223		
SW07	03/28/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	204		
SW08	03/28/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	42.7		

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

<sup>\*</sup> Indicates sample was collected in area to be reclaimed after remediation is complete; reclamation for chloride in the top 4 feet is 600 mg/kg and total TPH is 100 mg/kg.



#### **SOIL SAMPLE ANALYTICAL RESULTS**

**WPX Energy Permian, LLC RDX 9-1** 

**Eddy County, New Mexico** 

					County, New III							
Sample Designation	Date	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 I	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	10,000		
	Confirmation Soil Sample Analytical Results (Area of Concern 3)											
FS01	03/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	1,490		
FS02	03/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	1,640		
SW01	03/27/2023	0-4	< 0.0250	<0.0250	<20.0	112	<50.0	112	112	378		
SW02	03/27/2023	0-4	<0.0250	<0.0250	<20.0	93.6	<50.0	93.6	93.6	332		
FS29	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	105		
FS30	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	104		
FS31	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	873		
FS32	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	340		
FS33	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	408		
FS34	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	563		
FS35	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	318		
FS36	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	713		
FS37	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	1,800		
FS38	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	1,260		
FS39	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	227		
FS40	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	510		
FS41	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	1,990		
FS42	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	467		
FS43	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	6,290		

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TPH: Total Petroleum Hydrocarbon

GRO: Gasoline Range Organics

<sup>\*</sup> Indicates sample was collected in area to be reclaimed after remediation is complete; reclamation for chloride in the top 4 feet is 600 mg/kg and total TPH is 100 mg/kg.



#### **SOIL SAMPLE ANALYTICAL RESULTS**

WPX Energy Permian, LLC RDX 9-1

**Eddy County, New Mexico** 

	Eddy County, New Mexico												
Sample Designation	Date	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 I	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	10,000			
	Confirmation Soil Sample Analytical Results (Area of Concern 3) Cont'd												
FS44	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	629			
FS45	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	1,020			
FS46	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	224			
FS47	06/27/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	128			
FS48	06/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	364			
FS49	06/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	176			
FS50	06/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	329			
FS51	06/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	581			
FS52	06/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	1,070			
FS53	06/28/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	1,120			
SW01	06/28/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	349			
SW02	06/28/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	274			
SW03	06/27/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	38.8			
SW04	06/28/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	37.1			
SW05	06/28/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	59.5			
SW06	06/27/2023	0-4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<50.0	586			

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ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

\* Indicates sample was collected in area to be reclaimed after remediation is complete; reclamation for chloride in the top 4 feet is 600 mg/kg and total TPH is 100 mg/kg.

Controlling in 2014 exceed the rime of research circular in research approaches.



**APPENDIX A** 

C-141 Forms

#### Received by OCD: 8/2NM ONL CONSERVATION

**NM OIL CONSERVATION** 

1625 N. French Dr., Hobbs, NM 88240

State of New Mexico

ARTESIA DISTRICT

Form C-141 Revised April 3, 2017

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District II 811 S. First St., Artesia, NM 88210 District III

OCT 0 6 2017 Energy Minerals and Natural Resources

OCT 0.6, 2017 Submit 1 2017 to appropriate District Office in accordance with 19.15.29 NMAC.

1000 Rio Brazos Road, Aztec, NM 87410 1220 S. St. Francis Dr., Santa Fe, NM 87505 Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

**RECEIVED** 

			Rele	ease Notifica	ation	and Co	rrective A	ction				
DAB172	<b>B</b> 035	377				OPERATOR						
Name of Co	mpany: R	KI Explorati	ion / WP	K Energy 2402	89	Contact: Kai	rolina Blaney			•		
Address: 53							lo. 970 589 0743					
Facility Nan	ne: RDX 9	9-1			<u> </u>	Facility Type: Well Pad						
Surface Own	ner: Feder	al		Mineral Ov	vner: F	Federal			API No	. 30- 015-3	6211	
				LOCA	TION	OF REI	LEASE					
Unit Letter	Section	Township	Range	Feet from the	North/S	South Line	Feet from the	East/V	est Line	County		
P	9	26S	30E	990		FSL	990		EL	Eddy		
			Lat	itude: 32.052623	65 L	ongitude - l	03.8808775 NA	AD83				
			Dut			OF RELI		100				
Type of Relea	ase: Produc	ed Water and	Oil	NAIC	JKE	<del></del>	Release: 10 bbls		Volume F	Recovered 8	bbls	
Source of Rel flowline	lease:					Date and H	our of Occurrence	e	Date and 10/2/2017	Hour of Disc	covery	
Was Immedia	ate Notice (	Given?		"		If YES, To	Whom?	1	10/2/2017	at 15.15		
		$\boxtimes$	Yes [	No Not Rec	juired	NMOCD C	Erystal Weaver &	Michae	Bratcher,	BLM Shelly	Tucker	
By Whom? K							lour 9/30/17 at 20					
Was a Watero	course Read	ched?	] Yes ⊠	1 No		If YES, Vo	lume Impacting t	the Wate	rcourse.			
							•					
If a Watercou	irse was Im	pacted, Descr	ibe Fully.	•								ļ
N/A												
Describe Cau	se of Probl	em and Reme	dial Actio	n Taken.*								=
				on the tubing failed ely recovered with			duced water and	oil were	spilled on	location. A s	small volume	
(*1001) left ti	ic location.	The spin was	, iiiiiiicaia	cry recovered with	a vac ti	iuck.						
Describe Are	a Affected	and Cleanup.	Action Tal	ten.*								
The impacted	Larea was i	mmediately n	napped wi	h a Trimble to deli	neate th	ne horizontal	extent of the imp	acts. Th	e line locat	es were com	pleted and the	
•		•		or TPH, BTEX and							-	
I haraby carti	fy that the	information a	iven above	e is true and comple	ate to th	a best of my	knowledge and u	ınderstar	d that pure	suant to NM6	OCD rules and	
				nd/or file certain re								
•			-	ce of a C-141 repor	-			-		_		
				investigate and resotance of a C-141 re								itn
federal, state,												
	11 1	D1					OIL CON	<u>SERV</u>	<u>ATION</u>	DIVISIO	<u>)N</u>	
Signature:	Mander	w Blane						C.	$\Lambda$	1 1		
		(.	<i></i>			Approved by	Environmental S	pecialis	l'Ai M	4011	ILM	
Printed Name	: Karolina	Blaney					<u> </u>	UM	w	<u> </u>	$\triangle$	
Title: Enviro	nmantal Sa	ecialist				Annroval Dat	te: 10 12 17	1  ,	Expiration	Date: NI	A	
								,	<u> Бирнация</u>	Date. · V		-
E-mail Addre	ss: Karolir	ıa.blaney@wp	oxenergy.c	om	(	Conditions of	f Approval:		Ŷ	Attached	X OD	
Date: 10/6/1	7	Phone	• 970 589	0743		See	affact	NQ 0	1		SPP 4	<i>140</i>

<sup>\*</sup> Attach Additional Sheets If Necessary

	Page 25 of 39	0
Incident ID	nAB1728635377	
District RP		
Facility ID		
Application ID		

#### **Site Assessment/Characterization**

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&gt;55</u> (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ⊠ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ⊠ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ⊠ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ⊠ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ⊠ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ⊠ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ⊠ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ⊠ No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	⊠ Yes □ No
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and ver contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.	rtical extents of soil
Characterization Report Checklist: Each of the following items must be included in the report.	
<ul> <li>Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wel</li> <li>Field data</li> <li>Data table of soil contaminant concentration data</li> <li>Depth to water determination</li> <li>Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release</li> <li>Boring or excavation logs</li> <li>Photographs including date and GIS information</li> </ul>	ls.

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.

Topographic/Aerial maps

☐ Laboratory data including chain of custody

Received by OCD: 8/2/2023 6:14:42 AM State of New Mexico
Page 4 Oil Conservation Division

	Page 26 of 3	90
ent ID	nAB1728635377	

Incident ID	nAB1728635377
District RP	
Facility ID	
Application ID	

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

and/or regulations.	
Printed Name: <u>James Raley</u>	Title: Environmental Specialist
Signature:	Date: <u>6/30/2023</u>
email: jim.raley@dvn.com	Telephone: <u>575-689-7597</u>
OCD Only	
Received by: Shelly Wells	Date: 8/2/2023

of New Mexico

Incident ID	nAB1728635377
District RP	
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 19.15.29.1	1 NMAC
Photographs of the remediated site prior to backfill or photos must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office
☐ Laboratory analyses of final sampling (Note: appropriate ODC	C District office must be notified 2 days prior to final sampling)
Description of remediation activities	
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of	ntions. The responsible party acknowledges they must substantially nditions that existed prior to the release or their final land use in CD when reclamation and re-vegetation are complete.
Signature:	Date: <u>6/30/2023</u>
email: jim.raley@dvn.com	Telephone: <u>575-689-7597</u>
OCD Only	
Received by: Shelly Wells	Date: 8/2/2023
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible or regulations.
Closure Approved by:	Date:
Printed Name:	
	Title:



# **APPENDIX B**

Closure Criteria Support Documents





N	OSE POD NO. (W POD 1 (TW-1		)		WELL TAG ID NO N/A	0.		OSE FILE NO(S C-4655	S).			
OCATIC	WELL OWNER N							PHONE (OPTIO 575-748-183				
WELL L	WELL OWNER M 6488 7 River		ADDRESS					CITY Artesia		STA NM		ZIP
GENERAL AND WELL LOCATION	WELL LOCATION (FROM GPS)	LA	DITUDE	EGREES 32	MINUTES 2	SECON 58.	26 <sub>N</sub>		REQUIRED: C		F A SECOND	
1. GENE	DESCRIPTION	RELATIN	NG WELL LOCATION TO T26S R30E, NMP		52 DRESS AND COMMO	48. ON LANDM			711111111111		AVAILABLE	
	LICENSE NO. 1249		NAME OF LICENSEI		Jackie D. Atkir	ns			100000000000000000000000000000000000000		G COMPANY	Inc.
	DRILLING STAF 7/28/202		DRILLING ENDED 7/28/2022		COMPLETED WELL (Cemporary Well	(FT)		LE DEPTH (FT) ±55	DEPTH WA		COUNTERED (FT)	n .
Z	COMPLETED W	ELL IS:	ARTESIAN	✓ DRY H	OLE SHALL	OW (UNCO	ONFINED)		WATER LEVE PLETED WELL		7/28/22	
RMATIC	DRILLING FLUI	_	AIR ROTARY HAM	MUD MER CA	ADDIT	TVES - SPEC		Hollow Stem	Auger	CHECK HER	E IF PITLESS ADA	PTER IS
CASING INFORMATION	DEPTH (feet bgl)  FROM TO DIAM (inches)			(include each casing string, and			ASING NECTION TYPE	INSIDE DIAM. THICK		ASING WALL THICKNESS (inches)	KNESS SIZE	
NG & CAS	0 55 ±6.5			note sections of screen) (add coup Boring-HSA			oling diameter)		.,		-	
2. DRILLING &												
1	DEPTH (fee	et bgl)	BORE HOLE DIAM. (inches)		LIST ANNULAR					OUNT c feet)	METHO PLACEN	
ANNULAR MATERIAL	FROM	10										
3. ANNULA												
	OSE INTERNA			1	l non :	10 1					OG (Version 01/2	:8/2022)
-	ENO. C-46 CATION 76		30E.16.1	. 2. 2.	PODN	VO. (		WELL TAG I		29337		1 OF 2

	DEPTH (fe	et bgl)		COLOR A	ND TYPE OF MA	ATERIAL E	NCOUN	TERED -		VAT	ER	ESTIMATE YIELD FO
	FROM	то	THICKNESS (feet) INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)								NG? NO)	WATER- BEARING ZONES (gp
	0	4	4	Sa	nd, Fine-grained,	poorly grade	ed, Brown	1	,	t	✓ N	
	4	48	44	Sand, Fine-g	rained, poorly gra	ded, with ca	liche Tan	and white		7	√N	
	48	55	7	Sand	, Fine-grained, po	orly graded,	Tan Bro	wn	,	7	√ N	
									,	ľ	N	
										7	N	
7										Y	N	
4. HYDROGEOLOGIC LOG OF WELL										Y	N	
OF									,	Y	N	
000									,	Y	N	
CI	17								,	Y	N	
100										Y	N	
GEO									3	Y	N	
RO									,	Y	N	
HYD										Y	N	
4									1	Y	N	
									1	Y	N	
									1	Y	N	
									1	Y	N	
										Y	N	
										Y	N	
										Y	N	
	METHOD U		<u>.</u>	OF WATER-BEARD	NG STRATA: THER – SPECIF	Y:			TOTAL ES			0.00
5. TEST; RIG SUPERVISION	WELL TEST	STAR	FORMATION: Te	ACH A COPY OF DA ME, AND A TABLE S emporary well mater low ground surface(	ial removed and	HARGE AN	D DRAV	lled using dr	ill cuttings to surface.	fron	G PERIC	DD.
T; RIC									OF WITH	7/13	2 4 4 4 4	HM217(2.)
S. TE	PRINT NAM Shane Eldrid			VISOR(S) THAT PR	OVIDED ONSIT	E SUPERVI	SION OF	WELL CON	STRUCTIO	N OT	THER TH	HAN LICENS
TURE	CORRECT R	ECORD C	OF THE ABOVE I	TIES THAT, TO THE DESCRIBED HOLE A 00 DAYS AFTER COM	ND THAT HE O	R SHE WIL	L FILE 7	GE AND BEL THIS WELL I	EF, THE FORECORD W	ORE	GOING I	IS A TRUE A ATE ENGINE
6. SIGNATURE	Jack 1	Atkins		J	ackie D. Atkins	1				8/4/	2022	
_		SIGNAT	TURE OF DRILLE	R / PRINT SIGNE	ENAME						DATE	
	R OSE INTERN											rsion 01/28/20
_		1655		0.0	POD NO.	1		TRN NO.	7293	37		
LO	CATION 7	65.2	OE. 16.1	6.6.			WELL	TAG ID NO.	-			PAGE 2 O



2904 W 2nd St. Roswell, NM 88201 voice: 575.624.2420 fax: 575.624.2421 www.atkinseng.com

LEL 011 Aug (12022 Avg) L. T

August 4, 2022

DII-NMOSE 1900 W 2<sup>nd</sup> Street Roswell, NM 88201

Hand Delivered to the DII Office of the State Engineer

Re: Well Record C-4655 Pod1

To whom it may concern:

Attached please find a well log & record and a plugging record, in duplicate, for a one (1) soil borings, C-4655 Pod1.

If you have any questions, please contact me at 575.499.9244 or lucas@atkinseng.com.

Sincerely,

Lucas Middleton

Enclosures: as noted above

Gran Middle

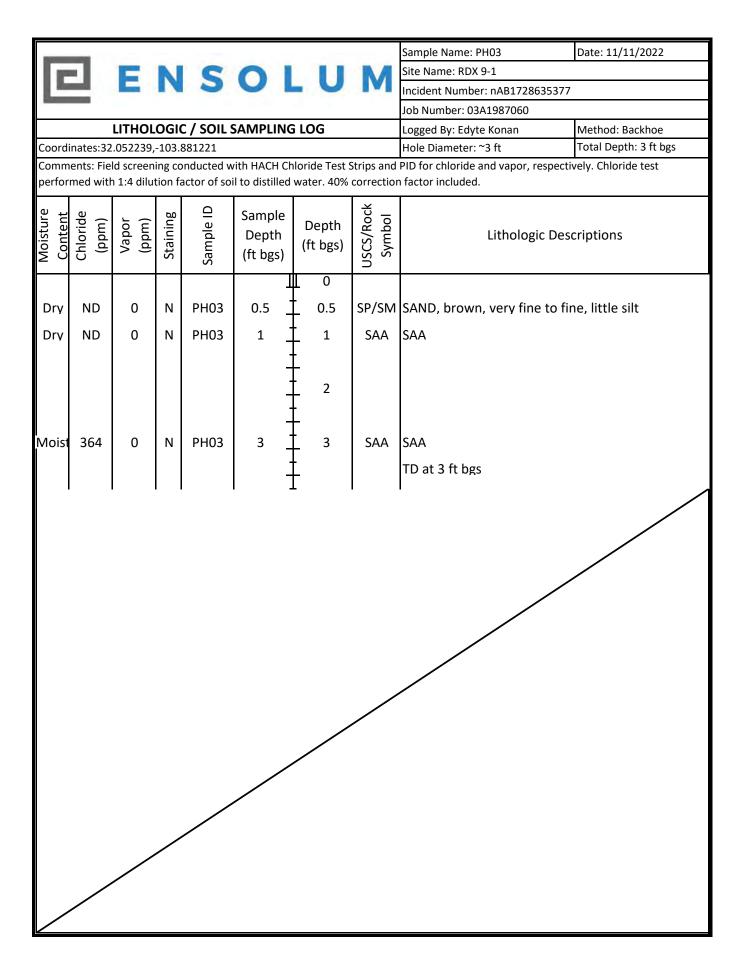


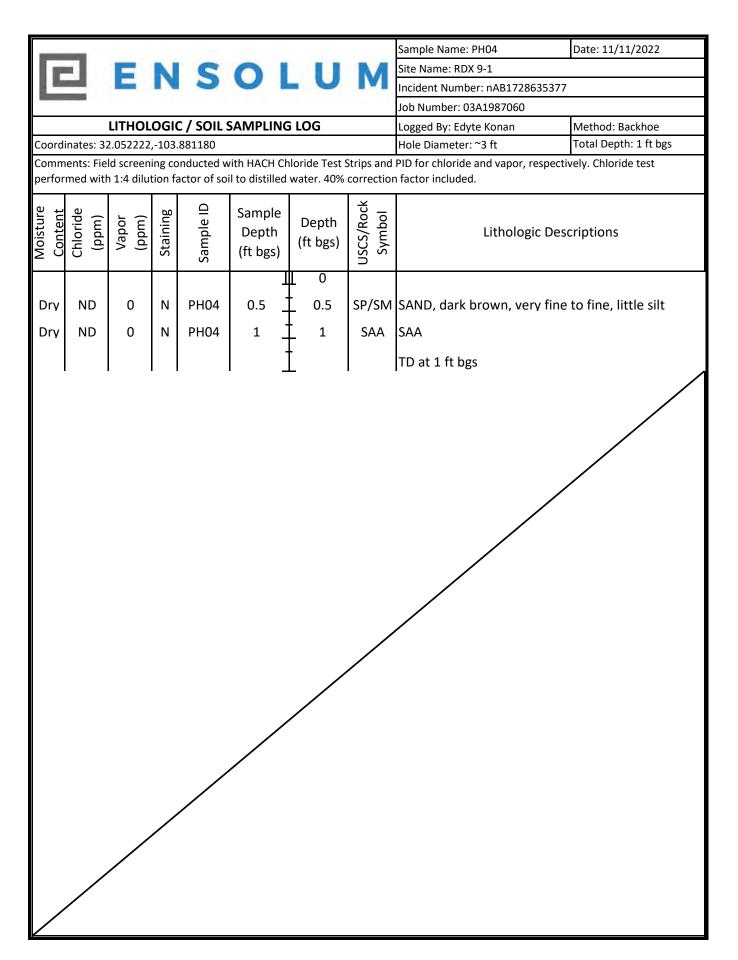
# **APPENDIX C**

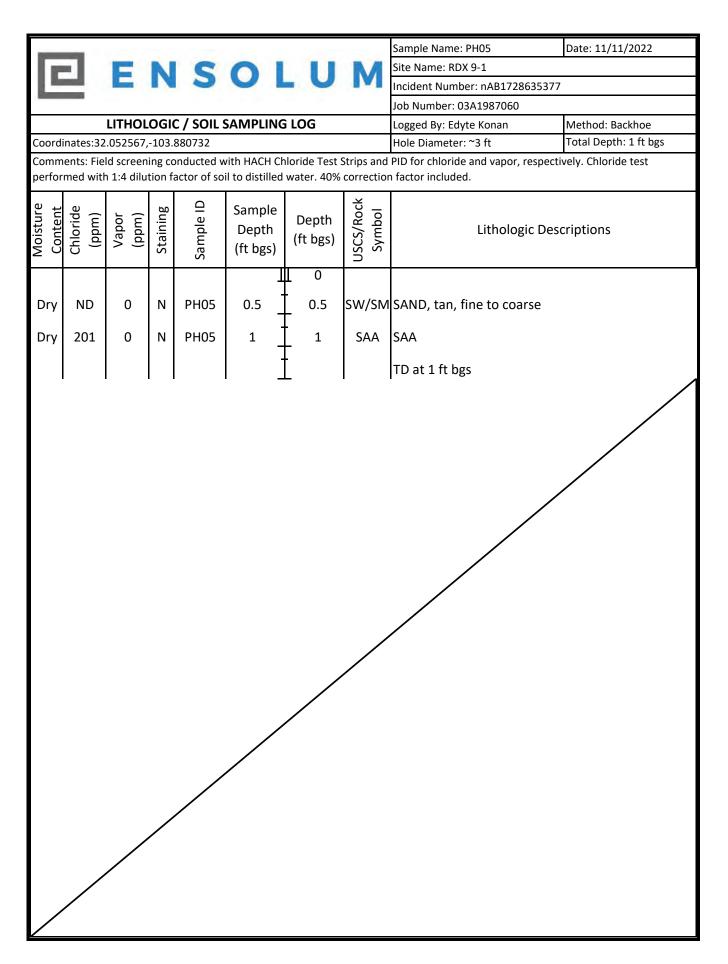
Lithologic Soil Sample Logs

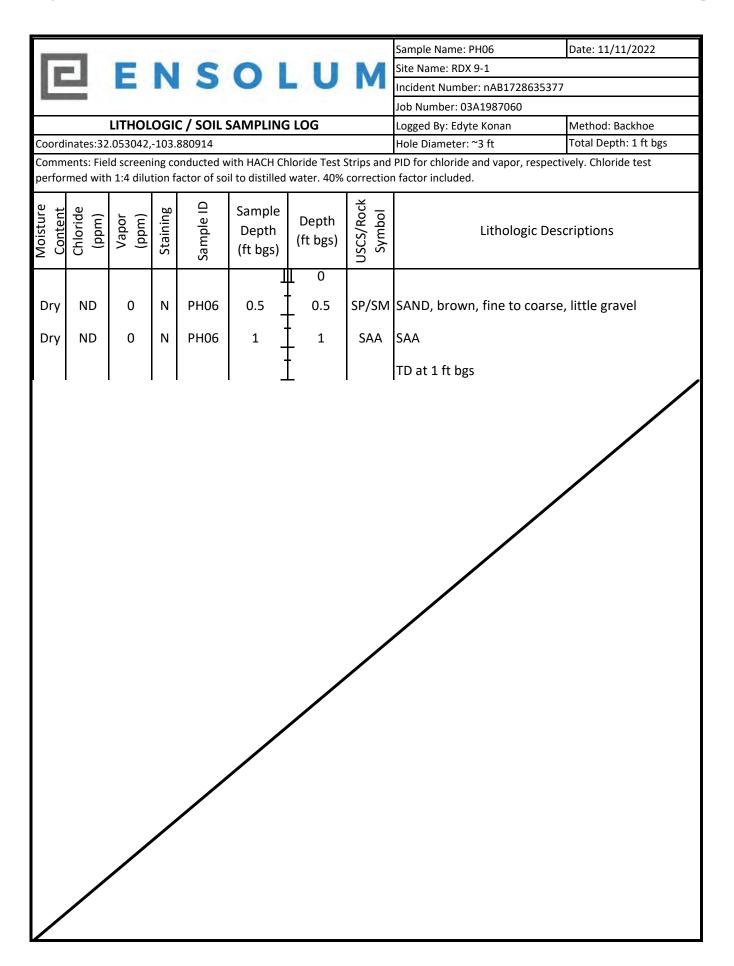
									1			
-	W							Sample Name: PH01	Date: 11/11/2022			
				5		Site Name: RDX 9-1						
<b>ENSOLUM</b>												
								Job Number: 03A1987060				
	LI	THOLO	GIC /	SOIL SA	MPLING L	Logged By: Edyte Konan Method: Backhoe						
	tes:32.0522							Hole Diameter: ~3 ft	Total Depth: 8 ft bgs			
		-			ACH Chlorid er. 40% corr	or chloride and vapor, respectively	. Chloride test performed					
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Lithologic Des	scriptions					
					1	0						
Dry	1528.8	0	N	PH01	0.5	0.5	SP/SM	SAND, brown, verfy fine to f	fine			
					_	_ 1	SAA	SAA				
					-	-						
Dry	2234.6	0	N	PH01	2	2	SAA	SAA				
					- - -	- _ 3						
Moist	2872.8	0	N	PH01	4 <u>-</u> -	- - - 4	SW/SM	SAND, tan, fine to coarse, lit	ttle gravel			
					- - - -	- _ 5						
Moist	1646.4	0	N	PH01	6 <u>-</u>	- _ 6 -	SAA	SAA				
					- - -	- - 7						
Moist	414.4	0	N	PH01	8 _	- - - 8		SAA TD at 8 ft bgs				

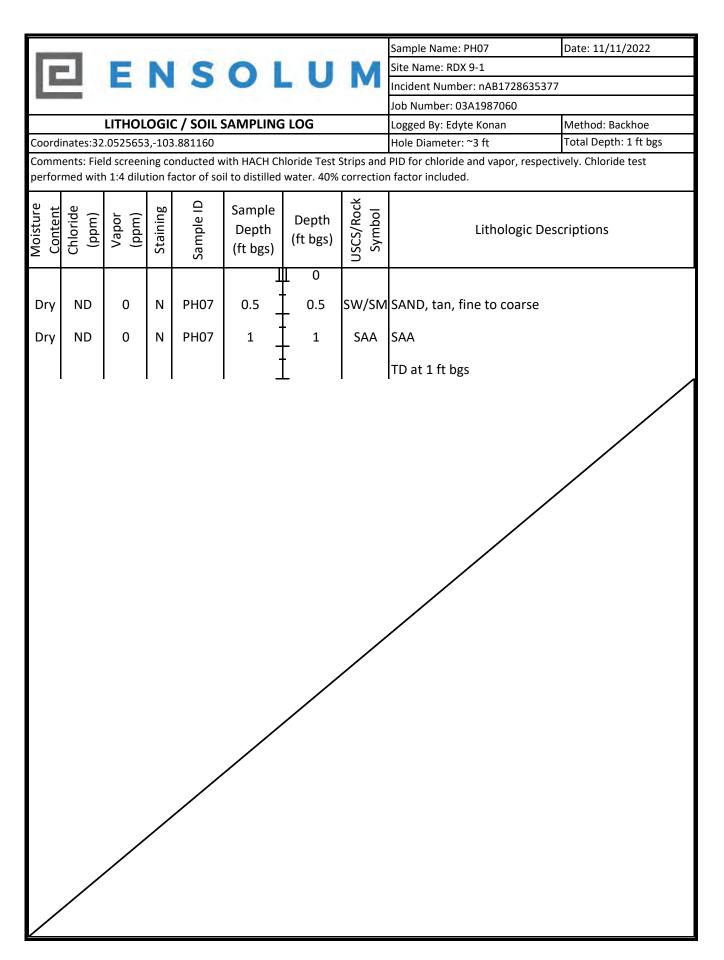
<b>-</b>								
Name and Address of the Owner, where the Owner, which is the Own							Sample Name: PH02	Date: 11/11/2022
		N	C	OL		M	Site Name: RDX 9-1	
		A			Incident Number: nAB1728635377			
					Job Number: 03A1987060	_		
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: Edyte Konan	Method: Backhoe
Coordinates: 3							Hole Diameter: ~3 ft	Total Depth: 3 ft bgs
		_			PID for chloride and vapor, respect factor included.	tively. Chloride test		
Moisture Content Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Lithologic De	scriptions		
Dry 280	0.1	N	PH02	0.5	_ 0.5	CD/CN/	SAND, brown, very fine to f	fina littla silt
				_	_			ווופ, וונגופ אוונ
Dry 246.4	0.1	N	PH02	1 _	_ 1	SAA	SAA	
Moist 246.4	0	N	PH02	3 _	- 2 - 3 	SAA	SAA TD at 3 ft bgs	
		/						



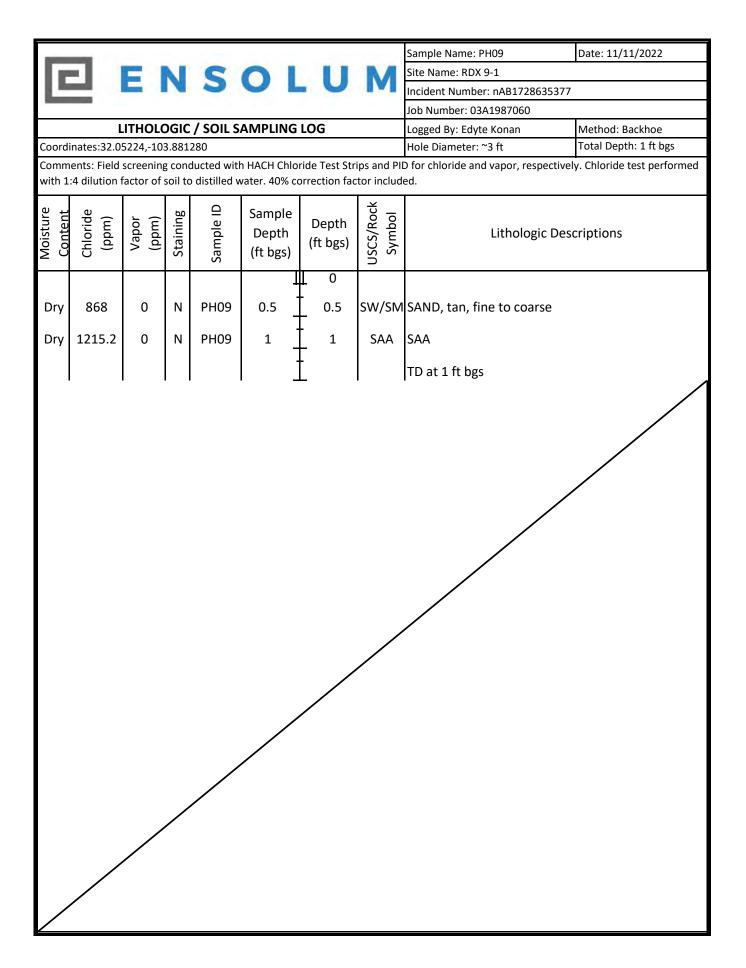


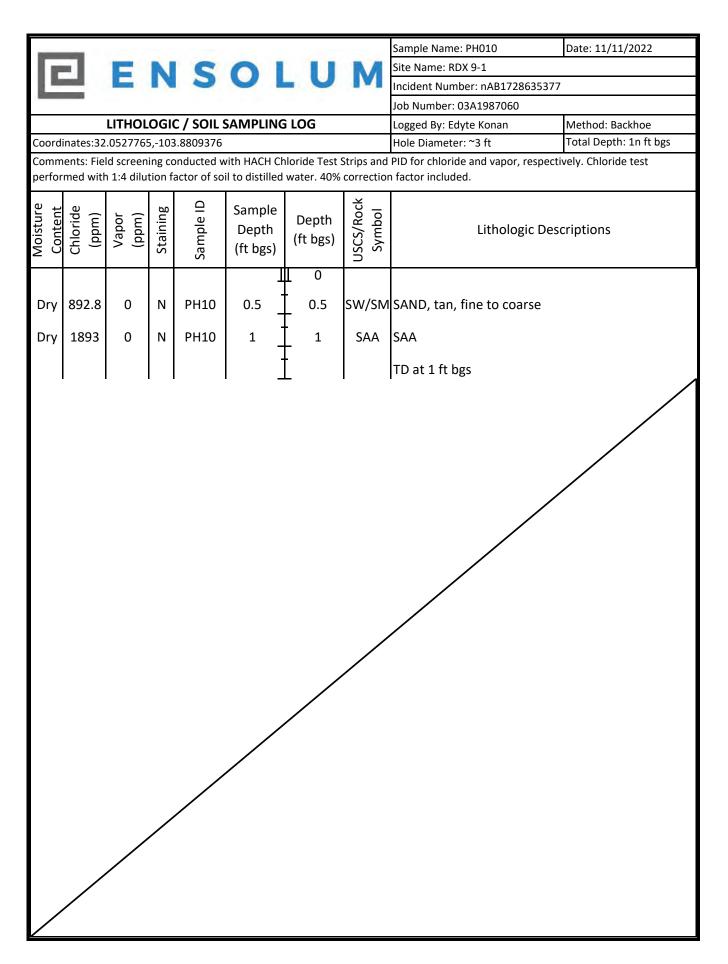


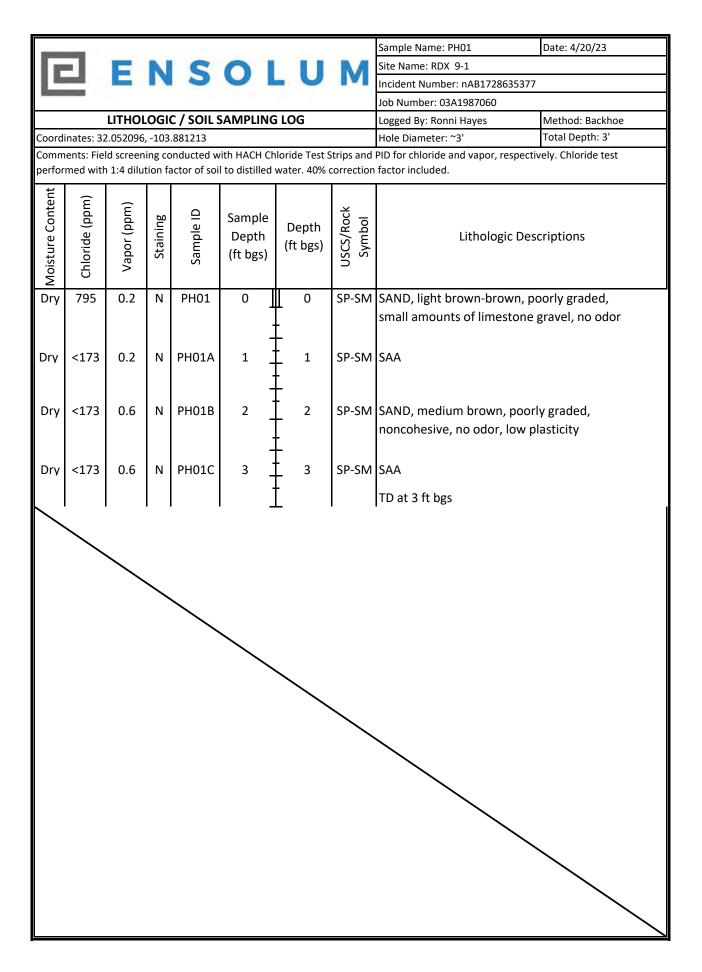


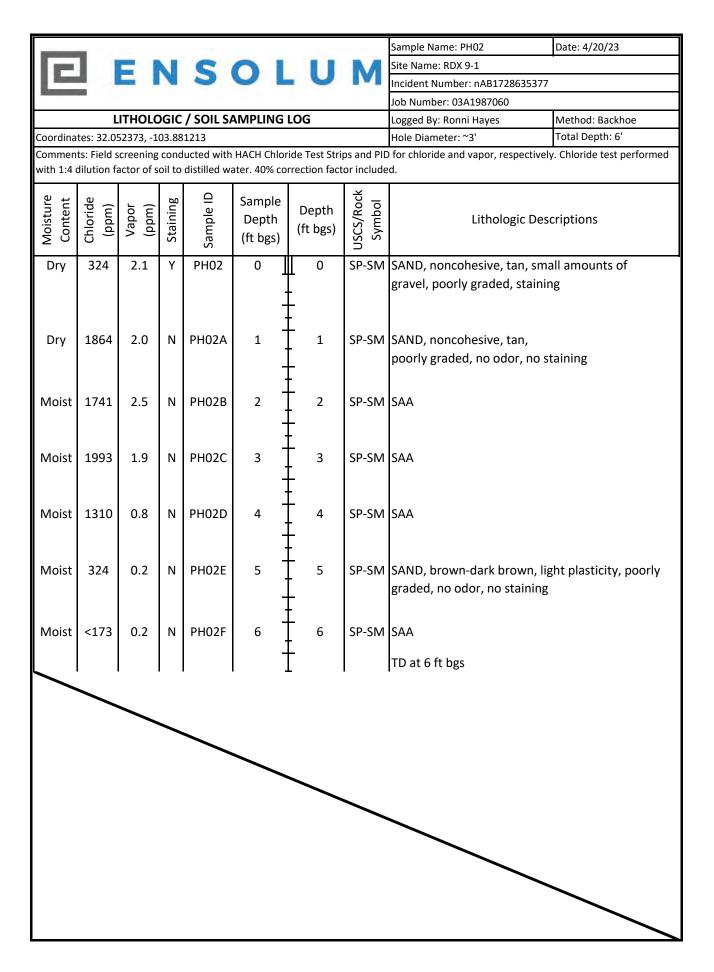


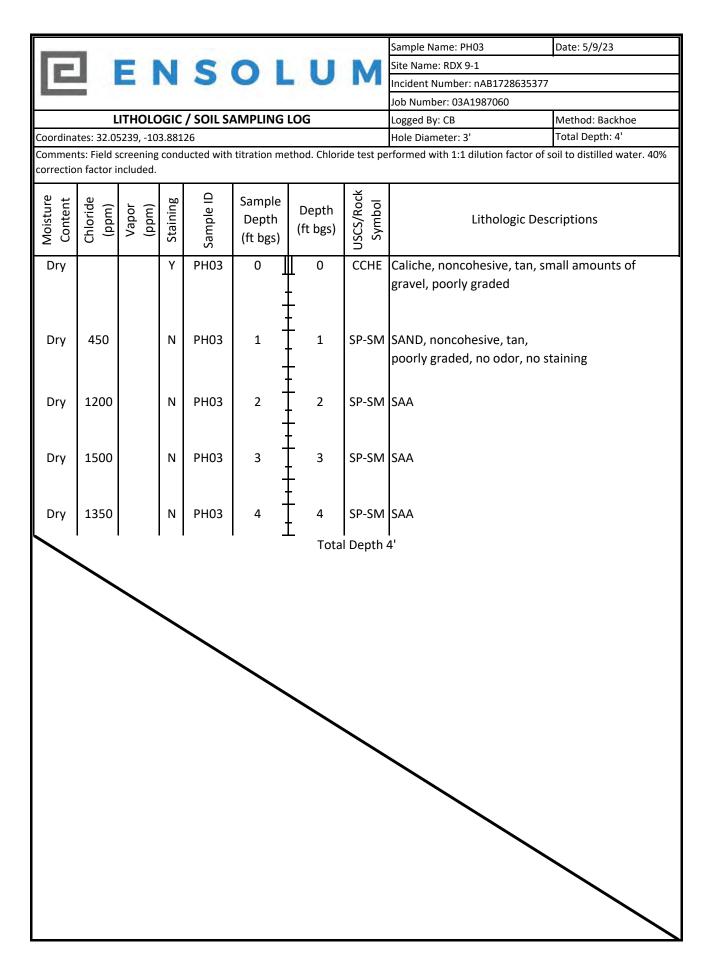
-							Sample Name: PH08	Date: 11/11/2022
	-	N	C	OL			Site Name: RDX 9-1	
		A			- 0		Incident Number: nAB172863537	7
							Job Number: 03A1987060	
	LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: Edyte Konan	Method: Backhoe
Coordinates: 32							Hole Diameter: ~3 ft	Total Depth: 1 ft bgs
							PID for chloride and vapor, respect factor included.	tively. Chloride test
Moisture Content Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic De	scriptions
				1	0			
Dry ND	0	N	PH08	0.5	0.5	SP/SM	SAND, brown, very fine to f	ine
Dry ND	0	N	PH08	1	1	SAA	SAA	
				1	<u>-</u> _		TD at 1 ft bgs	

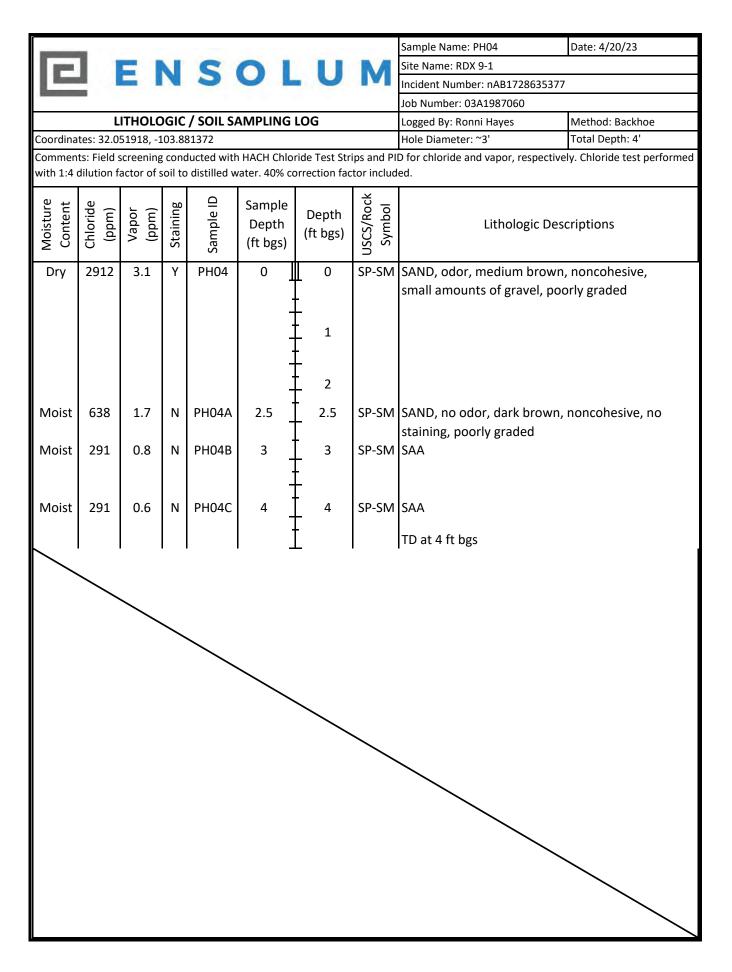












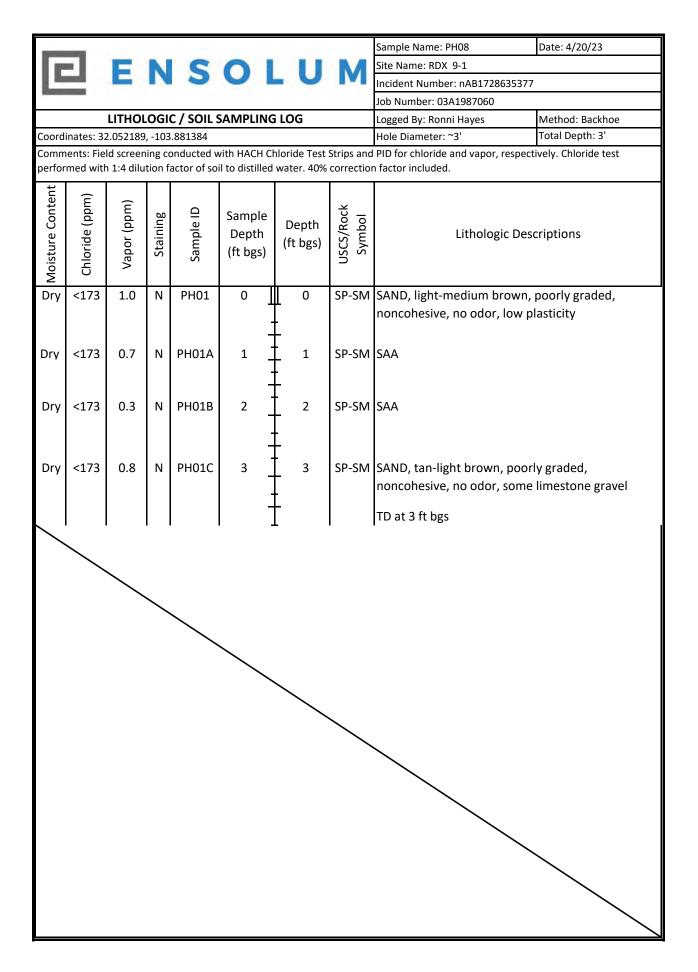
							Sample Name: PH05	Date: 4/20/23
				0 1			Site Name: RDX 9-1	Date: 4/20/23
		N	5	U	U	V	Incident Number: nAB17286353	.77
- 4							Job Number: 03A1987060	
	LITHO	OGI	C / SOIL S	SAMPLING	ilog		Logged By: Ronni Hayes	Method: Backhoe
Coordinates: 3				AIVII LIIVO			Hole Diameter: ~3'	Total Depth: 4'
				ith HACH Ch	loride Test S	Strips and	PID for chloride and vapor, respe	
						correction	factor included.	,
Moisture Content Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic D	escriptions
Dry <173	0.4	N	PH05	0 ]	0 - -	SP-SM	SAND, noncohesive, no stable brown, small amounts of a	
Dry <173	1.2	N	PH05A	1 _	1 -	SP-SM	SAND, noncohesive, no sta brown, poorly graded	aining, no odor, dark
Dry <173	0.3	N	PH05B	2 -	2	SP-SM	SAA	
Dry <173	0.7	N	PH05C	3 _	3 -	SP-SM	SAND, noncohesive, no statan, poorly graded, some	
Dry 184	0.4	N	PH05D	4	- - 4	SP-SM	SAA	
				_	-		TD at 4 ft bgs	

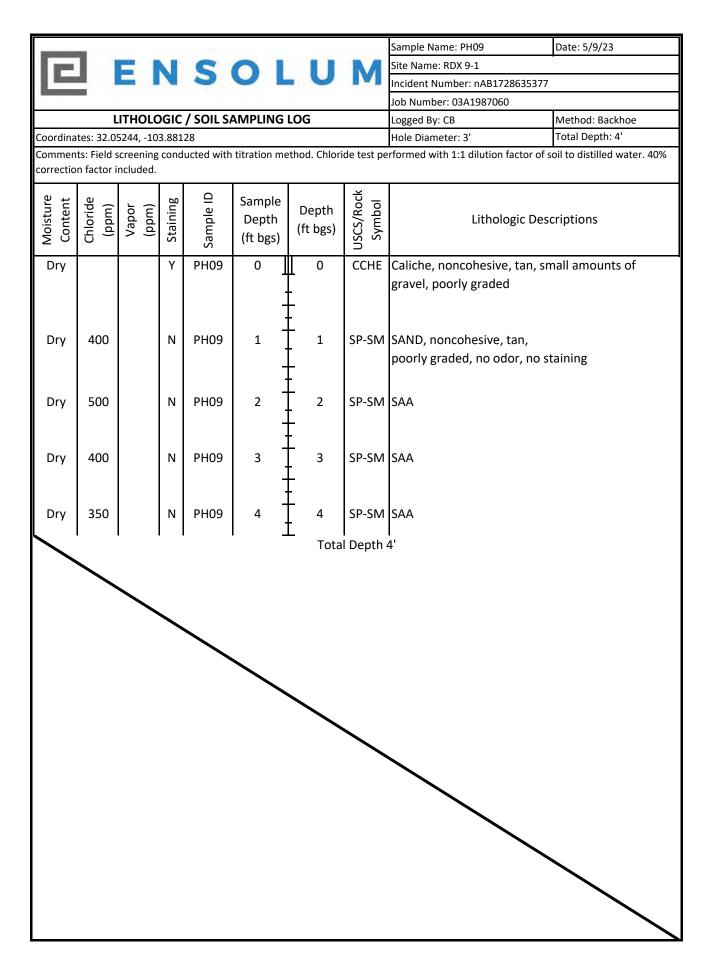
E							
			0 I			Sample Name: PH06 Site Name: RDX 9-1	Date: 4/20/23
	N	5	OL	U	V	Incident Number: nAB1728635377	7
						Job Number: 03A1987060	<u>'</u>
LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: Ronni Hayes	Method: Backhoe
						Hole Diameter: ~3'	Total Depth: 4'
			ith HACH Ch	loride Test S	trips and	PID for chloride and vapor, respect	ively. Chloride test
th 1:4 dilut	ion fa	actor of soi	to distilled	water. 40% (	correction	factor included.	
	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Des	
	N	PH06	0 ]	<u>+</u> - -		brown, small amounts of gr	avel, poor grading
4.3	N	PH06A	1 - -	- 1 - -	SP-SM	SAND, noncohesive, no stain brown, poorly graded	ning, no odor, dark
	N	PH06B	2 -	2 - -			
0.8	N	PH06C	3 -	- 3 - -	SP-SM	SAND, noncohesive, no stair tan, poorly graded, some lir	
0.9	N	PH06D	4	4	SP-SM	SAA	
			<u>-</u>	- _		TD at 4 ft bgs	
	2.052176, eld screen th 1:4 dilute	eld screening control (and all screening control	eld screening conducted with 1:4 dilution factor of soil and the screening conducted with 1:4 dilution factor of soil and 1:4 dilution factor of soil a	eld screening conducted with HACH Ch th 1:4 dilution factor of soil to distilled to th 1:4 dilution factor of soil to distilled to the dilution factor of soil to distilled to distilled to the dilution factor of soil to distilled to distilled to distilled to distilled to dilution factor of soil to distilled to distilled to distil	eld screening conducted with HACH Chloride Test S th 1:4 dilution factor of soil to distilled water. 40% of the dilution	eld screening conducted with HACH Chloride Test Strips and th 1:4 dilution factor of soil to distilled water. 40% correction  Sample Depth (ft bgs)  2.1 N PH06 O O SP-SM  4.3 N PH06A 1 1 SP-SM  1.8 N PH06B 2 2 SP-SM  0.8 N PH06C 3 3 SP-SM	Hole Diameter: ~3'

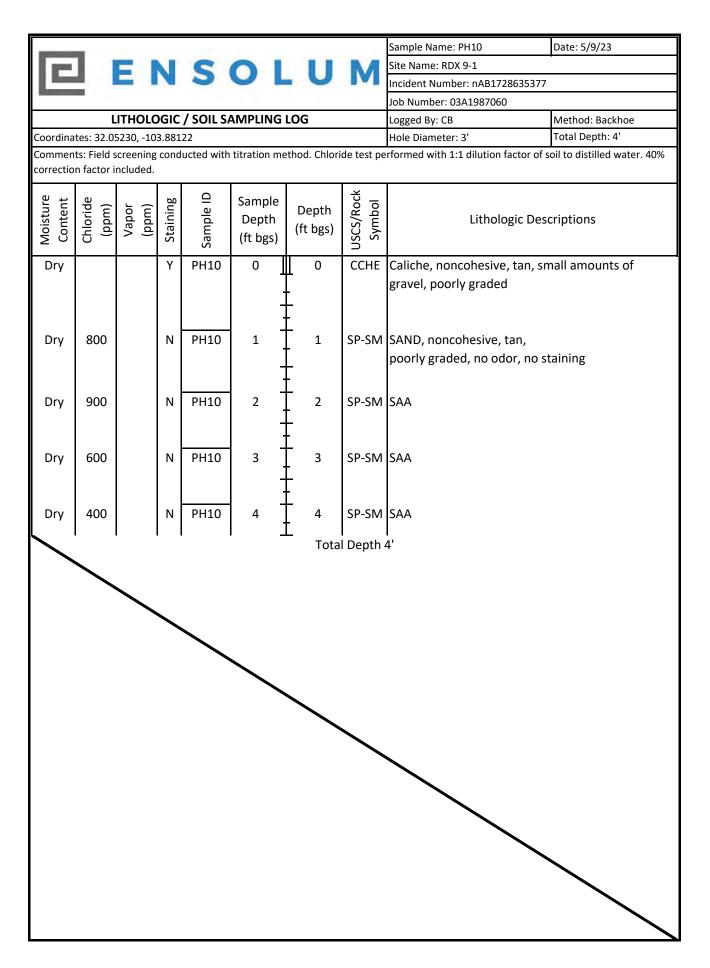
	Sample Name: PH07	Date: 4/20/23
<b>ENSOLUM</b>	Site Name: RDX 9-1	
E IN 3 O L O M	Incident Number: nAB1728635377	
	Job Number: 03A1987060	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Ronni Hayes	Method: Backhoe
Coordinates: 32.052297, -103.881146	Hole Diameter: ~3'	Total Depth: 11'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Dry	252	0.8	N	PH07	0 ]	0	SP-SM	SAND, noncohesive, tan, small amounts of gravel, poorly graded,
Dry	2077	1.4	N	PH07A	1 - -	1	SP-SM	SAND, noncohesive, tan-light brown, poorly graded, odor, no staining
Moist	2542	0.8	N	PH07B	2 -	2	SP-SM	SAA
Moist	2223	1.0	N	PH07C	3 - -	3	SP-SM	SAA
Moist	1691	0.9	N	PH07D	4 - -	4	SP-SM	SAA
Moist	1943	0.7	N	PH07E	5 - -	5	SP-SM	SAND, pale tan, low plasticity, poorly graded, odor, no staining, limestone gravel
Moist	1467	0.1	N	PH07F	6 _ _	6	SP-SM	SAA
Moist	1814	0.2	N	PH07G	7 - -	7	SP-SM	SAA
Moist	840	0.1	N	РН07Н	8 -	8	SP-SM	SAND, pale tan, poorly graded, no staining, no odor, small amount of limestone gravel
Moist	918	0.3	N	PH07I	9 - -	9	SP-SM	SAA
Moist	705	0.5	N	PH07J	10 -	10	SP-SM	SAA
Moist	996	5.4	N	PH07K	11 - -	11	SP-SM	SAND, pale tan, poorly graded, no staining, no odor, large amount of limestone gravel TD at 11 ft bgs









APPENDIX D

Photographic Log

# **ENSOLUM**

## Photographic Log WPX Energy Permian, LLC RDX 9-1

Incident Number nAB1728635377



Photograph 1
Description: Initial Spill

Description: Initial Spill
View: N/A



Photograph 2
Description: Initial Spill

View: North



Date: 10/03/2017

Photograph 3
Description: Initial Spill

View: West

Date: 10/03/2017

Photograph 4
Description: Initial Spill

View: North

# **ENSOLUM**

## Photographic Log WPX Energy Permian, LLC **RDX 9-1**

Incident Number nAB1728635377



Photograph 5

Description: Initail Release View: East

Scanned with CamScanner Date: 11/11/2022

Photograph 6

Description: Delineation View: Northeast



Photograph 7

Description: Excavation - Southwest corner

View: South



Photograph 8

Description: Excavation - Southwest corner

View: South



### Photographic Log WPX Energy Permian, LLC **RDX 9-1**

Incident Number nAB1728635377



Photograph 9 Description: Delineation

View: West



Photograph 10 Description: Excavation

View: South



Photograph 11 Description: Excavation

View: South



Photograph 12

Description: Post excavation

View: South



## **APPENDIX E**

Laboratory Analytical Reports & Chain-of-Custody Documentation

**Environment Testing** 

## **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Devon Team Ensolum 705 W. Wadley Suite 210 Midland Texas 79701

Generated 11/23/2022 1:44:32 PM

## **JOB DESCRIPTION**

RDX 9-1 SDG NUMBER Rural Eddy NM

## **JOB NUMBER**

890-3449-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220



Client: Ensolum
Project/Site: RDX 9-1

Laboratory Job ID: 890-3449-1
SDG: Rural Eddy NM

**Table of Contents** 

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Surrogate Summary	6
QC Sample Results	7
QC Association Summary	11
Lab Chronicle	13
Certification Summary	14
Method Summary	15
Sample Summary	16
Chain of Custody	17
Receipt Checklists	18
Annondiy	20

3

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14

### **Definitions/Glossary**

Client: Ensolum

Job ID: 890-3449-1

Project/Site: RDX 9-1

SDG: Rural Eddy NM

2

#### **Qualifiers**

00	MOA
GU	VUA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

4

#### **GC Semi VOA**

_		даа
F2	2	MS/MSD RPD exceeds control limits

Qualifier Description

F2 MS/MSD RPD exceeds control limit

U Indicates the analyte was analyzed for but not detected.

**HPLC/IC** 

Qualifier

4 MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not

applicable.

U Indicates the analyte was analyzed for but not detected.

**Glossary** 

Abbreviation	These commonly	y used abbreviations may	or may	not be	present in t	his report.

Eisted 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)

Released to Imaging: 1/16/2024 1:34:47 PM

TNTC Too Numerous To Count

#### Case Narrative

Client: Ensolum Job ID: 890-3449-1
Project/Site: RDX 9-1 SDG: Rural Eddy NM

Job ID: 890-3449-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3449-1

#### Receipt

The sample was received on 11/14/2022 8:13 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.4°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-3449-1).

#### **GC VOA**

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-39841 and analytical batch 880-40174 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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 matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-39730 and analytical batch 880-39984 was outside control limits. Sample non-homogeneity is suspected.

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

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-39709 and analytical batch 880-40017 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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Matrix: Solid

Lab Sample ID: 890-3449-1

## **Client Sample Results**

Client: Ensolum

Project/Site: RDX 9-1

SDG: Rural Eddy NM

**Client Sample ID: PH01** 

Date Collected: 11/11/22 10:25 Date Received: 11/14/22 08:13

Sample Depth: 8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *-	0.00199		mg/Kg		11/17/22 15:04	11/22/22 20:16	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 20:16	1
Ethylbenzene	< 0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 20:16	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 20:16	1
o-Xylene	< 0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 20:16	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 20:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130				11/17/22 15:04	11/22/22 20:16	1
1,4-Difluorobenzene (Surr)	101		70 - 130				11/17/22 15:04	11/22/22 20:16	1
Method: TAL SOP Total BTEX - T	otal BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/23/22 13:25	1
Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/21/22 10:39	1
Method: SW846 8015B NM - Dies	sel Range Orga	nics (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		11/16/22 13:49	11/20/22 18:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/16/22 13:49	11/20/22 18:35	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/16/22 13:49	11/20/22 18:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130				11/16/22 13:49	11/20/22 18:35	1
o-Terphenyl	92		70 - 130				11/16/22 13:49	11/20/22 18:35	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	graphy - So	oluble						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	399		4.99		mg/Kg			11/20/22 19:26	1

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## **Surrogate Summary**

Client: Ensolum

Project/Site: RDX 9-1

SDG: Rural Eddy NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Re
		BFB1	DFBZ1	-
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3446-A-1-D MS	Matrix Spike	101	107	
890-3446-A-1-E MSD	Matrix Spike Duplicate	98	109	
890-3449-1	PH01	95	101	
LCS 880-39841/1-A	Lab Control Sample	87	100	
LCSD 880-39841/2-A	Lab Control Sample Dup	89	101	
MB 880-39841/5-A	Method Blank	79	97	
Surrogate Legend				
BFB = 4-Bromofluorobenz	zene (Surr)			
DFBZ = 1,4-Difluorobenze	ene (Surr)			

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

Matrix: Solid Prep Type: Total/NA

		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-21514-A-1-E MS	Matrix Spike	90	74
880-21514-A-1-F MSD	Matrix Spike Duplicate	90	86
890-3449-1	PH01	96	92
LCS 880-39730/2-A	Lab Control Sample	104	109
LCSD 880-39730/3-A	Lab Control Sample Dup	97	105
MB 880-39730/1-A	Method Blank	102	104

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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Job ID: 890-3449-1 Client: Ensolum Project/Site: RDX 9-1 SDG: Rural Eddy NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39841/5-A

**Matrix: Solid** Analysis Batch: 40174 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 39841

	мв	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/17/22 15:04	11/22/22 11:43	1

MB MB

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79	70 - 130	11/17/22 15:04	11/22/22 11:43	1
1,4-Difluorobenzene (Surr)	97	70 - 130	11/17/22 15:04	11/22/22 11:43	1

Lab Sample ID: LCS 880-39841/1-A **Client Sample ID: Lab Control Sample** 

LCS LCS

**Matrix: Solid** 

Analysis Batch: 40174

Prep Type: Total/NA Prep Batch: 39841

Limits 70 - 130

Analyte Added Result Qualifier Unit %Rec Benzene 0.100 0.06882 mg/Kg 69 Toluene 0.100 0.08552 mg/Kg 86 70 - 130 0.100 0.08348 83 Ethylbenzene mg/Kg 70 - 130 0.200 0.1521 76 70 - 130 m-Xylene & p-Xylene mg/Kg 0.100 0.07434 70 - 130 o-Xylene mg/Kg

Spike

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	87	70 - 130
1,4-Difluorobenzene (Surr)	100	70 - 130

Lab Sample ID: LCSD 880-39841/2-A

**Matrix: Solid** 

Analysis Batch: 40174

Prep Type: Total/NA

Prep Batch: 39841

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.07231		mg/Kg		72	70 - 130	5	35
Toluene	0.100	0.08620		mg/Kg		86	70 - 130	1	35
Ethylbenzene	0.100	0.08808		mg/Kg		88	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.1599		mg/Kg		80	70 - 130	5	35
o-Xylene	0.100	0.07844		mg/Kg		78	70 - 130	5	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	89		70 - 130
1.4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-3446-A-1-D MS

**Matrix: Solid** 

Analysis Batch: 40174

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 39841

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00201	U *-	0.0996	0.08639		mg/Kg		87	70 - 130	
Toluene	< 0.00201	U	0.0996	0.1074		mg/Kg		108	70 - 130	

Client: Ensolum Job ID: 890-3449-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

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

Lab Sample ID: 890-3446-A-1-D MS Client Sample ID: Matrix Spike **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 40174 Prep Batch: 39841 Sample Sample Snike MS MS

			- Cup.c	- P						70.100
Anal	lyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Ethy	lbenzene	<0.00201	U	0.0996	0.1063		mg/Kg		107	70 - 130
m-X	ylene & p-Xylene	<0.00402	U	0.199	0.1903		mg/Kg		95	70 - 130
o-Xy	lene	<0.00201	U	0.0996	0.09294		mg/Kg		93	70 - 130

MS MS Surrogate %Recovery Qualifier Limits 70 - 130 4-Bromofluorobenzene (Surr) 101 1,4-Difluorobenzene (Surr) 107 70 - 130

Client Sample ID: Matrix Spike Duplicate Lab Sample ID: 890-3446-A-1-E MSD

**Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 40174** Prep Batch: 39841

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00201	U *-	0.0990	0.08751		mg/Kg		88	70 - 130	1	35
Toluene	<0.00201	U	0.0990	0.1051		mg/Kg		106	70 - 130	2	35
Ethylbenzene	<0.00201	U	0.0990	0.1021		mg/Kg		103	70 - 130	4	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1827		mg/Kg		92	70 - 130	4	35
o-Xylene	<0.00201	U	0.0990	0.08849		mg/Kg		89	70 - 130	5	35

MSD MSD Surrogate Qualifier Limits %Recovery 70 - 130 4-Bromofluorobenzene (Surr) 98 1,4-Difluorobenzene (Surr) 109 70 - 130

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

Lab Sample ID: MB 880-39730/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA Prep Batch: 39730

Analysis Batch: 39984 MR MR

	IVID	IVID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/16/22 13:49	11/20/22 08:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/16/22 13:49	11/20/22 08:00	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/16/22 13:49	11/20/22 08:00	1

	MB MB				
Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102	70 - 130	11/16/22 13:49	11/20/22 08:00	1
o-Terphenvl	104	70 - 130	11/16/22 13:49	11/20/22 08:00	1

Lab Sample ID: LCS 880-39730/2-A Client Sample ID: Lab Control Sample

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 39984 Prep Batch: 39730

	Spike	LUS	LUS				70 KeC
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	1000	1002		mg/Kg		100	70 - 130
(GRO)-C6-C10							
Diesel Range Organics (Over	1000	1045		mg/Kg		105	70 - 130
C10-C28)							

Job ID: 890-3449-1 Client: Ensolum Project/Site: RDX 9-1 SDG: Rural Eddy NM

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

LCS LCS

%Recovery Qualifier

104

109

Lab Sample ID: LCS 880-39730/2-A Client Sample ID: Lab Control Sample

**Matrix: Solid** 

Analysis Batch: 39984

Prep Type: Total/NA

Prep Batch: 39730

Lab Sample ID: LCSD 880-39730/3-A Client Sample ID: Lab Control Sample Dup

Limits

70 - 130

70 - 130

**Matrix: Solid** 

Analysis Batch: 39984

Prep Type: Total/NA

Prep Batch: 39730

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 1000 868.0 87 70 - 13014 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 1001 100 mg/Kg 70 - 13020

C10-C28)

Surrogate

o-Terphenyl

1-Chlorooctane

LCSD LCSD

Surrogate %Recovery Qualifier Limits 97 70 - 130 1-Chlorooctane 105 70 - 130 o-Terphenyl

Lab Sample ID: 880-21514-A-1-E MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

Analysis Batch: 39984

Prep Type: Total/NA

Prep Batch: 39730

MS MS Sample Sample Spike Added Analyte Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <50.0 U F2 998 699.0 mg/Kg 70 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 998 857.8 mg/Kg 86 70 - 130 C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 90 o-Terphenyl 74 70 - 130

Lab Sample ID: 880-21514-A-1-F MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 39984

Released to Imaging: 1/16/2024 1:34:47 PM

Prep Type: Total/NA

Prep Batch: 39730

Sample Sample MSD MSD RPD Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit U F2 997 934.7 F2 Gasoline Range Organics <50.0 94 70 - 130 29 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 997 1008 mg/Kg 101 70 - 130 16 20 C10-C28)

MSD MSD

%Recovery Qualifier Surrogate Limits 1-Chlorooctane 90 70 - 130 86 70 - 130 o-Terphenyl

Client: Ensolum Job ID: 890-3449-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39709/1-A

**Matrix: Solid** 

Analysis Batch: 40017

Client Sample ID: Method Blank **Prep Type: Soluble** 

мв мв MDL Unit Dil Fac Analyte Result Qualifier RL D Prepared Analyzed Chloride <5.00 U 5.00 mg/Kg 11/20/22 16:54

Lab Sample ID: LCS 880-39709/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 40017

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 255.7 mg/Kg 102 90 - 110

Lab Sample ID: LCSD 880-39709/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 40017

LCSD LCSD %Rec RPD Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 255.9 mg/Kg 102 90 - 110

Lab Sample ID: 890-3448-A-1-C MS Client Sample ID: Matrix Spike **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 40017** 

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier %Rec Unit Limits Chloride 1210 252 1415 4 90 - 110 mg/Kg

Lab Sample ID: 890-3448-A-1-D MSD

**Matrix: Solid** 

Analysis Batch: 40017

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit 252 Chloride 1210 1415 4 mg/Kg 83 90 - 110 0 20

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Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

## **QC Association Summary**

Client: Ensolum Job ID: 890-3449-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

**GC VOA** 

Prep Batch: 39841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3449-1	PH01	Total/NA	Solid	5035	
MB 880-39841/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39841/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39841/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3446-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3446-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 40174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3449-1	PH01	Total/NA	Solid	8021B	39841
MB 880-39841/5-A	Method Blank	Total/NA	Solid	8021B	39841
LCS 880-39841/1-A	Lab Control Sample	Total/NA	Solid	8021B	39841
LCSD 880-39841/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39841
890-3446-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	39841
890-3446-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	39841

**Analysis Batch: 40322** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3449-1	PH01	Total/NA	Solid	Total BTEX	

**GC Semi VOA** 

Prep Batch: 39730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3449-1	PH01	Total/NA	Solid	8015NM Prep	
MB 880-39730/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39730/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39730/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-21514-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-21514-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 39984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3449-1	PH01	Total/NA	Solid	8015B NM	39730
MB 880-39730/1-A	Method Blank	Total/NA	Solid	8015B NM	39730
LCS 880-39730/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39730
LCSD 880-39730/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39730
880-21514-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	39730
880-21514-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39730

Analysis Batch: 40087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3449-1	PH01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 39709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3449-1	PH01	Soluble	Solid	DI Leach	
MB 880-39709/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39709/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39709/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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## **QC Association Summary**

Client: Ensolum
Project/Site: RDX 9-1
Job ID: 890-3449-1
SDG: Rural Eddy NM

## **HPLC/IC** (Continued)

#### Leach Batch: 39709 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3448-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3448-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### **Analysis Batch: 40017**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3449-1	PH01	Soluble	Solid	300.0	39709
MB 880-39709/1-A	Method Blank	Soluble	Solid	300.0	39709
LCS 880-39709/2-A	Lab Control Sample	Soluble	Solid	300.0	39709
LCSD 880-39709/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39709
890-3448-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	39709
890-3448-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	39709

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#### **Lab Chronicle**

Client: Ensolum Job ID: 890-3449-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

**Client Sample ID: PH01** 

Lab Sample ID: 890-3449-1

Matrix: Solid

Date Collected: 11/11/22 10:25 Date Received: 11/14/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	39841	11/17/22 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 20:16	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40322	11/23/22 13:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			40087	11/21/22 10:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	39730	11/16/22 13:49	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39984	11/20/22 18:35	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	39709	11/16/22 10:46	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40017	11/20/22 19:26	CH	EET MID

#### **Laboratory References:**

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

## **Accreditation/Certification Summary**

Client: Ensolum
Project/Site: RDX 9-1
Job ID: 890-3449-1
SDG: Rural Eddy NM

#### **Laboratory: Eurofins Midland**

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

Authority	Pr	ogram	Identification Number	<b>Expiration Date</b>
Texas	NE	ELAP	T104704400-22-24	06-30-23
The following analytes	are included in this report by	it the leberatory is not cortifi	ed by the governing authority. This list ma	arrimalizada amaliztaa farr
the agency does not of	• •	it the laboratory is not certifi	ed by the governing authority. This list his	ay include arialytes for
0 ,	• •	Matrix	Analyte	ay include analytes for
the agency does not of	fer certification.	•	, , ,	ay include analytes for

#### **Method Summary**

Client: Ensolum

Project/Site: RDX 9-1

SDG: Rural Eddy NM

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

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

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# **Sample Summary**

Client: Ensolum Project/Site: RDX 9-1 Job ID: 890-3449-1 SDG: Rural Eddy NM

 Lab Sample ID
 Client Sample ID
 Matrix
 Collected
 Received
 Depth

 890-3449-1
 PH01
 Solid
 11/11/22 10:25
 11/14/22 08:13
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Notice: Signature of t

of service. Eurofins ) of Eurofins Xenco. A

F

CIR BRIT

Circle Method(s

	eurofins
Xenco	Environment Testing

Phone:

City, State ZIP:

Carlsbad, NM 88220 3122 National Parks HWY

281-702-2329

Email: jhernandez@Ensolum.com, jim.raley@dvn.com

City, State ZIP:

Carlsbad, NM 88220 5315 Buena Vista Dr

Address: Company Name:

**Turn Around** 

ANALYSIS REQUEST

Preservative Codes

Address:

Company Name: Project Manager:

Ensolum

Joseph Hernandez

Bill to: (if different)

Jim Raley

WPX

Project Number:

Project Name:

RDX 9-1

Project Location:

Impler's Name:

SAMPLE REC

C) #

Sample Custody Cooler Custody S Samples Receive

Total Containers:

# Chain of Custody

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 Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300

Work Order No:
www.xenco.com Page of of
Work Order Comments
Program: UST/PST 🗌 PRP 📗 Brownfields 🗌 RRC 📗 Superfund 📗
State of Project:
Reporting: Level II
Deliverables: EDD ADaPT Other:

Relinquished by: (Signature)	ice: Signature of this of ervice. Eurofins Xeno ervice. Eurofins Xeno iurofins Xenco. A min	cle Method(s) and Metal(s) to be analyzed	Total 200.7 / 6010	\	1								PH01	Sample Identification	tal Containers:	mple Custody Seals:	oler Custody Seals:	imples Received Intact	AMPLE RECEIPT	) #:	mpler's Name:	oject Location:	oject Number:
(Signature)	document and relings to will be liable only fi imum charge of \$85.	nd Metal(s) to be	10 200.8 / 6020:			and the same of th	\						1	tification		ls: Yes No	s: Yes No	Yes	PT Temp Blank:	1061092601	Yocoly Edyte Konan	Rural Eddy, NM	03A1987060
>	uishment or the cos 00 will be	e analy:	020:				1	- Co					S	Matrix		NA A		No	lank:		onan	-	
Receive	of samples con it of samples ar applied to each	zed	8					10					11.11.22	Date Sampled	Corrected Temperature:	Temperature Reading:	Correction Factor:	Thermometer ID:	Yes (No				
Received by: (Signature)	stitutes a valid nd shall not ass project and a	TCLP / S	8RCRA 13PPM Texas 11 Al Sb As Ba						1				10:25	Time Sampled	emperature:	e Reading:	actor:	er ID:	Wet ice:	the lab, if rec	TAT starts th	Due Date:	☑ Routine
ature)	purchase ord sume any resi charge of \$5	TCLP / SPLP 6010: 8RCRA	PPM Tex										8	Depth	25.12	5.6	-0-2	CMOO!	Yes	the lab, if received by 4:30pm	TAT starts the day received by	5 Day TAT	☐ Rush
	ler from c ponsibility or each s	): 8RCF	as 11								/		Grab/	Grab/ #					<u>N</u> 0	Ь.	ed by	TA.	0.70
Da	lient comp for any lo ample sut	RA Sb As	Al Sb	-	_						_\	1	 ×	Cont CHLOR	RIDE	S (E	_		nete	ers	_		Code
Date/Time	oany to Eu osses or e omitted to	As Ba	As Ba									1	×	TPH (8	_						_		
	rofins Xe expenses Eurofins	Be C	Ве В										×	BTEX (	802	1							
Relinquished by: (Signature)	ice: 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 ervice. 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 curofins 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.	Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U	Cd Ca Cr Co Cu Fe Pb M												_	890-3449 Chall of Custody							
Received by: (Signature)	assigns standard terms and condition due to circumstances beyond the control to enforced unless previously negot		Pb Mg Mn Mo Ni K Se Ag SiO													Cusiony					_		
nature)	s or ated.	Hg: 1631 / 245.1 / 7470 / 7471	Se Ag SiO <sub>2</sub> Na Sr TI Sn U V Zn							nAB17	Inci			Sample	NaOH+Ascorbic Acid: SAPC	Zn Acetate+NaOH: Zn	Na <sub>2</sub> S <sub>2</sub> U <sub>3</sub> : NaSU <sub>3</sub>	NaHSO4: NABIS	H <sub>3</sub> PO <sub>4</sub> : HP	H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	HCL: HC	Cool: Cool	None: NO
Date/Time		/7471	J V Zn							nAB1728635377	Incident ID			Sample Comments	DIC ACID: SAPC	aOH: Zn	) <u>.</u>	) i	5	NaOH: Na	HNC3: HN	MeOH: Me	DI Water: H <sub>2</sub> O
Im	aging:	1/1	5/21	024	1:3	34:4	171	PM						Pag	e 1	7 (	of 2	20					

Revised Date: 08/25/2020 Rev. 2020.2

## **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3449-1

SDG Number: Rural Eddy NM

List Source: Eurofins Carlsbad

11/23/2022

Login Number: 3449 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.	N/A	Refer to Job Narrative for details.
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	

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### **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3449-1

SDG Number: Rural Eddy NM

Login Number: 3449 List Source: Eurofins Midland List Number: 2

List Creation: 11/15/22 11:14 AM

Creator: Rodriguez, Leticia

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	N/A	

<6mm (1/4").

# **Eurofins Carlsbad**

# **Job Notes**

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

# **Authorization**

Generated 11/23/2022 1:44:32 PM

Authorized for release by Jessica Kramer, Project Manager Jessica.Kramer@et.eurofinsus.com (432)704-5440

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Devon Team Ensolum 705 W. Wadley Suite 210 Midland Texas 79701

Generated 11/23/2022 1:44:18 PM

# **JOB DESCRIPTION**

RDX 9-1 SDG NUMBER Rural Eddy NM

# **JOB NUMBER**

890-3448-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220



Client: Ensolum

Project/Site: RDX 9-1

Laboratory Job ID: 890-3448-1 SDG: Rural Eddy NM

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## **Definitions/Glossary**

Client: Ensolum Job ID: 890-3448-1
Project/Site: RDX 9-1 SDG: Rural Eddy NM

#### **Qualifiers**

## **GC VOA**

Qualifier	Qualifier Description
*_	LCS and/or LCSD is outside acceptance limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

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#### **GC Semi VOA**

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

#### HPLC/IC

Qualifier Description

4 Qualifier Description

MS\_MSD: The analytic

MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not

applicable.

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

110 Not Galdated

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 Job ID: 890-3448-1
Project/Site: RDX 9-1 SDG: Rural Eddy NM

Job ID: 890-3448-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3448-1

#### Receipt

The samples were received on 11/14/2022~8:13~AM. 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  $5.4^{\circ}C$ 

#### **Receipt Exceptions**

The following samples > were received and analyzed from an unpreserved bulk soil jar: PH01 (890-3448-1), PH01 (890-3448-2), PH02 (890-3448-3), PH02 (890-3448-4), PH03 (890-3448-5) and PH03 (890-3448-6).

#### **GC VOA**

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-39841 and analytical batch 880-40174 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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: Surrogate recovery for the following sample was outside control limits: (890-3433-A-1-D MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The method blank for preparation batch 880-39620 and analytical batch 880-39567 contained Gasoline Range Organics (GRO)-C6-C10 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.

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-39620 and analytical batch 880-39567 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-39709 and analytical batch 880-40017 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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Matrix: Solid

Lab Sample ID: 890-3448-1

# **Client Sample Results**

Client: Ensolum Job ID: 890-3448-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

**Client Sample ID: PH01** 

Date Collected: 11/11/22 10:10 Date Received: 11/14/22 08:13

Sample Depth: 0.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *-	0.00199		mg/Kg		11/17/22 15:04	11/22/22 18:13	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 18:13	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 18:13	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 18:13	1
o-Xylene	< 0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 18:13	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 18:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130				11/17/22 15:04	11/22/22 18:13	1
1,4-Difluorobenzene (Surr)	112		70 - 130				11/17/22 15:04	11/22/22 18:13	1
Method: TAL SOP Total BTEX - T	otal BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte									
Total BTEX  Method: SW846 8015 NM - Diese	<0.00398	U	0.00398		mg/Kg			11/23/22 13:25	1
Total BTEX  Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (	0.00398 GC)				· ·	11/23/22 13:25	1
Total BTEX	el Range Organ	ics (DRO) (Qualifier	0.00398	MDL	mg/Kg  Unit mg/Kg	 	Prepared		
Total BTEX  Method: SW846 8015 NM - Diese Analyte	el Range Organ Result	ics (DRO) (Qualifier	0.00398 GC)	MDL	Unit		· ·	11/23/22 13:25 Analyzed	
Total BTEX  Method: SW846 8015 NM - Diese Analyte  Total TPH	Range Organ Result <50.0	ics (DRO) (I	0.00398  GC)  RL  50.0	MDL	Unit		· ·	11/23/22 13:25 Analyzed	Dil Fac
Total BTEX  Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese	el Range Organ Result <50.0 sel Range Organ	ics (DRO) (I	0.00398  GC)  RL  50.0		Unit		· ·	11/23/22 13:25 Analyzed	1
Total BTEX  Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics	el Range Organ Result <50.0 sel Range Organ	ics (DRO) (Qualifier Unics (DRO) Qualifier	0.00398  GC)  RL  50.0  (GC)		Unit mg/Kg	<u>D</u>	Prepared	11/23/22 13:25  Analyzed  11/16/22 09:14	
Total BTEX  Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10	Result sel Range Organ Result <50.0 sel Range Organ Result <50.0	ics (DRO) (Qualifier U  unics (DRO) Qualifier U  unics (DRO)	0.00398  RL 50.0  (GC)  RL 50.0		Unit mg/Kg  Unit mg/Kg	<u>D</u>	Prepared  Prepared  11/15/22 13:35	Analyzed 11/15/22 23:26	Dil Fac
Total BTEX  Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Range Organ Result <50.0 sel Range Organ Result	ics (DRO) (Qualifier U  unics (DRO) Qualifier U  unics (DRO)	0.00398  GC)  RL  50.0  (GC)  RL		Unit mg/Kg	<u>D</u>	Prepared Prepared	11/23/22 13:25  Analyzed  11/16/22 09:14  Analyzed	1 Dil Fac
Total BTEX  Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	el Range Organ Result <50.0 sel Range Orga Result <50.0 <50.0	U ics (DRO) ( Qualifier U inics (DRO) Qualifier U	0.00398  RL 50.0  (GC) RL 50.0  50.0		Unit mg/Kg  Unit mg/Kg mg/Kg	<u>D</u>	Prepared  Prepared  11/15/22 13:35  11/15/22 13:35	Analyzed 11/15/22 23:26 11/15/22 23:26	Dil Fac
Total BTEX  Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result sel Range Organ Result <50.0 sel Range Organ Result <50.0	U ics (DRO) ( Qualifier U inics (DRO) Qualifier U	0.00398  RL 50.0  (GC)  RL 50.0		Unit mg/Kg  Unit mg/Kg	<u>D</u>	Prepared  Prepared  11/15/22 13:35	Analyzed 11/15/22 23:26	Dil Fac
Total BTEX  Method: SW846 8015 NM - Diese Analyte  Total TPH  Method: SW846 8015B NM - Diese Analyte  Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	el Range Organ Result <50.0 sel Range Orga Result <50.0 <50.0	ics (DRO) (Qualifier U unics (DRO) Qualifier U U U	0.00398  RL 50.0  (GC) RL 50.0  50.0		Unit mg/Kg  Unit mg/Kg mg/Kg	<u>D</u>	Prepared  Prepared  11/15/22 13:35  11/15/22 13:35	Analyzed 11/15/22 23:26 11/15/22 23:26	Dil Fac
Total BTEX  Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10	Range Organ   Result   <50.0	ics (DRO) (Qualifier U unics (DRO) Qualifier U U U	0.00398  RL 50.0  (GC)  RL 50.0  50.0  50.0		Unit mg/Kg  Unit mg/Kg mg/Kg	<u>D</u>	Prepared  11/15/22 13:35  11/15/22 13:35	Analyzed 11/15/22 23:26 11/15/22 23:26	1 Dil Fac

**Client Sample ID: PH01** Lab Sample ID: 890-3448-2

RL

5.03

MDL Unit

mg/Kg

D

Prepared

Analyzed

11/20/22 18:30

Dil Fac

**Matrix: Solid** 

Result Qualifier

1210

Date Collected: 11/11/22 10:20 Date Received: 11/14/22 08:13

Sample Depth: 3

Analyte

Chloride

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *-	0.00200		mg/Kg		11/17/22 15:04	11/22/22 18:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 18:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 18:34	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/17/22 15:04	11/22/22 18:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 18:34	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/17/22 15:04	11/22/22 18:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130				11/17/22 15:04	11/22/22 18:34	1

Matrix: Solid

Lab Sample ID: 890-3448-2

# **Client Sample Results**

Client: Ensolum Job ID: 890-3448-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

**Client Sample ID: PH01** 

Date Collected: 11/11/22 10:20 Date Received: 11/14/22 08:13

Sample Depth: 3

Method: SW846 8021B - Volatile (	Organic Compounds	(GC)	(Continued)
modification of the country to the country to	rigariio Compoundo		( Continuou)

Surrogate	%Recovery Q	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	110		70 - 130	11/17/22 15:04	11/22/22 18:34	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/23/22 13:25	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/16/22 09:14	1

Method: SW846 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		11/15/22 13:35	11/15/22 23:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/15/22 13:35	11/15/22 23:48	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/15/22 13:35	11/15/22 23:48	1
Surrogato	%Pacayary	Qualifier	l imite				Propared	Analyzed	Dil Eac

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130	11/15/22 13:35	11/15/22 23:48	1
o-Terphenyl	92		70 - 130	11/15/22 13:35	11/15/22 23:48	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qualifie	r RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2320	25.1	mg/Kg			11/20/22 18:47	5

**Client Sample ID: PH02** Lab Sample ID: 890-3448-3

Date Collected: 11/11/22 10:30 Date Received: 11/14/22 08:13

Sample Depth: 0.5

Mothodi CIMOAC 0004D	Valatila Organia Compounda (CC)

Method: 544846 8021B - Volat	thod: SW846 8021B - Volatile Organic Compounds (GC)												
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac				
Benzene	<0.00200	U *-	0.00200		mg/Kg		11/17/22 15:04	11/22/22 18:54	1				
Toluene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 18:54	1				
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 18:54	1				
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/17/22 15:04	11/22/22 18:54	1				
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 18:54	1				
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/17/22 15:04	11/22/22 18:54	1				
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac				
4-Bromofluorobenzene (Surr)	88		70 - 130				11/17/22 15:04	11/22/22 18:54	1				
1,4-Difluorobenzene (Surr)	113		70 - 130				11/17/22 15:04	11/22/22 18:54	1				

Mothod:	TAI SOI	Total RTF	( - Total RTF	X Calculation

Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00399	U	0.00399	mg/Kg			11/23/22 13:25	1

Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			11/16/22 09:14	1

Matrix: Solid

# **Client Sample Results**

Client: Ensolum Job ID: 890-3448-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

**Client Sample ID: PH02** 

Lab Sample ID: 890-3448-3 Date Collected: 11/11/22 10:30 Date Received: 11/14/22 08:13

Matrix: Solid

Sample Depth: 0.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/15/22 13:35	11/16/22 00:10	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/15/22 13:35	11/16/22 00:10	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/15/22 13:35	11/16/22 00:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130				11/15/22 13:35	11/16/22 00:10	1
o-Terphenyl	83		70 - 130				11/15/22 13:35	11/16/22 00:10	1

Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 5.04 11/20/22 18:52 281 mg/Kg

**Client Sample ID: PH02** Lab Sample ID: 890-3448-4

Date Collected: 11/11/22 10:40 **Matrix: Solid** 

Date Received: 11/14/22 08:13

Sample Depth: 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *-	0.00199		mg/Kg		11/17/22 15:04	11/22/22 19:15	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 19:15	1
Ethylbenzene	< 0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 19:15	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 19:15	1
o-Xylene	< 0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 19:15	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 19:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130				11/17/22 15:04	11/22/22 19:15	1
1,4-Difluorobenzene (Surr)	102		70 - 130				11/17/22 15:04	11/22/22 19:15	1
Method: TAL SOP Total BTEX - T	otal BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/23/22 13:25	1
Method: SW846 8015 NM - Diese			•			_	_		
Analyte	Result	Qualifier	RL	MDL		<u>D</u>	Prepared	Analyzed	Dil Fac
		Qualifier	•	MDL	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 11/16/22 09:14	Dil Fac
Analyte	Result < 50.0	Qualifier U	<b>RL</b> 50.0	MDL		<u>D</u>	Prepared		
Analyte Total TPH	Result  <50.0 sel Range Orga	Qualifier U	<b>RL</b> 50.0	MDL	mg/Kg	<u>D</u>	Prepared Prepared		
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result  <50.0 sel Range Orga	Qualifier Unics (DRO) Qualifier	RL 50.0		mg/Kg			11/16/22 09:14	1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte	Result <50.0 sel Range Orga	Qualifier U  nics (DRO) Qualifier U	RL 50.0		mg/Kg		Prepared	11/16/22 09:14  Analyzed	1 Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10	Result <50.0 sel Range Orga Result <50.0	Qualifier U  nics (DRO) Qualifier U	RL   50.0		mg/Kg  Unit mg/Kg		Prepared 11/15/22 13:35	11/16/22 09:14  Analyzed  11/16/22 00:32	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <50.0 sel Range Orga Result <50.0	Qualifier U  nics (DRO) Qualifier U	RL   50.0		mg/Kg  Unit mg/Kg		Prepared 11/15/22 13:35	11/16/22 09:14  Analyzed  11/16/22 00:32	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result   <50.0	Qualifier U  nics (DRO) Qualifier U  U	RL 50.0 (GC) RL 50.0 50.0		mg/Kg  Unit mg/Kg  mg/Kg		Prepared 11/15/22 13:35 11/15/22 13:35	11/16/22 09:14  Analyzed  11/16/22 00:32  11/16/22 00:32	1 Dil Fac 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result   <50.0	Qualifier U  nics (DRO) Qualifier U  U	RL 50.0  (GC)  RL 50.0  50.0  50.0		mg/Kg  Unit mg/Kg  mg/Kg		Prepared 11/15/22 13:35 11/15/22 13:35	Analyzed 11/16/22 00:32 11/16/22 00:32 11/16/22 00:32	1 Dil Fac 1

Matrix: Solid

Lab Sample ID: 890-3448-4

# **Client Sample Results**

Client: Ensolum Job ID: 890-3448-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

**Client Sample ID: PH02** 

Date Collected: 11/11/22 10:40

Date Received: 11/14/22 08:13

Sample Depth: 3

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble										
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Chloride	370		4.97		mg/Kg			11/20/22 19:09	1

**Client Sample ID: PH03** Lab Sample ID: 890-3448-5 Matrix: Solid

Date Collected: 11/11/22 10:50 Date Received: 11/14/22 08:13

Sample Depth: 0.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00201	U *-	0.00201		mg/Kg		11/17/22 15:04	11/22/22 19:35	
Toluene	< 0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 19:35	
Ethylbenzene	< 0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 19:35	
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/17/22 15:04	11/22/22 19:35	
o-Xylene	0.00259		0.00201		mg/Kg		11/17/22 15:04	11/22/22 19:35	
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/17/22 15:04	11/22/22 19:35	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	89		70 - 130				11/17/22 15:04	11/22/22 19:35	
1,4-Difluorobenzene (Surr)	104		70 - 130				11/17/22 15:04	11/22/22 19:35	
Method: TAL SOP Total BTEX - To	otal BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/23/22 13:25	
Method: SW846 8015 NM - Diese	Range Organ	ics (DRO) (	GC)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<49.9	U	49.9		mg/Kg			11/16/22 09:14	
Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/15/22 13:35	11/16/22 01:38	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/15/22 13:35	11/16/22 01:38	
Oll Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/15/22 13:35	11/16/22 01:38	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1-Chlorooctane	100		70 - 130				11/15/22 13:35	11/16/22 01:38	
o-Terphenyl	97		70 - 130				11/15/22 13:35	11/16/22 01:38	
Method: MCAWW 300.0 - Anions	, Ion Chromato	graphy - So	oluble						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	24.7		5.05		mg/Kg			11/20/22 19:15	

Matrix: Solid

Lab Sample ID: 890-3448-6

# **Client Sample Results**

Job ID: 890-3448-1 Client: Ensolum Project/Site: RDX 9-1 SDG: Rural Eddy NM

**Client Sample ID: PH03** 

Date Collected: 11/11/22 11:00 Date Received: 11/14/22 08:13

Sample Depth: 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *-	0.00201		mg/Kg		11/17/22 15:04	11/22/22 19:55	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 19:55	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 19:55	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/17/22 15:04	11/22/22 19:55	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 19:55	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/17/22 15:04	11/22/22 19:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130				11/17/22 15:04	11/22/22 19:55	1
1,4-Difluorobenzene (Surr)	119		70 - 130				11/17/22 15:04	11/22/22 19:55	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	<0.00402				mg/Kg				
Method: SW846 8015 NM - Diese Analyte		ics (DRO) ( Qualifier	GC) RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8								
·	<b>\49.0</b>	U	49.8		mg/Kg			11/16/22 09:14	1
					mg/Kg			11/16/22 09:14	1
Method: SW846 8015B NM - Die	sel Range Orga			MDL		D	Prepared	11/16/22 09:14  Analyzed	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	sel Range Orga	nics (DRO) Qualifier	(GC)	MDL		<u>D</u>	Prepared 11/15/22 13:35		Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	sel Range Orga Result	nics (DRO) Qualifier	(GC)	MDL	Unit	<u>D</u>		Analyzed	1
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	sel Range Orga Result <49.8	nics (DRO) Qualifier U	(GC)  RL  49.8	MDL	Unit mg/Kg	<u>D</u>	11/15/22 13:35	Analyzed 11/16/22 00:54	1
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	sel Range Orga Result <49.8	nics (DRO) Qualifier U	(GC)  RL 49.8	MDL	Unit mg/Kg mg/Kg	<u> </u>	11/15/22 13:35	Analyzed 11/16/22 00:54 11/16/22 00:54	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	sel Range Orga Result <49.8 <49.8	nics (DRO) Qualifier U	(GC)  RL 49.8  49.8  49.8	MDL	Unit mg/Kg mg/Kg	<u>D</u>	11/15/22 13:35 11/15/22 13:35 11/15/22 13:35	Analyzed 11/16/22 00:54 11/16/22 00:54 11/16/22 00:54	1
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	sel Range Orga Result <49.8 <49.8 <49.8 %Recovery	nics (DRO) Qualifier U	(GC)  RL 49.8  49.8  49.8  Limits	MDL	Unit mg/Kg mg/Kg	<u> </u>	11/15/22 13:35 11/15/22 13:35 11/15/22 13:35 Prepared	Analyzed 11/16/22 00:54 11/16/22 00:54 11/16/22 00:54 Analyzed	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl Method: MCAWW 300.0 - Anions	sel Range Orga           Result         <49.8	U  Qualifier  U  Qualifier	(GC)  RL 49.8  49.8  49.8  Limits 70 - 130 70 - 130	MDL	Unit mg/Kg mg/Kg	<u> </u>	11/15/22 13:35 11/15/22 13:35 11/15/22 13:35 Prepared 11/15/22 13:35	Analyzed 11/16/22 00:54 11/16/22 00:54 11/16/22 00:54  Analyzed 11/16/22 00:54	1 1 1 1 Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	sel Range Orga           Result           <49.8	U  Qualifier  U  Qualifier	(GC)  RL 49.8  49.8  49.8  Limits 70 - 130 70 - 130	MDL	Unit mg/Kg mg/Kg mg/Kg	<u>D</u>	11/15/22 13:35 11/15/22 13:35 11/15/22 13:35 Prepared 11/15/22 13:35	Analyzed 11/16/22 00:54 11/16/22 00:54 11/16/22 00:54  Analyzed 11/16/22 00:54	1 1 1 1 Dil Fac

# **Surrogate Summary**

Client: Ensolum Job ID: 890-3448-1
Project/Site: RDX 9-1 SDG: Rural Eddy NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

•				Percent Surrogate Ro
		BFB1	DFBZ1	
Lab Sample ID C	lient Sample ID	(70-130)	(70-130)	
890-3446-A-1-D MS	latrix Spike	101	107	
890-3446-A-1-E MSD N	latrix Spike Duplicate	98	109	
890-3448-1 P	H01	88	112	
890-3448-2 P	H01	99	110	
890-3448-3 P	H02	88	113	
890-3448-4 P	H02	96	102	
890-3448-5 P	H03	89	104	
890-3448-6 P	H03	90	119	
LCS 880-39841/1-A	ab Control Sample	87	100	
LCSD 880-39841/2-A L	ab Control Sample Dup	89	101	
MB 880-39841/5-A N	lethod Blank	79	97	
Surrogate Legend				
BFB = 4-Bromofluorobenzene (	Surr)			
DFBZ = 1,4-Difluorobenzene (S	urr)			

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3433-A-1-D MS	Matrix Spike	76	65 S1-	
890-3433-A-1-E MSD	Matrix Spike Duplicate	89	77	
890-3448-1	PH01	86	88	
890-3448-2	PH01	88	92	
890-3448-3	PH02	82	83	
890-3448-4	PH02	86	87	
890-3448-5	PH03	100	97	
890-3448-6	PH03	90	90	
LCS 880-39620/2-A	Lab Control Sample	86	84	
LCSD 880-39620/3-A	Lab Control Sample Dup	89	85	
MB 880-39620/1-A	Method Blank	94	92	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

## **QC Sample Results**

Client: Ensolum Job ID: 890-3448-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39841/5-A

**Matrix: Solid** 

Analysis Batch: 40174

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 39841

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/17/22 15:04	11/22/22 11:43	1

MB MB

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79	70 - 130	11/17/22 15:04	11/22/22 11:43	1
1,4-Difluorobenzene (Surr)	97	70 - 130	11/17/22 15:04	11/22/22 11:43	1

Lab Sample ID: LCS 880-39841/1-A

Matrix: Solid

Analysis Batch: 40174

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 39841

	<b>Spike</b>	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.06882	*-	mg/Kg		69	70 - 130	
Toluene	0.100	0.08552		mg/Kg		86	70 - 130	
Ethylbenzene	0.100	0.08348		mg/Kg		83	70 - 130	
m-Xylene & p-Xylene	0.200	0.1521		mg/Kg		76	70 - 130	
o-Xylene	0.100	0.07434		mg/Kg		74	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	87	70 - 130
1,4-Difluorobenzene (Surr)	100	70 - 130

Lab Sample ID: LCSD 880-39841/2-A

**Matrix: Solid** 

Analysis Batch: 40174

Client Sample ID: Lab Control Sample Dup	Client Sam	ple ID: Lab	<b>Control San</b>	nple Dup
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Prep Type: Total/NA

Prep Batch: 39841

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.07231		mg/Kg		72	70 - 130	5	35	
Toluene	0.100	0.08620		mg/Kg		86	70 - 130	1	35	
Ethylbenzene	0.100	0.08808		mg/Kg		88	70 - 130	5	35	
m-Xylene & p-Xylene	0.200	0.1599		mg/Kg		80	70 - 130	5	35	
o-Xylene	0.100	0.07844		mg/Kg		78	70 - 130	5	35	

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	89		70 - 130
1 4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-3446-A-1-D MS

**Matrix: Solid** 

Analysis Batch: 40174

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 39841

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00201	U *-	0.0996	0.08639		mg/Kg	_	87	70 - 130	
Toluene	<0.00201	U	0.0996	0.1074		mg/Kg		108	70 - 130	

**Eurofins Carlsbad** 

Released to Imaging: 1/16/2024 1:34:47 PM

# QC Sample Results

Job ID: 890-3448-1 Client: Ensolum Project/Site: RDX 9-1 SDG: Rural Eddy NM

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

Lab S Matri

Analysis Batch: 40174

Sample ID: 890-3446-A-1-D MS	Client Sample ID: Matrix Spike
rix: Solid	Prep Type: Total/NA

Prep Batch: 39841

	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Ethylbenzene	<0.00201	U	0.0996	0.1063		mg/Kg		107	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1903		mg/Kg		95	70 - 130
o-Xylene	<0.00201	U	0.0996	0.09294		mg/Kg		93	70 - 130

mg/Kg

MS MS %Recovery Qualifier Limits Surrogate 70 - 130 4-Bromofluorobenzene (Surr) 101 1,4-Difluorobenzene (Surr) 70 - 130 107

Client Sample ID: Matrix Spike Duplicate

70 - 130

89

Prep Type: Total/NA Prep Batch: 39841

5

**Matrix: Solid** Analysis Batch: 40174

Lab Sample ID: 890-3446-A-1-E MSD

Sample Sample Spike MSD MSD Result Qualifier Added %Rec RPD Limit Analyte Result Qualifier Limits Unit Benzene <0.00201 U \*-0.0990 0.08751 mg/Kg 88 70 - 130 35 Toluene <0.00201 0.0990 0.1051 mg/Kg 106 70 - 130 2 35 Ethylbenzene <0.00201 0.0990 0.1021 103 70 - 130 35 U mg/Kg 4 35 m-Xylene & p-Xylene <0.00402 U 0.198 0.1827 mg/Kg 92 70 - 130

0.08849

0.0990

MSD MSD Qualifier Limits Surrogate %Recovery 70 - 130 4-Bromofluorobenzene (Surr) 98 1,4-Difluorobenzene (Surr) 109 70 - 130

<0.00201 U

MR MR

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

**Matrix: Solid** 

o-Xylene

Analysis Batch: 39567

Lab Sample ID: MB 880-39620/1-A

Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 39620

	IVID	IVID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/15/22 13:35	11/15/22 19:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/15/22 13:35	11/15/22 19:54	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/15/22 13:35	11/15/22 19:54	1

MB MB

%Recovery Qualifier Limits Prepared Analyzed Dil Fac Surrogate 1-Chlorooctane 94 70 - 130 11/15/22 13:35 11/15/22 19:54 92 70 - 130 11/15/22 13:35 11/15/22 19:54 o-Terphenyl

Lab Sample ID: LCS 880-39620/2-A

**Matrix: Solid** 

Analysis Batch: 39567

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Prep Batch: 39620

-	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	1000	953.5		mg/Kg		95	70 - 130
(GRO)-C6-C10							
Diesel Range Organics (Over	1000	838.5		mg/Kg		84	70 - 130
C10-C28)							

Analysis Batch: 39567

Prep Batch: 39620

Prep Type: Total/NA

## QC Sample Results

Client: Ensolum Job ID: 890-3448-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

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

Lab Sample ID: LCS 880-39620/2-A Client Sample ID: Lab Control Sample Prep Type: Total/NA

**Matrix: Solid** 

LCS LCS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 86 70 - 130 o-Terphenyl 84 70 - 130

Lab Sample ID: LCSD 880-39620/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 39567 Prep Batch: 39620

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit 1000 1012 101 70 - 1306 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 888.8 mg/Kg 89 70 - 1306 20 C10-C28)

LCSD LCSD Surrogate %Recovery Qualifier Limits 89 70 - 130 1-Chlorooctane 85 70 - 130 o-Terphenyl

Lab Sample ID: 890-3433-A-1-D MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 39567** Prep Batch: 39620 Sample Sample MS MS Spike

Added Analyte Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <50.0 U F2 997 984.7 mg/Kg 95 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 UF1 997 641.4 F1 mg/Kg 64 70 - 130

C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 76 65 S1-70 - 130 o-Terphenyl

Lab Sample ID: 890-3433-A-1-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 39567 Prep Batch: 39620 Sample Sample Snika MeD MeD \_\_\_

	Sample	Sample	Spike	INIOD	MISD				/ortec		KFD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	<50.0	U F2	999	1231	F2	mg/Kg		119	70 - 130	22	20	
(GRO)-C6-C10												
Diesel Range Organics (Over	<50.0	U F1	999	773.2		mg/Kg		77	70 - 130	19	20	
C10-C28)												

MSD MSD Qualifier %Recovery Surrogate Limits 1-Chlorooctane 89 70 - 130 77 70 - 130 o-Terphenyl

Client Sample ID: Method Blank

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

**Prep Type: Soluble** 

**Prep Type: Soluble** 

**Prep Type: Soluble** 

Client Sample ID: PH01

**Client Sample ID: PH01** 

**Prep Type: Soluble** 

**Prep Type: Soluble** 

## **QC Sample Results**

Client: Ensolum Job ID: 890-3448-1
Project/Site: RDX 9-1 SDG: Rural Eddy NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39709/1-A

Matrix: Solid

Analysis Batch: 40017

MB MB

 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
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 Prepared
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 Chloride
 <5.00</td>
 U
 5.00
 mg/Kg
 11/20/22 16:54
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Lab Sample ID: LCS 880-39709/2-A

Matrix: Solid

Analysis Batch: 40017

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	255.7		mg/Kg		102	90 - 110	

Lab Sample ID: LCSD 880-39709/3-A

Matrix: Solid

**Analysis Batch: 40017** 

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	255.9		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 890-3448-1 MS

**Matrix: Solid** 

**Analysis Batch: 40017** 

, , , , , , , , , , , , , , , , , , , ,	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	1210		252	1415	4	mg/Kg		83	90 - 110	

Lab Sample ID: 890-3448-1 MSD

Matrix: Solid

**Analysis Batch: 40017** 

•	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	1210		252	1415	4	mg/Kg		83	90 - 110	0	20

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# **QC Association Summary**

Client: Ensolum

Project/Site: RDX 9-1

SDG: Rural Eddy NM

**GC VOA** 

Prep Batch: 39841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3448-1	PH01	Total/NA	Solid	5035	
890-3448-2	PH01	Total/NA	Solid	5035	
890-3448-3	PH02	Total/NA	Solid	5035	
890-3448-4	PH02	Total/NA	Solid	5035	
890-3448-5	PH03	Total/NA	Solid	5035	
890-3448-6	PH03	Total/NA	Solid	5035	
MB 880-39841/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39841/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39841/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3446-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3446-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 40174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3448-1	PH01	Total/NA	Solid	8021B	39841
890-3448-2	PH01	Total/NA	Solid	8021B	39841
890-3448-3	PH02	Total/NA	Solid	8021B	39841
890-3448-4	PH02	Total/NA	Solid	8021B	39841
890-3448-5	PH03	Total/NA	Solid	8021B	39841
890-3448-6	PH03	Total/NA	Solid	8021B	39841
MB 880-39841/5-A	Method Blank	Total/NA	Solid	8021B	39841
LCS 880-39841/1-A	Lab Control Sample	Total/NA	Solid	8021B	39841
LCSD 880-39841/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39841
890-3446-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	39841
890-3446-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	39841

Analysis Batch: 40321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3448-1	PH01	Total/NA	Solid	Total BTEX	
890-3448-2	PH01	Total/NA	Solid	Total BTEX	
890-3448-3	PH02	Total/NA	Solid	Total BTEX	
890-3448-4	PH02	Total/NA	Solid	Total BTEX	
890-3448-5	PH03	Total/NA	Solid	Total BTEX	
890-3448-6	PH03	Total/NA	Solid	Total BTEX	

**GC Semi VOA** 

Analysis Batch: 39567

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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3448-1	PH01	Total/NA	Solid	8015B NM	39620
890-3448-2	PH01	Total/NA	Solid	8015B NM	39620
890-3448-3	PH02	Total/NA	Solid	8015B NM	39620
890-3448-4	PH02	Total/NA	Solid	8015B NM	39620
890-3448-5	PH03	Total/NA	Solid	8015B NM	39620
890-3448-6	PH03	Total/NA	Solid	8015B NM	39620
MB 880-39620/1-A	Method Blank	Total/NA	Solid	8015B NM	39620
LCS 880-39620/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39620
LCSD 880-39620/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39620
890-3433-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	39620
890-3433-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39620

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# **QC Association Summary**

Client: Ensolum Job ID: 890-3448-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

GC Semi VOA

Prep Batch: 39620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3448-1	PH01	Total/NA	Solid	8015NM Prep	
890-3448-2	PH01	Total/NA	Solid	8015NM Prep	
890-3448-3	PH02	Total/NA	Solid	8015NM Prep	
890-3448-4	PH02	Total/NA	Solid	8015NM Prep	
890-3448-5	PH03	Total/NA	Solid	8015NM Prep	
890-3448-6	PH03	Total/NA	Solid	8015NM Prep	
MB 880-39620/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39620/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39620/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3433-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3433-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 39673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3448-1	PH01	Total/NA	Solid	8015 NM	
890-3448-2	PH01	Total/NA	Solid	8015 NM	
890-3448-3	PH02	Total/NA	Solid	8015 NM	
890-3448-4	PH02	Total/NA	Solid	8015 NM	
890-3448-5	PH03	Total/NA	Solid	8015 NM	
890-3448-6	PH03	Total/NA	Solid	8015 NM	

**HPLC/IC** 

Leach Batch: 39709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3448-1	PH01	Soluble	Solid	DI Leach	
890-3448-2	PH01	Soluble	Solid	DI Leach	
890-3448-3	PH02	Soluble	Solid	DI Leach	
890-3448-4	PH02	Soluble	Solid	DI Leach	
890-3448-5	PH03	Soluble	Solid	DI Leach	
890-3448-6	PH03	Soluble	Solid	DI Leach	
MB 880-39709/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39709/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39709/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3448-1 MS	PH01	Soluble	Solid	DI Leach	
890-3448-1 MSD	PH01	Soluble	Solid	DI Leach	

Analysis Batch: 40017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3448-1	PH01	Soluble	Solid	300.0	39709
890-3448-2	PH01	Soluble	Solid	300.0	39709
890-3448-3	PH02	Soluble	Solid	300.0	39709
890-3448-4	PH02	Soluble	Solid	300.0	39709
890-3448-5	PH03	Soluble	Solid	300.0	39709
890-3448-6	PH03	Soluble	Solid	300.0	39709
MB 880-39709/1-A	Method Blank	Soluble	Solid	300.0	39709
LCS 880-39709/2-A	Lab Control Sample	Soluble	Solid	300.0	39709
LCSD 880-39709/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39709
890-3448-1 MS	PH01	Soluble	Solid	300.0	39709
890-3448-1 MSD	PH01	Soluble	Solid	300.0	39709

#### Lab Chronicle

Job ID: 890-3448-1 Client: Ensolum Project/Site: RDX 9-1 SDG: Rural Eddy NM

Client Sample ID: PH01

Date Received: 11/14/22 08:13

Lab Sample ID: 890-3448-1 Date Collected: 11/11/22 10:10

Matrix: Solid

Batch Batch Dil Initial Final Batch Prepared Prep Type Method Amount Amount Number or Analyzed Analyst Type Run Factor Lab Total/NA Prep 5035 5.03 g 39841 11/17/22 15:04 MNR **EET MID** 5 mL Total/NA Analysis 8021B 1 5 mL 5 mL 40174 11/22/22 18:13 SM EET MID Total/NA Analysis Total BTEX 40321 11/23/22 13:25 SM **EET MID** Total/NA Analysis 8015 NM 1 39673 11/16/22 09:14 SM **EET MID** 10 mL 39620 EET MID Total/NA 8015NM Prep 10.00 g 11/15/22 13:35 DM Prep Total/NA Analysis 8015B NM 1 uL 1 uL 39567 11/15/22 23:26 ΑJ **EET MID** 50 mL 39709 11/16/22 10:46 KS Soluble DI Leach 4.97 g FFT MID Leach Soluble Analysis 300.0 50 mL 50 mL 40017 11/20/22 18:30 СН **EET MID** 

Client Sample ID: PH01 Lab Sample ID: 890-3448-2

Date Collected: 11/11/22 10:20 **Matrix: Solid** 

Date Received: 11/14/22 08:13

Dil Final Batch Batch Initial Batch Prepared Prep Type Method Amount Amount Number or Analyzed Type Run Factor **Analyst** Lab Total/NA Prep 5035 4.99 g 39841 11/17/22 15:04 MNR EET MID 5 mL 8021B Total/NA Analysis 1 5 mL 5 mL 40174 11/22/22 18:34 SM **EET MID** Total/NA Total BTEX 11/23/22 13:25 40321 SM FFT MID Analysis 1 Total/NA Analysis 8015 NM 39673 11/16/22 09:14 SM **EET MID** Total/NA 8015NM Prep 10.01 g 39620 11/15/22 13:35 DM FFT MID Prep 10 mL Total/NA Analysis 8015B NM 1 uL 39567 11/15/22 23:48 **EET MID** 1 uL AJ Soluble 4.98 g 39709 11/16/22 10:46 KS **EET MID** Leach DI Leach 50 mL Soluble 300.0 5 50 mL 50 mL 40017 11/20/22 18:47 СН **EET MID** Analysis

**Client Sample ID: PH02** Lab Sample ID: 890-3448-3

Date Collected: 11/11/22 10:30 Date Received: 11/14/22 08:13

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Prep 5035 5.01 g 5 mL 39841 11/17/22 15:04 MNR **EET MID** Total/NA 8021B 5 mL 5 mL 40174 11/22/22 18:54 SM **EET MID** Analysis 1 Total/NA Total BTFX 40321 11/23/22 13:25 SM Analysis FFT MID 1 Total/NA Analysis 8015 NM 39673 11/16/22 09:14 SM **EET MID** Total/NA Prep 8015NM Prep 10.02 g 10 ml 39620 11/15/22 13:35 DM FFT MID Total/NA 8015B NM 39567 11/16/22 00:10 Analysis 1 uL 1 uL A.I **EET MID** DI Leach 4.96 g 50 mL 39709 11/16/22 10:46 KS Soluble Leach **EET MID** 300.0 50 mL 50 mL 40017 11/20/22 18:52 СН Soluble Analysis EET MID

Client Sample ID: PH02 Lab Sample ID: 890-3448-4

Date Collected: 11/11/22 10:40 Date Received: 11/14/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	39841	11/17/22 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 19:15	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40321	11/23/22 13:25	SM	EET MID

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**Matrix: Solid** 

**Matrix: Solid** 

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#### Lab Chronicle

Client: Ensolum Job ID: 890-3448-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

**Client Sample ID: PH02** 

Date Received: 11/14/22 08:13

Lab Sample ID: 890-3448-4 Date Collected: 11/11/22 10:40

**Matrix: Solid** 

EET MID

СН

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA 8015 NM 39673 Analysis 11/16/22 09:14 SM **EET MID** Total/NA Prep 8015NM Prep 10.01 g 10 mL 39620 11/15/22 13:35 DM **EET MID** Total/NA Analysis 8015B NM 1 uL 1 uL 39567 11/16/22 00:32 AJ EET MID 5.03 g 50 mL Soluble 39709 11/16/22 10:46 KS EET MID Leach DI Leach 40017 11/20/22 19:09

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**Client Sample ID: PH03** Lab Sample ID: 890-3448-5

Date Collected: 11/11/22 10:50 **Matrix: Solid** 

50 mL

50 mL

Date Received: 11/14/22 08:13

Analysis

300.0

Soluble

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	39841	11/17/22 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 19:35	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40321	11/23/22 13:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			39673	11/16/22 09:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	39620	11/15/22 13:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39567	11/16/22 01:38	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	39709	11/16/22 10:46	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40017	11/20/22 19:15	CH	EET MID

**Client Sample ID: PH03** Lab Sample ID: 890-3448-6 Date Collected: 11/11/22 11:00 **Matrix: Solid** 

Date Received: 11/14/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	39841	11/17/22 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 19:55	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40321	11/23/22 13:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			39673	11/16/22 09:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	39620	11/15/22 13:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39567	11/16/22 00:54	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	39709	11/16/22 10:46	KS	EET MIC
Soluble	Analysis	300.0		1	50 mL	50 mL	40017	11/20/22 19:21	CH	EET MID

**Laboratory References:** 

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

# **Accreditation/Certification Summary**

Client: Ensolum
Project/Site: RDX 9-1
Job ID: 890-3448-1
SDG: Rural Eddy NM

#### **Laboratory: Eurofins Midland**

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

Authority	Pr	ogram	Identification Number	<b>Expiration Date</b>
Texas	NELAP		T104704400-22-24	06-30-23
The following analytes	are included in this report by	it the leberatory is not cortifi	ed by the governing authority. This list ma	arrimalizada amaliztaa farr
the agency does not of	• •	it the laboratory is not certifi	ed by the governing authority. This list his	ay include arialytes for
0 ,	• •	Matrix	Analyte	ay include analytes for
the agency does not of	fer certification.	•	, , ,	ay include analytes for

# **Method Summary**

Client: Ensolum Job ID: 890-3448-1 Project/Site: RDX 9-1

SDG: Rural Eddy NM

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

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

# **Sample Summary**

Client: Ensolum Project/Site: RDX 9-1 Job ID: 890-3448-1

SDG: Rural Eddy NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3448-1	PH01	Solid	11/11/22 10:10	11/14/22 08:13	0.5
890-3448-2	PH01	Solid	11/11/22 10:20	11/14/22 08:13	3
890-3448-3	PH02	Solid	11/11/22 10:30	11/14/22 08:13	0.5
890-3448-4	PH02	Solid	11/11/22 10:40	11/14/22 08:13	3
890-3448-5	PH03	Solid	11/11/22 10:50	11/14/22 08:13	0.5
890-3448-6	PH03	Solid	11/11/22 11:00	11/14/22 08:13	3

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# Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300

Manager:   Joseph Hernandez   Sall to: (if different)				2/X	14,02 817	11-14			R Z	()		- Ky B
ownfields   RRC   TRRP   TRRP   Other:  Preservath None: NO Cool: Cool H2SO4: H2 H3PO4: HP NaHSO4: NABIS Na <sub>2</sub> S2O <sub>3</sub> : NASO <sub>3</sub> Zn Acetate+NaOh NaOH+Ascorbic A Sample Co Sample Co Incide nAB1728 Na Sr TI Sn U \ Na Sr TI Sn U \ Na St 1/245.1/7470 / 7	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	9	ate/Tim	0		: (Signature)	Received by		/: (Signature)	Relinquished by
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Manager   Joseph Hernandez	170 / 7471	TI U Hg: 1631 / 245.1 / 74	Cr Co Cu Pb Mn Mo Ni Se Ag	3a Be Cd	b As E	RA S	010: 8RC	CLP / SPLP (	d T	analyze	nd Metal(s) to b	Circle Method(s) a
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			k. TX (806) 794-1296	443, Lubbock	15) 585-3	o, TX (91	EL Pas			nco	X	
Xenco EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296		Work Order No:	Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334	IO, San Anton	704-544	TX (432)	Midland,	Se Se	nent lesting	FUALLOULIEUT	Į1	

Revised Date: 08/25/2020 Rev. 2020.2

## **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3448-1

SDG Number: Rural Eddy NM

List Source: Eurofins Carlsbad

Login Number: 3448 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.	N/A	Refer to Job Narrative for details.
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	

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### **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3448-1

SDG Number: Rural Eddy NM

SDG Number. Rural Eddy Nivi

List Source: Eurofins Midland List Creation: 11/15/22 11:14 AM

Login Number: 3448 List Number: 2 Creator: Rodriguez, Leticia

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	

N/A

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<6mm (1/4").

Containers requiring zero headspace have no headspace or bubble is

# **Eurofins Carlsbad**

# **Job Notes**

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

# **Authorization**

Generated

Authorized for release by Jessica Kramer, Project Manager Jessica.Kramer@et.eurofinsus.com (432)704-5440

11/23/2022 1:44:18 PM

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Devon Team Ensolum 705 W. Wadley Suite 210 Midland Texas 79701

Generated 11/23/2022 1:43:45 PM

# **JOB DESCRIPTION**

RDX 9-1 SDG NUMBER 03A1987060

# **JOB NUMBER**

890-3447-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220



Client: Ensolum
Project/Site: RDX 9-1
Laboratory Job ID: 890-3447-1
SDG: 03A1987060

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## **Definitions/Glossary**

Job ID: 890-3447-1 Client: Ensolum Project/Site: RDX 9-1 SDG: 03A1987060

#### **Qualifiers**

**GC VOA** 

Qualifier **Qualifier Description** LCS and/or LCSD is outside acceptance limits, low 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** 

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 Percent Recovery %R 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" Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

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)

Reporting Limit or Requested Limit (Radiochemistry) RL

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
 Job ID: 890-3447-1

 Project/Site: RDX 9-1
 SDG: 03A1987060

Job ID: 890-3447-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3447-1

#### Receipt

The samples were received on 11/14/2022~8:13~AM. 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  $5.4^{\circ}C$ 

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: PH04 (890-3447-1), PH04 (890-3447-2), PH05 (890-3447-3), PH05 (890-3447-4), PH06 (890-3447-5), PH06 (890-3447-6), PH07 (890-3447-7), PH07 (890-3447-8), PH08 (890-3447-9) and PH08 (890-3447-10).

#### **GC VOA**

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-39841 and analytical batch 880-40174 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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: Surrogate recovery for the following samples were outside control limits: (LCS 880-39729/2-A) and (LCSD 880-39729/3-A). Evidence of matrix interferences is not obvious.

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.

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Matrix: Solid

Lab Sample ID: 890-3447-1

# **Client Sample Results**

Client: Ensolum Job ID: 890-3447-1 Project/Site: RDX 9-1 SDG: 03A1987060

**Client Sample ID: PH04** 

Date Collected: 11/11/22 11:10 Date Received: 11/14/22 08:13

Sample Depth: 0.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *-	0.00199		mg/Kg		11/17/22 15:04	11/22/22 12:53	1
Toluene	< 0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 12:53	1
Ethylbenzene	< 0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 12:53	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 12:53	1
o-Xylene	< 0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 12:53	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 12:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130				11/17/22 15:04	11/22/22 12:53	1
1,4-Difluorobenzene (Surr)	112		70 - 130				11/17/22 15:04	11/22/22 12:53	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/23/22 13:25	1
Method: SW846 8015 NM - Diese									
Analyte	Result	Qualifier	•	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte Total TPH		Qualifier U	RL 49.9	MDL	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 11/21/22 11:32	Dil Fac
Total TPH	<49.9	U	RL 49.9	MDL		<u>D</u>	Prepared		Dil Fac
Total TPH  Method: SW846 8015B NM - Dies	<49.9	U	RL 49.9			<u>D</u>	Prepared Prepared		1
Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	<49.9	Unics (DRO)	RL 49.9 (GC)		mg/Kg			11/21/22 11:32	1
Total TPH  Method: SW846 8015B NM - Dies Analyte  Gasoline Range Organics (GRO)-C6-C10	<49.9 sel Range Orga Result	Unics (DRO) Qualifier	(GC)		mg/Kg		Prepared	11/21/22 11:32 Analyzed	Dil Fac
Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<49.9  sel Range Orga Result <49.9 <49.9	nics (DRO) Qualifier U	RL 49.9  (GC)  RL 49.9  49.9		mg/Kg  Unit mg/Kg  mg/Kg		Prepared 11/16/22 13:44 11/16/22 13:44	Analyzed 11/20/22 15:21 11/20/22 15:21	Dil Fac
Total TPH  Method: SW846 8015B NM - Dies Analyte  Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<49.9 sel Range Orga Result <49.9	nics (DRO) Qualifier U	(GC) RL 49.9		mg/Kg  Unit mg/Kg		Prepared 11/16/22 13:44	11/21/22 11:32  Analyzed  11/20/22 15:21	Dil Fac
Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	<49.9 sel Range Orga Result <49.9 <49.9 <49.9 %Recovery	Oualifier U U	RL 49.9  (GC)  RL 49.9  49.9  49.9  Limits		mg/Kg  Unit mg/Kg  mg/Kg		Prepared 11/16/22 13:44 11/16/22 13:44 11/16/22 13:44 Prepared	Analyzed 11/20/22 15:21 11/20/22 15:21 11/20/22 15:21 Analyzed	Dil Face  1  Dil Face 1  1  Dil Face 1  1  Dil Face 1
Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<49.9  sel Range Orga Result <49.9 <49.9 <49.9	Oualifier U U	RL 49.9  (GC) RL 49.9  49.9  49.9		mg/Kg  Unit mg/Kg  mg/Kg		Prepared 11/16/22 13:44 11/16/22 13:44 11/16/22 13:44	Analyzed 11/20/22 15:21 11/20/22 15:21 11/20/22 15:21	Dil Face 1 1 1 Dil Face
Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	<49.9 sel Range Orga Result <49.9 <49.9 <49.9 %Recovery	Oualifier U U	RL 49.9  (GC)  RL 49.9  49.9  49.9  Limits		mg/Kg  Unit mg/Kg  mg/Kg		Prepared 11/16/22 13:44 11/16/22 13:44 11/16/22 13:44 Prepared	Analyzed 11/20/22 15:21 11/20/22 15:21 11/20/22 15:21 Analyzed	Dil Fac
Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	<49.9 sel Range Orga Result <49.9 <49.9 <49.9  **Recovery 91 104	Oualifier U  Qualifier U  Qualifier	RL 49.9  (GC)  RL 49.9  49.9  49.9  Limits  70 - 130  70 - 130		mg/Kg  Unit mg/Kg  mg/Kg		Prepared 11/16/22 13:44 11/16/22 13:44 11/16/22 13:44  Prepared 11/16/22 13:44	Analyzed 11/20/22 15:21 11/20/22 15:21 11/20/22 15:21 Analyzed 11/20/22 15:21	1 Dil Fac
Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	sel Range Orga Result <49.9 <49.9 <49.9 %Recovery 91 104 s, Ion Chromato	Oualifier U  Qualifier U  Qualifier	RL 49.9  (GC)  RL 49.9  49.9  49.9  Limits  70 - 130  70 - 130	MDL	mg/Kg  Unit mg/Kg  mg/Kg		Prepared 11/16/22 13:44 11/16/22 13:44 11/16/22 13:44  Prepared 11/16/22 13:44	Analyzed 11/20/22 15:21 11/20/22 15:21 11/20/22 15:21 Analyzed 11/20/22 15:21	Dil Fac

Client Sample ID: PH04

Date Collected: 11/11/22 11:20 Date Received: 11/14/22 08:13

Sample Depth: 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U *-	0.00202		mg/Kg		11/17/22 15:04	11/22/22 13:13	1
Toluene	<0.00202	U	0.00202		mg/Kg		11/17/22 15:04	11/22/22 13:13	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		11/17/22 15:04	11/22/22 13:13	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		11/17/22 15:04	11/22/22 13:13	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		11/17/22 15:04	11/22/22 13:13	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		11/17/22 15:04	11/22/22 13:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130				11/17/22 15:04	11/22/22 13:13	1

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Lab Sample ID: 890-3447-2

Matrix: Solid

Matrix: Solid

# **Client Sample Results**

 Client: Ensolum
 Job ID: 890-3447-1

 Project/Site: RDX 9-1
 SDG: 03A1987060

Client Sample ID: PH04 Lab Sample ID: 890-3447-2

Date Collected: 11/11/22 11:20 Date Received: 11/14/22 08:13

Sample Depth: 1

Method: SW846 8021B - Volatile Organic	Compounds (GC) (Continued)
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Surrogate	%Recovery Qual	lifier Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	111	70 - 130	11/17/22 15:04	11/22/22 13:13	1

Method: TAL SOP	Total RTFX - Total	RTFX Calculation
Mictiliou. IAL OOI	TOTAL DIEX - TOTAL	DIEA Galcalation

Analyte		Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Ko	<u> </u>		11/23/22 13:25	1

Mothod: CIMOAC	8015 NM - Diesel	Dongo Organico	(DDO) (CC)
i weliiou. Swo46	ou io ivivi - Diesei	Range Organics	(DRO) (GC)

Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/21/22 11:32	1

	Mothod: SW046 904ED NM Diocol Dan	go Organico (DBO) (CC)	v
ı	Method: SW846 8015B NM - Diesel Ran	ge 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		11/16/22 13:44	11/20/22 15:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/16/22 13:44	11/20/22 15:42	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/16/22 13:44	11/20/22 15:42	1
0	0/ 8	O!!!!	1 : : 4 -				D	A I I	D# F

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	11/16/22 13:44	11/20/22 15:42	1
o-Terphenyl	94		70 - 130	11/16/22 13:44	11/20/22 15:42	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.7		4.96		mg/Kg			11/20/22 17:28	1

Client Sample ID: PH05 Lab Sample ID: 890-3447-3

Date Collected: 11/11/22 11:30 Date Received: 11/14/22 08:13

Sample Depth: 0.5

Method:	· SW846 8021	B - Volatile	Organic Co	mpounds (GC)

mothod. Offoro COLID Tolat	mothod. 611040 0021B Volume Originia Compounds (66)												
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac				
Benzene	<0.00200	U *-	0.00200		mg/Kg		11/17/22 15:04	11/22/22 13:34	1				
Toluene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 13:34	1				
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 13:34	1				
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/17/22 15:04	11/22/22 13:34	1				
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 13:34	1				
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/17/22 15:04	11/22/22 13:34	1				
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac				
4-Bromofluorobenzene (Surr)	94		70 - 130				11/17/22 15:04	11/22/22 13:34	1				
1.4 Diffuorobenzene (Surr)	108		70 130				11/17/22 15:04	11/22/22 12:24	1				

4-Diomondocizene (Sun)	34	70 - 130	11/11/22 13.04	11/22/22 13.34	,
1,4-Difluorobenzene (Surr)	108	70 - 130	11/17/22 15:04	11/22/22 13:34	1

#### Method: TAL SOP 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			11/23/22 13:25	1

Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/K			11/21/22 11:32	1

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Matrix: Solid

Job ID: 890-3447-1

Client: Ensolum Project/Site: RDX 9-1 SDG: 03A1987060

**Client Sample ID: PH05** Lab Sample ID: 890-3447-3

182

Date Collected: 11/11/22 11:30 Matrix: Solid Date Received: 11/14/22 08:13

Sample Depth: 0.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/16/22 13:44	11/20/22 16:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/16/22 13:44	11/20/22 16:04	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/16/22 13:44	11/20/22 16:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130				11/16/22 13:44	11/20/22 16:04	1
o-Terphenyl	96		70 - 130				11/16/22 13:44	11/20/22 16:04	1

**Client Sample ID: PH05** Lab Sample ID: 890-3447-4 Date Collected: 11/11/22 11:40 Matrix: Solid

5.00

mg/Kg

Date Received: 11/14/22 08:13

Sample Depth: 1

Chloride

	<b>Organic Comp</b>								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00199	U *-	0.00199		mg/Kg		11/17/22 15:04	11/22/22 13:54	
Toluene	<0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 13:54	
Ethylbenzene	< 0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 13:54	,
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 13:54	1
o-Xylene	< 0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 13:54	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 13:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130				11/17/22 15:04	11/22/22 13:54	1
1,4-Difluorobenzene (Surr)	114		70 - 130				11/17/22 15:04	11/22/22 13:54	1
Method: TAL SOP Total BTEX - T	otal BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/23/22 13:25	1
: Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)	MDI			Drawarad		
Method: SW846 8015 NM - Diese Analyte	Range Organ	ics (DRO) (	GC)	MDL	Unit	D	Prepared	Analyzed	Dil Fac
: Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)	MDL		D	Prepared		Dil Fac
Method: SW846 8015 NM - Diese Analyte	Range Organ Result <50.0	ics (DRO) ( Qualifier	GC) RL 50.0	MDL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH	Range Organ Result <50.0 sel Range Organ	ics (DRO) ( Qualifier	GC) RL 50.0		Unit	D	Prepared Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies	Range Organ Result <50.0 sel Range Organ	Qualifier Unics (DRO) Qualifier	GC)  RL  50.0		Unit mg/Kg			Analyzed 11/21/22 11:32	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Range Organ Result <50.0 sel Range Organ Result	ics (DRO) ( Qualifier U  nics (DRO) Qualifier U	GC)  RL  50.0		Unit mg/Kg		Prepared	Analyzed 11/21/22 11:32 Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10	Result sel Range Organ Result <50.0 sel Range Organ Result <50.0	ics (DRO) ( Qualifier U  nics (DRO) Qualifier U	GC)  RL  50.0  (GC)  RL  50.0		Unit mg/Kg  Unit mg/Kg		Prepared 11/16/22 13:44	Analyzed  11/21/22 11:32  Analyzed  11/20/22 16:25	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result sel Range Organ Result <50.0 sel Range Organ Result <50.0 <50.0	ics (DRO) ( Qualifier U  nics (DRO) Qualifier U  U	GC)  RL  50.0  (GC)  RL  50.0  50.0		Unit mg/Kg  Unit mg/Kg mg/Kg		Prepared 11/16/22 13:44 11/16/22 13:44	Analyzed 11/21/22 11:32  Analyzed 11/20/22 16:25 11/20/22 16:25	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	sel Range Organ Result <50.0 sel Range Orga Result <50.0 <50.0 <50.0	ics (DRO) ( Qualifier U  nics (DRO) Qualifier U  U	GC) RL 50.0  (GC) RL 50.0  50.0  50.0		Unit mg/Kg  Unit mg/Kg mg/Kg		Prepared 11/16/22 13:44 11/16/22 13:44 11/16/22 13:44	Analyzed 11/21/22 11:32  Analyzed 11/20/22 16:25 11/20/22 16:25 11/20/22 16:25	·

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11/20/22 17:33

Matrix: Solid

Matrix: Solid

Lab Sample ID: 890-3447-4

# **Client Sample Results**

Client: Ensolum Job ID: 890-3447-1 Project/Site: RDX 9-1 SDG: 03A1987060

**Client Sample ID: PH05** 

Date Collected: 11/11/22 11:40 Date Received: 11/14/22 08:13

Sample Depth: 1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	207		5.03		mg/Kg			11/20/22 17:39	1	

**Client Sample ID: PH06** Lab Sample ID: 890-3447-5

Date Collected: 11/11/22 11:50 Date Received: 11/14/22 08:13

Method: SW846 8021B - Volatile	<b>Organic Comp</b>	ounds (GC)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00199	U *-	0.00199		mg/Kg		11/17/22 15:04	11/22/22 14:14	
Toluene	<0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 14:14	
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 14:14	
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 14:14	
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 14:14	
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 14:14	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	93		70 - 130				11/17/22 15:04	11/22/22 14:14	
1,4-Difluorobenzene (Surr)	112		70 - 130				11/17/22 15:04	11/22/22 14:14	
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/23/22 13:25	
Analyte Total TPH		Qualifier U	<b>RL</b> 49.9	MDL	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 11/21/22 11:32	Dil Fa
• •					99				
Method: SW846 8015B NM - Dies Analyte		Qualifier	(GC) RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/16/22 13:44	11/20/22 16:48	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/16/22 13:44	11/20/22 16:48	
					mg/Kg		11/16/22 13:44	11/20/22 16:48	
*	<49.9	U	49.9		mg/rtg				
Oll Range Organics (Over C28-C36)	<49.9 <b>%Recovery</b>		49.9Limits		mg/rtg		Prepared	Analyzed	Dil Fa
Oll Range Organics (Over C28-C36)  Surrogate					mg/kg		Prepared 11/16/22 13:44	Analyzed 11/20/22 16:48	
Oll Range Organics (Over C28-C36)  Surrogate  1-Chlorooctane	%Recovery		Limits		gr.vg				
Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl  Method: MCAWW 300.0 - Anions	%Recovery 74 83	Qualifier	Limits 70 - 130 70 - 130		g/Ng		11/16/22 13:44	11/20/22 16:48	
Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	%Recovery 74 83	Qualifier	Limits 70 - 130 70 - 130	MDL	Unit	D	11/16/22 13:44	11/20/22 16:48	Dil Fa

Job ID: 890-3447-1

Client: Ensolum Project/Site: RDX 9-1 SDG: 03A1987060

**Client Sample ID: PH06** Lab Sample ID: 890-3447-6 Matrix: Solid

Date Collected: 11/11/22 12:00 Date Received: 11/14/22 08:13

Sample Depth: 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *-	0.00201		mg/Kg		11/17/22 15:04	11/22/22 14:35	
Toluene	<0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 14:35	
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 14:35	
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/17/22 15:04	11/22/22 14:35	
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 14:35	
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/17/22 15:04	11/22/22 14:35	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	96		70 - 130				11/17/22 15:04	11/22/22 14:35	
1,4-Difluorobenzene (Surr)	103		70 - 130				11/17/22 15:04	11/22/22 14:35	
Method: TAL SOP Total BTEX - 1	otal BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/23/22 13:25	•
Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)						
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/21/22 11:32	
- Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/16/22 13:44	11/20/22 17:10	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/16/22 13:44	11/20/22 17:10	•
Oll Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/16/22 13:44	11/20/22 17:10	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1-Chlorooctane	94		70 - 130				11/16/22 13:44	11/20/22 17:10	
o-Terphenyl	105		70 - 130				11/16/22 13:44	11/20/22 17:10	
Method: MCAWW 300.0 - Anions	, Ion Chromato	ography - So	oluble						

5.02 **Client Sample ID: PH07** Lab Sample ID: 890-3447-7

12.3

mg/Kg

Date Collected: 11/11/22 12:10 Date Received: 11/14/22 08:13

Sample Depth: 0.5

Chloride

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *-	0.00200		mg/Kg		11/17/22 15:04	11/22/22 14:55	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 14:55	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 14:55	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/17/22 15:04	11/22/22 14:55	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 14:55	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/17/22 15:04	11/22/22 14:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130				11/17/22 15:04	11/22/22 14:55	

**Eurofins Carlsbad** 

11/20/22 18:01

**Matrix: Solid** 

Matrix: Solid

Lab Sample ID: 890-3447-7

# **Client Sample Results**

Client: Ensolum Job ID: 890-3447-1 Project/Site: RDX 9-1 SDG: 03A1987060

**Client Sample ID: PH07** 

Date Collected: 11/11/22 12:10 Date Received: 11/14/22 08:13

Sample Depth: 0.5

Method: SW846 8021B -	<b>Volatile Organic</b>	Compounds (	GC)	(Continued)	

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	106	70 - 130	11/17/22 15:04	11/22/22 14:55	1

Method: TAL SOP	Total RTFX - Total	RTFX Calculation
Mictiliou. IAL OOI	TOTAL DIEX - TOTAL	DIEA Galcalation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/23/22 13:25	1

Method: SW846	2015 NM - Diacal	Pango Organice	(DRO) (GC)
INICIIIOU. OTTOTO	OO I O I TINI - DIESEI	Ivalige Organics	(DIXO) (OO)

Analyte	Result Quali	ifier RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0 U	50.0	mg/Kg			11/21/22 11:32	1

Method: SW846 8015B NM - Diesel Range Organics	(DRO)	(GC)	١
motified. Offerto College Ithin Biodol Rungo Organico	(5.10)	, , , , ,	,

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/16/22 13:44	11/20/22 17:31	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/16/22 13:44	11/20/22 17:31	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/16/22 13:44	11/20/22 17:31	1
Surrogate	%Recovery	Qualifier	l imits				Prenared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	11/16/22 13:44	11/20/22 17:31	1
o-Terphenyl	109		70 - 130	11/16/22 13:44	11/20/22 17:31	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15.5		4.98		mg/Kg			11/20/22 18:07	1

Lab Sample ID: 890-3447-8 **Client Sample ID: PH07** 

Date Collected: 11/11/22 12:20 Date Received: 11/14/22 08:13

Sample Depth: 1

Mothodi CIMO46 0004D	Valatila Organia Campaunda (CC)

Welliou. Syvo40 002 ID - Volat	ne Organic Comp	ounus (GC	)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *-	0.00201		mg/Kg		11/17/22 15:04	11/22/22 15:16	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 15:16	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 15:16	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/17/22 15:04	11/22/22 15:16	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 15:16	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/17/22 15:04	11/22/22 15:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130				11/17/22 15:04	11/22/22 15:16	1
1 4-Difluorobenzene (Surr)	106		70 130				11/17/22 15:04	11/22/22 15:16	1

Mothod: TAI	SOP Total RTFY	- Total RTFY	Calculation

Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00402	U	0.00402	ma/Ka			11/23/22 13:25	1

Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/21/22 11:32	1

**Eurofins Carlsbad** 

Matrix: Solid

Matrix: Solid

Lab Sample ID: 890-3447-8

Job ID: 890-3447-1 SDG: 03A1987060

**Client Sample ID: PH07** 

Date Collected: 11/11/22 12:20 Date Received: 11/14/22 08:13

Sample Depth: 1

Client: Ensolum

Project/Site: RDX 9-1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/16/22 13:44	11/20/22 17:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/16/22 13:44	11/20/22 17:52	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/16/22 13:44	11/20/22 17:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130				11/16/22 13:44	11/20/22 17:52	1
o-Terphenyl	106		70 - 130				11/16/22 13:44	11/20/22 17:52	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble										
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Chloride	15.4		4.97		mg/Kg			11/20/22 18:13	1

Lab Sample ID: 890-3447-9 **Client Sample ID: PH08** Matrix: Solid

Date Collected: 11/11/22 12:30 Date Received: 11/14/22 08:13

Sample Depth: 0.5									
Method: SW846 8021B - Volatile	Organic Comp	ounds (GC	)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *-	0.00200		mg/Kg		11/17/22 15:04	11/22/22 17:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 17:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 17:05	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/17/22 15:04	11/22/22 17:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 17:05	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/17/22 15:04	11/22/22 17:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		70 - 130				11/17/22 15:04	11/22/22 17:05	1
1,4-Difluorobenzene (Surr)	107		70 - 130				11/17/22 15:04	11/22/22 17:05	1
Method: TAL SOP Total BTEX -	Total BTEX Cal	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/23/22 13:25	1
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/21/22 11:32	1
Method: SW846 8015B NM - Die	sel Range Orga	nics (DRO)	(GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

-0.00000	Ü	0.00000		mg/rtg			11/20/22 10:20	
Range Organ	ics (DRO) (	GC)						
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<50.0	U	50.0		mg/Kg			11/21/22 11:32	1
l Range Orga	nics (DRO)	(GC)						
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<50.0	U	50.0		mg/Kg		11/16/22 13:44	11/20/22 18:14	1
<50.0	U	50.0		mg/Kg		11/16/22 13:44	11/20/22 18:14	1
<50.0	U	50.0		mg/Kg		11/16/22 13:44	11/20/22 18:14	1
%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
95		70 - 130				11/16/22 13:44	11/20/22 18:14	1
108		70 <sub>-</sub> 130				11/16/22 13:44	11/20/22 18:14	1
	Range Organ Result <50.0 I Range Orga Result <50.0 <50.0 <50.0  %Recovery 95	Range Organics (DRO) (  Result Qualifier  <50.0 U  Result Qualifier  U  I Range Organics (DRO)  Result Qualifier  <50.0 U  <50.0 U  <80.0 U  %Recovery Qualifier  95	Range Organics (DRO) (GC)   Result   Qualifier   RL	Range Organics (DRO) (GC)   Result   Qualifier   RL     MDL	Range Organics (DRO) (GC)   Result   Qualifier   RL   MDL   Unit   mg/Kg	Range Organics (DRO) (GC)   Result   Qualifier   RL   MDL   Unit   mg/Kg	Range Organics (DRO) (GC)   Result   Qualifier   RL   MDL   Unit   mg/Kg   D   Prepared	Range Organics (DRO) (GC)  Result Qualifier RL MDL Unit D Prepared 11/21/22 11:32  I Range Organics (DRO) (GC)  Result Qualifier RL MDL Unit D Prepared Analyzed 11/21/22 11:32  I Range Organics (DRO) (GC)  Result Qualifier RL MDL Unit D Prepared Analyzed 11/16/22 13:44 11/20/22 18:14  <

Job ID: 890-3447-1

Client: Ensolum Project/Site: RDX 9-1 SDG: 03A1987060

**Client Sample ID: PH08** Lab Sample ID: 890-3447-9

Date Collected: 11/11/22 12:30 Matrix: Solid Date Received: 11/14/22 08:13

Sample Depth: 0.5

Method: MCAWW 300.0 - Anions, le	on Chromato	graphy - So	luble						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13.6		5.01		mg/Kg			11/20/22 18:18	1

**Client Sample ID: PH08** Lab Sample ID: 890-3447-10 Matrix: Solid

Date Collected: 11/11/22 12:40 Date Received: 11/14/22 08:13

Sample Depth: 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00199	U *-	0.00199		mg/Kg		11/17/22 15:04	11/22/22 17:26	
Toluene	< 0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 17:26	1
Ethylbenzene	< 0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 17:26	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 17:26	1
o-Xylene	< 0.00199	U	0.00199		mg/Kg		11/17/22 15:04	11/22/22 17:26	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/17/22 15:04	11/22/22 17:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130				11/17/22 15:04	11/22/22 17:26	1
1,4-Difluorobenzene (Surr)	114		70 - 130				11/17/22 15:04	11/22/22 17:26	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/23/22 13:25	1
Method: SW846 8015 NM - Diese	•		•			_			
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/21/22 11:32	1
Method: SW846 8015B NM - Dies			• •						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/16/22 13:44	11/20/22 18:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/16/22 13:44	11/20/22 18:35	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/16/22 13:44	11/20/22 18:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130				11/16/22 13:44	11/20/22 18:35	1
o-Terphenyl	110		70 - 130				11/16/22 13:44	11/20/22 18:35	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	graphy - So	oluble						
Method: MCAWW 300.0 - Anions Analyte	•	graphy - So Qualifier	oluble RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

# **Surrogate Summary**

Client: Ensolum Job ID: 890-3447-1 Project/Site: RDX 9-1 SDG: 03A1987060

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

-				Percent Surrogate Re
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3446-A-1-D MS	Matrix Spike	101	107	
890-3446-A-1-E MSD	Matrix Spike Duplicate	98	109	
890-3447-1	PH04	91	112	
890-3447-2	PH04	90	111	
890-3447-3	PH05	94	108	
890-3447-4	PH05	91	114	
890-3447-5	PH06	93	112	
890-3447-6	PH06	96	103	
890-3447-7	PH07	94	106	
890-3447-8	PH07	97	106	
890-3447-9	PH08	82	107	
890-3447-10	PH08	94	114	
LCS 880-39841/1-A	Lab Control Sample	87	100	
LCSD 880-39841/2-A	Lab Control Sample Dup	89	101	
MB 880-39841/5-A	Method Blank	79	97	
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

iuti ixi oonu				
-				Percent Surrogate Recovery (Acceptance Limits)
		1001	OTPH1	
_ab Sample ID	Client Sample ID	(70-130)	(70-130)	
80-21513-A-1-D MS	Matrix Spike	78	78	
0-21513-A-1-E MSD	Matrix Spike Duplicate	77	76	
)-3447-1	PH04	91	104	
)-3447-2	PH04	83	94	
0-3447-3	PH05	85	96	
90-3447-4	PH05	90	104	
90-3447-5	PH06	74	83	
90-3447-6	PH06	94	105	
0-3447-7	PH07	97	109	
0-3447-8	PH07	91	106	
0-3447-9	PH08	95	108	
0-3447-10	PH08	95	110	
S 880-39729/2-A	Lab Control Sample	168 S1+	196 S1+	
CSD 880-39729/3-A	Lab Control Sample Dup	158 S1+	181 S1+	
1B 880-39729/1-A	Method Blank	97	114	
Cumanata Lanand				
Surrogate Legend  1CO = 1-Chlorooctane				
OTPH = o-Terphenyl				

## QC Sample Results

Client: Ensolum Job ID: 890-3447-1 SDG: 03A1987060 Project/Site: RDX 9-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39841/5-A

**Matrix: Solid** Analysis Batch: 40174 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 39841

	IVID	IVID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/17/22 15:04	11/22/22 11:43	1

MB MB

MD MD

Surrogate	%Recovery	Qualifier	Limits	Prepa	red	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130	11/17/22	15:04	11/22/22 11:43	1
1,4-Difluorobenzene (Surr)	97		70 - 130	11/17/22	15:04	11/22/22 11:43	1

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 880-39841/1-A **Matrix: Solid** 

Analysis Batch: 40174

Prep Type: Total/NA Prep Batch: 39841

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.06882	*-	mg/Kg		69	70 - 130	
Toluene	0.100	0.08552		mg/Kg		86	70 - 130	
Ethylbenzene	0.100	0.08348		mg/Kg		83	70 - 130	
m-Xylene & p-Xylene	0.200	0.1521		mg/Kg		76	70 - 130	
o-Xylene	0.100	0.07434		mg/Kg		74	70 - 130	

LCS LCS

Surrogate	%Recovery Qua	lifier Limits
4-Bromofluorobenzene (Surr)	87	70 - 130
1,4-Difluorobenzene (Surr)	100	70 - 130

Lab Sample ID: LCSD 880-39841/2-A

**Matrix: Solid** 

Analysis Batch: 40174

Client Sample ID: Lab Control Sample Dup	Client Sam	ple ID: Lab	<b>Control San</b>	nple Dup
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Prep Type: Total/NA

Prep Batch: 39841

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.07231		mg/Kg		72	70 - 130	5	35
Toluene	0.100	0.08620		mg/Kg		86	70 - 130	1	35
Ethylbenzene	0.100	0.08808		mg/Kg		88	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.1599		mg/Kg		80	70 - 130	5	35
o-Xylene	0.100	0.07844		mg/Kg		78	70 - 130	5	35

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	89	70 - 130
1,4-Difluorobenzene (Surr)	101	70 - 130

Lab Sample ID: 890-3446-A-1-D MS

**Matrix: Solid** 

Analysis Batch: 40174

Client Sample ID: Matrix Spike Prep Type: Total/NA

Prep Batch: 39841

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 70 - 130 <0.00201 U \*-0.0996 87 Benzene 0.08639 mg/Kg Toluene <0.00201 U 0.0996 0.1074 mg/Kg 108 70 - 130

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 39841

## QC Sample Results

Client: Ensolum Job ID: 890-3447-1 Project/Site: RDX 9-1 SDG: 03A1987060

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

Lab Sample ID: 890-3446-A-1-D MS Client Sample ID: Matrix Spike

**Matrix: Solid** Analysis Batch: 40174

	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Ethylbenzene	<0.00201	U	0.0996	0.1063		mg/Kg		107	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1903		mg/Kg		95	70 - 130
o-Xylene	<0.00201	U	0.0996	0.09294		mg/Kg		93	70 - 130

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	101	70 - 130
1,4-Difluorobenzene (Surr)	107	70 - 130

Lab Sample ID: 890-3446-A-1-E MSD

**Matrix: Solid** 

Analysis Batch: 40174									Prep	Batch:	39841
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00201	U *-	0.0990	0.08751		mg/Kg		88	70 - 130	1	35
Toluene	<0.00201	U	0.0990	0.1051		mg/Kg		106	70 - 130	2	35
Ethylbenzene	<0.00201	U	0.0990	0.1021		mg/Kg		103	70 - 130	4	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1827		mg/Kg		92	70 - 130	4	35
o-Xylene	<0.00201	U	0.0990	0.08849		mg/Kg		89	70 - 130	5	35

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

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

Lab Sample ID: MB 880-39729/1-A

**Matrix: Solid** 

Analysis Batch: 39986

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39729

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Matrix Spike Duplicate

MB MB Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac <50.0 U 50.0 11/20/22 08:00 Gasoline Range Organics 11/16/22 13:44 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 50.0 11/20/22 08:00 <50.0 U 11/16/22 13:44 mg/Kg C10-C28) Oll Range Organics (Over C28-C36) <50.0 U 50.0 11/16/22 13:44 11/20/22 08:00 mg/Kg

MB MB

Surrogate	%Recovery	Qualifier	Limits	Pi	repared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	11/1	6/22 13:44	11/20/22 08:00	1
o-Terphenyl	114		70 - 130	11/10	6/22 13:44	11/20/22 08:00	1

Lab Sample ID: LCS 880-39729/2-A

Matrix: Solid

Matrix: Solid							Prep T	ype: Total/NA
Analysis Batch: 39986							Prep	Batch: 39729
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	826.9		mg/Kg		83	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	983.8		mg/Kg		98	70 - 130	
C10-C28)								

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## QC Sample Results

Job ID: 890-3447-1 Client: Ensolum Project/Site: RDX 9-1 SDG: 03A1987060

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

Lab Sample ID: LCS 880-39729/2-A **Client Sample ID: Lab Control Sample** 

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 39986 Prep Batch: 39729

LCS LCS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 168 S1+ 70 - 130 o-Terphenyl 196 S1+ 70 - 130

Lab Sample ID: LCSD 880-39729/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 39986 Prep Batch: 39729

Spike LCSD LCSD %Rec RPD Added Result Qualifier Unit D %Rec Limits **RPD** Limit

Analyte 1000 827.6 83 70 - 130O 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 913.8 91 mg/Kg 70 - 13020 C10-C28)

LCSD LCSD Surrogate %Recovery Qualifier Limits 158 S1+ 70 - 130 1-Chlorooctane 181 S1+ 70 - 130 o-Terphenyl

Lab Sample ID: 880-21513-A-1-D MS Client Sample ID: Matrix Spike

**Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 39986** Prep Batch: 39729 Sample Sample MS MS Spike

Added Analyte Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <50.0 U 998 1247 mg/Kg 125 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 998 916.4 mg/Kg 89 70 - 130

C10-C28)

70 - 130

70 - 130

70 - 130

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 78

Lab Sample ID: 880-21513-A-1-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 39986 Prep Batch: 39729

Sample Sample MSD MSD RPD Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics U 997 1229 123 <50.0 70 - 130 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 997 904.7 mg/Kg 88 70 - 130 20

C10-C28) MSD MSD %Recovery Qualifier Surrogate Limits

77

76

78

o-Terphenyl

1-Chlorooctane

o-Terphenyl

## QC Sample Results

Job ID: 890-3447-1 Client: Ensolum Project/Site: RDX 9-1 SDG: 03A1987060

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39709/1-A

**Matrix: Solid** 

Analysis Batch: 40017

Analyte

Chloride

Chloride

Client Sample ID: Method Blank **Prep Type: Soluble** 

mg/Kg

102

90 - 110

Client Sample ID: PH04

**Prep Type: Soluble** 

MB MB MDL Unit Dil Fac Result Qualifier RL D Prepared Analyzed <5.00 U 5.00 mg/Kg 11/20/22 16:54

Lab Sample ID: LCS 880-39709/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 40017

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits

250

Lab Sample ID: LCSD 880-39709/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

255.7

Analysis Batch: 40017

LCSD LCSD %Rec RPD Spike Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit Chloride 250 255.9 mg/Kg 102 90 - 110

Lab Sample ID: 890-3447-1 MS Client Sample ID: PH04 **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 40017

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 280.8 Chloride 16.6 249 106 90 - 110 mg/Kg

Lab Sample ID: 890-3447-1 MSD

**Matrix: Solid** 

Analysis Batch: 40017

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 249 16.6 281.6 mg/Kg 107 90 - 110 0 20

# **QC Association Summary**

 Client: Ensolum
 Job ID: 890-3447-1

 Project/Site: RDX 9-1
 SDG: 03A1987060

**GC VOA** 

Prep Batch: 39841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3447-1	PH04	Total/NA	Solid	5035	
890-3447-2	PH04	Total/NA	Solid	5035	
890-3447-3	PH05	Total/NA	Solid	5035	
890-3447-4	PH05	Total/NA	Solid	5035	
890-3447-5	PH06	Total/NA	Solid	5035	
890-3447-6	PH06	Total/NA	Solid	5035	
890-3447-7	PH07	Total/NA	Solid	5035	
890-3447-8	PH07	Total/NA	Solid	5035	
890-3447-9	PH08	Total/NA	Solid	5035	
890-3447-10	PH08	Total/NA	Solid	5035	
MB 880-39841/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39841/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39841/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3446-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3446-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 40174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3447-1	PH04	Total/NA	Solid	8021B	39841
890-3447-2	PH04	Total/NA	Solid	8021B	39841
890-3447-3	PH05	Total/NA	Solid	8021B	39841
890-3447-4	PH05	Total/NA	Solid	8021B	39841
890-3447-5	PH06	Total/NA	Solid	8021B	39841
890-3447-6	PH06	Total/NA	Solid	8021B	39841
890-3447-7	PH07	Total/NA	Solid	8021B	39841
890-3447-8	PH07	Total/NA	Solid	8021B	39841
890-3447-9	PH08	Total/NA	Solid	8021B	39841
890-3447-10	PH08	Total/NA	Solid	8021B	39841
MB 880-39841/5-A	Method Blank	Total/NA	Solid	8021B	39841
LCS 880-39841/1-A	Lab Control Sample	Total/NA	Solid	8021B	39841
LCSD 880-39841/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39841
890-3446-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	39841
890-3446-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	39841

Analysis Batch: 40320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3447-1	PH04	Total/NA	Solid	Total BTEX	
890-3447-2	PH04	Total/NA	Solid	Total BTEX	
890-3447-3	PH05	Total/NA	Solid	Total BTEX	
890-3447-4	PH05	Total/NA	Solid	Total BTEX	
890-3447-5	PH06	Total/NA	Solid	Total BTEX	
890-3447-6	PH06	Total/NA	Solid	Total BTEX	
890-3447-7	PH07	Total/NA	Solid	Total BTEX	
890-3447-8	PH07	Total/NA	Solid	Total BTEX	
890-3447-9	PH08	Total/NA	Solid	Total BTEX	
890-3447-10	PH08	Total/NA	Solid	Total BTEX	

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# **QC Association Summary**

 Client: Ensolum
 Job ID: 890-3447-1

 Project/Site: RDX 9-1
 SDG: 03A1987060

#### GC Semi VOA

Prep Batch: 39729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3447-1	PH04	Total/NA	Solid	8015NM Prep	
890-3447-2	PH04	Total/NA	Solid	8015NM Prep	
890-3447-3	PH05	Total/NA	Solid	8015NM Prep	
890-3447-4	PH05	Total/NA	Solid	8015NM Prep	
890-3447-5	PH06	Total/NA	Solid	8015NM Prep	
890-3447-6	PH06	Total/NA	Solid	8015NM Prep	
890-3447-7	PH07	Total/NA	Solid	8015NM Prep	
890-3447-8	PH07	Total/NA	Solid	8015NM Prep	
890-3447-9	PH08	Total/NA	Solid	8015NM Prep	
890-3447-10	PH08	Total/NA	Solid	8015NM Prep	
MB 880-39729/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39729/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39729/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-21513-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-21513-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 39986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3447-1	PH04	Total/NA	Solid	8015B NM	39729
890-3447-2	PH04	Total/NA	Solid	8015B NM	39729
890-3447-3	PH05	Total/NA	Solid	8015B NM	39729
890-3447-4	PH05	Total/NA	Solid	8015B NM	39729
890-3447-5	PH06	Total/NA	Solid	8015B NM	39729
890-3447-6	PH06	Total/NA	Solid	8015B NM	39729
890-3447-7	PH07	Total/NA	Solid	8015B NM	39729
890-3447-8	PH07	Total/NA	Solid	8015B NM	39729
890-3447-9	PH08	Total/NA	Solid	8015B NM	39729
890-3447-10	PH08	Total/NA	Solid	8015B NM	39729
MB 880-39729/1-A	Method Blank	Total/NA	Solid	8015B NM	39729
LCS 880-39729/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39729
LCSD 880-39729/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39729
880-21513-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	39729
880-21513-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39729

#### **Analysis Batch: 40101**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3447-1	PH04	Total/NA	Solid	8015 NM	
890-3447-2	PH04	Total/NA	Solid	8015 NM	
890-3447-3	PH05	Total/NA	Solid	8015 NM	
890-3447-4	PH05	Total/NA	Solid	8015 NM	
890-3447-5	PH06	Total/NA	Solid	8015 NM	
890-3447-6	PH06	Total/NA	Solid	8015 NM	
890-3447-7	PH07	Total/NA	Solid	8015 NM	
890-3447-8	PH07	Total/NA	Solid	8015 NM	
890-3447-9	PH08	Total/NA	Solid	8015 NM	
890-3447-10	PH08	Total/NA	Solid	8015 NM	

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# **QC Association Summary**

Client: Ensolum Job ID: 890-3447-1 Project/Site: RDX 9-1 SDG: 03A1987060

#### HPLC/IC

#### Leach Batch: 39709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3447-1	PH04	Soluble	Solid	DI Leach	
890-3447-2	PH04	Soluble	Solid	DI Leach	
890-3447-3	PH05	Soluble	Solid	DI Leach	
890-3447-4	PH05	Soluble	Solid	DI Leach	
890-3447-5	PH06	Soluble	Solid	DI Leach	
890-3447-6	PH06	Soluble	Solid	DI Leach	
890-3447-7	PH07	Soluble	Solid	DI Leach	
890-3447-8	PH07	Soluble	Solid	DI Leach	
890-3447-9	PH08	Soluble	Solid	DI Leach	
890-3447-10	PH08	Soluble	Solid	DI Leach	
MB 880-39709/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39709/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39709/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3447-1 MS	PH04	Soluble	Solid	DI Leach	
890-3447-1 MSD	PH04	Soluble	Solid	DI Leach	

#### Analysis Batch: 40017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3447-1	PH04	Soluble	Solid	300.0	39709
890-3447-2	PH04	Soluble	Solid	300.0	39709
890-3447-3	PH05	Soluble	Solid	300.0	39709
890-3447-4	PH05	Soluble	Solid	300.0	39709
890-3447-5	PH06	Soluble	Solid	300.0	39709
890-3447-6	PH06	Soluble	Solid	300.0	39709
890-3447-7	PH07	Soluble	Solid	300.0	39709
890-3447-8	PH07	Soluble	Solid	300.0	39709
890-3447-9	PH08	Soluble	Solid	300.0	39709
890-3447-10	PH08	Soluble	Solid	300.0	39709
MB 880-39709/1-A	Method Blank	Soluble	Solid	300.0	39709
LCS 880-39709/2-A	Lab Control Sample	Soluble	Solid	300.0	39709
LCSD 880-39709/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39709
890-3447-1 MS	PH04	Soluble	Solid	300.0	39709
890-3447-1 MSD	PH04	Soluble	Solid	300.0	39709

#### Lab Chronicle

Job ID: 890-3447-1 Client: Ensolum Project/Site: RDX 9-1 SDG: 03A1987060

**Client Sample ID: PH04** 

Date Received: 11/14/22 08:13

Lab Sample ID: 890-3447-1 Date Collected: 11/11/22 11:10

**Matrix: Solid** 

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	39841	11/17/22 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 12:53	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40320	11/23/22 13:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			40101	11/21/22 11:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	39729	11/16/22 13:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39986	11/20/22 15:21	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	39709	11/16/22 10:46	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40017	11/20/22 17:11	CH	EET MID

**Client Sample ID: PH04** Lab Sample ID: 890-3447-2

**Matrix: Solid** 

Date Collected: 11/11/22 11:20 Date Received: 11/14/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	39841	11/17/22 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 13:13	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40320	11/23/22 13:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			40101	11/21/22 11:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	39729	11/16/22 13:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39986	11/20/22 15:42	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	39709	11/16/22 10:46	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40017	11/20/22 17:28	CH	EET MID

**Client Sample ID: PH05** Lab Sample ID: 890-3447-3 Date Collected: 11/11/22 11:30 **Matrix: Solid** 

Date Received: 11/14/22 08:13

Analysis

Released to Imaging: 1/16/2024 1:34:47 PM

300.0

Soluble

Dil Final Batch Batch Initial Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Prep 5035 5.01 g 5 mL 39841 11/17/22 15:04 MNR EET MID Total/NA Analysis 8021B 5 mL 5 mL 40174 11/22/22 13:34 SM **EET MID** Total/NA Analysis Total BTEX 40320 11/23/22 13:25 SM EET MID 1 Total/NA Analysis 8015 NM 40101 11/21/22 11:32 SM **EET MID** 11/16/22 13:44 Total/NA 39729 Prep 8015NM Prep 10.02 g 10 mL DM **EET MID** Total/NA Analysis 8015B NM 1 uL 1 uL 39986 11/20/22 16:04 SM EET MID 39709 Soluble Leach DI Leach 5 g 50 mL 11/16/22 10:46 KS EET MID

Lab Sample ID: 890-3447-4 **Client Sample ID: PH05** 

50 mL

50 mL

40017

11/20/22 17:33

СН

Date Collected: 11/11/22 11:40 **Matrix: Solid** Date Received: 11/14/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	39841	11/17/22 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 13:54	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40320	11/23/22 13:25	SM	EET MID

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**EET MID** 

#### Lab Chronicle

Client: Ensolum Job ID: 890-3447-1 Project/Site: RDX 9-1 SDG: 03A1987060

**Client Sample ID: PH05** 

Date Received: 11/14/22 08:13

Lab Sample ID: 890-3447-4 Date Collected: 11/11/22 11:40

**Matrix: Solid** 

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			40101	11/21/22 11:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	39729	11/16/22 13:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39986	11/20/22 16:25	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	39709	11/16/22 10:46	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40017	11/20/22 17:39	CH	EET MID

**Client Sample ID: PH06** Lab Sample ID: 890-3447-5

**Matrix: Solid** 

Date Collected: 11/11/22 11:50 Date Received: 11/14/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	39841	11/17/22 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 14:14	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40320	11/23/22 13:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			40101	11/21/22 11:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	39729	11/16/22 13:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39986	11/20/22 16:48	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	39709	11/16/22 10:46	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40017	11/20/22 17:44	CH	EET MID

**Client Sample ID: PH06** Lab Sample ID: 890-3447-6 Date Collected: 11/11/22 12:00

**Matrix: Solid** 

Date Received	: 11/14/22 08:13	3						
	Batch	Batch		Dil	Initial	Final	Batch	Prepared
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed
Total/NA	Prep	5035			4.97 g	5 mL	39841	11/17/22 15:04
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 14:35
Total/NA	Analysis	Total BTEX		1			40320	11/23/22 13:25

22 15:04 MNR EET MID 22 14:35 SM **EET MID** 22 13:25 **EET MID** SM Total/NA Analysis 8015 NM 40101 11/21/22 11:32 SM EET MID 1 Total/NA Prep 8015NM Prep 10.03 g 10 mL 39729 11/16/22 13:44 DM **EET MID** Total/NA Analysis 8015B NM 1 uL 1 uL 39986 11/20/22 17:10 SM EET MID Soluble Leach DI Leach 4.98 g 50 mL 39709 11/16/22 10:46 KS **EET MID** Soluble Analysis 300.0 50 mL 50 mL 40017 11/20/22 18:01 СН EET MID 1

Lab Sample ID: 890-3447-7 **Client Sample ID: PH07** 

Date Collected: 11/11/22 12:10 Date Received: 11/14/22 08:13

**Matrix: Solid** 

Lab

Analyst

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	39841	11/17/22 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 14:55	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40320	11/23/22 13:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			40101	11/21/22 11:32	SM	EET MID
Total/NA Total/NA	Prep Analysis	8015NM Prep 8015B NM		1	10.01 g 1 uL	10 mL 1 uL	39729 39986	11/16/22 13:44 11/20/22 17:31	DM SM	EET MID EET MID

Client: Ensolum

Job ID: 890-3447-1 SDG: 03A1987060

Project/Site: RDX 9-1 SDG: 03A1987060

Client Sample ID: PH07

Lab Sample ID: 890-3447-7

Date Collected: 11/11/22 12:10

Matrix: Solid

Date Received: 11/14/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	39709	11/16/22 10:46	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40017	11/20/22 18:07	CH	EET MID

Client Sample ID: PH07 Lab Sample ID: 890-3447-8

Date Collected: 11/11/22 12:20 Matrix: Solid

Date Received: 11/14/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	39841	11/17/22 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 15:16	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40320	11/23/22 13:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			40101	11/21/22 11:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	39729	11/16/22 13:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39986	11/20/22 17:52	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	39709	11/16/22 10:46	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40017	11/20/22 18:13	CH	EET MID

Client Sample ID: PH08 Lab Sample ID: 890-3447-9

Date Collected: 11/11/22 12:30 Matrix: Solid
Date Received: 11/14/22 08:13

Batch Dil Final Batch Initial Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Prep 5035 5.01 g 5 mL 39841 11/17/22 15:04 MNR **EET MID** Total/NA 8021B 5 mL 5 mL 40174 11/22/22 17:05 **EET MID** Analysis SM Total/NA Analysis Total BTEX 1 40320 11/23/22 13:25 SM **EET MID** Total/NA Analysis 8015 NM 1 40101 11/21/22 11:32 SM **EET MID** Total/NA Prep 8015NM Prep 10.01 g 10 mL 39729 11/16/22 13:44 DM **EET MID** Total/NA Analysis **EET MID** 8015B NM 1 uL 1 uL 39986 11/20/22 18:14 SM Soluble Leach DI Leach 4.99 g 50 mL 39709 11/16/22 10:46 KS EET MID Soluble Analysis 300.0 50 mL 50 mL 40017 11/20/22 18:18 CH **EET MID** 

Client Sample ID: PH08 Lab Sample ID: 890-3447-10

Date Collected: 11/11/22 12:40 Date Received: 11/14/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	39841	11/17/22 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 17:26	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40320	11/23/22 13:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			40101	11/21/22 11:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	39729	11/16/22 13:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39986	11/20/22 18:35	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	39709	11/16/22 10:46	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40017	11/20/22 18:24	CH	EET MID

**Eurofins Carlsbad** 

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Matrix: Solid

#### **Lab Chronicle**

Client: Ensolum Project/Site: RDX 9-1 Job ID: 890-3447-1 SDG: 03A1987060

Laboratory References:

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

# **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-3447-1 Project/Site: RDX 9-1 SDG: 03A1987060

#### **Laboratory: Eurofins Midland**

Released to Imaging: 1/16/2024 1:34:47 PM

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

Authority	Pr	ogram	Identification Number	<b>Expiration Date</b>
Texas	NE	ELAP	T104704400-22-24	06-30-23
The following analytes	are included in this report by	it the leberatory is not contiffi	iad butba gaugeming authority. This list ma	
the agency does not of	' '	it the laboratory is not certifi	ied by the governing authority. This list ma	ay include analytes for v
,	' '	Matrix	Analyte	ay include analytes for v
the agency does not of	fer certification.	•	, , ,	ay include analytes for v

# **Method Summary**

Job ID: 890-3447-1 Client: Ensolum Project/Site: RDX 9-1 SDG: 03A1987060

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

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

# **Sample Summary**

Client: Ensolum
Project/Site: RDX 9-1

Job ID: 890-3447-1 SDG: 03A1987060

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3447-1	PH04	Solid	11/11/22 11:10	11/14/22 08:13	0.5
890-3447-2	PH04	Solid	11/11/22 11:20	11/14/22 08:13	1
890-3447-3	PH05	Solid	11/11/22 11:30	11/14/22 08:13	0.5
890-3447-4	PH05	Solid	11/11/22 11:40	11/14/22 08:13	1
890-3447-5	PH06	Solid	11/11/22 11:50	11/14/22 08:13	0.5
890-3447-6	PH06	Solid	11/11/22 12:00	11/14/22 08:13	1
890-3447-7	PH07	Solid	11/11/22 12:10	11/14/22 08:13	0.5
890-3447-8	PH07	Solid	11/11/22 12:20	11/14/22 08:13	1
890-3447-9	PH08	Solid	11/11/22 12:30	11/14/22 08:13	0.5
890-3447-10	PH08	Solid	11/11/22 12:40	11/14/22 08:13	1

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Relinquished by: (Signature)

Received by: (Signature)

Date/Time

Relinquished by: (Signature)

Received by: (Signature)

Date/Time

Revised Date: 08/25/2020 Rev. 2020.2

Project Manager: City, State ZIP: Company Name: **eurofins** Carlsbad, NM 88220 3122 National Parks HWY Ensolum Joseph Hernandez Xenco **Environment Testing** Bill to: (if different) City, State ZIP: Company Name: Address: Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334 WPX Carlsbad, NM 88220 5315 Buena Vista Dr Jim Raley

# Chain of Custody

EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199 Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300

Work Order No:

													www.xenco.com	om Page l of l	
roject Manager:	Joseph Hernandez	ndez			Bill to: (if different)	erent)	Sin	Jim Raley					Work Ord	Con	
	Ensolum				Company Name	lame:	WPX	PX					Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐	rownfields 🗌 RRC 📗 Superfund 🔲	
	3122 National Parks HWY	Parks H	YWY		Address:		53	5315 Buena Vista Dr	ana Vis	ta Dr.			State of Project:		
te ZIP:	Carlsbad, NM 88220	88220			City, State ZIP:	ZIP:	Ca	Carlsbad, NM 88220	NM 8	8220			Reporting: Level II	PST/UST   TRRP   Level IV	
	281-702-2329			Email:	Email: jhernandez@Ensolum.com, jim.raley@dvn.com	z@Ens	solum.	com, i	im.rale	y@d	n.com		Deliverables: EDD	ADaPT Other:	
roject Name:	RDX 9-1			Turr	Turn Around						ANA	ANALYSIS REQ	REQUEST	Preservative Codes	
300	03A1987060			☑ Routine	☐ Rush	C P	Pres. Code							None: NO DI Water: H <sub>2</sub> O	
roject Location:	Rural Eddy, NM	<b>S</b>		Due Date:	5 Day TAT	AT								Cool: Cool MeOH: Me	
	Yocoly Edyte Konan	(onan		TAT starts th	TAT starts the day received by	d by					_	_			
	1061092601			the lab, if rec	the lab, if received by 4:30pm	4	rs	+	+	+				H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub> NaOH: Na	
SAMPLE RECEIPT	Te	np Blank:	Yes No	Wet Ice:	(Yes) No	L	nete							H <sub>3</sub> PO <sub>4</sub> : HP	
amples Received Intact:	tact: (es)	No	Thermometer ID:	ler ID:	N MADO	7		300						NaTUC4: NABIO	31
Cooler Custody Seals:	s: Yes No	N	Correction Factor:	Factor:	<u> </u>	6)		-PA	_		890	890-3447 Chain		Na <sub>2</sub> O <sub>2</sub> O <sub>3</sub> . Na <sub>2</sub> O <sub>3</sub>	of :
ample Custody Seals:	ls: Yes No	E S	Temperature Reading:	re Reading:	-		C /5		-			O Tar	nam or Custody	Zn Acetate+NaCH: Zn	28 (
otal Containers:			Corrected 1	Corrected Temperature:	71		PIDE	÷		302		_		NaCH+Ascorbic Acid: SAPC	e 2
Sample identification	tification	Matrix	Date Sampled	Time Sampled	Depth Co	Grab/ #	# of Cont	TPH (8	BTEX (	BILA				Sample Comments	Pag
PH04	4	S	11.11.22	11:10	0.5' G	Grab/		×	×	×					
PH04	4	S	11.11.22	11:20	1 <sup>1</sup>	Grab/		×	×	×					
PH05	5	S	11.11.22	11:30	0.5' G	Grab/		×	×	×				Incident ID	
PH05	5	S	11.11.22	11:40	1. G	Grab/		×	×	×				nAB1728635377	
PH06	6	S	11.11.22	11:50	0.5' G	Grab/		×	×	×					,
PH06	6	S	11.11.22	12:00	1' G	Grab/		×	×	×					РM
PH07	7	S	11.11.22	12:10	0.5' G	Grab/	1	×	×	×					171
PH07	7	S	11.11.22	12:20	1' G	Grab/		×	×	×					84:4
PH08	8	S	11.11.22	12:30	0.5' G	Grab/		×	×	×					<b>1:</b> 3
PH08	8	S	11.11.22	12:40	1' G	Grab/	1	×	×	×					024
Total 200.7 / 6010	10 200.8 / 6020:	020:		8RCRA 13	13PPM Texa	Texas 11	Al Sb	As	Ва Ве	ВС	Ca Cr Co	Cu Fe Pb	Mg Mn Mo Ni K Se Ag SiO <sub>2</sub>	2 Na Sr TI Sn U V Zn	6/20
ircle Method(s) and Metal(s) to be analyzed	nd Metal(s) to b	e analy	zed	TCLP / S	TCLP / SPLP 6010: 8RCRA	8RCF	11	Sb As	Ba Be	8	Cr Co Cu Pl	Cu Pb Mn Mo Ni Se	Ag TI U	Hg: 1631 / 245.1 / 7470 / 7471	1/1
otice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontra	document and reline	uishment	of samples co	nstitutes a valid	purchase orde	r from cl	ient con	pany to	Eurofin	s Xenco	its affiliates and s	subcontractors.	otice: 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		ıg: ]
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	imum charge of \$85	.00 will be	applied to eac	h project and a	charge of \$5 fo	reach sa	imple su	bmitted	to Euro	fins Xen	o, but not analyze	ed. These terms	terms will be enforced unless previously negotiated.	ated.	ıgi

SAMPLE RECEIPT

Sampler's Name:

Project Location:

Project Number:

Project Name:

## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3447-1 SDG Number: 03A1987060

Login Number: 3447 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.	N/A	Refer to Job Narrative for details.
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	

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#### **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3447-1 SDG Number: 03A1987060

Login Number: 3447
List Source: Eurofins Midland
List Number: 2
List Creation: 11/15/22 11:14 AM

Creator: Rodriguez, Leticia

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	N/A	

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<6mm (1/4").

# **Eurofins Carlsbad**

# **Job Notes**

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

# **Authorization**

Generated 11/23/2022 1:43:45 PM

Authorized for release by Jessica Kramer, Project Manager Jessica.Kramer@et.eurofinsus.com (432)704-5440

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Devon Team Ensolum 705 W. Wadley Suite 210 Midland Texas 79701

Generated 11/23/2022 1:43:28 PM

# **JOB DESCRIPTION**

RDX 9-1 SDG NUMBER Rural Eddy NM

# **JOB NUMBER**

890-3446-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220



Client: Ensolum
Project/Site: RDX 9-1

Laboratory Job ID: 890-3446-1
SDG: Rural Eddy NM

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# **Definitions/Glossary**

Job ID: 890-3446-1 Client: Ensolum Project/Site: RDX 9-1 SDG: Rural Eddy NM

**Qualifiers** 

**GC VOA** Qualifier

**Qualifier Description** LCS and/or LCSD is outside acceptance limits, low biased. Indicates the analyte was analyzed for but not detected.

U **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** 

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

Percent Recovery %R 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" Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

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)

Reporting Limit or Requested Limit (Radiochemistry) RL

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 Job ID: 890-3446-1
Project/Site: RDX 9-1 SDG: Rural Eddy NM

Job ID: 890-3446-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3446-1

#### Receipt

The samples were received on 11/14/2022~8:13~AM. 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  $5.4^{\circ}C$ 

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: PH09 (890-3446-1) and PH09 (890-3446-2).

#### **GC VOA**

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-39841 and analytical batch 880-40174 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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: Surrogate recovery for the following samples were outside control limits: (LCS 880-39729/2-A) and (LCSD 880-39729/3-A). Evidence of matrix interferences is not obvious.

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.

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Matrix: Solid

Lab Sample ID: 890-3446-1

# **Client Sample Results**

Client: Ensolum

Project/Site: RDX 9-1

SDG: Rural Eddy NM

Client Sample ID: PH09

Date Collected: 11/11/22 12:50 Date Received: 11/14/22 08:13

Sample Depth: 0.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *-	0.00201		mg/Kg		11/17/22 15:04	11/22/22 12:12	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 12:12	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 12:12	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/17/22 15:04	11/22/22 12:12	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/17/22 15:04	11/22/22 12:12	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/17/22 15:04	11/22/22 12:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130				11/17/22 15:04	11/22/22 12:12	1
1,4-Difluorobenzene (Surr)	100		70 - 130				11/17/22 15:04	11/22/22 12:12	1
Method: TAL SOP Total BTEX - 1	otal BTEX Cal	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte	•	CS (DRO) ( Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte Total TPH	<50.0		50.0 —	MDL	mg/Kg	D	Prepared	11/21/22 11:32	Dil Fac
Method: SW846 8015B NM - Dies			(GC)						
Analyte						_			
		Qualifier	RL	MDL		<u>D</u>	Prepared	Analyzed	
5 5	<b>Result</b> <50.0		RL 50.0	MDL	Unit mg/Kg	<u>D</u>	Prepared 11/16/22 13:44	Analyzed 11/20/22 14:16	
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)		U		MDL		<u>D</u>			1
(GRO)-C6-C10 Diesel Range Organics (Over	<50.0	U	50.0	MDL	mg/Kg	<u>D</u>	11/16/22 13:44	11/20/22 14:16	1
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<50.0 <50.0	U U	50.0 50.0 50.0 <i>Limits</i>	MDL	mg/Kg	<u>D</u>	11/16/22 13:44	11/20/22 14:16	1
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)	<50.0 <50.0 <50.0	U U	50.0 50.0 50.0	MDL	mg/Kg	<u>D</u>	11/16/22 13:44 11/16/22 13:44 11/16/22 13:44	11/20/22 14:16 11/20/22 14:16 11/20/22 14:16	1 1 1 <b>Dil Fac</b>
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<50.0 <50.0 <50.0 %Recovery	U U	50.0 50.0 50.0 <i>Limits</i>	MDL	mg/Kg	<u> </u>	11/16/22 13:44 11/16/22 13:44 11/16/22 13:44 <i>Prepared</i>	11/20/22 14:16 11/20/22 14:16 11/20/22 14:16 Analyzed	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl  Method: MCAWW 300.0 - Anions	<50.0 <50.0 <50.0 <50.0  %Recovery 95 107 s, lon Chromato	U U Qualifier	50.0 50.0 50.0 Limits 70 - 130 70 - 130		mg/Kg mg/Kg mg/Kg		11/16/22 13:44  11/16/22 13:44  11/16/22 13:44  Prepared  11/16/22 13:44  11/16/22 13:44	11/20/22 14:16 11/20/22 14:16 11/20/22 14:16 Analyzed 11/20/22 14:16 11/20/22 14:16	1 1 1 1 Dil Fac
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	<50.0 <50.0 <50.0 <50.0  %Recovery 95 107 s, lon Chromato	U U U <b>Qualifier</b>	50.0 50.0 50.0 <b>Limits</b> 70 - 130 70 - 130	MDL	mg/Kg mg/Kg mg/Kg	<u>D</u>	11/16/22 13:44  11/16/22 13:44  11/16/22 13:44  Prepared  11/16/22 13:44	11/20/22 14:16 11/20/22 14:16 11/20/22 14:16 Analyzed 11/20/22 14:16	Dil Fac

Client Sample ID: PH09

Date Collected: 11/11/22 13:00 Date Received: 11/14/22 08:13

Sample Depth: 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *-	0.00200		mg/Kg		11/17/22 15:04	11/22/22 12:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 12:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 12:32	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/17/22 15:04	11/22/22 12:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 12:32	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/17/22 15:04	11/22/22 12:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130				11/17/22 15:04	11/22/22 12:32	

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Lab Sample ID: 890-3446-2

Matrix: Solid

Matrix: Solid

Lab Sample ID: 890-3446-2

11/19/22 16:39

# **Client Sample Results**

Client: Ensolum Job ID: 890-3446-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

**Client Sample ID: PH09** 

Date Collected: 11/11/22 13:00 Date Received: 11/14/22 08:13

Chloride

Method: SW846 8021B - Volatile	Organic Comp	ounds (GC)	(Continued)						
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	115		70 - 130				11/17/22 15:04	11/22/22 12:32	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/23/22 13:25	1
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (	GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/21/22 11:32	1
Method: SW846 8015B NM - Dies		,	(00)						
	Result	Qualifier U	RL 49.9	MDL		D	Prepared 11/16/22 13:44	Analyzed 11/20/22 14:38	Dil Fac
Gasoline Range Organics				MDL	mg/Kg	<u>D</u>			Dil Fac
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over		U		MDL		<u>D</u>			Dil Fac
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	MDL	mg/Kg	<u>D</u>	11/16/22 13:44	11/20/22 14:38	1 1 1
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<49.9 <49.9	U U	49.9	MDL	mg/Kg	<u>D</u>	11/16/22 13:44	11/20/22 14:38	Dil Fac  1  1  Dil Fac
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<49.9 <49.9	U U	49.9 49.9 49.9	MDL	mg/Kg	<u>D</u>	11/16/22 13:44 11/16/22 13:44 11/16/22 13:44	11/20/22 14:38 11/20/22 14:38 11/20/22 14:38	1 1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	<49.9 <49.9 <49.9 %Recovery	U U	49.9 49.9 49.9 <b>Limits</b>	MDL	mg/Kg	<u>D</u>	11/16/22 13:44 11/16/22 13:44 11/16/22 13:44 Prepared	11/20/22 14:38 11/20/22 14:38 11/20/22 14:38 Analyzed 11/20/22 14:38	
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<49.9 <49.9 <49.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9 <80.9	U U U <b>Qualifier</b>	49.9 49.9 49.9  Limits 70 - 130 70 - 130	MDL	mg/Kg	<u> </u>	11/16/22 13:44 11/16/22 13:44 11/16/22 13:44 Prepared	11/20/22 14:38 11/20/22 14:38 11/20/22 14:38 Analyzed	

24.9

mg/Kg

1400

# **Surrogate Summary**

Client: Ensolum Job ID: 890-3446-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3446-1	PH09	83	100	
890-3446-1 MS	PH09	101	107	
890-3446-1 MSD	PH09	98	109	
890-3446-2	PH09	94	115	
LCS 880-39841/1-A	Lab Control Sample	87	100	
LCSD 880-39841/2-A	Lab Control Sample Dup	89	101	
MB 880-39841/5-A	Method Blank	79	97	

BFB = 4-Bromofluorobenzene (Surr) DFBZ = 1,4-Difluorobenzene (Surr)

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

Prep Type: Total/NA **Matrix: Solid** 

				Percent Surrogate
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-21513-A-1-D MS	Matrix Spike	78	78	
880-21513-A-1-E MSD	Matrix Spike Duplicate	77	76	
890-3446-1	PH09	95	107	
890-3446-2	PH09	100	113	
LCS 880-39729/2-A	Lab Control Sample	168 S1+	196 S1+	
LCSD 880-39729/3-A	Lab Control Sample Dup	158 S1+	181 S1+	
MB 880-39729/1-A	Method Blank	97	114	

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

## QC Sample Results

Job ID: 890-3446-1 Client: Ensolum Project/Site: RDX 9-1 SDG: Rural Eddy NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39841/5-A

**Matrix: Solid** Analysis Batch: 40174 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 39841

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/17/22 15:04	11/22/22 11:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/17/22 15:04	11/22/22 11:43	1

MB MB

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79	70 - 130	11/17/22 15:04	11/22/22 11:43	1
1,4-Difluorobenzene (Surr)	97	70 - 130	11/17/22 15:04	11/22/22 11:43	1

Lab Sample ID: LCS 880-39841/1-A **Client Sample ID: Lab Control Sample** 

Matrix: Solid

Analysis Batch: 40174

Prep Type: Total/NA Prep Batch: 39841

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.06882	*_	mg/Kg		69	70 - 130	
Toluene	0.100	0.08552		mg/Kg		86	70 - 130	
Ethylbenzene	0.100	0.08348		mg/Kg		83	70 - 130	
m-Xylene & p-Xylene	0.200	0.1521		mg/Kg		76	70 - 130	
o-Xylene	0.100	0.07434		mg/Kg		74	70 - 130	

LCS LCS

Surrogate	%Recovery C	Qualifier	Limits		
4-Bromofluorobenzene (Surr)	87		70 - 130		
1,4-Difluorobenzene (Surr)	100		70 - 130		

Lab Sample ID: LCSD 880-39841/2-A

**Matrix: Solid** 

Analysis Batch: 40174

**Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA Prep Batch: 39841

LCSD LCSD RPD Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits Limit Benzene 0.100 0.07231 mg/Kg 72 70 - 130 5 35 Toluene 0.100 0.08620 mg/Kg 86 70 - 130 35 Ethylbenzene 0.100 0.08808 mg/Kg 88 70 - 130 5 35 0.200 0.1599 80 m-Xylene & p-Xylene mg/Kg 70 - 130 35 0.100 0.07844 70 - 130 o-Xylene mg/Kg 35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	89		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-3446-1 MS

**Matrix: Solid** 

Analysis Batch: 40174

**Client Sample ID: PH09** Prep Type: Total/NA

Prep Batch: 39841

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00201	U *-	0.0996	0.08639		mg/Kg		87	70 - 130	
Toluene	< 0.00201	U	0.0996	0.1074		mg/Kg		108	70 - 130	

## **QC Sample Results**

Client: Ensolum

Project/Site: RDX 9-1

SDG: Rural Eddy NM

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

Lab Sample ID: 890-3446-1 MS

Matrix: Solid

Analysis Batch: 40174

Client Sample ID: PH09
Prep Type: Total/NA
Prep Batch: 39841

	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Ethylbenzene	<0.00201	U	0.0996	0.1063		mg/Kg		107	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1903		mg/Kg		95	70 - 130
o-Xylene	< 0.00201	U	0.0996	0.09294		mg/Kg		93	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: 890-3446-1 MSD

Matrix: Solid

Analysis Batch: 40174

Client Sample ID: PH09

Prep Type: Total/NA

Prep Batch: 39841

Sample Sample Spike MSD MSD Result Qualifier %Rec RPD Limit Analyte babbA Result Qualifier Limits Unit Benzene <0.00201 U \*-0.0990 0.08751 mg/Kg 88 70 - 130 35 Toluene <0.00201 U 0.0990 0.1051 mg/Kg 106 70 - 130 2 35 Ethylbenzene <0.00201 U 0.0990 0.1021 mg/Kg 103 70 - 130 35 4 0.198 70 - 130 35 m-Xylene & p-Xylene <0.00402 U 0.1827 mg/Kg 92 0.0990 <0.00201 U 0.08849 89 70 - 130 o-Xylene mg/Kg 5

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

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

Lab Sample ID: MB 880-39729/1-A

Matrix: Solid

Analysis Batch: 39986

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39729

мв мв Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Analyte 50.0 11/16/22 13:44 11/20/22 08:00 <50.0 U Gasoline Range Organics mg/Kg (GRO)-C6-C10 50.0 11/20/22 08:00 Diesel Range Organics (Over <50.0 U 11/16/22 13:44 mg/Kg C10-C28) Oll Range Organics (Over C28-C36) <50.0 U 50.0 11/16/22 13:44 11/20/22 08:00 mg/Kg

	MB MB				
Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97	70 - 130	11/16/22 13:44	11/20/22 08:00	1
o-Terphenyl	114	70 - 130	11/16/22 13:44	11/20/22 08:00	1

o-lerphenyl 114 70 - 130 11/16/22 13:44 11/20/22 08:00 1

Lab Sample ID: LCS 880-39729/2-A Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Total/NA

Analysis Batch: 39986 Prep Batch: 39729 Spike LCS LCS %Rec Qualifier Added Analyte Result Unit %Rec Limits 1000 826.9 83 70 - 130 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 983.8 mg/Kg 98 70 - 130

C10-C28)

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2

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Job ID: 890-3446-1 SDG: Rural Eddy NM

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

LCS LCS

Lab Sample ID: LCS 880-39729/2-A **Client Sample ID: Lab Control Sample** 

**Matrix: Solid** 

Analysis Batch: 39986

Prep Type: Total/NA

Prep Batch: 39729

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 168 S1+ 70 - 130 o-Terphenyl 196 S1+ 70 - 130

Lab Sample ID: LCSD 880-39729/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

Client: Ensolum Project/Site: RDX 9-1

Analysis Batch: 39986

Prep Type: Total/NA

Prep Batch: 39729

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit 1000 827.6 83 70 - 130O 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 913.8 91 mg/Kg 70 - 13020 C10-C28)

LCSD LCSD

Surrogate %Recovery Qualifier Limits 158 S1+ 70 - 130 1-Chlorooctane 181 S1+ 70 - 130 o-Terphenyl

Lab Sample ID: 880-21513-A-1-D MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 39986** 

Prep Type: Total/NA

Prep Batch: 39729

Sample Sample MS MS Spike Added Analyte Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <50.0 U 998 1247 mg/Kg 125 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 998 916.4 mg/Kg 89 70 - 130 C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 78 o-Terphenyl 78 70 - 130

Lab Sample ID: 880-21513-A-1-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 39986

Prep Type: Total/NA

Prep Batch: 39729

Sample Sample MSD MSD RPD Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics U 997 1229 123 <50.0 70 - 130 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 997 904.7 mg/Kg 88 70 - 130 20

C10-C28)

MSD MSD %Recovery Qualifier Surrogate Limits 1-Chlorooctane 77 70 - 130 76 70 - 130 o-Terphenyl

Job ID: 890-3446-1

SDG: Rural Eddy NM

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Client Sample ID: Matrix Spike Duplicate

Client Sample ID: Matrix Spike Duplicate

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39710/1-A

**Matrix: Solid** 

Analysis Batch: 39996

Client: Ensolum Project/Site: RDX 9-1

мв мв

Analyte Result Qualifier RLMDL Unit D Prepared Analyzed Dil Fac Chloride <5.00 U 5.00 mg/Kg 11/19/22 14:23

Lab Sample ID: LCS 880-39710/2-A

**Matrix: Solid** 

**Analysis Batch: 39996** 

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 259.5 mg/Kg 104 90 - 110

Lab Sample ID: LCSD 880-39710/3-A

**Matrix: Solid** 

Analysis Batch: 39996

Spike LCSD LCSD RPD %Rec Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 256.0 250 mg/Kg 102 90 - 110

Lab Sample ID: 890-3444-A-2-D MS

**Matrix: Solid** 

**Analysis Batch: 39996** 

MS MS Sample Sample Spike %Rec Added Analyte Result Qualifier Result Qualifier Unit %Rec Limits Chloride 1800 1260 3101 103 90 - 110 mg/Kg

Lab Sample ID: 890-3444-A-2-E MSD

**Matrix: Solid** 

Analysis Batch: 39996

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 1800 1260 3109 mg/Kg 104 90 - 110

Lab Sample ID: 890-3450-A-4-B MS

**Matrix: Solid** 

Analysis Batch: 39996

Sample Sample Spike MS MS %Rec Result Qualifier Added Analyte Result Qualifier Unit D %Rec Limits Chloride 218 249 445.1 mg/Kg 90 - 110

Lab Sample ID: 890-3450-A-4-C MSD

**Matrix: Solid** 

**Analysis Batch: 39996** 

MSD MSD %Rec RPD Sample Sample Spike Result Qualifier Analyte Added Result Qualifier Limits RPD Limit Unit %Rec Chloride 218 249 447.9 mg/Kg 93 90 - 110 20

# **QC Association Summary**

Client: Ensolum Job ID: 890-3446-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

**GC VOA** 

Prep Batch: 39841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3446-1	PH09	Total/NA	Solid	5035	
890-3446-2	PH09	Total/NA	Solid	5035	
MB 880-39841/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39841/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39841/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3446-1 MS	PH09	Total/NA	Solid	5035	
890-3446-1 MSD	PH09	Total/NA	Solid	5035	

Analysis Batch: 40174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3446-1	PH09	Total/NA	Solid	8021B	39841
890-3446-2	PH09	Total/NA	Solid	8021B	39841
MB 880-39841/5-A	Method Blank	Total/NA	Solid	8021B	39841
LCS 880-39841/1-A	Lab Control Sample	Total/NA	Solid	8021B	39841
LCSD 880-39841/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39841
890-3446-1 MS	PH09	Total/NA	Solid	8021B	39841
890-3446-1 MSD	PH09	Total/NA	Solid	8021B	39841

**Analysis Batch: 40319** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3446-1	PH09	Total/NA	Solid	Total BTEX	
890-3446-2	PH09	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 39729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3446-1	PH09	Total/NA	Solid	8015NM Prep	
890-3446-2	PH09	Total/NA	Solid	8015NM Prep	
MB 880-39729/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39729/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39729/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-21513-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-21513-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 39986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3446-1	PH09	Total/NA	Solid	8015B NM	39729
890-3446-2	PH09	Total/NA	Solid	8015B NM	39729
MB 880-39729/1-A	Method Blank	Total/NA	Solid	8015B NM	39729
LCS 880-39729/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39729
LCSD 880-39729/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39729
880-21513-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	39729
880-21513-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39729

**Analysis Batch: 40100** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3446-1	PH09	Total/NA	Solid	8015 NM	
890-3446-2	PH09	Total/NA	Solid	8015 NM	

# **QC Association Summary**

Client: Ensolum Job ID: 890-3446-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

# HPLC/IC

# Leach Batch: 39710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3446-1	PH09	Soluble	Solid	DI Leach	
890-3446-2	PH09	Soluble	Solid	DI Leach	
MB 880-39710/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39710/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39710/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3444-A-2-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3444-A-2-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-3450-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3450-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

# Analysis Batch: 39996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3446-1	PH09	Soluble	Solid	300.0	39710
890-3446-2	PH09	Soluble	Solid	300.0	39710
MB 880-39710/1-A	Method Blank	Soluble	Solid	300.0	39710
LCS 880-39710/2-A	Lab Control Sample	Soluble	Solid	300.0	39710
LCSD 880-39710/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39710
890-3444-A-2-D MS	Matrix Spike	Soluble	Solid	300.0	39710
890-3444-A-2-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	39710
890-3450-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	39710
890-3450-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	39710

Client: Ensolum Job ID: 890-3446-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

**Client Sample ID: PH09** Lab Sample ID: 890-3446-1

Date Collected: 11/11/22 12:50 Matrix: Solid Date Received: 11/14/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	39841	11/17/22 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 12:12	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40319	11/23/22 13:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			40100	11/21/22 11:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	39729	11/16/22 13:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39986	11/20/22 14:16	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	39710	11/16/22 10:47	KS	EET MID
Soluble	Analysis	300.0		1			39996	11/19/22 16:22	CH	EET MID

**Client Sample ID: PH09** Lab Sample ID: 890-3446-2 Matrix: Solid

Date Collected: 11/11/22 13:00 Date Received: 11/14/22 08:13

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	39841	11/17/22 15:04	MNR	EET MIC
Total/NA	Analysis	8021B		1	5 mL	5 mL	40174	11/22/22 12:32	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40319	11/23/22 13:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			40100	11/21/22 11:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	39729	11/16/22 13:44	DM	EET MIC
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39986	11/20/22 14:38	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	39710	11/16/22 10:47	KS	EET MIC
Soluble	Analysis	300.0		5			39996	11/19/22 16:39	CH	EET MID

**Laboratory References:** 

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

# **Accreditation/Certification Summary**

Client: Ensolum
Project/Site: RDX 9-1
Job ID: 890-3446-1
SDG: Rural Eddy NM

# **Laboratory: Eurofins Midland**

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

Authority Texas		ogram	Identification Number	<b>Expiration Date</b>
		ELAP	T104704400-22-24	06-30-23
The following englytes	and the street and the state of a contract that			
the agency does not of	• '	it the laboratory is not certifi	ed by the governing authority. This list ma	ay include analytes for
,	• '	t the laboratory is not certifi  Matrix	ed by the governing authority. This list ma	ay include analytes for
the agency does not of	fer certification.	•	, , ,	ay include analytes for

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# **Method Summary**

Client: Ensolum

Job ID: 890-3446-1

Project/Site: RDX 9-1

SDG: Rural Eddy NM

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

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

**Eurofins Carlsbad** 

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# **Sample Summary**

Client: Ensolum Project/Site: RDX 9-1 Job ID: 890-3446-1

SDG: Rural Eddy NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Dept
890-3446-1	PH09	Solid	11/11/22 12:50	11/14/22 08:13	0.5
890-3446-2	PH09	Solid	11/11/22 13:00	11/14/22 08:13	1

eurofins :

Xenco

**Environment Testing** 

Phone:

City, State ZIP:

Carlsbad, NM 88220 3122 National Parks HWY

281-702-2329

Email: | jhernandez@Ensolum.com, jim.raley@dvn.com

City, State ZIP:

Carlsbad, NM 88220 5315 Buena Vista Dr.

Address:

**Turn Around** 

ANALYSIS REQUEST

Preservative Codes

Address: Company Name: Project Manager:

Joseph Hernandez

Bill to: (if different) Company Name:

Jim Raley

WPX

Ensolum

Project Name:

# Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 Chain of Custody

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

www.xenco.com Page of Work Order Comments
Work Order Comments
Program: UST/PST ☐ PRP☐ Brownfields ☐ RRC ☐ Superfund ☐
 State of Project:
Reporting: Level II  Level III  PST/JST TRRP Level IV
Deliverables: EDD ADaPT Other:

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	ed.	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.	and subcontractors. It assigns lient if such losses are due to cl alyzed. These terms will be enf	(enco, its affiliates s incurred by the cl s Xenco, but not an	expenses o Eurofins X	mpany to / losses or ubmitted t	client co ity for any sample s	e order from y responsibili f \$5 for each	assume any acharge of	nstitutes a va and shall not a h project and	f samples co of samples a pplied to eac	relinquishment o only for the cost of \$85.00 will be a	document and co will be liable nimum charge	otice: Signature of this f service. Eurofins Xen f Eurofins Xenco. A mir	
7471	Hg: 1631 / 245.1 / 7470 / 7471		Cu Pb Mn Mo Ni Se Ag Tl U	Sb As Ba Be Cd Cr Co Cu	3a Be	b As E	111	TCLP / SPLP 6010: 8RCRA	SPLP 6	TCLP /	ed	to be analyz	nd Metal(s)	Circle Method(s) and Metal(s) to be analyzed	
V Zn	Se Ag SiO <sub>2</sub> Na Sr TI Sn U V Zn	Mo Ni K Se Ag SiO <sub>2</sub>	Cr Co Cu Fe Pb Mg Mn Mo Ni K	Be B Cd Ca Cr (		Sb As Ba	≥	Texas 11	13PPM	8RCRA 1	~	200.8 / 6020:		Total 200.7 / 6010	
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					×	×	>	Grab/		13:00	11.11.22	S	)9	PH09	
	1_				×	×		Grab/	0.5	12:50	11.11.22	S	)9	PH09	_
omments	Sample Comments				втех	CHLOI	# of Cont	Grab/ Comp	d Depth	Time Sampled	Date Sampled	Matrix	ntification	Sample Identification	
Acid: SAPC	NaOH+Ascorbic Acid: SAPC							2,4		Corrected Temperature:	Corrected 1			Total Containers:	
)H: Zn	Zn Acetate+NaOH: Zn	tody	890-3446 Chain of Custody					8/6		N/A Temperature Reading:	Temperatur	No	als: Yes	Sample Custody Seals:	
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>					PA:		0,0		Factor:	Correction Factor:	No NIA	is: Yes	Cooler Custody Seals:	_
	NaHSO4: NABIS					300		8	SW C	ter ID:	Thermometer ID:	(Yes) No		Samples Received Intact	
	H <sub>3</sub> PO <sub>4</sub> : HP				-	).0)	nete	NO Si	Kes	Wet ice:	Yes No	Temp Blank:		SAMPLE RECEIPT	
NaOH: Na	H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>					+	rs	4:30pm	the lab, if received by 4:30pm	the lab, if		01	1061092601	CC #:	
HNO <sub>3</sub> : HN	HCL: HC		_		<b>,,,,,</b>			ceived by	TAT starts the day received by	TAT starts		yte Konan	Yocoly Edyte Konan	Sampler's Name:	_
MeOH: Me	Cool: Cool							5 Day TAT		Due Date:		y, NM	Rural Eddy, NM	Project Location:	_
DI Water: H <sub>2</sub> O	None: NO						Code		e 🔲 Rush	Routine		60	03A1987060	Project Number:	_

# **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3446-1 SDG Number: Rural Eddy NM

List Source: Eurofins Carlsbad

Login Number: 3446 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.	N/A	Refer to Job Narrative for details.
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: 890-3446-1

SDG Number: Rural Eddy NM

SDG Number: Rural Eddy NM

List Source: Eurofins Midland List Creation: 11/15/22 11:14 AM

Login Number: 3446 List Number: 2

<6mm (1/4").

Creator: Rodriguez, Leticia

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	N/A	

Eurofins Carlsbad

Released to Imaging: 1/16/2024 1:34:47 PM

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# **Eurofins Carlsbad**

# **Job Notes**

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

# **Authorization**

Generated 11/23/2022 1:43:28 PM

Authorized for release by Jessica Kramer, Project Manager Jessica.Kramer@et.eurofinsus.com (432)704-5440

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Devon Team Ensolum 705 W. Wadley Suite 210 Midland Texas 79701

JOB DESCRIPTION

Generated 11/21/2022 5:28:57 PM

RDX 9-1 SDG NUMBER Rural Eddy NM

**JOB NUMBER** 

890-3444-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220



Client: Ensolum
Project/Site: RDX 9-1

Laboratory Job ID: 890-3444-1
SDG: Rural Eddy NM

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# **Definitions/Glossary**

Job ID: 890-3444-1 Client: Ensolum Project/Site: RDX 9-1 SDG: Rural Eddy NM

### **Qualifiers**

GC	<b>VOA</b>
Qua	lifier

F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

**Qualifier Description** 

### **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 Descr	iption

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

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 MOI 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 **Practical Quantitation Limit PQL** 

**PRES** Presumptive **Quality Control** QC

RER Relative Error Ratio (Radiochemistry)

Reporting Limit or Requested Limit (Radiochemistry) RL

**RPD** Relative Percent Difference, a measure of the relative difference between two points

Toxicity Equivalent Factor (Dioxin) TEF **TEQ** Toxicity Equivalent Quotient (Dioxin)

**TNTC** Too Numerous To Count

### **Case Narrative**

Client: Ensolum

Job ID: 890-3444-1

Project/Site: RDX 9-1

SDG: Rural Eddy NM

Job ID: 890-3444-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3444-1

### Receipt

The samples were received on 11/14/2022~8:13~AM. 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  $5.4^{\circ}C$ 

### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: PH10 (890-3444-1) and PH10 (890-3444-2).

### GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-39696 and analytical batch 880-39930 was outside the upper control limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-39722 and analytical batch 880-39930 was outside the upper control limits.

Method 8021B: The method blank for preparation batch 880-39696 and analytical batch 880-39930 contained m-Xylene & p-Xylene 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.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-39722 and analytical batch 880-39930 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: The method blank for preparation batch 880-39722 and analytical batch 880-39930 contained m-Xylene & p-Xylene 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.

### GC Semi VOA

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-39724 and analytical batch 880-39981 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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.

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Matrix: Solid

Lab Sample ID: 890-3444-1

# **Client Sample Results**

Client: Ensolum

Project/Site: RDX 9-1

Job ID: 890-3444-1

SDG: Rural Eddy NM

Client Sample ID: PH10

Date Collected: 11/11/22 13:10 Date Received: 11/14/22 08:13

Sample Depth: 0.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/16/22 14:31	11/20/22 05:32	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/16/22 14:31	11/20/22 05:32	1
Ethylbenzene	< 0.00199	U	0.00199		mg/Kg		11/16/22 14:31	11/20/22 05:32	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/16/22 14:31	11/20/22 05:32	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/16/22 14:31	11/20/22 05:32	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/16/22 14:31	11/20/22 05:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130				11/16/22 14:31	11/20/22 05:32	1
1,4-Difluorobenzene (Surr)	85		70 - 130				11/16/22 14:31	11/20/22 05:32	1
- Method: TAL SOP Total BTEX - 1	otal BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/21/22 18:12	1
Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) ((	3C)						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/21/22 09:06	1
- Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0		mg/Kg		11/16/22 11:27	11/20/22 18:00	1
(GRO)-C6-C10									
Diesel Range Organics (Over	<50.0	U	50.0		mg/Kg		11/16/22 11:27	11/20/22 18:00	1
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<50.0 <50.0		50.0 50.0		mg/Kg mg/Kg		11/16/22 11:27	11/20/22 18:00 11/20/22 18:00	
Diesel Range Organics (Over C10-C28)		U							1
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<50.0	U	50.0				11/16/22 11:27	11/20/22 18:00	1 Dil Fac
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	<50.0	U	50.0				11/16/22 11:27  Prepared	11/20/22 18:00  Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	<50.0 **Recovery 96 105	U Qualifier	50.0  Limits  70 - 130  70 - 130				11/16/22 11:27  Prepared  11/16/22 11:27	11/20/22 18:00  Analyzed  11/20/22 18:00	1 <b>Dil Fac</b>
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	<50.0  **Recovery 96 105  5, lon Chromato	U Qualifier	50.0  Limits  70 - 130  70 - 130	MDL		D	11/16/22 11:27  Prepared  11/16/22 11:27	11/20/22 18:00  Analyzed  11/20/22 18:00	1 Dil Fac

**Client Sample ID: PH10** 

Date Collected: 11/11/22 13:20 Date Received: 11/14/22 08:13

Sample Depth: 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/16/22 14:31	11/20/22 05:58	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/16/22 14:31	11/20/22 05:58	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/16/22 14:31	11/20/22 05:58	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/16/22 14:31	11/20/22 05:58	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/16/22 14:31	11/20/22 05:58	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/16/22 14:31	11/20/22 05:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130				11/16/22 14:31	11/20/22 05:58	1

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Lab Sample ID: 890-3444-2

**Matrix: Solid** 

Matrix: Solid

Dil Fac

Analyzed

11/19/22 16:00

Lab Sample ID: 890-3444-2

# **Client Sample Results**

Client: Ensolum Job ID: 890-3444-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

**Client Sample ID: PH10** 

Date Collected: 11/11/22 13:20 Date Received: 11/14/22 08:13

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Result Qualifier

1800

Analyte

Chloride

Date Received: 11/14/22 08:13									
Sample Depth: 1									
Method: SW846 8021B - Volatile	Organic Comp	ounds (GC)	(Continued)						
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	99		70 - 130				11/16/22 14:31	11/20/22 05:58	1
Method: TAL SOP Total BTEX - 1	otal BTEX Cald	culation							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	,	mg/Kg			11/21/22 18:12	1
Method: SW846 8015 NM - Diese Analyte Total TPH		Qualifier	RL	MDL	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 11/21/22 09:06	Dil Fac
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)						
Analyte	• •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/16/22 11:27	11/20/22 18:20	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/16/22 11:27	11/20/22 18:20	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/16/22 11:27	11/20/22 18:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130				11/16/22 11:27	11/20/22 18:20	1
o-Terphenyl	115		70 - 130				11/16/22 11:27	11/20/22 18:20	1

RL

25.2

MDL Unit

mg/Kg

D

Prepared

# **Surrogate Summary**

Client: Ensolum Job ID: 890-3444-1
Project/Site: RDX 9-1 SDG: Rural Eddy NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		BFB1	DFBZ1	Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-21638-A-1-A MS	Matrix Spike	81	90	
880-21638-A-1-B MSD	Matrix Spike Duplicate	104	94	
890-3444-1	PH10	104	85	
890-3444-2	PH10	111	99	
LCS 880-39722/1-A	Lab Control Sample	113	92	
LCSD 880-39722/2-A	Lab Control Sample Dup	95	94	
MB 880-39696/5-A	Method Blank	66 S1-	89	
MB 880-39722/5-A	Method Blank	69 S1-	91	

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 Lin							
		1CO1	OTPH1							
Lab Sample ID	Client Sample ID	(70-130)	(70-130)							
880-21603-A-61-D MS	Matrix Spike	82	78							
880-21603-A-61-E MSD	Matrix Spike Duplicate	83	80							
890-3444-1	PH10	96	105							
890-3444-2	PH10	103	115							
LCS 880-39724/2-A	Lab Control Sample	84	93							
LCSD 880-39724/3-A	Lab Control Sample Dup	83	93							
MB 880-39724/1-A	Method Blank	100	117							

**Surrogate Legend** 

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

# **QC Sample Results**

Client: Ensolum Job ID: 890-3444-1 SDG: Rural Eddy NM Project/Site: RDX 9-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39696/5-A

**Matrix: Solid** 

Analysis Batch: 39930

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 39696

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/16/22 10:35	11/19/22 06:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/16/22 10:35	11/19/22 06:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/16/22 10:35	11/19/22 06:32	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/16/22 10:35	11/19/22 06:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/16/22 10:35	11/19/22 06:32	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/16/22 10:35	11/19/22 06:32	1

MB MB

Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	66	S1-	70 - 130	-	11/16/22 10:35	11/19/22 06:32	1
1,4-Difluorobenzene (Surr)	89		70 - 130		11/16/22 10:35	11/19/22 06:32	1

Lab Sample ID: MB 880-39722/5-A

Matrix: Solid

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 39722

Analysis Batch: 39930

	IVID	INID								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	<0.00200	U	0.00200		mg/Kg		11/16/22 14:31	11/19/22 20:05	1	
Toluene	<0.00200	U	0.00200		mg/Kg		11/16/22 14:31	11/19/22 20:05	•	
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/16/22 14:31	11/19/22 20:05		
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/16/22 14:31	11/19/22 20:05		
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/16/22 14:31	11/19/22 20:05		
Vulonos Total	<0.00400	11	0.00400		ma/Ka		11/16/22 11:21	11/10/22 20:05	-	

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	69	S1-	70 - 130	11/16/22 14:31	11/19/22 20:05	1
1,4-Difluorobenzene (Surr)	91		70 - 130	11/16/22 14:31	11/19/22 20:05	1

Lab Sample ID: LCS 880-39722/1-A

**Matrix: Solid** 

Analysis Batch: 39930

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 39722

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.08735		mg/Kg		87	70 - 130	
Toluene	0.100	0.09484		mg/Kg		95	70 - 130	
Ethylbenzene	0.100	0.08020		mg/Kg		80	70 - 130	
m-Xylene & p-Xylene	0.200	0.1782		mg/Kg		89	70 - 130	
o-Xylene	0.100	0.08946		mg/Kg		89	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	113	70 _ 130
1.4-Difluorobenzene (Surr)	92	70 - 130

Lab Sample ID: LCSD 880-39722/2-A

**Matrix: Solid** 

Analysis Batch: 39930

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Prep Batch: 39722

	<b>Бріке</b>	LCSD LCSD				%Rec		RPD	
Analyte	Added	Result Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.08926	mg/Kg		89	70 - 130	2	35	

# **QC Sample Results**

Client: Ensolum Job ID: 890-3444-1
Project/Site: RDX 9-1 SDG: Rural Eddy NM

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

Lab Sample ID: LCSD 880-39722/2-A

Matrix: Solid

Analysis Batch: 39930

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39722

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Toluene	0.100	0.08918		mg/Kg		89	70 - 130	6	35
Ethylbenzene	0.100	0.08323		mg/Kg		83	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.1763		mg/Kg		88	70 - 130	1	35
o-Xylene	0.100	0.08097		mg/Kg		81	70 - 130	10	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 880-21638-A-1-A MS

Client Sample ID: Matrix Spike

Matrix: Solid
Analysis Batch: 39930
Prep Type: Total/NA
Prep Batch: 39722

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U F1 F2	0.0996	0.009060	F1	mg/Kg		9	70 - 130	
Toluene	<0.00200	U F1 F2	0.0996	0.006781	F1	mg/Kg		7	70 - 130	
Ethylbenzene	<0.00200	U F1 F2	0.0996	0.009392	F1	mg/Kg		9	70 - 130	
m-Xylene & p-Xylene	<0.00401	U F1 F2	0.199	0.02431	F1	mg/Kg		11	70 - 130	
o-Xylene	<0.00200	U F1 F2	0.0996	0.01365	F1	mg/Kg		14	70 - 130	

	1110 1110	
Surrogate	%Recovery Qualifi	er Limits
4-Bromofluorobenzene (Surr)	81	70 - 130
1,4-Difluorobenzene (Surr)	90	70 - 130

Me Me

MSD MSD

Lab Sample ID: 880-21638-A-1-B MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Solid
Analysis Batch: 39930
Prep Type: Total/NA
Prep Batch: 39722

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00200	U F1 F2	0.0996	0.06861	F1 F2	mg/Kg		69	70 - 130	153	35
Toluene	<0.00200	U F1 F2	0.0996	0.05867	F1 F2	mg/Kg		59	70 - 130	159	35
Ethylbenzene	<0.00200	U F1 F2	0.0996	0.05768	F1 F2	mg/Kg		58	70 - 130	144	35
m-Xylene & p-Xylene	<0.00401	U F1 F2	0.199	0.1185	F1 F2	mg/Kg		59	70 - 130	132	35
o-Xylene	<0.00200	U F1 F2	0.0996	0.06295	F1 F2	mg/Kg		63	70 - 130	129	35

	MSD	INISD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

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

Lab Sample ID: MB 880-39724/1-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

MB MB

Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac

Gasoline Range Organics <50.0 U 50.0 mg/Kg 11/16/22 11:27 11/20/22 08:13 1 (GRO)-C6-C10

**Eurofins Carlsbad** 

Prep Batch: 39724

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Analysis Batch: 39981

o-Terphenyl

# **QC Sample Results**

Client: Ensolum Job ID: 890-3444-1 SDG: Rural Eddy NM Project/Site: RDX 9-1

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

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Lab Sample ID: MB 880-39724/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 39981 Prep Batch: 39724

ı	_								
		MB	MB						
	Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
	Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/16/22 11:27	11/20/22 08:13	1
	OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/16/22 11:27	11/20/22 08:13	1
		MB	MB						
	Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
	1-Chlorooctane	100		70 - 130			11/16/22 11:27	11/20/22 08:13	1

70 - 130

Lab Sample ID: LCS 880-39	724/2-A						Client	Sample	ID: Lab Control Sar
Matrix: Solid									Prep Type: Tota
Analysis Batch: 39981									Prep Batch: 39
			Spike	LCS	LCS				%Rec
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics			1000	939.9		mg/Kg		94	70 - 130
(GRO)-C6-C10									
Diesel Range Organics (Over			1000	997.2		mg/Kg		100	70 - 130
C10-C28)									
	LCS	LCS							
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane	84		70 - 130						
o-Terphenyl	93		70 - 130						

Lab Sample ID: LCSD 880-39724/3-A Matrix: Solid Analysis Batch: 39981				Clier	nt San	nple ID:	•	ol Sampl Type: To Batch:	tal/NA
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	907.7		mg/Kg		91	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	962.3		mg/Kg		96	70 - 130	4	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	93		70 - 130

Matrix: Solid Analysis Batch: 39981										ype: Total/NA Batch: 39724
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	997	1507	F1	mg/Kg		146	70 - 130	
Diesel Range Organics (Over C10-C28)	177		997	1003		mg/Kg		83	70 - 130	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	82		70 - 130							
o-Terphenyl	78		70 - 130							

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Lab Sample ID: 880-21603-A-61-D MS

11/16/22 11:27

11/20/22 08:13

Client Sample ID: Matrix Spike

Lab Sample ID: 880-21603-A-61-E MSD

SDG: Rural Eddy NM

Job ID: 890-3444-1

Client: Ensolum Project/Site: RDX 9-1

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

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analysis Batch: 39981 Prep Batch: 39724

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<50.0	U F1	999	1706	F1	mg/Kg		166	70 - 130	12	20
(GRO)-C6-C10											
Diesel Range Organics (Over	177		999	1017		mg/Kg		84	70 - 130	1	20
C10-C28)											

**Matrix: Solid** 

MSD MSD Qualifier Limits Surrogate %Recovery 70 - 130 1-Chlorooctane 83 o-Terphenyl 80 70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39710/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 39996

мв мв MDL Unit Result Qualifier Analyte RL Prepared Analyzed Dil Fac Chloride <5.00 5.00 11/19/22 14:23 mg/Kg

Lab Sample ID: LCS 880-39710/2-A **Client Sample ID: Lab Control Sample Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 39996** 

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit D %Rec Limits Chloride 250 259.5 104 90 - 110 mg/Kg

Lab Sample ID: LCSD 880-39710/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 39996

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	256.0		ma/Ka		102	90 110		20	

Lab Sample ID: 890-3444-2 MS **Client Sample ID: PH10 Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 39996

Sample Sample Spike MS MS %Rec Analyte Qualifier Added Qualifier Result Result Unit %Rec Limits Chloride 90 - 110 1260 103 1800 3101 mg/Kg

Lab Sample ID: 890-3444-2 MSD **Client Sample ID: PH10 Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 39996

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	1800		1260	3109		mg/Kg		104	90 - 110	0	20

# **QC Association Summary**

Client: Ensolum

Project/Site: RDX 9-1

SDG: Rural Eddy NM

# **GC VOA**

# Prep Batch: 39696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-39696/5-A	Method Blank	Total/NA	Solid	5035	

# Prep Batch: 39722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3444-1	PH10	Total/NA	Solid	5035	
890-3444-2	PH10	Total/NA	Solid	5035	
MB 880-39722/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39722/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39722/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21638-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-21638-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

# Analysis Batch: 39930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3444-1	PH10	Total/NA	Solid	8021B	39722
890-3444-2	PH10	Total/NA	Solid	8021B	39722
MB 880-39696/5-A	Method Blank	Total/NA	Solid	8021B	39696
MB 880-39722/5-A	Method Blank	Total/NA	Solid	8021B	39722
LCS 880-39722/1-A	Lab Control Sample	Total/NA	Solid	8021B	39722
LCSD 880-39722/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39722
880-21638-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	39722
880-21638-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	39722

### Analysis Batch: 40149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3444-1	PH10	Total/NA	Solid	Total BTEX	
890-3444-2	PH10	Total/NA	Solid	Total BTEX	

# GC Semi VOA

# Prep Batch: 39724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3444-1	PH10	Total/NA	Solid	8015NM Prep	
890-3444-2	PH10	Total/NA	Solid	8015NM Prep	
MB 880-39724/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39724/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39724/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-21603-A-61-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-21603-A-61-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

### Analysis Batch: 39981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3444-1	PH10	Total/NA	Solid	8015B NM	39724
890-3444-2	PH10	Total/NA	Solid	8015B NM	39724
MB 880-39724/1-A	Method Blank	Total/NA	Solid	8015B NM	39724
LCS 880-39724/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39724
LCSD 880-39724/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39724
880-21603-A-61-D MS	Matrix Spike	Total/NA	Solid	8015B NM	39724
880-21603-A-61-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39724

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# **QC Association Summary**

Client: Ensolum
Project/Site: RDX 9-1
Job ID: 890-3444-1
SDG: Rural Eddy NM

# GC Semi VOA

# Analysis Batch: 40045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3444-1	PH10	Total/NA	Solid	8015 NM	
890-3444-2	PH10	Total/NA	Solid	8015 NM	

# HPLC/IC

### Leach Batch: 39710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3444-1	PH10	Soluble	Solid	DI Leach	_
890-3444-2	PH10	Soluble	Solid	DI Leach	
MB 880-39710/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39710/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39710/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3444-2 MS	PH10	Soluble	Solid	DI Leach	
890-3444-2 MSD	PH10	Soluble	Solid	DI Leach	

# Analysis Batch: 39996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3444-1	PH10	Soluble	Solid	300.0	39710
890-3444-2	PH10	Soluble	Solid	300.0	39710
MB 880-39710/1-A	Method Blank	Soluble	Solid	300.0	39710
LCS 880-39710/2-A	Lab Control Sample	Soluble	Solid	300.0	39710
LCSD 880-39710/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39710
890-3444-2 MS	PH10	Soluble	Solid	300.0	39710
890-3444-2 MSD	PH10	Soluble	Solid	300.0	39710

**Eurofins Carlsbad** 

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# Lab Chronicle

Client: Ensolum Job ID: 890-3444-1 Project/Site: RDX 9-1 SDG: Rural Eddy NM

**Client Sample ID: PH10** 

Date Collected: 11/11/22 13:10 Date Received: 11/14/22 08:13 Lab Sample ID: 890-3444-1

**Matrix: Solid** 

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	39722	11/16/22 14:31	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39930	11/20/22 05:32	SM	EET MID
Total/NA	Analysis	Total BTEX		1			40149	11/21/22 18:12	SM	EET MID
Total/NA	Analysis	8015 NM		1			40045	11/21/22 09:06	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	39724	11/16/22 11:27	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39981	11/20/22 18:00	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	39710	11/16/22 10:47	KS	EET MID
Soluble	Analysis	300.0		1			39996	11/19/22 15:54	CH	EET MID

**Client Sample ID: PH10** Lab Sample ID: 890-3444-2 Date Collected: 11/11/22 13:20 **Matrix: Solid** 

Date Received: 11/14/22 08:13

Batch Dil Initial Final Batch Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab 5035 Total/NA Prep 4.97 g 5 mL 39722 11/16/22 14:31 MNR EET MID 8021B Total/NA 5 mL 39930 11/20/22 05:58 **EET MID** Analysis 1 5 mL SM Total/NA Total BTEX 40149 11/21/22 18:12 Analysis 1 SM **EET MID** Total/NA Analysis 8015 NM 40045 11/21/22 09:06 SM **EET MID** Total/NA 39724 11/16/22 11:27 Prep 8015NM Prep 10.01 g 10 mL DM EET MID Total/NA Analysis 8015B NM 1 uL 1 uL 39981 11/20/22 18:20 SM **EET MID** Soluble 11/16/22 10:47 EET MID Leach DI Leach 4.97 g 50 mL 39710 KS Soluble Analysis 300.0 5 39996 11/19/22 16:00 СН **EET MID** 

**Laboratory References:** 

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

# **Accreditation/Certification Summary**

Client: Ensolum
Project/Site: RDX 9-1
Job ID: 890-3444-1
SDG: Rural Eddy NM

# **Laboratory: Eurofins Midland**

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

Authority	Pr	ogram	Identification Number	Expiration Date
Texas	NE	ELAP	T104704400-22-24	06-30-23
The following analytes	are included in this report by	it the leberatory is not cortifi	ed by the governing authority. This list ma	arrimalizada amaliztaa farr
the agency does not of	• •	it the laboratory is not certifi	ed by the governing authority. This list his	ay include arialytes for
0 ,	• •	Matrix	Analyte	ay include analytes for
the agency does not of	fer certification.	•	, , ,	ay include analytes for

EET MID

ASTM

# **Method Summary**

Client: Ensolum Job ID: 890-3444-1
Project/Site: RDX 9-1 SDG: Rural Eddy NM

Method	Method Description	Protocol	Laboratory
3021B	Volatile Organic Compounds (GC)	SW846	EET MID
otal BTEX	Total BTEX Calculation	TAL SOP	EET MID
3015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
800.0	Anions, Ion Chromatography	MCAWW	EET MID
6035	Closed System Purge and Trap	SW846	EET MID
015NM Prep	Microextraction	SW846	EET MID

### **Protocol References:**

DI Leach

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

**Deionized Water Leaching Procedure** 

### Laboratory References:

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

**Eurofins Carlsbad** 

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# **Sample Summary**

Client: Ensolum Project/Site: RDX 9-1 Job ID: 890-3444-1

SDG: Rural Eddy NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3444-1	PH10	Solid	11/11/22 13:10	11/14/22 08:13	0.5
890-3444-2	PH10	Solid	11/11/22 13:20	11/14/22 08:13	1

# Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300

Total Manipel:	Revised Date: 08/25/2020 Rev. 2020 2			6			0			
Preservatil None: NO Cool: Cool HcL: HC H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> : HP NaHSO <sub>4</sub> : NABIS Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Zn Acetate+NaOH NaOH+Ascorbic A Sample Co Sample Co Na Sr TI Sn U V 1/245.1/7470/7 Led.  PST/UST   TRRP   Preservatil None: NO Cool: Cool HcL: HC H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> : HP NaHSO <sub>4</sub> : NABIS Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Zn Acetate+NaOH NaOH+Ascorbic A Sample Co				1 X	H		OF WAY		7	- flat
r Comments r Comments  varields □ RRC □ varields □ TRRP □ varields □ TRRP □ varields □ Other:  Preservati None: NO Cool: Cool HcL: Hc H₂So₄: H₂ H₃PO₄: HP NaHSO₄: NASIS Na₂S₂O₃: NASO₃ Zn Acetate+NaOh NaOH+Ascorbic A Sample Co Sample Co Sample Co Na Sr TI Sn U \ 1/245.1/7470 / 7	Date/Time	Received by: (Signature)		Time	Date/	ure)	Received by: (Signat	re)	ed by: (Signatu	Relinquishe
PST/UST   TRRP   TRRP   TRRP   Other:  Preservath None: NO Cool: Cool HCL: HC H <sub>2</sub> SQ <sub>4</sub> : H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> : HP NaHSO <sub>4</sub> : NaSO <sub>3</sub> Zn Acetate+NaOh NaOH+Ascorbic A Sample Co Na Sr TI Sn U N Na Sr TI Sn U N		gns standard terms and conditions to circumstances beyond the control enforced unless previously negotiated.	nco, its affiliates and subcontractors. It assince recurred by the client if such losses are due tenco, but not analyzed. These terms will be	to Eurofins Xer s or expenses li ed to Eurofins )	ent company for any losse: mple submitt	urchase order from cli me any responsibility arge of \$5 for each sa	namples constitutes a valid per samples and shall not assubled to each project and a cl	d relinquishment of s te only for the cost of of \$85.00 will be app	of this document and s Xenco will be liab A minimum charge	otice: Signature of service. Eurofins Xenco.
Work Order Comments   Sept Hernandez   Bill to; (if afference)   Jim Raley   Work Order Comments	/74	Wn Mo Ni K Se Ag SiO <sub>2</sub> Na Sr TI Ag TI U Hg: 1631/245.1/	Cd Ca Cr Co Cu Fe Pb Mg I d Cr Co Cu Pb Mn Mo Ni Se	Ba Be B Ba Be C	A Sb As	PM Texas 11 / PP 6010: 8RCR	8RCRA 13P	0.8 / 6020: ) to be analyzed	7 / 6010 200 (s) and Metal(s	Total 200.
Work Order Comments   Sampled   Sa										
Bill to: If different)   Jim Ralay   Work Order Comments									\	
Septh Hernandez   Bill to: (If different)   Jim Raley   Work Order Comments										
Septh Hernandez   Bill for, (If different)   Jim Raley   Work Order Comments							\	12		
Septh Hernandez   Septh Hern								10 11		
Seph Hemandez   Bill to: (If different)   Jim Railey   Work Order Comments										
	1AB1728635377			1						
Sept   Hermandez   Sept   Hermandez   Sept   Sept	Incident ID									
Seph Hernandez   Seph						Grab/	13:20		PH10	
						Grab/	13:10		PH10	
Work Order Comments	Imple Comments	Sa				Grab/ Comp			Identification	Sample
	Ascorbic Acid: SAPC	NaOH+,	_		RIDE	4.0	orrected Temperature:			otal Container
Ph Hernandez   Bill to: (If different)	ate+NaOH: Zn		890-3444 Chain of Custon	1	S (E	なっち	mperature Reading:	NO NIA		ample Custod
Ph Hernandez   Bill to: (if different)   Jim Raley   Jim Raley   Jim Raley   Jim Raley   Program: UST/PST   PRP   Brownfields   RRC	3: NaSO <sub>3</sub>	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>				2	prrection Factor:	No NIA		ooler Custody
	. NABIS	NaHSO <sub>4</sub>				1	1	) No		amples Receiv
tt Manager:     Joseph Hernandez     Bill to: (if different)     Jim Raley     Work Order Comments       any Name:     Ensolum     Company Name:     Company Name:     WPX     WPX     Program: UST/PST   PRP   Brownfields   RRC   State of Project:       ss:     3122 National Parks HWY     Address:     5315 Buena Vista Dr.     State of Project:     State of Project:       size ZIP:     Carlsbad, NM 88220     Email:   Ihernandez@Ensolum.com_ilm.raley@dvn.com     Carlsbad, NM 88220     State of Project:       t Name:     RDX 9-1     Turn Around     Pres.     ANALYSIS REQUEST     Deliverables: EDD   ADaPT   Other:       t None: NO     ANALYSIS REQUEST     Preservath       t Location:     Rural Eddy, NM     Due Date:     5 Day TAT   Cool: Cool       the lab. if received by the lab.	Ŧ	H₃PO₄: I				No				AMPLE RE
Joseph Hernandez   Bill to: (if different)   Jim Raley		H <sub>2</sub> S0 <sub>4</sub> : H			118	L	the lab, if rece	301		)C#
Joseph Hernandez		HCL: HC				day received by	TAT starts the	dyte Konan		ampler's Nam
Joseph Hernandez   Bill to: (if different)   Jim Raley   Work Order Comments   Work Order Comments		Cool: Co					Due Date:	MN		roject I ocation
er:     Joseph Hernandez     Bill to: (if different)     Jim Raley     Work Order Comments       ne:     Ensolum     Company Name:     WPX     Program: UST/PST   PRP   Brownfields   RRC   State of Project:       3122 National Parks HWY     Address:     5315 Buena Vista Dr.     State of Project:       Carlsbad, NM 88220     City, State ZIP:     Carlsbad, NM 88220     Reporting: Level III   Level III   PST/UST   TRRP   PRP   PST/UST   TRRP   PRP   P		None: N			de .		✓ Routine	060		roject Number
Manager:     Joseph Hernandez     Bill to: (if different)     Jim Raley     Work Order Comments       ny Name:     Ensolum     Company Name:     WPX     Program: UST/PST   PRP   Brownfields   RRC   PRP   Brownfields   R	eservative Codes						Turn		RDX 9-1	roject Name:
## Joseph Hernandez  Bill to: (if different)	Other:			jim.raley@	olum.com	hernandez@Ens	Email:	2329	281-702-	hone:
Joseph Hernandez       Bill to: (if different)       Jim Raley       Work Order Comments         Name:       Ensolum       Company Name:       WPX       Program: UST/PST ☐ PRP☐ Brownfields ☐ RRC ☐         3122 National Parks HWY       Address:       5315 Buena Vista Dr.       State of Project:	TRRP Level IVL	orting: Level II Level III PST/UST		ad, NM 88220	Carlsba	City, State ZIP:		NM 88220	Cartsbad	ity, State ZIP:
Joseph Hernandez  Bill to: (if different)  Ensolum  Bill to: (if different)  Jim Raley  WPX  Program: UST/PST   PRP   Brownfields   RRC	]	e of Project:		uena Vista D	5315 B	Address:		ional Parks HW		ddress:
Joseph Hernandez Bill to: (if different) Jim Ratey		yram: UST/PST ☐ PRP ☐ Brownfields ☐	Prog		WPX	Company Name:				ompany Name
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			Midiand, 1 X (432) 704-5440, San Antonio, 1 X (210) 509-3334 EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296	5-3443, Lubbo	TX (915) 58	Midiand, I.	Guing and June	Xenco		

11/21/2022

# **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3444-1

SDG Number: Rural Eddy NM

List Source: Eurofins Carlsbad

Login Number: 3444 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.	N/A	Refer to Job Narrative for details.
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: 890-3444-1

SDG Number: Rural Eddy NM

SDG Number: Rural Eddy NM

List Source: Eurofins Midland
List Number: 2
List Creation: 11/15/22 11:14 AM

Creator: Rodriguez, Leticia

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	N/A	

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<6mm (1/4").

# **Eurofins Carlsbad**

# **Job Notes**

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

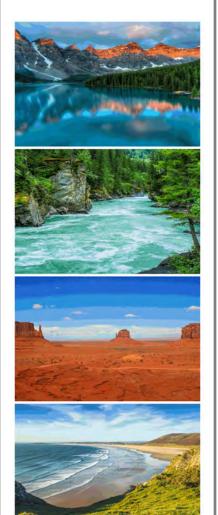
# **Authorization**

Generated 11/21/2022 5:28:57 PM

Authorized for release by Jessica Kramer, Project Manager Jessica.Kramer@et.eurofinsus.com (432)704-5440

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Report to:
Gilbert Moreno



5796 U.S. Hwy 64 Farmington, NM 87401

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





# envirotech

Practical Solutions for a Better Tomorrow

# **Analytical Report**

WPX Energy - Carlsbad

Project Name: RDX 9-1

Work Order: E303132

Job Number: 01058-0007

Received: 3/30/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 4/5/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.

Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.

Envirotech Inc, holds the Utah TNI certification NM00979 for data reported.

Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.

Date Reported: 4/5/23

Gilbert Moreno 5315 Buena Vista Dr Carlsbad, NM 88220

Project Name: RDX 9-1 Workorder: E303132

Date Received: 3/30/2023 7:00:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 3/30/2023 7:00:00AM, under the Project Name: RDX 9-1.

The analytical test results summarized in this report with the Project Name: RDX 9-1 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman

Laboratory Director Office: 505-632-1881

Cell: 775-287-1762

whinchman@envirotech-inc.com

Raina Schwanz

Laboratory Administrator Office: 505-632-1881

rainaschwanz@envirotech-inc.com

**Alexa Michaels** 

Sample Custody Officer Office: 505-632-1881

labadmin@envirotech-inc.com

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Envirotech Web Address: www.envirotech-inc.com

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# Sample Summary

WPX Energy - Carlsbad	Project Name:	RDX 9-1	Donoutoda
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	04/05/23 14:44

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS01 4'	E303132-01A	Soil	03/27/23	03/30/23	Glass Jar, 2 oz.
FS02 4'	E303132-02A	Soil	03/27/23	03/30/23	Glass Jar, 2 oz.
FS03 4'	E303132-03A	Soil	03/27/23	03/30/23	Glass Jar, 2 oz.
FS04 4'	E303132-04A	Soil	03/27/23	03/30/23	Glass Jar, 2 oz.
FS05 4'	E303132-05A	Soil	03/27/23	03/30/23	Glass Jar, 2 oz.
FS06 4'	E303132-06A	Soil	03/27/23	03/30/23	Glass Jar, 2 oz.
FS07 4'	E303132-07A	Soil	03/27/23	03/30/23	Glass Jar, 2 oz.
FS08 4'	E303132-08A	Soil	03/27/23	03/30/23	Glass Jar, 2 oz.
FS09 4'	E303132-09A	Soil	03/27/23	03/30/23	Glass Jar, 2 oz.
FS10 4'	E303132-10A	Soil	03/27/23	03/30/23	Glass Jar, 2 oz.
FS11 4'	E303132-11A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS12 4'	E303132-12A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS13 4'	E303132-13A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS14 4'	E303132-14A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS15 4'	E303132-15A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS16 4'	E303132-16A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS17 4'	E303132-17A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS18 4'	E303132-18A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS19 4'	E303132-19A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS20 4'	E303132-20A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS21 4'	E303132-21A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS22 4'	E303132-22A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS23 4'	E303132-23A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS24 4'	E303132-24A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS25 4'	E303132-25A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS26 4'	E303132-26A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS27 4'	E303132-27A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
FS28 4'	E303132-28A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS01 4' E303132-01

		2000102 01					
Analyta	Result	Reporting Limit		ution	Prepared	Analyzed	Notes
Analyte	Resuit	Limit	Dill	ution	Prepared	Anaiyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Benzene	ND	0.0250		1	03/30/23	03/30/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/30/23	
Toluene	ND	0.0250		1	03/30/23	03/30/23	
o-Xylene	ND	0.0250		1	03/30/23	03/30/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/30/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		103 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		121 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		105 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		103 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		121 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		105 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0	_	1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0		1	03/30/23	04/04/23	
Surrogate: n-Nonane		101 %	50-200		03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2313091
Chloride	1490	20.0		1	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name: RDX 9-1	
5315 Buena Vista Dr	Project Number: 01058-000	7 Reported:
Carlsbad NM, 88220	Project Manager: Gilbert Mo	reno 4/5/2023 2:44:42PM

#### FS02 4' E303132-02

Result		Dilutio	on Prepared	Analyzed	Notes
			1	1 111111 ) 200	Batch: 2313056
			-	02/20/22	Batch: 2313030
		•			
		•			
		1			
ND	0.0250	1			
ND	0.0500	1	03/30/23	03/30/23	
ND	0.0250	1	03/30/23	03/30/23	
	98.4 %	70-130	03/30/23	03/30/23	
	119 %	70-130	03/30/23	03/30/23	
	100 %	70-130	03/30/23	03/30/23	
mg/kg	mg/kg	Aı	nalyst: SL		Batch: 2313056
ND	20.0	1	03/30/23	03/30/23	
	98.4 %	70-130	03/30/23	03/30/23	
	119 %	70-130	03/30/23	03/30/23	
	100 %	70-130	03/30/23	03/30/23	
mg/kg	mg/kg	Aı	nalyst: KM		Batch: 2313050
ND	25.0	1	03/30/23	04/04/23	
ND	50.0	1	03/30/23	04/04/23	
	98.4 %	50-200	03/30/23	04/04/23	
	_				D 1 2212001
mg/kg	mg/kg	Aı	nalyst: BA		Batch: 2313091
· · ·	mg/kg ND  mg/kg ND	mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           ND         0.0250           98.4 %         119 %           100 %         100 %           98.4 %         119 %           100 %         100 %           mg/kg         mg/kg           ND         25.0           ND         50.0	Result         Limit         Dilution           mg/kg         mg/kg         And           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0500         1           ND         0.0250         1           ND         70-130           119 %         70-130           100 %         70-130           mg/kg         mg/kg           ND         20.0         1           98.4 %         70-130           119 %         70-130           100 %         70-130           mg/kg         mg/kg           ND         25.0         1           ND         50.0         1	Result         Limit         Dilution         Prepared           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         03/30/23           ND         0.0250         1         03/30/23           ND         0.0250         1         03/30/23           ND         0.0250         1         03/30/23           ND         0.0500         1         03/30/23           ND         0.0250         1         03/30/23           119 %         70-130         03/30/23           119 %         70-130         03/30/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         03/30/23           119 %         70-130         03/30/23           119 %         70-130         03/30/23           119 %         70-130         03/30/23           100 %         70-130         03/30/23           100 %         70-130         03/30/23           mg/kg         mg/kg         Analyst: KM           ND         25.0         1         03/30/23           ND         50.0         1         03/30/23	Result         Limit         Dilution         Prepared         Analyzed           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         03/30/23         03/30/23           ND         0.0500         1         03/30/23         03/30/23           ND         0.0250         1         03/30/23         03/30/23           ND         0.0250         1         03/30/23         03/30/23           ND         70-130         03/30/23         03/30/23           119 %         70-130         03/30/23         03/30/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         03/30/23         03/30/23           119 %         70-130         03/30/23         03/30/23           119 %         70-130         03/30/23         03/30/23           100 %         70-130         03/30/23         03/30/23           100 %         70-130

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS03 4' E303132-03

		E303132-03					
		Reporting					
Analyte	Result	Limit	Dilı	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	: SL		Batch: 2313056
Benzene	ND	0.0250		1	03/30/23	03/30/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/30/23	
Toluene	ND	0.0250		1	03/30/23	03/30/23	
o-Xylene	ND	0.0250		1	03/30/23	03/30/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/30/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		97.0 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		116 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		101 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		97.0 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		116 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		101 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	: KM		Batch: 2313050
Diesel Range Organics (C10-C28)	57.1	25.0		1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	79.6	50.0		1	03/30/23	04/04/23	
Surrogate: n-Nonane		98.3 %	50-200	·	03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	: BA		Batch: 2313091
Chloride	4880	40.0		2	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS04 4' E303132-04

		Reporting					
Analyte	Result	Limit	Dilu	ıtion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Benzene	ND	0.0250	1	1	03/30/23	03/30/23	
Ethylbenzene	ND	0.0250	1	1	03/30/23	03/30/23	
Toluene	ND	0.0250	1	1	03/30/23	03/30/23	
o-Xylene	ND	0.0250	1	1	03/30/23	03/30/23	
p,m-Xylene	ND	0.0500	1	1	03/30/23	03/30/23	
Total Xylenes	ND	0.0250	1	1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		101 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		110 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		102 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		101 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		110 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		102 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2313050
Diesel Range Organics (C10-C28)	42.7	25.0	1	1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	87.3	50.0	1	1	03/30/23	04/04/23	
Surrogate: n-Nonane		101 %	50-200		03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2313091
Allons by EFA 500.0/9030A	88						



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS05 4' E303132-05

		Reporting				
Analyte	Result	Limit	Dilut	tion Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	I	Analyst: SL		Batch: 2313056
Benzene	ND	0.0250	1	03/30/23	03/30/23	
Ethylbenzene	ND	0.0250	1	03/30/23	03/30/23	
Toluene	ND	0.0250	1	03/30/23	03/30/23	
o-Xylene	ND	0.0250	1	03/30/23	03/30/23	
p,m-Xylene	ND	0.0500	1	03/30/23	03/30/23	
Total Xylenes	ND	0.0250	1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		100 %	70-130	03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		113 %	70-130	03/30/23	03/30/23	
Surrogate: Toluene-d8		102 %	70-130	03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	Analyst: SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		100 %	70-130	03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		113 %	70-130	03/30/23	03/30/23	
Surrogate: Toluene-d8		102 %	70-130	03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	Analyst: KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0	1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/30/23	04/04/23	
Surrogate: n-Nonane		98.9 %	50-200	03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	A	Analyst: BA		Batch: 2313091
Chloride	3660	40.0	2	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

### FS06 4'

		E303132-06					
		Reporting					
Analyte	Result	Limit	Dilı	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	SL		Batch: 2313056
Benzene	ND	0.0250		1	03/30/23	03/30/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/30/23	
Toluene	ND	0.0250		1	03/30/23	03/30/23	
o-Xylene	ND	0.0250		1	03/30/23	03/30/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/30/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		99.2 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		115 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		99.2 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		115 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0		1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0		1	03/30/23	04/04/23	
Surrogate: n-Nonane		94.9 %	50-200		03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	BA		Batch: 2313091
Chloride	3990	40.0		2	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS07 4' E303132-07

		E303132-07					
		Reporting	5.1				
Analyte	Result	Limit	Dilt	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Benzene	ND	0.0250		1	03/30/23	03/30/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/30/23	
Toluene	ND	0.0250		1	03/30/23	03/30/23	
o-Xylene	ND	0.0250		1	03/30/23	03/30/23	
o,m-Xylene	ND	0.0500		1	03/30/23	03/30/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		100 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		113 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		103 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		100 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		113 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		103 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2313050
Diesel Range Organics (C10-C28)	41.8	25.0		1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	63.5	50.0		1	03/30/23	04/04/23	
Gurrogate: n-Nonane		102 %	50-200	·	03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2313091
Chloride	4180	40.0		2	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS08 4' E303132-08

		E505152-00					
Analyte	Result	Reporting Limit	Dilut	tion F	Prepared	Analyzed	Notes
Marye					repared	Milaryzeu	
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	A	Analyst: SL			Batch: 2313056
Benzene	ND	0.0250	1		03/30/23	03/30/23	
Ethylbenzene	ND	0.0250	1		03/30/23	03/30/23	
Toluene	ND	0.0250	1		03/30/23	03/30/23	
o-Xylene	ND	0.0250	1		03/30/23	03/30/23	
p,m-Xylene	ND	0.0500	1		03/30/23	03/30/23	
Total Xylenes	ND	0.0250	1	C	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		98.3 %	70-130	0	03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130	6	03/30/23	03/30/23	
Surrogate: Toluene-d8		103 %	70-130	a	03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	Analyst: SL			Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0	1		03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		98.3 %	70-130	0	03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130	0	03/30/23	03/30/23	
Surrogate: Toluene-d8		103 %	70-130	C	03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	Analyst: KM			Batch: 2313050
Diesel Range Organics (C10-C28)	117	25.0	1	. 0	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	125	50.0	1		03/30/23	04/04/23	
Surrogate: n-Nonane	·	98.5 %	50-200	0	03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	A	Analyst: BA			Batch: 2313091
Chloride	4820	40.0	2	2 0	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS09 4' E303132-09

		2000102 0>					
Analyte	Result	Reporting Limit		ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: SL		Batch: 2313056
Renzene	ND	0.0250		1	03/30/23	03/30/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/30/23	
Toluene	ND	0.0250		1	03/30/23	03/30/23	
o-Xylene	ND	0.0250		1	03/30/23	03/30/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/30/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		99.3 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		103 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		99.3 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		103 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: KM		Batch: 2313050
Diesel Range Organics (C10-C28)	75.4	25.0		1	03/30/23	04/04/23	-
Oil Range Organics (C28-C36)	96.5	50.0	:	1	03/30/23	04/04/23	
Surrogate: n-Nonane		98.8 %	50-200		03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: BA		Batch: 2313091
Chloride	5210	40.0		2	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS10 4' E303132-10

		Reporting					
Analyte	Result	Limit	Dilı	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Benzene	ND	0.0250		1	03/30/23	03/30/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/30/23	
Toluene	ND	0.0250		1	03/30/23	03/30/23	
o-Xylene	ND	0.0250		1	03/30/23	03/30/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/30/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		98.3 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		112 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		98.3 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		112 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0		1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0		1	03/30/23	04/04/23	
Surrogate: n-Nonane		103 %	50-200		03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2313091
Chloride	1200	20.0		1	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS11 4' E303132-11

	Reporting						
Analyte	Result	Limit	Dilu	ition	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Benzene	ND	0.0250	1	1	03/30/23	03/30/23	
Ethylbenzene	ND	0.0250	1	l	03/30/23	03/30/23	
Toluene	ND	0.0250	1	l	03/30/23	03/30/23	
o-Xylene	ND	0.0250	1	1	03/30/23	03/30/23	
p,m-Xylene	ND	0.0500	1	l	03/30/23	03/30/23	
Total Xylenes	ND	0.0250	1	[	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		101 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		114 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	-	Analyst:	SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0	1	l	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		101 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		114 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0	1	1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0	1	l	03/30/23	04/04/23	
Surrogate: n-Nonane		101 %	50-200		03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2313091
Chloride	3050	20.0	1		03/31/23	04/01/23	

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS12 4' E303132-12

Analyte	Result	Reporting Limit	Dilu	ition	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Benzene	ND	0.0250	1		03/30/23	03/30/23	Date: 25 15 00 0
Ethylbenzene	ND	0.0250			03/30/23	03/30/23	
Toluene	ND	0.0250			03/30/23	03/30/23	
o-Xylene	ND	0.0250			03/30/23	03/30/23	
•	ND	0.0230			03/30/23	03/30/23	
p,m-Xylene	ND ND	0.0300		<u>.</u>	03/30/23	03/30/23	
Total Xylenes	ND		-				
Surrogate: Bromofluorobenzene		96.5 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		105 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0	1	[	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		96.5 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		105 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0	1	l	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0	1	<u> </u>	03/30/23	04/04/23	
Surrogate: n-Nonane		104 %	50-200		03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2313091
Chloride	2830	40.0	2	2	03/31/23	04/01/23	

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS13 4' E303132-13

Analyte	Result	Reporting Limit	Dil	ution	Prepared	Analyzed	Notes
				Analyst:		7 mary zea	Batch: 2313056
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Allaryst.		02/20/22	Batch: 2515050
Benzene	ND	0.0250		1	03/30/23	03/30/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/30/23	
Toluene	ND	0.0250		1	03/30/23	03/30/23	
o-Xylene	ND	0.0250		1	03/30/23	03/30/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/30/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		98.7 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		111 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		107 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		98.7 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		111 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		107 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	: KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0		1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0		1	03/30/23	04/04/23	
Surrogate: n-Nonane		102 %	50-200		03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	: BA		Batch: 2313091
Chloride	2870	20.0		1	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS14 4' E303132-14

		2000102 11					
Analyte	Result	Reporting Limit	Dilu	ıtion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:			Batch: 2313056
Benzene	ND	0.0250	1		03/30/23	03/30/23	- 3444
Ethylbenzene	ND	0.0250	1	l	03/30/23	03/30/23	
Toluene	ND	0.0250	1	l	03/30/23	03/30/23	
o-Xylene	ND	0.0250	1	[	03/30/23	03/30/23	
p,m-Xylene	ND	0.0500	1	l	03/30/23	03/30/23	
Total Xylenes	ND	0.0250	1	[	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		97.3 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		110 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0	1	l	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		97.3 %	70-130		03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		110 %	70-130		03/30/23	03/30/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0	1		03/30/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0	1	l	03/30/23	04/04/23	
Surrogate: n-Nonane		101 %	50-200	·	03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2313091
Chloride	1350	20.0	1	[	03/31/23	04/01/23	

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS15 4' E303132-15

		Reporting				
Analyte	Result	Limit	Dilut	tion Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	A	Analyst: SL		Batch: 2313056
Benzene	ND	0.0250	1	03/30/23	03/30/23	
Ethylbenzene	ND	0.0250	1	03/30/23	03/30/23	
Toluene	ND	0.0250	1	03/30/23	03/30/23	
o-Xylene	ND	0.0250	1	03/30/23	03/30/23	
p,m-Xylene	ND	0.0500	1	03/30/23	03/30/23	
Total Xylenes	ND	0.0250	1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		95.6 %	70-130	03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		111 %	70-130	03/30/23	03/30/23	
Surrogate: Toluene-d8		103 %	70-130	03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	P	Analyst: SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/30/23	03/30/23	
Surrogate: Bromofluorobenzene		95.6 %	70-130	03/30/23	03/30/23	
Surrogate: 1,2-Dichloroethane-d4		111 %	70-130	03/30/23	03/30/23	
Surrogate: Toluene-d8		103 %	70-130	03/30/23	03/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	Analyst: KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0	1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/30/23	04/04/23	
Surrogate: n-Nonane		102 %	50-200	03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	A	Analyst: BA		Batch: 2313091
· · · · · · · · · · · · · · · · · · ·	65.5	20.0		03/31/23	04/01/23	

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS16 4' E303132-16

Analyte	Result	Reporting Limit	Dil	lution	Prepared	Analyzed	Notes
	mg/kg	mg/kg		Analyst	•	1 mary 2ea	Batch: 2313056
Volatile Organic Compounds by EPA 8260B  Benzene	ND	0.0250		1	03/30/23	03/31/23	Batch: 2313030
Ethylbenzene	ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
o-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		97.2 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		108 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		102 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		97.2 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		108 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		102 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0		1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0		1	03/30/23	04/04/23	
Surrogate: n-Nonane		102 %	50-200		03/30/23	04/04/23	·
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: BA		Batch: 2313091
Chloride	627	20.0		1	03/31/23	04/01/23	

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS17 4' E303132-17

		2000102 17					
Analyte	Result	Reporting Limit		ution	Prepared	Analyzed	Notes
	mg/kg	mg/kg		Analyst:		- I mary zea	Batch: 2313056
Volatile Organic Compounds by EPA 8260B  Benzene	ND	0.0250		1	03/30/23	03/31/23	Batch: 2313030
Ethylbenzene	ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
o-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		97.4 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		97.4 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	: KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0		1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0		1	03/30/23	04/04/23	
Surrogate: n-Nonane		105 %	50-200		03/30/23	04/04/23	·
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	: BA		Batch: 2313091
Chloride	881	20.0		1	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS18 4' E303132-18

		2000102 10					
Analyte	Result	Reporting Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	•		Batch: 2313056
Benzene	ND	0.0250		1	03/30/23	03/31/23	Batem 2515 050
Ethylbenzene	ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
o-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		95.5 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		113 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		103 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		95.5 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		113 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		103 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	: KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0	_	1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0		1	03/30/23	04/04/23	
Surrogate: n-Nonane		98.1 %	50-200		03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: BA		Batch: 2313091
Chloride	2760	40.0		2	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS19 4' E303132-19

		Reporting					
Analyte	Result	Limit	Dilu	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Benzene	ND	0.0250	:	1	03/30/23	03/31/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
o-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		95.2 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		102 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		95.2 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		102 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0		1	03/30/23	04/04/23	_
Oil Range Organics (C28-C36)	ND	50.0		1	03/30/23	04/04/23	
Surrogate: n-Nonane		105 %	50-200		03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2313091
Chloride	306	20.0		1	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS20 4' E303132-20

		Reporting				
Analyte	Result	Limit	Dilut	ion Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	A	Analyst: SL		Batch: 2313056
Benzene	ND	0.0250	1	03/30/23	03/31/23	
Ethylbenzene	ND	0.0250	1	03/30/23	03/31/23	
Toluene	ND	0.0250	1	03/30/23	03/31/23	
o-Xylene	ND	0.0250	1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500	1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250	1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		98.7 %	70-130	03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130	03/30/23	03/31/23	
Surrogate: Toluene-d8		105 %	70-130	03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	Analyst: SL		Batch: 2313056
Gasoline Range Organics (C6-C10)	ND	20.0	1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		98.7 %	70-130	03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130	03/30/23	03/31/23	
Surrogate: Toluene-d8		105 %	70-130	03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	Analyst: KM		Batch: 2313050
Diesel Range Organics (C10-C28)	ND	25.0	1	03/30/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0	1	03/30/23	04/04/23	
Surrogate: n-Nonane		109 %	50-200	03/30/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	A	Analyst: BA		Batch: 2313091

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS21 4' E303132-21

	Reporting						
Analyte	Result	Limit	Dilut	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst:	SL		Batch: 2313054
Benzene	ND	0.0250	1		03/30/23	03/31/23	
Ethylbenzene	ND	0.0250	1		03/30/23	03/31/23	
Toluene	ND	0.0250	1		03/30/23	03/31/23	
o-Xylene	ND	0.0250	1		03/30/23	03/31/23	
p,m-Xylene	ND	0.0500	1		03/30/23	03/31/23	
Total Xylenes	ND	0.0250	1	ļ	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		93.3 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		94.6 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		105 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst:	SL		Batch: 2313054
Gasoline Range Organics (C6-C10)	ND	20.0	1		03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		93.3 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		94.6 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		105 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst:	JL		Batch: 2313085
Diesel Range Organics (C10-C28)	ND	25.0	1		03/31/23	04/01/23	
Oil Range Organics (C28-C36)	ND	50.0	1		03/31/23	04/01/23	
Surrogate: n-Nonane		106 %	50-200		03/31/23	04/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst:	BA		Batch: 2313092
Chloride	289	20.0	1		03/31/23	04/01/23	

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS22 4' E303132-22

		2000102 22					
Analyte	Result	Reporting Limit		lution	Prepared	Analyzed	Notes
	mg/kg	mg/kg		Analyst	•	1 11101) 200	Batch: 2313054
Volatile Organic Compounds by EPA 8260B  Benzene	ND	0.0250		1	03/30/23	03/31/23	Batch: 2313034
Ethylbenzene	ND ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
o-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		91.7 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		93.5 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: SL		Batch: 2313054
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		91.7 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		93.5 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: JL		Batch: 2313085
Diesel Range Organics (C10-C28)	ND	25.0		1	03/31/23	04/01/23	
Oil Range Organics (C28-C36)	ND	50.0		1	03/31/23	04/01/23	
Surrogate: n-Nonane		101 %	50-200		03/31/23	04/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: BA		Batch: 2313092
Chloride	342	20.0		1	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS23 4' E303132-23

Analysta	D. coult	Reporting		tion	Duomono d	Amalyzad	Notes
Analyte	Result	Limit	Dilut	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: S	SL		Batch: 2313054
Benzene	ND	0.0250	1		03/30/23	03/31/23	
Ethylbenzene	ND	0.0250	1		03/30/23	03/31/23	
Toluene	ND	0.0250	1		03/30/23	03/31/23	
o-Xylene	ND	0.0250	1		03/30/23	03/31/23	
p,m-Xylene	ND	0.0500	1		03/30/23	03/31/23	
Total Xylenes	ND	0.0250	1	l	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		92.4 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		98.8 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		106 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: S	SL		Batch: 2313054
Gasoline Range Organics (C6-C10)	ND	20.0	1		03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		92.4 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		98.8 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		106 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: J	īL		Batch: 2313085
Diesel Range Organics (C10-C28)	ND	25.0	1		03/31/23	04/01/23	
Oil Range Organics (C28-C36)	ND	50.0	1	<u>.                                    </u>	03/31/23	04/01/23	
Surrogate: n-Nonane		107 %	50-200		03/31/23	04/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: I	ВА		Batch: 2313092
Chloride	788	20.0	1		03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS24 4' E303132-24

	Reporting						
Analyte	Result	Limit	Dilut	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	I	Analyst:	SL		Batch: 2313054
Benzene	ND	0.0250	1		03/30/23	03/31/23	
Ethylbenzene	ND	0.0250	1		03/30/23	03/31/23	
Toluene	ND	0.0250	1		03/30/23	03/31/23	
o-Xylene	ND	0.0250	1		03/30/23	03/31/23	
p,m-Xylene	ND	0.0500	1		03/30/23	03/31/23	
Total Xylenes	ND	0.0250	1	ļ	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		92.3 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		95.9 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		105 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst:	SL		Batch: 2313054
Gasoline Range Organics (C6-C10)	ND	20.0	1	l	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		92.3 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		95.9 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		105 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	I	Analyst:	JL		Batch: 2313085
Diesel Range Organics (C10-C28)	ND	25.0	1		03/31/23	04/01/23	
Oil Range Organics (C28-C36)	ND	50.0	1	l	03/31/23	04/01/23	
Surrogate: n-Nonane		108 %	50-200		03/31/23	04/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst:	BA		Batch: 2313092
Chloride	801	20.0	1		03/31/23	04/01/23	<del></del>

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS25 4' E303132-25

		2000102 20					
Analyte	Result	Reporting Limit		lution	Prepared	Analyzed	Notes
	mg/kg	mg/kg		Analyst	•	1 mary 200	Batch: 2313054
Volatile Organic Compounds by EPA 8260B  Benzene	ND	0.0250		1	03/30/23	03/31/23	Batch. 2515054
Ethylbenzene	ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
o-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		92.0 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		96.1 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: SL		Batch: 2313054
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		92.0 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		96.1 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: JL		Batch: 2313085
Diesel Range Organics (C10-C28)	ND	25.0		1	03/31/23	04/01/23	
Oil Range Organics (C28-C36)	ND	50.0		1	03/31/23	04/01/23	
Surrogate: n-Nonane		108 %	50-200		03/31/23	04/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: BA		Batch: 2313092
Chloride	774	20.0		1	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS26 4' E303132-26

	_	Reporting					
Analyte	Result	Limit	Dilı	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2313054
Benzene	ND	0.0250		1	03/30/23	03/31/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
o-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		92.3 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		100 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2313054
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		92.3 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		100 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2313085
Diesel Range Organics (C10-C28)	ND	25.0		1	03/31/23	04/01/23	
Oil Range Organics (C28-C36)	ND	50.0		1	03/31/23	04/01/23	
Surrogate: n-Nonane		105 %	50-200		03/31/23	04/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2313092
Chloride	1390	20.0		1	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS27 4' E303132-27

	_	Reporting	_				
Analyte	Result	Limit	Dilu	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2313054
Benzene	ND	0.0250	:	1	03/30/23	03/31/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
o-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		93.6 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		97.9 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2313054
Gasoline Range Organics (C6-C10)	ND	20.0	:	1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		93.6 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		97.9 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	ЛL		Batch: 2313085
Diesel Range Organics (C10-C28)	ND	25.0		1	03/31/23	04/01/23	
Oil Range Organics (C28-C36)	ND	50.0		1	03/31/23	04/01/23	
Surrogate: n-Nonane		107 %	50-200		03/31/23	04/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2313092
Chloride	1400	20.0		1	03/31/23	04/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

#### FS28 4' E303132-28

		E303132-28					
A 1.	D 1	Reporting			D 1		N
Analyte	Result	Limit	Dilu	ition	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2313054
Benzene	ND	0.0250	1	1	03/30/23	03/31/23	
Ethylbenzene	ND	0.0250	1	1	03/30/23	03/31/23	
Toluene	ND	0.0250	1	1	03/30/23	03/31/23	
o-Xylene	ND	0.0250	1	1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500	1	1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250	1	1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		93.7 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		99.6 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2313054
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		93.7 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		99.6 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		104 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2313085
Diesel Range Organics (C10-C28)	ND	25.0	1	1	03/31/23	04/01/23	
Oil Range Organics (C28-C36)	ND	50.0	1	1	03/31/23	04/01/23	
Surrogate: n-Nonane		108 %	50-200		03/31/23	04/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2313092
Chloride	1400	20.0	1	1	03/31/23	04/01/23	



RDX 9-1 WPX Energy - Carlsbad Project Name: Reported: Project Number: 5315 Buena Vista Dr 01058-0007 Carlsbad NM, 88220 Project Manager: Gilbert Moreno 4/5/2023 2:44:42PM **Volatile Organic Compounds by EPA 8260B** Analyst: SL Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2313054-BLK1) Prepared: 03/30/23 Analyzed: 03/31/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 ND 0.0250 Total Xylenes Surrogate: Bromofluorobenzene 0.459 0.500 91.7 70-130 Surrogate: 1,2-Dichloroethane-d4 0.469 0.500 93.8 70-130 0.500 103 70-130 Surrogate: Toluene-d8 0.514 LCS (2313054-BS1) Prepared: 03/30/23 Analyzed: 03/31/23 2.24 0.0250 2.50 89.6 70-130 Benzene 2.29 2.50 70-130 91.7 Ethylbenzene 0.0250 2.29 0.0250 2.50 91.6 70-130 92.5 70-130 2.31 0.0250 2.50 o-Xylene 4.62 5.00 92.4 70-130 p,m-Xylene 0.0500 6.93 0.0250 7.50 92.4 70-130 Total Xylenes Surrogate: Bromofluorobenzene 0.500 0.500 100 70-130 0.500 94.2 70-130 Surrogate: 1,2-Dichloroethane-d4 0.471 70-130 Surrogate: Toluene-d8 0.500 0.518 Matrix Spike (2313054-MS1) Source: E303132-22 Prepared: 03/30/23 Analyzed: 03/31/23 2.28 0.0250 2.50 ND 91.1 48-131 45-135 Ethylbenzene 2.33 0.0250 2.50 ND 93.0 93.2 48-130 Toluene 2.33 0.0250 2.50 ND 2.34 0.0250 2.50 ND 93.7 43-135 o-Xylene 4.67 ND 93.4 43-135 p,m-Xylene 0.0500 5.00 Total Xylenes 7.01 0.0250 7.50 ND 93.5 43-135 0.494 0.500 98.8 70-130 Surrogate: Bromofluorobenzene 0.500 91.1 70-130 Surrogate: 1,2-Dichloroethane-d4 0.456 0.500 70-130 0.521 Surrogate: Toluene-d8 Matrix Spike Dup (2313054-MSD1) Source: E303132-22 Prepared: 03/30/23 Analyzed: 03/31/23 2.25 0.0250 2.50 ND 90.2 48-131 0.993 23 2.31 0.0250 2.50 ND 92.2 45-135 0.842 27 Ethylbenzene ND 48-130 24 2.28 2.50 91.2 2.15 Toluene 0.0250 o-Xylene 2.32 0.0250 2.50 ND 92.7 43-135 1.07 27 5.00 ND 92.1 43-135 27 4.61 1.34 p,m-Xylene 0.0500



27

Total Xylenes

Surrogate: Toluene-d8

Surrogate: Bromofluorobenzene

Surrogate: 1,2-Dichloroethane-d4

6.92

0.487

0.475

0.512

0.0250

7.50

0.500

0.500

0.500

ND

92.3

973

94.9

102

43-135

70-130

70-130

70-130

1.25

RDX 9-1 WPX Energy - Carlsbad Project Name: Reported: 5315 Buena Vista Dr Project Number: 01058-0007 Carlsbad NM, 88220 Project Manager: Gilbert Moreno 4/5/2023 2:44:42PM **Volatile Organic Compounds by EPA 8260B** Analyst: SL Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2313056-BLK1) Prepared: 03/30/23 Analyzed: 03/31/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 ND 0.0250 Total Xylenes Surrogate: Bromofluorobenzene 0.494 0.500 98.7 70-130 Surrogate: 1,2-Dichloroethane-d4 0.565 0.500 113 70-130 0.500 105 70-130 Surrogate: Toluene-d8 0.525 LCS (2313056-BS1) Prepared: 03/30/23 Analyzed: 03/31/23 2.52 0.0250 2.50 101 70-130 Benzene 2.50 2.50 100 70-130 Ethylbenzene 0.0250 2.59 0.0250 2.50 103 70-130 2.53 70-130 0.0250 2.50 101 o-Xylene 5.04 101 70-130 p,m-Xylene 0.0500 5.00 7.57 0.0250 7.50 101 70-130 Total Xylenes Surrogate: Bromofluorobenzene 0.527 0.500 105 70-130 0.500 110 70-130 Surrogate: 1,2-Dichloroethane-d4 0.551 70-130 Surrogate: Toluene-d8 0.500 0.518 Matrix Spike (2313056-MS1) Source: E303132-02 Prepared: 03/30/23 Analyzed: 03/31/23 2.51 0.0250 2.50 ND 48-131 45-135 Ethylbenzene 2.47 0.0250 2.50 ND 98.9 48-130 Toluene 2.53 0.0250 2.50 ND 101 2.47 0.0250 2.50 ND 98.6 43-135 o-Xylene 4.94 ND 98.7 43-135 p,m-Xylene 0.0500 5.00 Total Xylenes 7.40 0.0250 7.50 ND 98.7 43-135 0.526 0.500 105 70-130 Surrogate: Bromofluorobenzene 0.500 111 70-130 Surrogate: 1,2-Dichloroethane-d4 0.556 0.500 102 70-130 0.511 Surrogate: Toluene-d8 Matrix Spike Dup (2313056-MSD1) Source: E303132-02 Prepared: 03/30/23 Analyzed: 03/31/23 2.57 0.0250 2.50 ND 103 48-131 2.36 23 2.50 0.0250 2.50 ND 45-135 1.23 27 Ethylbenzene ND 48-130 0.610 24 2.55 2.50 102 Toluene 0.0250 o-Xylene 2.52 0.0250 2.50 ND 101 43-135 2.01 27 5.00 ND 101 43-135 2.05 27 5.04 p,m-Xylene 0.0500 27 7.55 0.0250 7.50 ND 101 43-135 2.03 Total Xylenes



0.500

0.500

0.500

106

109

102

70-130

70-130

70-130

Surrogate: Bromofluorobenzene

Surrogate: Toluene-d8

Surrogate: 1,2-Dichloroethane-d4

0.530

0.547

0.508

WPX Energy - Carlsbad Project Name: RDX 9-1 Reported:
5315 Buena Vista Dr Project Number: 01058-0007
Carlsbad NM, 88220 Project Manager: Gilbert Moreno 4/5/2023 2:44:42PM

Nonhalogenate	d Organics	by EPA	8015D -	GRO

Analyst: SL

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

	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2313054-BLK1)							Prepared: 03	3/30/23	Analyzed: 03/31/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.459		0.500		91.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.469		0.500		93.8	70-130			
Surrogate: Toluene-d8	0.514		0.500		103	70-130			
LCS (2313054-BS2)							Prepared: 03	3/30/23	Analyzed: 03/31/23
Gasoline Range Organics (C6-C10)	51.7	20.0	50.0		103	70-130			
Surrogate: Bromofluorobenzene	0.477		0.500		95.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.471		0.500		94.2	70-130			
Surrogate: Toluene-d8	0.519		0.500		104	70-130			
	0.519		0.500	Source:	104 E303132-2		Prepared: 03	3/30/23	Analyzed: 03/31/23
Surrogate: Toluene-d8	51.6	20.0	50.0	Source:			Prepared: 03	3/30/23	Analyzed: 03/31/23
Surrogate: Toluene-d8  Matrix Spike (2313054-MS2)		20.0			E303132-2	22	Prepared: 03	3/30/23	Analyzed: 03/31/23
Surrogate: Toluene-d8  Matrix Spike (2313054-MS2)  Gasoline Range Organics (C6-C10)	51.6	20.0	50.0		E303132-2	70-130	Prepared: 03	3/30/23	Analyzed: 03/31/23
Surrogate: Toluene-d8  Matrix Spike (2313054-MS2)  Gasoline Range Organics (C6-C10)  Surrogate: Bromosluorobenzene	51.6 0.486	20.0	50.0		E303132-2 103 97.2	70-130 70-130	Prepared: 03	3/30/23	Analyzed: 03/31/23
Surrogate: Toluene-d8  Matrix Spike (2313054-MS2)  Gasoline Range Organics (C6-C10)  Surrogate: Bromofluorobenzene  Surrogate: 1,2-Dichloroethane-d4	51.6 0.486 0.472	20.0	50.0 0.500 0.500	ND	E303132-2 103 97.2 94.3	70-130 70-130 70-130 70-130			Analyzed: 03/31/23 Analyzed: 03/31/23
Surrogate: Toluene-d8  Matrix Spike (2313054-MS2)  Gasoline Range Organics (C6-C10)  Surrogate: Bromofluorobenzene  Surrogate: 1,2-Dichloroethane-d4  Surrogate: Toluene-d8	51.6 0.486 0.472	20.0	50.0 0.500 0.500	ND	E303132-2 103 97.2 94.3 104	70-130 70-130 70-130 70-130			
Surrogate: Toluene-d8  Matrix Spike (2313054-MS2)  Gasoline Range Organics (C6-C10)  Surrogate: Bromofluorobenzene  Surrogate: 1,2-Dichloroethane-d4  Surrogate: Toluene-d8  Matrix Spike Dup (2313054-MSD2)	51.6 0.486 0.472 0.520		50.0 0.500 0.500 0.500	ND Source:	E303132-2  103  97.2  94.3  104  E303132-2	70-130 70-130 70-130 70-130 70-130	Prepared: 03	3/30/23	
Surrogate: Toluene-d8  Matrix Spike (2313054-MS2)  Gasoline Range Organics (C6-C10)  Surrogate: Bromofluorobenzene  Surrogate: 1,2-Dichloroethane-d4  Surrogate: Toluene-d8  Matrix Spike Dup (2313054-MSD2)  Gasoline Range Organics (C6-C10)	51.6 0.486 0.472 0.520		50.0 0.500 0.500 0.500	ND Source:	E303132-2 103 97.2 94.3 104 E303132-2 106	70-130 70-130 70-130 70-130 70-130	Prepared: 03	3/30/23	



WPX Energy - Carlsbad Project Name: RDX 9-1 Reported:
5315 Buena Vista Dr Project Number: 01058-0007
Carlsbad NM, 88220 Project Manager: Gilbert Moreno 4/5/2023 2:44:42PM

Nonhalogenated	Organics by	<b>EPA</b>	.8015D -	GRO

Analyst: SL

Analyte	Result	Reporting Limit	Spike Level	Result mg/kg	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg		%	%	%	%	
Blank (2313056-BLK1)							Prepared: 0	3/30/23 Analy	yzed: 03/31/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.494		0.500		98.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.565		0.500		113	70-130			
Surrogate: Toluene-d8	0.525		0.500		105	70-130			
LCS (2313056-BS2)							Prepared: 0	3/30/23 Analy	yzed: 03/31/23
Gasoline Range Organics (C6-C10)	52.5	20.0	50.0		105	70-130			
Surrogate: Bromofluorobenzene	0.514		0.500		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.524		0.500		105	70-130			
Surrogate: Toluene-d8	0.514		0.500		103	70-130			

Matrix Spike (2313056-MS2)				Source:	E303132-	02	Prepared: 03/30/23 Analyzed: 03/31/23
Gasoline Range Organics (C6-C10)	51.7	20.0	50.0	ND	103	70-130	
Surrogate: Bromofluorobenzene	0.525		0.500		105	70-130	
Surrogate: 1,2-Dichloroethane-d4	0.545		0.500		109	70-130	
Surrogate: Toluene-d8	0.526		0.500		105	70-130	

Matrix Spike Dup (2313056-MSD2)				Source:	E303132-	02	Prepared: 03	3/30/23 Analyzed: 03/31/23
Gasoline Range Organics (C6-C10)	52.1	20.0	50.0	ND	104	70-130	0.692	20
Surrogate: Bromofluorobenzene	0.515		0.500		103	70-130		
Surrogate: 1,2-Dichloroethane-d4	0.541		0.500		108	70-130		
Surrogate: Toluene-d8	0.522		0.500		104	70-130		

WPX Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	·
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

Carisbad NM, 88220		Project Manager	r: Gi	ibert Moreno					4/3/2023 2:44:42PN
	Nonha	logenated Or	ganics by	EPA 8015I	) - DRO	/ORO			Analyst: KM
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2313050-BLK1)							Prepared: 0	3/30/23 A	Analyzed: 04/04/23
Diesel Range Organics (C10-C28)	ND	25.0							
Dil Range Organics (C28-C36)	ND	50.0							
urrogate: n-Nonane	53.0		50.0		106	50-200			
LCS (2313050-BS1)							Prepared: 0	3/30/23 A	Analyzed: 04/04/23
Diesel Range Organics (C10-C28)	285	25.0	250		114	38-132			
urrogate: n-Nonane	50.1		50.0		100	50-200			
Matrix Spike (2313050-MS1)				Source:	E303132-1	10	Prepared: 0	3/30/23 A	Analyzed: 04/04/23
Diesel Range Organics (C10-C28)	285	25.0	250	ND	114	38-132			
urrogate: n-Nonane	45.8		50.0		91.5	50-200			
Matrix Spike Dup (2313050-MSD1)				Source:	E303132-1	10	Prepared: 0	3/30/23 A	Analyzed: 04/04/23
Diesel Range Organics (C10-C28)	287	25.0	250	ND	115	38-132	0.582	20	
urrogate: n-Nonane	48.4		50.0		96.9	50-200			

WPX Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	-
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM

Carlsbad NM, 88220		Project Manager	r: G1	lbert Moreno					4/5/2023 2:44:42PN
	Nonha	logenated Or	ganics by l	EPA 8015I	) - DRO	/ORO			Analyst: JL
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2313085-BLK1)							Prepared: 0	3/31/23 An	nalyzed: 03/31/23
Diesel Range Organics (C10-C28)	ND	25.0							
Dil Range Organics (C28-C36)	ND	50.0							
urrogate: n-Nonane	54.7		50.0		109	50-200			
LCS (2313085-BS1)							Prepared: 0	3/31/23 An	nalyzed: 03/31/23
Diesel Range Organics (C10-C28)	284	25.0	250		114	38-132			
urrogate: n-Nonane	53.7		50.0		107	50-200			
Matrix Spike (2313085-MS1)				Source:	E303125-0	03	Prepared: 0	3/31/23 An	nalyzed: 03/31/23
Diesel Range Organics (C10-C28)	281	25.0	250	ND	112	38-132			
urrogate: n-Nonane	50.8		50.0		102	50-200			
Matrix Spike Dup (2313085-MSD1)				Source:	E303125-0	03	Prepared: 0	3/31/23 An	nalyzed: 03/31/23
Diesel Range Organics (C10-C28)	283	25.0	250	ND	113	38-132	0.763	20	
urrogate: n-Nonane	50.9		50.0		102	50-200			

		•	
WPX Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	•
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 2:44:42PM
	Anions by 1	EPA 300.0/9056A	Analyst: RA

		Anions	00.0/9056	Analyst: BA					
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2313091-BLK1)							Prepared: 0	3/31/23 A	nalyzed: 04/01/23
Chloride	ND	20.0							
LCS (2313091-BS1)							Prepared: 0	3/31/23 A	analyzed: 04/01/23
Chloride	250	20.0	250		100	90-110			
Matrix Spike (2313091-MS1)				Source:	E303132-	01	Prepared: 0	3/31/23 A	analyzed: 04/01/23
Chloride	1740	20.0	250	1490	101	80-120			
Matrix Spike Dup (2313091-MSD1)				Source:	E303132-	01	Prepared: 0	3/31/23 A	analyzed: 04/01/23
Chloride	1770	20.0	250	1490	113	80-120	1.71	20	

WPX Energy - Carlsbad		Project Name:		DX 9-1					Reported:
5315 Buena Vista Dr		Project Number:		1058-0007					
Carlsbad NM, 88220		Project Manager:	: G	ilbert Moreno					4/5/2023 2:44:42PM
		Anions	by EPA	300.0/9056 <i>A</i>	<b>\</b>				Analyst: BA
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2313092-BLK1)							Prepared: 0	3/31/23 A	nalyzed: 04/01/23
Chloride	ND	20.0							
LCS (2313092-BS1)							Prepared: 0	3/31/23 A	nalyzed: 04/01/23
Chloride	266	20.0	250		107	90-110			
Matrix Spike (2313092-MS1)				Source:	E303132-	21	Prepared: 0	3/31/23 A	nalyzed: 04/01/23
Chloride	574	20.0	250	289	114	80-120			
Matrix Spike Dup (2313092-MSD1)				Source:	E303132-	21	Prepared: 0	3/31/23 A	nalyzed: 04/01/23
Chloride	574	20.0	250	289	114	80-120	0.127	20	

#### QC Summary Report Comment:

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



## **Definitions and Notes**

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	04/05/23 14:44

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

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

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



Client: W	/PX Permi	an Energ	v, LLC		Bill To				Lab	Use On	lv			-	TA	T		EPA P	rogram
Project:			11		Attention: Jim Raley		Lab W	/O#		Job	Num	ber	1D	2D	3D	Stand	dard	CWA	SDW
Project N	Manager:	Gilbert N	loreno		Address: 5315 Buena Vista Dr.		E 3	0313	32	010	58	-0007		12.00		5 Day	TAT		
	3122 Nat				City, State, Zip: Carlsbad, NM, 883	220				Analy	sis an	d Method	1						RCR
	te, Zip: Ca		M, 88220		Phone: 575-885-7502			yd C											
	32-541-77				Email: jim.raley@dvn.com			/ORC										State	
	evon-team				Cost Center: 1061092601			JRO,		121	0	0.00	ΣN			NI	N CO	UT AZ	TX
Collected	by: Yoc	oly Edyte	Konan		Incident ID: nAB1728635377		(£	3/08		y 80	601	Je 3(		×					
Time Sampled	Date Sampled	Matrix	No. of Containers		Sample ID	Lab Number	Depth(ft)	TPH GRO/DRO/ORO b	8015	BTEX by 8021 VOC by 8260	Metals 6010	Chloride 300.0	верос	верос				Remarks	5
15:50	3.27.23	S	1		FS01	1	4'						X						
16:00	3.27.23	S	1		FS02	2	4'						Х						
16:10	3.27.23	S	1		FS03	3	4'						х						
16:20	3.27.23	S	1		FS04	4	4'						х						
16:30	3.27.23	S	1		FS05	5	4'						х						
16:40	3.27.23	S	1		FS06	6	4'						х						
16:50	3.27.23	S	1		FS07	7	4'						х						
17:00	3.27.23	S	1		FS08	8	4'						х						
17:10	3.27.23	S	1		FS09	9	4'						х						
17:20	3.27.23	S	1		FS10	10	4'						х						
Addition	al Instruc	tions:				>-													
A TANK THE PARTY OF THE PARTY O				city of this sample. I an ay be grounds for legal	aware that tampering with or intentionally misl action. Sampled by: Gilbert M	oreno						ring thermal at an avg tem					manufacture of a	and Williams and Control	oled or recei
Relinquish Yocoly Edy	ed by: (Signa te Konan	ture)	Date 031	12923 DS: 01		) Date 3-29.	23	Time D92	00	Rec	eived	on ice:		ab Us / N	e Onl	У			
micu		Unscell	Date	2923 171	Received by: (Signature)	Date 3-27-	23	Time (73		T1			<u>T2</u>		Į.	<u></u>			
Relinquish	ed by: (Signa	Lei	Date 32	9-23 Time 23/5	Received by: (Signature)	63 30	23	7:0	0	AVO	Ten	np °C 4	Ò						
V				queous, <b>O</b> - Other	7) 00	Containe									-				

Client: V	VPX Permi	an Energ	y, LLC			Bill To				Lal	o Us	e Onl	У				Т	AT		EPA P	rogram
Project:	RDX 9-1				Atte	ention: Jim Raley		Lab W	VO#			Job I	Num	ber	10	20	3D	St	andard	CWA	SDWA
Project I	Vlanager:	Gilbert N	1oreno		Add	ress: 5315 Buena Vista Dr.		E3	03	3:	2	010	58	.000				5	Day TAT		
Address	: 3122 Nat	ional Par	ks HWY		City	, State, Zip: Carlsbad, NM, 8822	20							d Metho							RCRA
City, Sta	te, Zip: Ca	rlsbad, N	M, 88220		Pho	ne: 575-885-7502				by											
Phone: 8	32-541-7	719			Ema	iil: jim.raley@dvn.com		1 1		ORO										State	
Email: d	evon-tean	n@ensolu	um.com			t Center: 1061092601				RO/	1	0	0	0.0	5				NM CO	UT AZ	TX
Collecte	d by: Yoc	oly Edyte	Konan		Inci	dent ID: nAB1728635377		Œ		d/o	802	826	5010	300	Z						
Time Sampled	Date Sampled	Matrix	No. of Containers			Sample ID	Lab Number	Depth(ft)		TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC	BGDOC				Remarks	
10:50	3.28.23	S	1	) — — Is		FS11	11	4'							>						
11:00	3.28.23	S	1			FS12	12	4'							>	(					
11:10	3.28.23	S	1			FS13	13	4'							>						
11:20	3.28.23	S	1			FS14	14	4'							>	(					
11:30	3.28.23	S	1			FS15	15	4'							>	(					
11:40	3.28.23	S	1			FS16	16	4'							>	(					
11:50	3.28.23	S	1			FS17	17	4'							×	(					
12:00	3.28.23	S	1			FS18	18	4'							>	(					
12:10	3.28.23	S	1			FS19	19	4'							>	(					
12:20	3.28.23	S	1			FS20	20	4'							>	(					
Addition	al Instruc	tions:																			
A terms		The American		A to contract the	mple. I am aware	that tampering with or intentionally mislab Sampled by: Gilbert More	Andrea and a second	location,						-					on ice the day to subsequent da	3.44	ed or received
Relinquish Yocoly Edy	ed by: (Signa rte Konan	ature)	Date D3		Time 03°00	Received by: (Signature) Michilla Guncula	3-29-	23	Time	900	)	Rece	eivec	on ice:		Lab I	Jse O N	nly			
mic	ed by: (Sign	Surve	lls 3-		1715	Received by: (Signature)	Date 3-29-		Lance Contract	130		T1			T2				<u>T3</u>		
Relinguish	ed by: (Signa	ature)	Date	T	Time Z3/5	Received by: (Signature)	Date 03/30	23	Time	1:00		AVG	Ten	np °C	1.0						
			Sludge, A - A	queous, <b>O</b> - Ot	ther	000	Containe		g - gla	ass, p	- po					55, V	VOA				
						er arrangements are made. Hazardou							_	_	_			eport	for the analy	sis of the a	bove
						th this COC. The liability of the laborate															0

Client: W	PX Permi	an Energy	, LLC		AN	Bill To			1	ab U	se On	ly				TA	AT.	-	EPA P	rogram
Project:					Attention: Jim Ral	ey		Lab WC	#		Job	Num	ber		2D	3D	Sta	andard	CWA	SDWA
Project N	/lanager:	Gilbert M	oreno		Address: 5315 Bud	ena Vista Dr.		E30	3/3	52	010	58	1000-				5 D	ay TAT		H
	3122 Nat				City, State, Zip: Ca	rlsbad, NM, 88220					Analy	sis ar	d Method	1						RCRA
	te, Zip: Ca		M, 88220		Phone: 575-885-7	502			) by											
	32-541-77				Email: jim.raley@	dvn.com			/ORC		1								State	
	evon-team				Cost Center: 1061				JRO/	177	09	9	0.00	ΣN				NM CO	UT AZ	TX
Collected	by: Yoc	oly Edyte	Konan		Incident ID: nAB1	728635377	P	Œ	30/1	× 80	/ 82(	601	Je 3(	1	X					
Time Sampled	Date Sampled	Matrix	No. of Containers		Sample ID		Lab Number	Depth(ft)	TPH GRO/DRO/ORO by	8015 BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC	верос				Remarks	5
12:30	3.28.23	S	1		FS21		21	4'						X						
12:40	3.28.23	S	1		FS22		22	4'						Х						
12:50	3.28.23	S	1		FS23		23	4'						Х						
13:00	3.28.23	S	1		FS24		24	4'						Х						
13:10	3.28.23	S	1		FS25		25	4'						Х						
13:20	3.28.23	S	1		FS26		26	4'						Х						
13:30	3.28.23	S	1		FS27		27	4'						Х						
13:40	3.28.23	S	1		FS28		28	4'						х						
										1				_						
Addition	al Instruc	tions:												_						
, (field sam	oler), attest to	the validity	and authentic	city of this sample.	I am aware that tampering with	n or intentionally mislabellin	ng the sample	location,			1							n ice the day		led or receiv
	of collection ed by: (Signa	iture) /	Date	ay be grounds for l	Received by: (Sig	gnature)	Date 3 . 29.	1 Ti	me					٢	ab U	se On		subsequent da	ys.	-
Yocoly Edy		the	- 031	29/2309	,00 Michiel	e Guyxuls	5.29.	23 1	290	0	Rec	eived	on ice:	Y	)/ N					
4 5	ed by: (Signa	iture)	Date	9-23 17	Received by: (Sig	gnature)	Date 329.	-23	me 3	6	T1			T2				T3		
Relinguish	ed by: (Signa		Date	9-23 Z3	Received by: (Sig		Date 03/30/2	Ti	7:00				np°C_4							
hou	Eusi Z	ei	2.5	100	5 Quen	8 05 L	100/50/6	15	1.00		AVC	Ten	np C						101	



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Printed: 3/30/2023 10:53:32AM

#### **Envirotech Analytical Laboratory**

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	WPX Energy - Carlsbad	Date Received:	03/30/23	07:00		Work Order ID:	E303132
Phone:	(539) 573-4018	Date Logged In:	03/29/23	15:41		Logged In By:	Caitlin Christian
Email:	devon-team@ensolum.com	Due Date:	04/05/23	17:00 (4 day TAT)		<i>55</i> ,	
	f Custody (COC)		V				
	the sample ID match the COC?	oh the COC	Yes				
	the number of samples per sampling site location mater	on the COC	Yes		_		
	samples dropped off by client or carrier?	4-410	Yes	Carrier: <u>C</u>	<u>ourier</u>		
	ne COC complete, i.e., signatures, dates/times, reques	ted analyses?	Yes				
	all samples received within holding time?  Note: Analysis, such as pH which should be conducted in i.e, 15 minute hold time, are not included in this disucssion.		Yes	Г		Comment	s/Resolution
	Turn Around Time (TAT)		7.7				
	e COC indicate standard TAT, or Expedited TAT?		Yes				
7. Was a	Cooler sample cooler received?		Yes				
8. If yes,	was cooler received in good condition?		Yes				
9. Was th	ne sample(s) received intact, i.e., not broken?		Yes				
10. Were	custody/security seals present?		No				
11. If yes	s, were custody/security seals intact?		NA				
	he sample received on ice? If yes, the recorded temp is 4°C, Note: Thermal preservation is not required, if samples are minutes of sampling	received w/i 15	Yes				
13. If no	visible ice, record the temperature. Actual sample	temperature: 4°0	<u>C</u>				
	<u>Container</u>						
	aqueous VOC samples present?		No				
	VOC samples collected in VOA Vials?		NA				
	e head space less than 6-8 mm (pea sized or less)?		NA				
	a trip blank (TB) included for VOC analyses?		NA				
	non-VOC samples collected in the correct containers?		Yes				
	appropriate volume/weight or number of sample contain	ers collected?	Yes				
	<u>bel</u> field sample labels filled out with the minimum infor Sample ID?	rmation:	Yes				
Ι	Date/Time Collected?		Yes	L			
(	Collectors name?		No				
-	<b>Preservation</b>						
	the COC or field labels indicate the samples were pro-	eserved?	No				
	sample(s) correctly preserved?	. 1.0	NA				
24. Is lat	o filteration required and/or requested for dissolved m	etals?	No				
	ase Sample Matrix						
	the sample have more than one phase, i.e., multiphas		No				
27. If yes	s, does the COC specify which phase(s) is to be analy	zed?	NA				
Subcont	ract Laboratory						
28. Are s	samples required to get sent to a subcontract laborator	y?	No				
29. Was	a subcontract laboratory specified by the client and if	so who?	NA	Subcontract Lab:	: NA		
Client I	<u>nstruction</u>						
<u>eneme i</u>	<u>noti detion</u>						

Date

Report to:
Gilbert Moreno



5796 U.S. Hwy 64 Farmington, NM 87401

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





# envirotech

Practical Solutions for a Better Tomorrow

# **Analytical Report**

WPX Energy - Carlsbad

Project Name: RDX 9-1

Work Order: E303128

Job Number: 01058-0007

Received: 3/30/2023

Revision: 1

Report Reviewed By:

Draft Walter Hinchman Laboratory Director 4/5/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.

Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.

Envirotech Inc, holds the Utah TNI certification NM00979 for data reported.

Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.

Date Reported: 4/5/23

Gilbert Moreno 5315 Buena Vista Dr Carlsbad, NM 88220

Project Name: RDX 9-1 Workorder: E303128

Date Received: 3/30/2023 7:00:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 3/30/2023 7:00:00AM, under the Project Name: RDX 9-1.

The analytical test results summarized in this report with the Project Name: RDX 9-1 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman

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Cell: 775-287-1762

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Envirotech Web Address: www.envirotech-inc.com

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## **Sample Summary**

Γ	WPX Energy - Carlsbad	Project Name:	RDX 9-1	
ı		3		Reported:
ı	5315 Buena Vista Dr	Project Number:	01058-0007	•
l	Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	04/05/23 11:01

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW01 0 - 4'	E303128-01A	Soil	03/27/23	03/30/23	Glass Jar, 2 oz.
SW02 0 - 4'	E303128-02A	Soil	03/27/23	03/30/23	Glass Jar, 2 oz.
SW03 0 - 4'	E303128-03A	Soil	03/28/23	03/30/23	Glass Jar, 32 oz.
SW04 0 - 4'	E303128-04A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
SW05 0 - 4'	E303128-05A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
SW06 0 - 4'	E303128-06A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
SW07 0 - 4'	E303128-07A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
SW08 0 - 4'	E303128-08A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
SW09 0 - 4'	E303128-09A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
SW10 0 - 4'	E303128-10A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.
SW11 0 - 4'	E303128-11A	Soil	03/28/23	03/30/23	Glass Jar, 2 oz.



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 11:01:15AM

#### SW01 0 - 4' E303128-01

	E505120-01				
Damlt	Reporting	Dilut	ion Dronouod	Amalyzad	Notes
Result	Limit	Dilut	ion Prepared	Analyzed	Notes
mg/kg	mg/kg	A	Analyst: SL		Batch: 2313055
ND	0.0250	1	03/30/23	03/31/23	
ND	0.0250	1	03/30/23	03/31/23	
ND	0.0250	1	03/30/23	03/31/23	
ND	0.0250	1	03/30/23	03/31/23	
ND	0.0500	1	03/30/23	03/31/23	
ND	0.0250	1	03/30/23	03/31/23	
	103 %	70-130	03/30/23	03/31/23	
	94.2 %	70-130	03/30/23	03/31/23	
	101 %	70-130	03/30/23	03/31/23	
mg/kg	mg/kg	A	Analyst: SL		Batch: 2313055
ND	20.0	1	03/30/23	03/31/23	
	103 %	70-130	03/30/23	03/31/23	
	94.2 %	70-130	03/30/23	03/31/23	
	101 %	70-130	03/30/23	03/31/23	
mg/kg	mg/kg	A	Analyst: JL		Batch: 2314004
112	25.0	1	04/03/23	04/03/23	
ND	50.0	1	04/03/23	04/03/23	
	99.9 %	50-200	04/03/23	04/03/23	
mg/kg	mg/kg	A	Analyst: BA		Batch: 2313060
378	20.0	1	03/30/23	03/31/23	
	ND ND ND ND ND ND ND ND ND Mg/kg ND  mg/kg 112 ND	Result         Limit           mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           IO         0.0250           IO         0.0250           IO         94.2 %           IO         103 %           94.2 %         101 %           mg/kg         mg/kg           IO         99.9 %           mg/kg         mg/kg	Result         Limit         Dilut           mg/kg         mg/kg         A           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0500         1           ND         0.0250         1           ND         0.0250         1           103 %         70-130           94.2 %         70-130           mg/kg         mg/kg         A           103 %         70-130           94.2 %         70-130           101 %         70-130           mg/kg         mg/kg         A           112         25.0         1           ND         50.0         1           99.9 %         50-200           mg/kg         mg/kg         A	Result         Limit         Dilution         Prepared           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         03/30/23           ND         0.0250         1         03/30/23           ND         0.0250         1         03/30/23           ND         0.0250         1         03/30/23           ND         0.0500         1         03/30/23           ND         0.0250         1         03/30/23           ND         0.0250         1         03/30/23           94.2 %         70-130         03/30/23           101 %         70-130         03/30/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         03/30/23           103 %         70-130         03/30/23           94.2 %         70-130         03/30/23           101 %         70-130         03/30/23           mg/kg         mg/kg         Analyst: JL           112         25.0         1         04/03/23           ND         50.0         1         04/03/23           mg/kg         mg/kg         Analyst: JL	Result         Limit         Dilution         Prepared         Analyzed           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         03/30/23         03/31/23           ND         0.0500         1         03/30/23         03/31/23           ND         0.0250         1         03/30/23         03/31/23           ND         0.0250         1         03/30/23         03/31/23           ND         0.0250         1         03/30/23         03/31/23           94.2 %         70-130         03/30/23         03/31/23           94.2 %         70-130         03/30/23         03/31/23           mg/kg         mg/kg         Analyst: SL           101 %         70-130         03/30/23         03/31/23           101 %         70-130         03/30/23         03/31/23           101 %         70-130         03/30/23         03/31/23           101 %         70-1



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 11:01:15AM

#### SW02 0 - 4' E303128-02

		Reporting					
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	: SL		Batch: 2313055
Benzene	ND	0.0250		1	03/30/23	03/31/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
o-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		99.7 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		99.1 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		101 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: SL		Batch: 2313055
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		99.7 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		99.1 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		101 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	: Љ		Batch: 2314004
Diesel Range Organics (C10-C28)	93.6	25.0		1	04/03/23	04/03/23	
Oil Range Organics (C28-C36)	ND	50.0		1	04/03/23	04/03/23	
Surrogate: n-Nonane		96.7 %	50-200		04/03/23	04/03/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	: BA		Batch: 2313060
Chloride	332	20.0		1	03/30/23	03/31/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 11:01:15AM

#### SW03 0 - 4' E303128-03

		Reporting					
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	: SL		Batch: 2313055
Benzene	ND	0.0250		1	03/30/23	03/31/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
o-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		101 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		96.9 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		99.7 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: SL		Batch: 2313055
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		101 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		96.9 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		99.7 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	: Љ		Batch: 2314004
Diesel Range Organics (C10-C28)	ND	25.0		1	04/03/23	04/03/23	-
Oil Range Organics (C28-C36)	ND	50.0		1	04/03/23	04/03/23	
Surrogate: n-Nonane		103 %	50-200		04/03/23	04/03/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	: BA		Batch: 2313060
Chloride	45.8	20.0		1	03/30/23	03/31/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 11:01:15AM

#### SW04 0 - 4' E303128-04

		E303126-04					
Andre	Dl/	Reporting Limit	Dilu	<b>4</b> :	D J	A	Notes
Analyte	Result	Limit	Dilu	uon	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	I	Analyst: S	SL		Batch: 2313055
Benzene	ND	0.0250	1		03/30/23	03/31/23	
Ethylbenzene	ND	0.0250	1		03/30/23	03/31/23	
Toluene	ND	0.0250	1		03/30/23	03/31/23	
o-Xylene	ND	0.0250	1	l	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500	1	l	03/30/23	03/31/23	
Total Xylenes	ND	0.0250	1		03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		102 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		101 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		98.4 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	I	Analyst: S	SL		Batch: 2313055
Gasoline Range Organics (C6-C10)	ND	20.0	1		03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		102 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		101 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		98.4 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: J	L		Batch: 2314004
Diesel Range Organics (C10-C28)	ND	25.0	1		04/03/23	04/03/23	
Oil Range Organics (C28-C36)	ND	50.0	1		04/03/23	04/03/23	
Surrogate: n-Nonane		89.4 %	50-200		04/03/23	04/03/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: I	ВА		Batch: 2313060
Chloride	44.3	20.0	1		03/30/23	03/31/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 11:01:15AM

#### SW05 0 - 4' E303128-05

		E303126-03					
	D. Iv	Reporting	ρ.1	<i>.</i> ·	D 1		N
Analyte	Result	Limit	Dili	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: SL		Batch: 2313055
Benzene	ND	0.0250		1	03/30/23	03/31/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
o-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		100 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		98.0 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		98.4 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: SL		Batch: 2313055
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		100 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		98.0 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		98.4 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: JL		Batch: 2314004
Diesel Range Organics (C10-C28)	ND	25.0		1	04/03/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0		1	04/03/23	04/04/23	
Surrogate: n-Nonane		101 %	50-200		04/03/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: BA		Batch: 2313060
Chloride	209	20.0		1	03/30/23	03/31/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 11:01:15AM

#### SW06 0 - 4' E303128-06

		E303126-00					
A 1.	D. Iv	Reporting			D 1		N.
Analyte	Result	Limit	Dilu	ition	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: SI			Batch: 2313055
Benzene	ND	0.0250	1	l	03/30/23	03/31/23	
Ethylbenzene	ND	0.0250	1	l	03/30/23	03/31/23	
Toluene	ND	0.0250	1	l	03/30/23	03/31/23	
o-Xylene	ND	0.0250	1	l	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500	1	l	03/30/23	03/31/23	
Total Xylenes	ND	0.0250	1	l	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		99.6 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		96.8 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		101 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: SI	-		Batch: 2313055
Gasoline Range Organics (C6-C10)	ND	20.0	1	l	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		99.6 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		96.8 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		101 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: JL			Batch: 2314004
Diesel Range Organics (C10-C28)	ND	25.0	1	1	04/03/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0	1	[	04/03/23	04/04/23	
Surrogate: n-Nonane		104 %	50-200		04/03/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: B	A		Batch: 2313060
Chloride	223	20.0	1	1	03/30/23	03/31/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 11:01:15AM

#### SW07 0 - 4' E303128-07

		Reporting					
Analyte	Result	Limit	Dil	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	: SL		Batch: 2313055
Benzene	ND	0.0250		1	03/30/23	03/31/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
p-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		89.3 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		98.9 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		113 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: SL		Batch: 2313055
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		89.3 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		98.9 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		113 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	: JL		Batch: 2314004
Diesel Range Organics (C10-C28)	ND	25.0	-	1	04/03/23	04/04/23	-
Oil Range Organics (C28-C36)	ND	50.0		1	04/03/23	04/04/23	
Surrogate: n-Nonane		96.7 %	50-200		04/03/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	: BA		Batch: 2313060
Chloride	204	20.0		1	03/30/23	03/31/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 11:01:15AM

## SW08 0 - 4'

		E303128-08					
		Reporting					
Analyte	Result	Limit	Dilu	ıtion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2313055
Benzene	ND	0.0250	1	1	03/30/23	03/31/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
o-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250	1	1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		99.0 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		100 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		101 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2313055
Gasoline Range Organics (C6-C10)	ND	20.0	:	1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		99.0 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		100 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		101 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2314004
Diesel Range Organics (C10-C28)	ND	25.0		1	04/03/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0		1	04/03/23	04/04/23	
Surrogate: n-Nonane		99.3 %	50-200		04/03/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2313060
Chloride	42.7	20.0		1	03/30/23	03/31/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 11:01:15AM

#### SW09 0 - 4' E303128-09

Result			tion Dr.	enared	Analyzed	Notes
Kesuit	Limit	Dilut	tion Tr	Срагси	Allaryzeu	ivotes
mg/kg	mg/kg	A	Analyst: SL			Batch: 2313055
ND	0.0250	1	03	/30/23	03/31/23	
ND	0.0250	1	03	/30/23	03/31/23	
ND	0.0250	1	03	/30/23	03/31/23	
ND	0.0250	1	03	/30/23	03/31/23	
ND	0.0500	1	03	/30/23	03/31/23	
ND	0.0250	1	03	/30/23	03/31/23	
	98.6 %	70-130	03	2/30/23	03/31/23	
	96.6 %	70-130	03	2/30/23	03/31/23	
	101 %	70-130	03	2/30/23	03/31/23	
mg/kg	mg/kg	A	Analyst: SL			Batch: 2313055
ND	20.0	1	03	/30/23	03/31/23	
	98.6 %	70-130	03	2/30/23	03/31/23	
	96.6 %	70-130	03	2/30/23	03/31/23	
	101 %	70-130	03	2/30/23	03/31/23	
mg/kg	mg/kg	A	Analyst: JL			Batch: 2314004
ND	25.0	1	04	/03/23	04/04/23	
ND	50.0	1	04	/03/23	04/04/23	
	96.5 %	50-200	04	1/03/23	04/04/23	
mg/kg	mg/kg	A	Analyst: BA			Batch: 2313060
200	20.0	1	03	/30/23	03/31/23	
	ND Mg/kg ND Mg/kg	Result         Limit           mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           MD         0.0250           98.6 %         96.6 %           101 %         mg/kg           ND         20.0           98.6 %         96.6 %           101 %         mg/kg           Mg/kg         mg/kg           ND         25.0           ND         50.0           96.5 %         mg/kg           mg/kg         mg/kg	mg/kg         mg/kg         ng/kg           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0500         1           ND         0.0250         1           98.6 %         70-130           96.6 %         70-130           101 %         70-130           98.6 %         70-130           96.6 %         70-130           101 %         70-130           mg/kg         mg/kg           ND         25.0         1           ND         50.0         1           96.5 %         50-200           mg/kg         mg/kg         6	Result         Limit         Dilution         Property           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         03           ND         0.0250         1         03           ND         0.0250         1         03           ND         0.0500         1         03           ND         0.0250         1         03           ND         0.0250         1         03           98.6%         70-130         03           96.6%         70-130         03           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         03           98.6%         70-130         03           96.6%         70-130         03           101%         70-130         03           101%         70-130         03           101%         70-130         03           101%         70-130         03           101%         70-130         03           101%         70-130         03           101%         70-130         03           101%         70-130         03	Result         Limit         Dilution         Prepared           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         03/30/23           ND         0.0250         1         03/30/23           ND         0.0250         1         03/30/23           ND         0.0500         1         03/30/23           ND         0.0250         1         03/30/23           ND         0.0250         1         03/30/23           98.6 %         70-130         03/30/23           96.6 %         70-130         03/30/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         03/30/23           98.6 %         70-130         03/30/23           96.6 %         70-130         03/30/23           101 %         70-130         03/30/23           mg/kg         mg/kg         Analyst: JL           ND         25.0         1         04/03/23           ND         50.0         1         04/03/23           ND         50.0         1         04/03/23           mg/kg         mg/kg         Analyst: BA	Result         Limit         Dilution         Prepared         Analyzed           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         03/30/23         03/31/23           ND         0.0500         1         03/30/23         03/31/23           ND         0.0250         1         03/30/23         03/31/23           98.6 %         70-130         03/30/23         03/31/23           96.6 %         70-130         03/30/23         03/31/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         03/30/23         03/31/23           96.6 %         70-130         03/30/23         03/31/23           96.6 %         70-130         03/30/23         03/31/23           101 %         70-130         03/30/23         03/31/23           101 %         70-130         03/30/23         03/31/23           101 %         70-130



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 11:01:15AM

#### SW10 0 - 4' E303128-10

		E303126-10					
		Reporting					
Analyte	Result	Limit	Dilut	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	A	Analyst: SL			Batch: 2313055
Benzene	ND	0.0250	1		03/30/23	03/31/23	
Ethylbenzene	ND	0.0250	1		03/30/23	03/31/23	
Toluene	ND	0.0250	1		03/30/23	03/31/23	
o-Xylene	ND	0.0250	1		03/30/23	03/31/23	
p,m-Xylene	ND	0.0500	1		03/30/23	03/31/23	
Total Xylenes	ND	0.0250	1		03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		99.6 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		95.2 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		102 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	Analyst: SL			Batch: 2313055
Gasoline Range Organics (C6-C10)	ND	20.0	1		03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		99.6 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		95.2 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		102 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	Analyst: JL			Batch: 2314004
Diesel Range Organics (C10-C28)	ND	25.0	1		04/03/23	04/04/23	_
Oil Range Organics (C28-C36)	ND	50.0	1		04/03/23	04/04/23	
Surrogate: n-Nonane		97.8 %	50-200		04/03/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	A	Analyst: BA	1		Batch: 2313060
Chloride	179	20.0	1		03/30/23	03/31/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 11:01:15AM

#### SW11 0 - 4' E303128-11

		E303126-11					
	D 1	Reporting			D 1		N 4
Analyte	Result	Limit	Dilt	ıtion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2313055
Benzene	ND	0.0250		1	03/30/23	03/31/23	
Ethylbenzene	ND	0.0250		1	03/30/23	03/31/23	
Toluene	ND	0.0250		1	03/30/23	03/31/23	
o-Xylene	ND	0.0250		1	03/30/23	03/31/23	
p,m-Xylene	ND	0.0500		1	03/30/23	03/31/23	
Total Xylenes	ND	0.0250		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		101 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		100 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		99.8 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2313055
Gasoline Range Organics (C6-C10)	ND	20.0		1	03/30/23	03/31/23	
Surrogate: Bromofluorobenzene		101 %	70-130		03/30/23	03/31/23	
Surrogate: 1,2-Dichloroethane-d4		100 %	70-130		03/30/23	03/31/23	
Surrogate: Toluene-d8		99.8 %	70-130		03/30/23	03/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2314004
Diesel Range Organics (C10-C28)	ND	25.0		1	04/03/23	04/04/23	
Oil Range Organics (C28-C36)	ND	50.0		1	04/03/23	04/04/23	
Surrogate: n-Nonane		102 %	50-200		04/03/23	04/04/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2313060
Chloride	114	20.0		1	03/30/23	03/31/23	



### **QC Summary Data**

RDX 9-1 WPX Energy - Carlsbad Project Name: Reported: Project Number: 5315 Buena Vista Dr 01058-0007 Carlsbad NM, 88220 Project Manager: Gilbert Moreno 4/5/2023 11:01:15AM **Volatile Organic Compounds by EPA 8260B** Analyst: SL Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2313055-BLK1) Prepared: 03/30/23 Analyzed: 03/30/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 ND 0.0250 Total Xylenes Surrogate: Bromofluorobenzene 0.504 0.500 101 70-130 Surrogate: 1,2-Dichloroethane-d4 0.468 0.500 93.6 70-130 0.500 102 70-130 Surrogate: Toluene-d8 0.509 LCS (2313055-BS1) Prepared: 03/30/23 Analyzed: 03/30/23 2.27 0.0250 2.50 91.0 70-130 Benzene 2.50 88.2 70-130 2.20 Ethylbenzene 0.0250 2.23 0.0250 2.50 89.1 70-130 70-130 2.31 0.0250 2.50 92.5 o-Xylene 4.58 5.00 91.5 70-130 p,m-Xylene 0.0500 6.89 0.0250 7.50 91.9 70-130 Total Xylenes Surrogate: Bromofluorobenzene 0.496 0.500 99.1 70-130 0.500 92.9 70-130 Surrogate: 1,2-Dichloroethane-d4 0.465 70-130 Surrogate: Toluene-d8 0.500 0.511 Matrix Spike (2313055-MS1) Source: E303128-01 Prepared: 03/30/23 Analyzed: 03/31/23 2.31 0.0250 2.50 ND 92.3 48-131 45-135 Ethylbenzene 2.24 0.0250 2.50 ND 89.4 89.5 48-130 Toluene 2.24 0.0250 2.50 ND 2.33 0.0250 2.50 ND 93.2 43-135 o-Xylene 4.63 ND 92.6 43-135 p,m-Xylene 0.0500 5.00 Total Xylenes 6.96 0.0250 7.50 ND 92.8 43-135 99.7 0.499 0.500 70-130 Surrogate: Bromofluorobenzene 0.500 97.2 70-130 Surrogate: 1,2-Dichloroethane-d4 0.486 0.500 70-130 0.512 Surrogate: Toluene-d8 Matrix Spike Dup (2313055-MSD1) Source: E303128-01 Prepared: 03/30/23 Analyzed: 03/31/23 2.31 0.0250 2.50 ND 92.4 48-131 0.108 23 2.26 0.0250 2.50 ND 90.5 45-135 1.20 27 Ethylbenzene ND 48-130 24 2.27 2.50 91.0 1.62 Toluene 0.0250 o-Xylene 2.38 0.0250 2.50 ND 95.1 43-135 2.04 27 5.00 ND 94.3 43-135 27 4.71 1.77

0.0500

0.0250

7.50

0.500

0.500

0.500

ND

94.6

102

97.1

103

43-135

70-130

70-130

70-130

1.86

7.09

0.510

0.486

0.513



27

p,m-Xylene

Total Xylenes

Surrogate: Toluene-d8

Surrogate: Bromofluorobenzene

Surrogate: 1,2-Dichloroethane-d4

## **QC Summary Data**

WPX Energy - Carlsbad Project Name: RDX 9-1 Reported:
5315 Buena Vista Dr Project Number: 01058-0007
Carlsbad NM, 88220 Project Manager: Gilbert Moreno 4/5/2023 11:01:15AM

Nonhalogenated	Organics b	v EPA	8015D -	GRO

Analyst: SL

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

	Result	LIIIII	Levei	Result	Rec	Limits	KPD	LIIIII		
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes	
Blank (2313055-BLK1)							Prepared: 03	3/30/23 A	Analyzed: 03/30/23	
Gasoline Range Organics (C6-C10)	ND	20.0								
Surrogate: Bromofluorobenzene	0.504		0.500		101	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.468		0.500		93.6	70-130				
Surrogate: Toluene-d8	0.509		0.500		102	70-130				
LCS (2313055-BS2)							Prepared: 03	3/30/23 A	Analyzed: 03/30/23	
Gasoline Range Organics (C6-C10)	47.4	20.0	50.0		94.9	70-130	·	·		
Surrogate: Bromofluorobenzene	0.503		0.500		101	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.481		0.500		96.2	70-130				
Surrogate: Toluene-d8	0.517		0.500		103	70-130				
Matrix Spike (2313055-MS2)				Source: E303128-01			Prepared: 03/30/23 Analyzed: 03/31/23			
Gasoline Range Organics (C6-C10)	49.8	20.0	50.0	ND	99.5	70-130				
Surrogate: Bromofluorobenzene	0.507		0.500		101					
	0.307		0.500		101	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.307		0.500		101 97.4	70-130 70-130				
•								repared: 03/30/23 Analyzed: 03/30/23 repared: 03/30/23 Analyzed: 03/30/23 Analyzed: 03/30/23		
Surrogate: 1,2-Dichloroethane-d4	0.487		0.500	Source:	97.4	70-130 70-130	Prepared: 03	3/30/23 <i>A</i>	Analyzed: 03/31/23	
Surrogate: 1,2-Dichloroethane-d4 Surrogate: Toluene-d8	0.487	20.0	0.500	Source:	97.4 103	70-130 70-130			Analyzed: 03/31/23	
Surrogate: 1,2-Dichloroethane-d4 Surrogate: Toluene-d8 Matrix Spike Dup (2313055-MSD2)	0.487 0.513	20.0	0.500 0.500		97.4 103 <b>E303128-</b> (	70-130 70-130			Analyzed: 03/31/23	
Surrogate: 1,2-Dichloroethane-d4 Surrogate: Toluene-d8 Matrix Spike Dup (2313055-MSD2) Gasoline Range Organics (C6-C10)	0.487 0.513 49.5	20.0	0.500 0.500 50.0		97.4 103 <b>E303128-0</b> 99.0	70-130 70-130 <b>01</b> 70-130			Analyzed: 03/31/23	



# **QC Summary Data**

WPX Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	•
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	4/5/2023 11:01:15AM

Carisbad NM, 88220		Project Manage	r: Gi	ibert Moreno	1			<u> </u>	4/5/2023 11:01:15AN
	Nonha	logenated Or	ganics by	EPA 8015I	D - DRO	/ORO			Analyst: JL
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2314004-BLK1)							Prepared: 0	4/03/23 An	alyzed: 04/03/23
Diesel Range Organics (C10-C28)	ND	25.0							
Dil Range Organics (C28-C36)	ND	50.0							
urrogate: n-Nonane	59.5		50.0		119	50-200			
LCS (2314004-BS1)							Prepared: 0	4/03/23 An	alyzed: 04/03/23
Diesel Range Organics (C10-C28)	316	25.0	250		127	38-132			
urrogate: n-Nonane	56.5		50.0		113	50-200			
Matrix Spike (2314004-MS1)				Source:	E303128-	06	Prepared: 0	4/03/23 An	alyzed: 04/03/23
Diesel Range Organics (C10-C28)	290	25.0	250	ND	116	38-132			
urrogate: n-Nonane	48.6		50.0		97.1	50-200			
Matrix Spike Dup (2314004-MSD1)				Source:	E303128-	06	Prepared: 0	4/03/23 An	alyzed: 04/03/23
Diesel Range Organics (C10-C28)	284	25.0	250	ND	113	38-132	2.21	20	
'urrogate: n-Nonane	50.0		50.0		100	50-200			



Chloride

#### **QC Summary Data**

WPX Energy - Carlsbad 5315 Buena Vista Dr		Project Name: Project Number:		DX 9-1 1058-0007					Reported:
Carlsbad NM, 88220		Project Manager:		ilbert Moreno					4/5/2023 11:01:15AM
		Anions	by EPA 3	300.0/9056 <i>A</i>	<b>\</b>				Analyst: BA
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2313060-BLK1)							Prepared: 0	3/30/23 A	Analyzed: 03/31/23
Chloride	ND	20.0							
LCS (2313060-BS1)							Prepared: 0	3/30/23 A	Analyzed: 04/03/23
Chloride	257	20.0	250		103	90-110			
Matrix Spike (2313060-MS1)				Source:	E303127-	)1	Prepared: 0	3/30/23 A	Analyzed: 04/03/23
Chloride	263	20.0	250	ND	105	80-120			
Matrix Spike Dup (2313060-MSD1)				Source:	E303127-	)1	Prepared: 03	3/30/23 A	Analyzed: 04/03/23

250

20.0

106

80-120

0.512

20

#### QC Summary Report Comment:

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



#### **Definitions and Notes**

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	04/05/23 11:01

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

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

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



Client: V	VPX Permi	ian Energ	y, LLC			Bill To		1		Lab	Us	e Onl	У				Т	AT		EPA P	rogram
Project:	RDX 9-1				Atte	ention: Jim Raley		Lab V	VO#			Job	Num	ber		20	3D	St	tandard	CWA	SDWA
	Manager:				Add	ress: 5315 Buena Vista Dr.		E30	03	128		OIC	58	· co	7			5	Day TAT		
Address	: 3122 Nat	tional Par	ks HWY		City	, State, Zip: Carlsbad, NM, 8822	20							d Meth		10					RCRA
City, Sta	te, Zip: Ca	ırlsbad, N	IM, 88220		Pho	ne: 575-885-7502				by						1			E		
Phone: 8	332-541-7	719			Ema	iil: jim.raley@dvn.com		1		ORO										State	
Email: d	evon-tean	n@ensolu	um.com			t Center: 1061092601		1		RO/	-	0		0.0	5				NM CO	UT AZ	TX
Collecte	d by: Yoc	oly Edyte	Konan		Inci	dent ID: nAB1728635377		Œ		d/c	802	826	5010	300	2						
Time Sampled	Date Sampled	Matrix	No. of Containers			Sample ID	Lab Number	Depth(ft)		трн GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	RGDOC	BGDOC				Remarks	
15:30	3.27.23	S	1			SW01		0 - 4'							>	(					
15:40	3.27.23	S	1			SW02	2	0 - 4'							>	(					, r
9:20	3.28.23	S	1			SW03	3	0 - 4'							>	(					
9:30	3.28.23	S	1			SW04	4	0 - 4'							>	(					
9:40	3.28.23	S	1			SW05	5	0 - 4'							>	(					
9:50	3.28.23	S	1			SW06	6	0 - 4'							)	(					
10:00	3.28.23	S	1			SW07	7	0 - 4'							>	(					
10:10	3.28.23	S	1			SW08	8	0 - 4'							>	(					
10:20	3.28.23	S	1			SW09	9	0 - 4'							>	(					
10:30	3.28.23	S	1			SW10	10	0 - 4'							>	(					
Addition	nal Instruc	tions:						n-l-													
					ple. I am aware for legal action.	that tampering with or intentionally mislab Sampled by: Gilbert Mor		location						-					d on ice the day the n subsequent day		ed or received
Relinquish Yocoly Edy	ed by: (Signa te Konan	ature)	Date 312		me 09:00	Received by: (Signature)	3-29	. 17	Time	900		Rece	eived	on ice		Lab	Jse O	nly			
Mich	ed by: (Sign	eture)	Date	Ti	<sup>me</sup> 1715	Received by: (Signature)	Date 3-29-		Time			T1			T2				<u>T3</u>		
	ed by: (Signa	17	Date	Tir	me 23/5	Received by (Signature)	03 30	23	Time 7:	00		AVG	Tem	p°C	4.0						
			Sludge, A - A	queous, <b>O</b> - Oth	ner	and or	Containe	r Type:	g - gla	ass, p	- pol		_			5S, V	VOA				
						er arrangements are made. Hazardo												eport	for the analy	sis of the a	bove
						th this COC. The liability of the laborat												1 36 %	VA. 34 343.		0

envirotech

Client: W	/PX Permi	an Energ	y, LLC			Bill To		N.		La	b Us	e On	ly	- 7			TA	T	EPA P	rogram
Project:						tention: Jim Raley		Lab \	WO#			Job	Num	ber		2D	3D	Standard	CWA	SDWA
	/lanager:				Ad	dress: 5315 Buena Vista Dr.		E3	03	129	0	010	४टर	- 000	7			5 Day TAT		
	3122 Nat				Cit	y, State, Zip: Carlsbad, NM, 8822	20							d Metho						RCRA
			M, 88220		Ph	one: 575-885-7502				by										
	32-541-7				Em	ail: jim.raley@dvn.com				ORC						4			State	
	evon-tean				Co	st Center: 1061092601				RO/	21	0	0	0.0	5			NM CO	UT AZ	TX
Collecte	by: You	oly Edyte	Konan		Inc	ident ID: nAB1728635377		Œ		0/0	/ 80	826	601	e 30	ΣŽ	×				
Time Sampled	Date Sampled	Matrix	No. of Containers			Sample ID	Lab Number	Depth(ft)		TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC	BGDOC			Remarks	
10:40	3.28.23	S	1			SW11	11	0 - 4							Х					
Addition	al Instruc	tions:														-				
date or time	of collection	is considere	d fraud and n	nay be ground	ls for legal action		eno								np above	0 but I	ess than 6	eived on ice the day <sup>8</sup> C on subsequent da		ed or received
Yocoly Edy Relinquish	ed by: (Signa	ature)		29 23	Time	Received by: (Signature) Received by: (Signature)	Date Date		Time	100		Rece	eived	on ice:		)/ N	se On	У		
Relinquish	ed by: (Signa	ature)	Date		1715 Time 2315	Received by: (Signature)	3-29 Date 03/30	23 13	Time	732 :00	5	T1 AVG	Tem	p°C	<u>T2</u>			<u>T3</u>		
		d - Solid, Sg -	Sludge, A - A	queous, O - Ot	ther		Containe	r Type:	g - gl	ass, p	- pol					s, v -	VOA			
Note: Sam	ples are disc	arded 30 d	lays after res	sults are rep	orted unless ot	her arrangements are made. Hazardou	ıs samples will	be retu	ned to	o client	t or d	ispose	d of a					ort for the analy	sis of the a	bove



Printed: 3/30/2023 10:37:36AM

#### **Envirotech Analytical Laboratory**

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	WPX Energy - Carlsbad	Date Received:	03/30/23 0	7:00		Work Order ID:	E303128
Phone:	(539) 573-4018	Date Logged In:	03/29/23 1	5:19		Logged In By:	Caitlin Christian
Email:	devon-team@ensolum.com	Due Date:	04/05/23 1	7:00 (4 day TAT)			
1. Does th 2. Does th 3. Were sa	Custody (COC)  e sample ID match the COC?  e number of samples per sampling site location ma  umples dropped off by client or carrier?  e COC complete, i.e., signatures, dates/times, reque		Yes Yes Yes Yes	Carrier: <u>C</u>	<u>Courier</u>		
5. Were al	l samples received within holding time? Note: Analysis, such as pH which should be conducted i i.e, 15 minute hold time, are not included in this disucssi		Yes	r		Comment	s/Resolution
	urn Around Time (TAT)						
	COC indicate standard TAT, or Expedited TAT?		Yes				
7. Was a s	dooler ample cooler received?		Yes				
8. If yes, v	was cooler received in good condition?		Yes				
9. Was the	e sample(s) received intact, i.e., not broken?		Yes				
10. Were	custody/security seals present?		No				
	were custody/security seals intact?		NA				
12. Was the	e sample received on ice? If yes, the recorded temp is 4°C Note: Thermal preservation is not required, if samples ar minutes of sampling	re received w/i 15	Yes				
13. If no v	risible ice, record the temperature. Actual sample	temperature: 4°0	<u>C</u>				
Sample C							
	queous VOC samples present?		No				
	OC samples collected in VOA Vials?		NA				
	head space less than 6-8 mm (pea sized or less)?		NA				
	trip blank (TB) included for VOC analyses?	_	NA				
	on-VOC samples collected in the correct containers		Yes				
	appropriate volume/weight or number of sample contain	ners collected?	Yes				
Sa	ield sample labels filled out with the minimum info imple ID?	ormation:	Yes				
	ate/Time Collected? ollectors name?		Yes	-			
	reservation		No				
	the COC or field labels indicate the samples were p	reserved?	No				
	mple(s) correctly preserved?	reserved:	NA				
	filteration required and/or requested for dissolved r	netals?	No				
	se Sample Matrix		110				
	the sample matrix than one phase, i.e., multipha	uca?	Nia				
	does the COC specify which phase(s) is to be analy		No				
		yzea:	NA				
	act Laboratory						
	mples required to get sent to a subcontract laborate subcontract laboratory specified by the client and i	•	No NA	Subcontract Lab	: NA		
Client In	struction						

Report to:
Ashley Giovengo



5796 U.S. Hwy 64 Farmington, NM 87401

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





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Practical Solutions for a Better Tomorrow

# **Analytical Report**

Devon Energy - Carlsbad

Project Name: RDX 9-1

Work Order: E304179

Job Number: 01058-0007

Received: 4/25/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 5/1/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.

Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.

Envirotech Inc, holds the Utah TNI certification NM00979 for data reported.

Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.

Date Reported: 5/1/23

Ashley Giovengo 6488 7 Rivers Hwy Artesia, NM 88210

Project Name: RDX 9-1 Workorder: E304179

Date Received: 4/25/2023 10:30:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/25/2023 10:30:00AM, under the Project Name: RDX 9-1.

The analytical test results summarized in this report with the Project Name: RDX 9-1 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman

Laboratory Director Office: 505-632-1881

Cell: 775-287-1762

whinchman@envirotech-inc.com

Raina Schwanz

Laboratory Administrator Office: 505-632-1881

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**Alexa Michaels** 

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labadmin@envirotech-inc.com

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Cell: 505-320-4759

ljarboe@envirotech-inc.com

West Texas Midland/Odessa Area Rayny Hagan Technical Representative

Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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## Sample Summary

Devon Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	Keporteu:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	05/01/23 13:08

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
PH01	E304179-01A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH01B	E304179-02A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH02	E304179-03A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH02B	E304179-04A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH02D	E304179-05A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH02F	E304179-06A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH04	E304179-07A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH04A	E304179-08A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH04C	E304179-09A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH05	E304179-10A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH05B	E304179-11A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH05D	E304179-12A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH06	E304179-13A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
РН06В	E304179-14A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH06D	E304179-15A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH07	E304179-16A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH07B	E304179-17A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH07D	E304179-18A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH07F	E304179-19A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
РН07Н	E304179-20A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH07K	E304179-21A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH08	E304179-22A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.
PH08B	E304179-23A	Soil	04/20/23	04/25/23	Glass Jar, 4 oz.



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

## PH01

#### E304179-01

	20011/7 01					
	Reporting					
Result	Limit	Dil	ution	Prepared	Analyzed	Notes
mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
ND	0.0250		1	04/26/23	04/27/23	
ND	0.0250		1	04/26/23	04/27/23	
ND	0.0250		1	04/26/23	04/27/23	
ND	0.0250		1	04/26/23	04/27/23	
ND	0.0500		1	04/26/23	04/27/23	
ND	0.0250		1	04/26/23	04/27/23	
	106 %	70-130		04/26/23	04/27/23	
	112 %	70-130		04/26/23	04/27/23	
	99.9 %	70-130		04/26/23	04/27/23	
mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
ND	20.0		1	04/26/23	04/27/23	
	106 %	70-130		04/26/23	04/27/23	
	112 %	70-130		04/26/23	04/27/23	
	99.9 %	70-130		04/26/23	04/27/23	
mg/kg	mg/kg		Analyst:	KM		Batch: 2317036
ND	25.0		1	04/26/23	04/26/23	
ND	50.0		1	04/26/23	04/26/23	
	89.6 %	50-200		04/26/23	04/26/23	
mg/kg	mg/kg		Analyst:	BA		Batch: 2317035
	mg/kg ND	Result         Limit           mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           ND         0.0250           ID6 %         112 %           99.9 %         mg/kg           ND         20.0           106 %         112 %           99.9 %         mg/kg           mg/kg         mg/kg           ND         25.0           ND         50.0	Result         Limit         Dil           mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           ID         70-130           112 %         70-130           99.9 %         70-130           mg/kg         mg/kg           ND         20.0           106 %         70-130           99.9 %         70-130           99.9 %         70-130           mg/kg         mg/kg           ND         25.0           ND         50.0	Result         Limit         Dilution           mg/kg         mg/kg         Analyst:           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0500         1           ND         0.0250         1           ND         70-130         1           112 %         70-130         70-130           mg/kg         mg/kg         Analyst:           ND         20.0         1           106 %         70-130         70-130           99.9 %         70-130         70-130           mg/kg         mg/kg         Analyst:           ND         25.0         1           ND         50.0         1	Result         Limit         Dilution         Prepared           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         04/26/23           ND         0.0250         1         04/26/23           ND         0.0250         1         04/26/23           ND         0.0500         1         04/26/23           ND         0.0250         1         04/26/23           ND         0.0250         1         04/26/23           112 %         70-130         04/26/23           112 %         70-130         04/26/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         04/26/23           112 %         70-130         04/26/23           112 %         70-130         04/26/23           112 %         70-130         04/26/23           112 %         70-130         04/26/23           112 %         70-130         04/26/23           mg/kg         mg/kg         Analyst: KM           ND         25.0         1         04/26/23           ND         50.0         1         04/26/23	Result         Limit         Dilution         Prepared         Analyzed           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         04/26/23         04/27/23           ND         0.0500         1         04/26/23         04/27/23           ND         0.0250         1         04/26/23         04/27/23           ND         0.0250         1         04/26/23         04/27/23           ND         0.0250         1         04/26/23         04/27/23           112 %         70-130         04/26/23         04/27/23           99.9 %         70-130         04/26/23         04/27/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         04/26/23         04/27/23           12 %         70-130         04/26/23         04/27/23           12 %         70-130         04/26/23         04/27/23           99.9 %

Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

#### PH01B E304179-02

D14	Reporting			D	A l d	Notes
Result	Limit	Dill	ution	Prepared	Anaiyzed	Notes
mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
ND	0.0250		1	04/26/23	04/27/23	
ND	0.0250		1	04/26/23	04/27/23	
ND	0.0250		1	04/26/23	04/27/23	
ND	0.0250		1	04/26/23	04/27/23	
ND	0.0500		1	04/26/23	04/27/23	
ND	0.0250		1	04/26/23	04/27/23	
	107 %	70-130		04/26/23	04/27/23	
	107 %	70-130		04/26/23	04/27/23	
	100 %	70-130		04/26/23	04/27/23	
mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
ND	20.0		1	04/26/23	04/27/23	
	107 %	70-130		04/26/23	04/27/23	
	107 %	70-130		04/26/23	04/27/23	
	100 %	70-130		04/26/23	04/27/23	
mg/kg	mg/kg		Analyst:	KM		Batch: 2317036
ND	25.0		1	04/26/23	04/26/23	
ND	50.0		1	04/26/23	04/26/23	
·	81.1 %	50-200		04/26/23	04/26/23	
mg/kg	mg/kg		Analyst:	BA		Batch: 2317035
ND	20.0		1	04/25/23	04/27/23	
	ND Mg/kg ND Mg/kg	Result         Limit           mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           ND         0.0250           ND         107 %           100 %         100 %           mg/kg         mg/kg           ND         20.0           107 %         100 %           mg/kg         mg/kg           ND         25.0           ND         50.0           81.1 %         mg/kg           mg/kg         mg/kg	Result         Limit         Dile           mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           ND         70-130           107 %         70-130           100 %         70-130           mg/kg         mg/kg           ND         20.0           107 %         70-130           100 %         70-130           100 %         70-130           mg/kg         mg/kg           ND         25.0           ND         50.0           81.1 %         50-200           mg/kg         mg/kg	Result         Limit         Dilution           mg/kg         mg/kg         Analyst:           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0500         1           ND         0.0250         1           107 %         70-130           107 %         70-130           100 %         70-130           mg/kg         mg/kg         Analyst:           ND         20.0         1           107 %         70-130         1           mg/kg         mg/kg         Analyst:           ND         25.0         1           ND         50.0         1           81.1 %         50-200           mg/kg         Analyst:	Result         Limit         Dilution         Prepared           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         04/26/23           ND         0.0250         1         04/26/23           ND         0.0250         1         04/26/23           ND         0.0250         1         04/26/23           ND         0.0500         1         04/26/23           ND         0.0250         1         04/26/23           107 %         70-130         04/26/23           107 %         70-130         04/26/23           100 %         70-130         04/26/23           107 %         70-130         04/26/23           107 %         70-130         04/26/23           100 %         70-130         04/26/23           100 %         70-130         04/26/23           100 %         70-130         04/26/23           100 %         70-130         04/26/23           100 %         70-130         04/26/23           100 %         70-130         04/26/23           100 %         70-130         04/26/23           ND         25.0         1 <t< td=""><td>Result         Limit         Dilution         Prepared         Analyzed           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         04/26/23         04/27/23           ND         0.0500         1         04/26/23         04/27/23           ND         0.0250         1         04/26/23         04/27/23           ND         0.0250         1         04/26/23         04/27/23           ND         70-130         04/26/23         04/27/23           107 %         70-130         04/26/23         04/27/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         04/26/23         04/27/23           107 %         70-130         04/26/23         04/27/23           107 %         70-130         04/26/23         04/27/23           100 %         70-130         04/26/23         04/27/23           100 %         70-130</td></t<>	Result         Limit         Dilution         Prepared         Analyzed           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         04/26/23         04/27/23           ND         0.0500         1         04/26/23         04/27/23           ND         0.0250         1         04/26/23         04/27/23           ND         0.0250         1         04/26/23         04/27/23           ND         70-130         04/26/23         04/27/23           107 %         70-130         04/26/23         04/27/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         04/26/23         04/27/23           107 %         70-130         04/26/23         04/27/23           107 %         70-130         04/26/23         04/27/23           100 %         70-130         04/26/23         04/27/23           100 %         70-130



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

#### PH02

#### E304179-03

		Reporting					
Analyte	Result	Limit	Dilu	ıtion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: SL			Batch: 2317043
Benzene	ND	0.0250	1	1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250	1	1	04/26/23	04/28/23	
Toluene	ND	0.0250	1	1	04/26/23	04/28/23	
o-Xylene	ND	0.0250	1	1	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500	1	1	04/26/23	04/28/23	
Total Xylenes	ND	0.0250	1	1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene	·	105 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		99.3 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	ng/kg mg/kg		Analyst: SL			Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		105 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		99.3 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg mg/kg		Analyst: KM			Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0	1	1	04/26/23	04/26/23	
Oil Range Organics (C28-C36)	ND	50.0	1	1	04/26/23	04/26/23	
Surrogate: n-Nonane		75.3 %	50-200		04/26/23	04/26/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2317035
	101	20.0			04/25/23	04/27/23	



Surrogate: n-Nonane

Chloride

Anions by EPA 300.0/9056A

## Sample Data

Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

#### PH02B E304179-04

#### Reporting Analyte Limit Dilution Result Prepared Analyzed Notes Analyst: SL Batch: 2317043 mg/kg mg/kg Volatile Organic Compounds by EPA 8260B 04/28/23 ND 0.0250 04/26/23 Benzene 04/26/23 04/28/23 Ethylbenzene ND 0.02501 ND 0.0250 04/26/23 04/28/23 Toluene 1 04/26/23 04/28/23 o-Xylene ND 0.025004/26/23 04/28/23 ND 0.0500 1 p,m-Xylene 04/26/23 04/28/23 1 Total Xylenes ND 0.0250 04/26/23 04/28/23 Surrogate: Bromofluorobenzene 104 % 70-130 Surrogate: 1,2-Dichloroethane-d4 106 % 70-130 04/26/2304/28/23 Surrogate: Toluene-d8 99.3 % 70-130 04/26/2304/28/23 Nonhalogenated Organics by EPA 8015D - GRO mg/kg mg/kg Analyst: SL Batch: 2317043 ND 1 04/26/23 04/28/23 20.0 Gasoline Range Organics (C6-C10) Surrogate: Bromofluorobenzene 104 % 04/26/23 04/28/23 70-130 04/28/23 Surrogate: 1,2-Dichloroethane-d4 106 % 70-130 04/26/23 Surrogate: Toluene-d8 04/26/23 04/28/23 99.3 % 70-130 mg/kg Analyst: KM Batch: 2317036 mg/kg Nonhalogenated Organics by EPA 8015D - DRO/ORO 04/26/23 ND 25.0 1 04/26/23 Diesel Range Organics (C10-C28) ND 50.0 1 04/26/23 04/26/23 Oil Range Organics (C28-C36)

95.5 %

mg/kg

20.0

mg/kg

1780

50-200

04/26/23

04/25/23

Analyst: BA

1

04/26/23

04/27/23

Batch: 2317035



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

## PH02D E304179-05

		Reporting					
Analyte	Result	Limit	Dilu	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: S	SL		Batch: 2317043
Benzene	ND	0.0250	1	1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250	1	l	04/26/23	04/28/23	
Toluene	ND	0.0250	1	l	04/26/23	04/28/23	
o-Xylene	ND	0.0250	1	l	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500	1	l	04/26/23	04/28/23	
Total Xylenes	ND	0.0250	1	[	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		103 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		98.1 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: S	SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0	1	Į.	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		103 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		98.1 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: I	ζM		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0	1	1	04/26/23	04/26/23	
Oil Range Organics (C28-C36)	ND	50.0	1	l	04/26/23	04/26/23	
Surrogate: n-Nonane	·	78.3 %	50-200		04/26/23	04/26/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: I	ВА		Batch: 2317035
1 HIOUS DY E171 500:0/7030/1							



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

## PH02F E304179-06

		Reporting					
Analyte	Result	Limit	Dilı	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	: SL		Batch: 2317043
Benzene	ND	0.0250		1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250		1	04/26/23	04/28/23	
Toluene	ND	0.0250		1	04/26/23	04/28/23	
o-Xylene	ND	0.0250		1	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500		1	04/26/23	04/28/23	
Total Xylenes	ND	0.0250		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		104 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		100 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		104 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		104 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		100 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	: KM		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0		1	04/26/23	04/26/23	
Oil Range Organics (C28-C36)	ND	50.0		1	04/26/23	04/26/23	
Surrogate: n-Nonane		89.7 %	50-200		04/26/23	04/26/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	: BA		Batch: 2317035
Chloride	110	20.0		1	04/25/23	04/27/23	



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

#### **PH04**

		Reporting					
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
Benzene	ND	0.0250		1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250		1	04/26/23	04/28/23	
Toluene	ND	0.0250		1	04/26/23	04/28/23	
o-Xylene	ND	0.0250		1	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500		1	04/26/23	04/28/23	
Total Xylenes	ND	0.0250		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		105 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		98.9 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		105 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		98.9 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0		1	04/26/23	04/26/23	
Oil Range Organics (C28-C36)	ND	50.0		1	04/26/23	04/26/23	
Surrogate: n-Nonane		79.7 %	50-200		04/26/23	04/26/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2317035
Chloride	3140	20.0		1	04/25/23	04/27/23	



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

## PH04A E304179-08

Analyte	Result	Reporting Limit		ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: SL		Batch: 2317043
Renzene	ND	0.0250		1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250		1	04/26/23	04/28/23	
Toluene	ND	0.0250		1	04/26/23	04/28/23	
o-Xylene	ND	0.0250		1	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500		1	04/26/23	04/28/23	
Total Xylenes	ND	0.0250		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		105 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		99.4 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		105 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		99.4 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: KM		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0	_	1	04/26/23	04/26/23	
Oil Range Organics (C28-C36)	ND	50.0	:	1	04/26/23	04/26/23	
Surrogate: n-Nonane		77.6 %	50-200		04/26/23	04/26/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: BA		Batch: 2317035
Chloride	673	20.0		1	04/25/23	04/27/23	



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

## PH04C E304179-09

		Reporting					
Analyte	Result	Limit	Dilı	ıtion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
Benzene	ND	0.0250		1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250		1	04/26/23	04/28/23	
Toluene	ND	0.0250		1	04/26/23	04/28/23	
o-Xylene	ND	0.0250		1	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500		1	04/26/23	04/28/23	
Total Xylenes	ND	0.0250	:	1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		104 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		100 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		104 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		107 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		100 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0		1	04/26/23	04/26/23	
Oil Range Organics (C28-C36)	ND	50.0		1	04/26/23	04/26/23	
Surrogate: n-Nonane		74.5 %	50-200		04/26/23	04/26/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2317035
Chloride	268	20.0		1	04/25/23	04/27/23	-



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

## PH05 E304179-10

		1204177-10				
Analyte	Result	Reporting Limit	Diluti	ion Prepared	Analyzed	Notes
· ·				Analyst: SL	111111/200	Batch: 2317043
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg			0.1/0.0/02	Batch: 231/043
Benzene	ND	0.0250	1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250	1	04/26/23	04/28/23	
Toluene	ND	0.0250	1	04/26/23	04/28/23	
o-Xylene	ND	0.0250	1	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500	1	04/26/23	04/28/23	
Total Xylenes	ND	0.0250	1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		103 %	70-130	04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		110 %	70-130	04/26/23	04/28/23	
Surrogate: Toluene-d8		99.5 %	70-130	04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	А	Analyst: SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		103 %	70-130	04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		110 %	70-130	04/26/23	04/28/23	
Surrogate: Toluene-d8		99.5 %	70-130	04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Α	Analyst: KM		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0	1	04/26/23	04/26/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/23	04/26/23	
Surrogate: n-Nonane		80.5 %	50-200	04/26/23	04/26/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Α	Analyst: BA		Batch: 2317035
Chloride	ND	20.0	1	04/25/23	04/27/23	



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

#### PH05B

		Reporting					
Analyte	Result	Limit	Dilut	tion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	1	Analyst: S	SL		Batch: 2317043
Benzene	ND	0.0250	1		04/26/23	04/28/23	
Ethylbenzene	ND	0.0250	1		04/26/23	04/28/23	
Toluene	ND	0.0250	1		04/26/23	04/28/23	
o-Xylene	ND	0.0250	1		04/26/23	04/28/23	
p,m-Xylene	ND	0.0500	1		04/26/23	04/28/23	
Total Xylenes	ND	0.0250	1		04/26/23	04/28/23	
Surrogate: Bromofluorobenzene	·	104 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		108 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		101 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: S	SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0	1		04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		104 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		108 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		101 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: I	ζM		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0	1		04/26/23	04/26/23	
Oil Range Organics (C28-C36)	ND	50.0	1		04/26/23	04/26/23	
Surrogate: n-Nonane		83.1 %	50-200		04/26/23	04/26/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	1	Analyst: I	BA		Batch: 2317035
						04/27/23	



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

#### PH05D

		Reporting					
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: SL		Batch: 2317043
Benzene	ND	0.0250		1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250		1	04/26/23	04/28/23	
Toluene	ND	0.0250		1	04/26/23	04/28/23	
o-Xylene	ND	0.0250		1	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500		1	04/26/23	04/28/23	
Total Xylenes	ND	0.0250		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		104 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		111 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		98.3 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		104 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		111 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		98.3 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: KM		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0		1	04/26/23	04/27/23	
Oil Range Organics (C28-C36)	ND	50.0		1	04/26/23	04/27/23	
Surrogate: n-Nonane		80.5 %	50-200		04/26/23	04/27/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: BA		Batch: 2317035
Chloride	105	20.0		1	04/25/23	04/27/23	

Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

#### PH06

		E304179-13					
		Reporting					
Analyte	Result	Limit	Dilu	ıtion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: SI	L		Batch: 2317043
Benzene	ND	0.0250	1	1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250	1	I	04/26/23	04/28/23	
Toluene	ND	0.0250	1	1	04/26/23	04/28/23	
o-Xylene	ND	0.0250	1	1	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500	1	1	04/26/23	04/28/23	
Total Xylenes	ND	0.0250	1	1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		103 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		110 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		99.0 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: SI	L		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0	1	l	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		103 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		110 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		99.0 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: K	M		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0	1	1	04/26/23	04/27/23	
Oil Range Organics (C28-C36)	ND	50.0	1	1	04/26/23	04/27/23	
Surrogate: n-Nonane		82.7 %	50-200		04/26/23	04/27/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: B.	A		Batch: 2317035
-							

20.0

04/25/23

04/27/23

ND



Chloride

Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

#### PH06B

		Reporting					
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	: SL		Batch: 2317043
Benzene	ND	0.0250		1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250		1	04/26/23	04/28/23	
Toluene	ND	0.0250		1	04/26/23	04/28/23	
o-Xylene	ND	0.0250		1	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500		1	04/26/23	04/28/23	
Total Xylenes	ND	0.0250		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		105 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		101 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	: SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		105 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		101 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	: KM		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0		1	04/26/23	04/27/23	
Oil Range Organics (C28-C36)	ND	50.0		1	04/26/23	04/27/23	
Surrogate: n-Nonane		80.4 %	50-200		04/26/23	04/27/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	: BA		Batch: 2317035
	ND	20.0		1	04/25/23	04/27/23	

Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

## PH06D E304179-15

		Reporting					
Analyte	Result	Limit	Dilu	ıtion	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst: S	SL		Batch: 2317043
Benzene	ND	0.0250	1	1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250	1	1	04/26/23	04/28/23	
Toluene	ND	0.0250	1	1	04/26/23	04/28/23	
o-Xylene	ND	0.0250	1	1	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500	1	1	04/26/23	04/28/23	
Total Xylenes	ND	0.0250	1	1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		106 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		100 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst: S	SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		106 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		100 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst: I	ζM		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0	1	1	04/26/23	04/27/23	
Oil Range Organics (C28-C36)	ND	50.0	1	1	04/26/23	04/27/23	
Surrogate: n-Nonane		82.5 %	50-200		04/26/23	04/27/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: I	BA		Batch: 2317035
Chloride	80.3	20.0	1	1	04/25/23	04/27/23	



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

#### **PH07**

		Reporting					
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
Benzene	ND	0.0250		1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250		1	04/26/23	04/28/23	
Toluene	ND	0.0250		1	04/26/23	04/28/23	
o-Xylene	ND	0.0250		1	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500		1	04/26/23	04/28/23	
Total Xylenes	ND	0.0250		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		103 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		99.3 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		103 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		106 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		99.3 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0		1	04/26/23	04/27/23	
Oil Range Organics (C28-C36)	ND	50.0		1	04/26/23	04/27/23	
Surrogate: n-Nonane		78.7 %	50-200		04/26/23	04/27/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2317035
Chloride	268	20.0		1	04/25/23	04/27/23	



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

## PH07B

E30	141	70	1.5
н 😘	141	/4	/

		Reporting					
Analyte	Result	Limit	Dilu	ition	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
Benzene	ND	0.0250	1	l	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250	1	]	04/26/23	04/28/23	
Toluene	ND	0.0250	1	l	04/26/23	04/28/23	
o-Xylene	ND	0.0250	1	l	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500	1	l	04/26/23	04/28/23	
Total Xylenes	ND	0.0250	1	<u> </u>	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		105 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		110 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		101 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0	1	1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		105 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		110 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		101 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0	1	1	04/26/23	04/27/23	
Oil Range Organics (C28-C36)	ND	50.0	1	[	04/26/23	04/27/23	
Surrogate: n-Nonane		78.9 %	50-200		04/26/23	04/27/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2317035
	2830	20.0			04/25/23	04/27/23	



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

## PH07D

		E304179-18					
		Reporting					
Analyte	Result	Limit	Dilı	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: SL		Batch: 2317043
Benzene	ND	0.0250		1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250		1	04/26/23	04/28/23	
Toluene	ND	0.0250		1	04/26/23	04/28/23	
o-Xylene	ND	0.0250		1	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500		1	04/26/23	04/28/23	
Total Xylenes	ND	0.0250		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		106 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		108 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		101 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		106 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		108 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		101 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: KM		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0		1	04/26/23	04/27/23	
Oil Range Organics (C28-C36)	ND	50.0		1	04/26/23	04/27/23	
Surrogate: n-Nonane		82.0 %	50-200		04/26/23	04/27/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: BA		Batch: 2317035
Chloride	1980	20.0		1	04/25/23	04/27/23	



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

## PH07F E304179-19

	Reporting						
Analyte	Result	Limit	Dilu	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
Benzene	ND	0.0250		1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250		1	04/26/23	04/28/23	
Toluene	ND	0.0250		1	04/26/23	04/28/23	
o-Xylene	ND	0.0250		1	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500		1	04/26/23	04/28/23	
Total Xylenes	ND	0.0250		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		106 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		98.9 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		106 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		105 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		98.9 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	KM		Batch: 2317036
Diesel Range Organics (C10-C28)	58.2	25.0		1	04/26/23	04/27/23	
Oil Range Organics (C28-C36)	65.7	50.0		1	04/26/23	04/27/23	
Surrogate: n-Nonane		79.4 %	50-200		04/26/23	04/27/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	BA		Batch: 2317035
Chloride	1360	20.0		1	04/25/23	04/27/23	



Devon Energy - CarlsbadProject Name:RDX 9-16488 7 Rivers HwyProject Number:01058-0007Reported:Artesia NM, 88210Project Manager:Ashley Giovengo5/1/2023 1:08:55PM

## PH07H E304179-20

		1204177-20					
Anglyta	Result	Reporting Limit	Dilu	tion	Duamanad	A malvira J	Notes
Analyte	Result	Limit	Dilu	illon .	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	I	Analyst: SL			Batch: 2317043
Benzene	ND	0.0250	1	1	04/26/23	04/28/23	
Ethylbenzene	ND	0.0250	1	l (	04/26/23	04/28/23	
Toluene	ND	0.0250	1	1 (	04/26/23	04/28/23	
o-Xylene	ND	0.0250	1	1 (	04/26/23	04/28/23	
p,m-Xylene	ND	0.0500	1	1 (	04/26/23	04/28/23	
Total Xylenes	ND	0.0250	1	1	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		103 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		98.1 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	1	Analyst: SL			Batch: 2317043
Gasoline Range Organics (C6-C10)	ND	20.0	1	1 (	04/26/23	04/28/23	
Surrogate: Bromofluorobenzene		103 %	70-130		04/26/23	04/28/23	
Surrogate: 1,2-Dichloroethane-d4		109 %	70-130		04/26/23	04/28/23	
Surrogate: Toluene-d8		98.1 %	70-130		04/26/23	04/28/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	1	Analyst: KM	[		Batch: 2317036
Diesel Range Organics (C10-C28)	ND	25.0	1	1	04/26/23	04/27/23	
Oil Range Organics (C28-C36)	ND	50.0	1	1	04/26/23	04/27/23	
Surrogate: n-Nonane		79.5 %	50-200	-	04/26/23	04/27/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst: BA			Batch: 2317035
Chloride	1260	20.0	1	1 1	04/25/23	04/27/23	



Devon Energy - CarlsbadProject Name:RDX 9-16488 7 Rivers HwyProject Number:01058-0007Reported:Artesia NM, 88210Project Manager:Ashley Giovengo5/1/2023 1:08:55PM

## PH07K E304179-21

Austra	Result	Reporting Limit	Dilutio		A alasana d	Notes
Analyte	Result	Limit	Dilutio	on Prepared	Analyzed	notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg	A	nalyst: SL		Batch: 2317038
Benzene	ND	0.0250	1	04/26/23	04/27/23	
Ethylbenzene	ND	0.0250	1	04/26/23	04/27/23	
Toluene	ND	0.0250	1	04/26/23	04/27/23	
o-Xylene	ND	0.0250	1	04/26/23	04/27/23	
p,m-Xylene	ND	0.0500	1	04/26/23	04/27/23	
Total Xylenes	ND	0.0250	1	04/26/23	04/27/23	
Surrogate: Bromofluorobenzene		99.2 %	70-130	04/26/23	04/27/23	
Surrogate: 1,2-Dichloroethane-d4		93.3 %	70-130	04/26/23	04/27/23	
Surrogate: Toluene-d8		100 %	70-130	04/26/23	04/27/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	A	nalyst: SL		Batch: 2317038
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/26/23	04/27/23	
Surrogate: Bromofluorobenzene		99.2 %	70-130	04/26/23	04/27/23	
Surrogate: 1,2-Dichloroethane-d4		93.3 %	70-130	04/26/23	04/27/23	
Surrogate: Toluene-d8		100 %	70-130	04/26/23	04/27/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	A	nalyst: JL		Batch: 2317040
Diesel Range Organics (C10-C28)	86.7	25.0	1	04/26/23	04/26/23	
Oil Range Organics (C28-C36)	ND	50.0	1	04/26/23	04/26/23	
Surrogate: n-Nonane		89.4 %	50-200	04/26/23	04/26/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ai	nalyst: RAS		Batch: 2317033
Chloride	1600	200	10	04/25/23	04/26/23	



Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

#### PH08

		Reporting					
Analyte	Result	Limit	Di	lution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst	: SL		Batch: 2317038
Benzene	ND	0.0250		1	04/26/23	04/27/23	
Ethylbenzene	ND	0.0250		1	04/26/23	04/27/23	
Toluene	ND	0.0250		1	04/26/23	04/27/23	
o-Xylene	ND	0.0250		1	04/26/23	04/27/23	
p,m-Xylene	ND	0.0500		1	04/26/23	04/27/23	
Total Xylenes	ND	0.0250		1	04/26/23	04/27/23	
Surrogate: Bromofluorobenzene		97.1 %	70-130		04/26/23	04/27/23	
Surrogate: 1,2-Dichloroethane-d4		101 %	70-130		04/26/23	04/27/23	
Surrogate: Toluene-d8		102 %	70-130		04/26/23	04/27/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst	: SL		Batch: 2317038
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/26/23	04/27/23	
Surrogate: Bromofluorobenzene		97.1 %	70-130		04/26/23	04/27/23	
Surrogate: 1,2-Dichloroethane-d4		101 %	70-130		04/26/23	04/27/23	
Surrogate: Toluene-d8		102 %	70-130		04/26/23	04/27/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst	: JL		Batch: 2317040
Diesel Range Organics (C10-C28)	ND	25.0		1	04/26/23	04/26/23	
Oil Range Organics (C28-C36)	ND	50.0		1	04/26/23	04/26/23	
Surrogate: n-Nonane		88.3 %	50-200		04/26/23	04/26/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst	: RAS		Batch: 2317033
Chloride	25.5	20.0		1	04/25/23	04/26/23	•

Devon Energy - Carlsbad	Project Name:	RDX 9-1	
6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

#### PH08B

		Reporting					
Analyte	Result	Limit	Dilı	ution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B	mg/kg	mg/kg		Analyst:	SL		Batch: 2317038
Benzene	ND	0.0250		1	04/26/23	04/27/23	
Ethylbenzene	ND	0.0250		1	04/26/23	04/27/23	
Toluene	ND	0.0250		1	04/26/23	04/27/23	
o-Xylene	ND	0.0250		1	04/26/23	04/27/23	
p,m-Xylene	ND	0.0500		1	04/26/23	04/27/23	
Total Xylenes	ND	0.0250		1	04/26/23	04/27/23	
Surrogate: Bromofluorobenzene		96.0 %	70-130		04/26/23	04/27/23	
Surrogate: 1,2-Dichloroethane-d4		96.1 %	70-130		04/26/23	04/27/23	
Surrogate: Toluene-d8		99.6 %	70-130		04/26/23	04/27/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg		Analyst:	SL		Batch: 2317038
Gasoline Range Organics (C6-C10)	ND	20.0		1	04/26/23	04/27/23	
Surrogate: Bromofluorobenzene		96.0 %	70-130		04/26/23	04/27/23	
Surrogate: 1,2-Dichloroethane-d4		96.1 %	70-130		04/26/23	04/27/23	
Surrogate: Toluene-d8		99.6 %	70-130		04/26/23	04/27/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg		Analyst:	JL		Batch: 2317040
Diesel Range Organics (C10-C28)	ND	25.0		1	04/26/23	04/26/23	
Oil Range Organics (C28-C36)	ND	50.0		1	04/26/23	04/26/23	
Surrogate: n-Nonane		86.8 %	50-200		04/26/23	04/26/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg		Analyst:	RAS		Batch: 2317033
Chloride	540	20.0		1	04/25/23	04/26/23	



Devon Energy - Carlsbad RDX 9-1 Project Name: Reported: Project Number: 6488 7 Rivers Hwy 01058-0007 Artesia NM, 88210 Project Manager: Ashley Giovengo 5/1/2023 1:08:55PM **Volatile Organic Compounds by EPA 8260B** Analyst: SL Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2317038-BLK1) Prepared: 04/26/23 Analyzed: 04/27/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 ND 0.0250 Total Xylenes Surrogate: Bromofluorobenzene 0.492 0.500 98.4 70-130 Surrogate: 1,2-Dichloroethane-d4 0.497 0.500 99.3 70-130 0.500 100 70-130 Surrogate: Toluene-d8 0.501 LCS (2317038-BS1) Prepared: 04/26/23 Analyzed: 04/27/23 2.30 0.0250 2.50 91.9 70-130 Benzene 2.50 70-130 2.20 87.9 Ethylbenzene 0.0250 2.21 0.0250 2.50 88.3 70-130 88.9 70-130 2.22 0.0250 2.50 o-Xylene 4.41 5.00 88.3 70-130 p,m-Xylene 0.0500 6.64 0.0250 7.50 88.5 70-130 Total Xylenes Surrogate: Bromofluorobenzene 0.493 0.500 98.6 70-130 0.500 100 70-130 Surrogate: 1,2-Dichloroethane-d4 0.502 70-130 Surrogate: Toluene-d8 0.505 0.500 Matrix Spike (2317038-MS1) Source: E304183-05 Prepared: 04/26/23 Analyzed: 04/27/23 2.36 0.0250 2.50 ND 94.4 48-131 45-135 Ethylbenzene 2.25 0.0250 2.50 ND 90.1 90.5 48-130 Toluene 2.26 0.0250 2.50 ND 2.33 0.0250 2.50 ND 93.1 43-135 o-Xylene 4.57 ND 91.4 43-135 p,m-Xylene 0.0500 5.00 Total Xylenes 6.90 0.0250 7.50 ND 92.0 43-135 0.502 0.500 100 70-130 Surrogate: Bromofluorobenzene 0.498 0.500 99.5 70-130 Surrogate: 1,2-Dichloroethane-d4 0.500 70-130 0.504 Surrogate: Toluene-d8 Matrix Spike Dup (2317038-MSD1) Source: E304183-05 Prepared: 04/26/23 Analyzed: 04/27/23



Ethylbenzene

Toluene

o-Xylene

p,m-Xylene

Total Xylenes

Surrogate: Toluene-d8

Surrogate: Bromofluorobenzene

Surrogate: 1,2-Dichloroethane-d4

2.21

2.21

2.18

2.29

4.48

6.76

0.488

0.478

0.494

0.0250

0.0250

0.0250

0.0250

0.0500

0.0250

2.50

2.50

2.50

2.50

5.00

7.50

0.500

0.500

0.500

ND

ND

ND

ND

ND

ND

88.3

88.3

87.3

91.4

89.6

90.2

97.5

95.6

48-131

45-135

48-130

43-135

43-135

43-135

70-130

70-130

70-130

6.64

2.11

3.53

1.84

2.01

1.95

23

27

24

27

27

27

**QC Summary Data** Devon Energy - Carlsbad RDX 9-1 Project Name: Reported: 6488 7 Rivers Hwy Project Number: 01058-0007 Artesia NM, 88210 Project Manager: Ashley Giovengo 5/1/2023 1:08:55PM Volatile Organic Compounds by EPA 8260B Analyst: SL Source Reporting Spike Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % Notes Blank (2317043-BLK1) Prepared: 04/26/23 Analyzed: 04/27/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND 0.0250 o-Xylene ND p,m-Xylene 0.0500 Total Xylenes ND 0.0250 Surrogate: Bromofluorobenzene 0.514 0.500 103 70-130 Surrogate: 1,2-Dichloroethane-d4 0.558 0.500 112 70-130 0.493 0.500 98.5 70-130 Surrogate: Toluene-d8 LCS (2317043-BS1) Prepared: 04/26/23 Analyzed: 04/27/23 2.44 0.0250 2.50 97.8 70-130 Benzene 2.38 2.50 95.1 70-130 0.0250 Ethylbenzene 70-130 Toluene 2.37 0.0250 2.50 94.9 2.35 2.50 93.9 70-130 0.0250 o-Xylene 93.3 4.67 5.00 70-130 p,m-Xylene 0.0500 7.02 0.0250 7.50 93.5 70-130 Total Xylenes Surrogate: Bromofluorobenzene 0.531 0.500 106 70-130 0.500 113 70-130 Surrogate: 1,2-Dichloroethane-d4 0.566 Surrogate: Toluene-d8 0.500 70-130 0.491 Matrix Spike (2317043-MS1) Source: E304179-08 Prepared: 04/26/23 Analyzed: 04/27/23 2.51 Benzene 0.0250 2.50 ND 48-131

Benzene	2.46	0.0250	2.50	ND	98.5	48-131	2.01	23		
Matrix Spike Dup (2317043-MSD1)				Source:	E304179-0	08	Prepared: 0	4/26/23	Analyzed: 04/27/23	
Surrogate: Toluene-d8	0.505		0.500		101	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.542		0.500		108	70-130				
Surrogate: Bromofluorobenzene	0.542		0.500		108	70-130				
Total Xylenes	7.43	0.0250	7.50	ND	99.1	43-135				
p,m-Xylene	4.94	0.0500	5.00	ND	98.8	43-135				
o-Xylene	2.49	0.0250	2.50	ND	99.5	43-135				
Toluene	2.49	0.0250	2.50	ND	99.7	48-130				
Ethylbenzene	2.50	0.0250	2.50	ND	100	45-135				
Belizene	2.01	0.0230	2.50	112	101	.0 151				

Matrix Spike Dup (2317043-MSD1)					Source: E304179-08			4/26/23 Analyzed: 04/2//23	
Benzene	2.46	0.0250	2.50	ND	98.5	48-131	2.01	23	
Ethylbenzene	2.40	0.0250	2.50	ND	96.0	45-135	4.14	27	
Toluene	2.41	0.0250	2.50	ND	96.6	48-130	3.20	24	
o-Xylene	2.40	0.0250	2.50	ND	95.9	43-135	3.68	27	
p,m-Xylene	4.74	0.0500	5.00	ND	94.8	43-135	4.19	27	
Total Xylenes	7.14	0.0250	7.50	ND	95.2	43-135	4.02	27	
Surrogate: Bromofluorobenzene	0.547		0.500		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.543		0.500		109	70-130			
Surrogate: Toluene-d8	0.501		0.500		100	70-130			

Devon Energy - CarlsbadProject Name:RDX 9-1Reported:6488 7 Rivers HwyProject Number:01058-0007Artesia NM, 88210Project Manager:Ashley Giovengo5/1/2023 1:08:55PM

Nonhalogenated Organic	s by EPA 8015D - GRO
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Ana	lvst.	SI

Analyte Resu	Reporting lt Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
mg/k	g mg/kg	mg/kg	mg/kg	%	%	%	%	Notes

•	Result	Limit	Level	Result	Rec	Limits	RPD	Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2317038-BLK1)							Prepared: 04	4/26/23 A	nalyzed: 04/27/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.492		0.500		98.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.497		0.500		99.3	70-130			
Surrogate: Toluene-d8	0.501		0.500		100	70-130			
LCS (2317038-BS2)							Prepared: 04	4/26/23 A	nalyzed: 04/26/23
Gasoline Range Organics (C6-C10)	45.9	20.0	50.0		91.7	70-130		<u> </u>	·
Surrogate: Bromofluorobenzene	0.490		0.500		97.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.506		0.500		101	70-130			
Surrogate: Toluene-d8	0.511		0.500		102	70-130			
Matrix Spike (2317038-MS2)				Source:	E304183-	05	Prepared: 04	4/26/23 A	nalyzed: 04/27/23
Gasoline Range Organics (C6-C10)	45.4	20.0	50.0	ND	90.8	70-130			
Surrogate: Bromofluorobenzene	0.502		0.500		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.473		0.500		94.6	70-130			
Surrogate: Toluene-d8	0.511		0.500		102	70-130			
Matrix Spike Dup (2317038-MSD2)				Source:	E304183-	05	Prepared: 04	4/26/23 A	nalyzed: 04/27/23
			50.0	ND	87.8	70-130	3.44	20	
Gasoline Range Organics (C6-C10)	43.9	20.0	30.0	ND	07.0				
	0.493	20.0	0.500	ND	98.5	70-130			
Gasoline Range Organics (C6-C10)  Surrogate: Bromofluorobenzene  Surrogate: 1,2-Dichloroethane-d4		20.0		ND					



Devon Energy - CarlsbadProject Name:RDX 9-1Reported:6488 7 Rivers HwyProject Number:01058-0007Artesia NM, 88210Project Manager:Ashley Giovengo5/1/2023 1:08:55PM

Nonhalogenated	Organics b	v EPA	8015D -	GRO

Analyst: SL

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

	resure				1100				
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2317043-BLK1)							Prepared: 0	4/26/23 A	nalyzed: 04/27/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.514		0.500		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.558		0.500		112	70-130			
Surrogate: Toluene-d8	0.493		0.500		98.5	70-130			
LCS (2317043-BS2)							Prepared: 0	4/26/23 A	nalyzed: 04/27/23
Gasoline Range Organics (C6-C10)	45.0	20.0	50.0	·	90.0	70-130	·		
Surrogate: Bromofluorobenzene	0.538		0.500		108	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.533		0.500		107	70-130			
Surrogate: Toluene-d8	0.510		0.500		102	70-130			
Matrix Spike (2317043-MS2)				Source:	E304179-	08	Prepared: 0	4/26/23 A	nalyzed: 04/27/23
Gasoline Range Organics (C6-C10)	47.5	20.0	50.0	ND	95.0	70-130			
Surrogate: Bromofluorobenzene	0.539		0.500		108	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.529		0.500		106	70-130			
Surrogate: Toluene-d8	0.514		0.500		103	70-130			
Matrix Spike Dup (2317043-MSD2)				Source:	E304179-	08	Prepared: 0	4/26/23 A	nalyzed: 04/27/23
Gasoline Range Organics (C6-C10)	49.2	20.0	50.0	ND	98.3	70-130	3.46	20	
Surrogate: Bromofluorobenzene	0.532		0.500		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.523		0.500		105	70-130			
Surrogate: Toluene-d8	0.510		0.500		102	70-130			



Devon Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	•
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

Artesia NM, 88210		Project Manage	r: As	hley Gioveng	go				5/1/2023 1:08:55PM
	Nonha	logenated Or	ganics by	EPA 8015I	) - DRO	/ORO			Analyst: KM
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2317036-BLK1)							Prepared: 0	4/26/23 A	nalyzed: 04/26/23
Diesel Range Organics (C10-C28)	ND	25.0							
Dil Range Organics (C28-C36)	ND	50.0							
urrogate: n-Nonane	46.4		50.0		92.7	50-200			
LCS (2317036-BS1)							Prepared: 0	4/26/23 A	nalyzed: 04/26/23
Diesel Range Organics (C10-C28)	247	25.0	250		98.8	38-132			
urrogate: n-Nonane	39.7		50.0		79.4	50-200			
Matrix Spike (2317036-MS1)				Source:	E304179-	15	Prepared: 0	4/26/23 A	nalyzed: 04/26/23
Diesel Range Organics (C10-C28)	258	25.0	250	ND	103	38-132			
urrogate: n-Nonane	39.5		50.0		79.0	50-200			
Matrix Spike Dup (2317036-MSD1)				Source:	E304179-	15	Prepared: 0	4/26/23 A	nalyzed: 04/26/23
Diesel Range Organics (C10-C28)	252	25.0	250	ND	101	38-132	2.44	20	
urrogate: n-Nonane	40.4		50.0		80.8	50-200			

Devon Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
6488 7 Rivers Hwy	Project Number:	01058-0007	•
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM

Artesia NM, 88210		Project Manager	r: As	hley Gioveng	30				5/1/2023 1:08:55PN
	Nonha	logenated Or	ganics by l	EPA 8015I	) - DRO	/ORO			Analyst: JL
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2317040-BLK1)							Prepared: 0-	4/26/23 A1	nalyzed: 04/26/23
Diesel Range Organics (C10-C28)	ND	25.0							
Dil Range Organics (C28-C36)	ND	50.0							
urrogate: n-Nonane	50.7		50.0		101	50-200			
LCS (2317040-BS1)							Prepared: 0-	4/26/23 A1	nalyzed: 04/26/23
Diesel Range Organics (C10-C28)	246	25.0	250		98.2	38-132			
urrogate: n-Nonane	44.6		50.0		89.1	50-200			
Matrix Spike (2317040-MS1)				Source:	E304179-2	23	Prepared: 0	4/26/23 A1	nalyzed: 04/26/23
Diesel Range Organics (C10-C28)	257	25.0	250	ND	103	38-132			
urrogate: n-Nonane	43.2		50.0		86.4	50-200			
Matrix Spike Dup (2317040-MSD1)				Source:	E304179-2	23	Prepared: 0	4/26/23 A1	nalyzed: 04/26/23
Diesel Range Organics (C10-C28)	257	25.0	250	ND	103	38-132	0.0513	20	
urrogate: n-Nonane	43.0		50.0		86.1	50-200			

Devon Energy - Carlsbad 6488 7 Rivers Hwy	Project Name: Project Number:	RDX 9-1 01058-0007	Reported:			
Artesia NM, 88210	Project Manager:	Ashley Giovengo	5/1/2023 1:08:55PM			
	Anions by EPA 300.0/9056A					

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limi	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2317033-BLK1)							Prepared: 0	4/25/23	Analyzed: 04/26/23
Chloride	ND	20.0							
LCS (2317033-BS1)							Prepared: 0	4/25/23	Analyzed: 04/26/23
Chloride	257	20.0	250		103	90-110			
Matrix Spike (2317033-MS1)				Source:	E304183-	02	Prepared: 0	4/25/23	Analyzed: 04/26/23
Chloride	256	20.0	250	ND	102	80-120			
Matrix Spike Dup (2317033-MSD1)				Source:	E304183-	02	Prepared: 0	4/25/23	Analyzed: 04/26/23
Chloride	255	20.0	250	ND	102	80-120	0.0912	20	

## **QC Summary Data**

Devon Energy - Carlsbad 6488 7 Rivers Hwy Artesia NM, 88210	Project Name: RDX 9-1 Project Number: 01058-0007 Project Manager: Ashley Giovengo								<b>Reported:</b> 5/1/2023 1:08:55PM
		Anions	by EPA	300.0/9056A	<u> </u>				Analyst: BA
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2317035-BLK1)							Prepared: 0	4/25/23 A	nalyzed: 04/27/23
Chloride	ND	20.0							
LCS (2317035-BS1)							Prepared: 0	4/25/23 A	nalyzed: 04/27/23
Chloride	248	20.0	250		99.2	90-110			
Matrix Spike (2317035-MS1)				Source:	E304179-0	)1	Prepared: 0	4/25/23 A	nalyzed: 04/27/23
Chloride	867	20.0	250	788	31.5	80-120			M2
Matrix Spike Dup (2317035-MSD1)				Source:	E304179-0	)1	Prepared: 0	4/25/23 A	nalyzed: 04/27/23
Chloride	951	20.0	250	788	65.1	80-120	9.24	20	M2

#### QC Summary Report Comment:

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



## **Definitions and Notes**

ſ	Devon Energy - Carlsbad	Project Name:	RDX 9-1	
l	6488 7 Rivers Hwy	Project Number:	01058-0007	Reported:
l	Artesia NM, 88210	Project Manager:	Ashley Giovengo	05/01/23 13:08

M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

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

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



Project I	nformation
Client:	Devon E

**Chain of Custody** 

Page	 of	3
•		

Client:	Devon Ene	za <sub>u</sub>			YEWE	Bill To			e cyf		- Lat	b Us	e Onl	V ST LO	Y ANGEL				TAT	-	EPA Pr	ogram
Project:	BDX 9-1	100				ention: Jim Rali	leu	_	Lab \	WO#	15 h 2 5		Job N	uml	oer .	164 <b>1</b>	D 2	D 3		Standard	CWA	SDWA
<u>'roject M</u>	1anager: As 3122 N	Mey Gi	svergo	<del></del>		Iress: 5315 Buons	Vista Dr	770	EB	941	<u> 19</u>				<u>-000</u>					X		0004
<u>\ddress:</u> `itv. State	e, Zip Carl	Sbut NI	<u>ravas 17</u> 4 - 4872	<u>~~</u>	City,	, State, Zip Carl Shad	<u>5,1014 88</u> 7547	<del>200</del>		Т	Т	Ť	Analys	is an	nd Met	hod	$\neg$			-		RCRA
Phone:	575-988	6-6055		<u>~</u>		ail: im, valoy @d			8015	55					٤					<u> </u>	State	_
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1255	V	\ <u>\</u>	\\\	PHO5			3	10							4							
Addition	al Instruction	ns: Kef	monic	e, cc l	deshley #	+ Jim on Samp	phe resu	1/25.														
				y of this sample. I ar be grounds for lega		tampering with or intentionally Sampled by:	ly mislabelling th 20-11, Ha	e sample loi	cation,						_					ved on ice the day t Con subsequent day		d or received
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ample Matri	ix: S - Soil, Sd - So	olid, Sg - Slud				7		Container	Type	g-g	lass, p	) - pc	ly/pla	stic,	ag - ar	mber	glass,	v - V(	)A			
	te: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above														the cli	ient ex	pens	e. The	repo	rt for the analy	sis of the at	ove



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				of this sample. I ar be grounds for lega		tampering with or intentionally mislabelli Sampled by: Ronn,	ng the sample le	ocation	ı <b>,</b>					-					eived on ice the day ( °C on subsequent da		ed or received
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ample Matr	ix: S - Soil, Sd - Se	olid, Sg - Slud	ige, A - Aque	ous, O - Other		The state of the s	Containe	г Турс	e: g - {	glass,						glass	s, v - '	VOA		200000000000000000000000000000000000000	2,46,75,25,57
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samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Project	Information
Client	DOVME

Chain of Custo	ody
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Client: Devon Enclar Bill To					15.57	Lab Use Only TAT EPA Program						-m									
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Address: 3122 National Parks Hwy City, State, Zip Carlstand, NM 5 Phone: 575-689-7597									$\neg$	$\overline{}$		Allolya	313 011		T	1	$\overline{}$	-	/ <del> </del>		<del>"\\</del>
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				y of this sample. I ar		tampering with or intentionally misl	slabelling the samp	ole locatio	on,					_				ceived on ice the 5°C on subseque		mpled or re	ceived
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amples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report																					



Printed: 4/25/2023 1:35:08PM

#### **Envirotech Analytical Laboratory**

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Devon Energy - Carlsbad	Date Received:	04/25/23	10:30	Work Order ID:	E304179
Phone:	(505) 382-1211	Date Logged In:	04/25/23	11:56	Logged In By:	Caitlin Christian
Email:	ashley.giovengo@wescominc.com	Due Date:	05/01/23	17:00 (4 day TAT)		
GL :	16 + 1 (606)					
	f Custody (COC)		37			
	the sample ID match the COC? the number of samples per sampling site location man	tch the COC	Yes			
	samples dropped off by client or carrier?	ion the coc	Yes	0 : 0 :		
	ne COC complete, i.e., signatures, dates/times, reques	eted analyses?	Yes Yes	Carrier: Courier		
	all samples received within holding time?	sted analyses:	Yes			
J. Wele	Note: Analysis, such as pH which should be conducted in i.e, 15 minute hold time, are not included in this disucssion.		105		Commen	ts/Resolution
	<u>Turn Around Time (TAT)</u>					
6. Did th	e COC indicate standard TAT, or Expedited TAT?		Yes			
<b>Sample</b>						
	sample cooler received?		Yes			
8. If yes,	was cooler received in good condition?		Yes			
9. Was tl	ne sample(s) received intact, i.e., not broken?		Yes			
10. Were	e custody/security seals present?		No			
11. If ye	s, were custody/security seals intact?		NA			
	he sample received on ice? If yes, the recorded temp is 4°C, Note: Thermal preservation is not required, if samples ar minutes of sampling visible ice, record the temperature. Actual sample	e received w/i 15	Yes <u>C</u>			
Sample	Container					
	aqueous VOC samples present?		No			
15. Are	VOC samples collected in VOA Vials?		NA			
	e head space less than 6-8 mm (pea sized or less)?		NA			
	a trip blank (TB) included for VOC analyses?		NA			
	non-VOC samples collected in the correct containers'	?	Yes			
	appropriate volume/weight or number of sample contain		Yes			
Field La	•					
	e field sample labels filled out with the minimum info	ormation:				
	Sample ID?		Yes			
	Date/Time Collected?		Yes			
	Collectors name?		No			
	<u>Preservation</u>					
	s the COC or field labels indicate the samples were pr	reserved?	No			
	sample(s) correctly preserved?		NA			
24. Is lat	o filteration required and/or requested for dissolved n	netals?	No			
	ase Sample Matrix					
	s the sample have more than one phase, i.e., multipha		No			
27. If ye	s, does the COC specify which phase(s) is to be analy	zed?	NA			
Subcont	ract Laboratory					
	samples required to get sent to a subcontract laborato	ry?	No			
	a subcontract laboratory specified by the client and it	•	NA	Subcontract Lab: NA		
Client l	Instruction					
<u>enene i</u>	<u> </u>					

Date

Report to:
Ashley Giovengo



5796 U.S. Hwy 64 Farmington, NM 87401

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





# envirotech

Practical Solutions for a Better Tomorrow

# **Analytical Report**

Ensolum, LLC

Project Name: RDX 9-1

Work Order: E305076

Job Number: 01058-0007

Received: 5/12/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 5/17/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.

Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.

Envirotech Inc, holds the Utah TNI certification NM00979 for data reported.

Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.

Date Reported: 5/17/23

Ashley Giovengo 3122 National Parks Hwy Carlsbad, NM 88220

Project Name: RDX 9-1 Workorder: E305076

Date Received: 5/12/2023 8:20:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 5/12/2023 8:20:00AM, under the Project Name: RDX 9-1.

The analytical test results summarized in this report with the Project Name: RDX 9-1 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman

Laboratory Director Office: 505-632-1881

Cell: 775-287-1762

whinchman@envirotech-inc.com

Raina Schwanz

Laboratory Administrator Office: 505-632-1881

rainaschwanz@envirotech-inc.com

**Alexa Michaels** 

Sample Custody Officer Office: 505-632-1881

labadmin@envirotech-inc.com

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Technical Representative/Client Services

Office: 505-421-LABS(5227)

Cell: 505-320-4759

ljarboe@envirotech-inc.com

Rayny Hagan Technical Representative

West Texas Midland/Odessa Area

Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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Chain of Custody etc.						

#### **Sample Summary**

Γ	Ensolum, LLC	Project Name:	RDX 9-1	Donoutodi
ı	3122 National Parks Hwy	Project Number:	01058-0007	Reported:
l	Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	05/17/23 09:16

Client Sample ID	Lab Sample ID Matrix	Sampled	Received	Container
PH03 - 2'	E305076-01A Soil	05/09/23	05/12/23	Glass Jar, 2 oz.
PH03 - 4'	E305076-02A Soil	05/09/23	05/12/23	Glass Jar, 2 oz.
PH09 - 2'	E305076-03A Soil	05/09/23	05/12/23	Glass Jar, 2 oz.
PH9 - 4'	E305076-04A Soil	05/09/23	05/12/23	Glass Jar, 2 oz.
PH10 - 2'	E305076-05A Soil	05/09/23	05/12/23	Glass Jar, 2 oz.
PH10 - 4'	E305076-06A Soil	05/09/23	05/12/23	Glass Jar, 2 oz.



Ensolum, LLC	Project Name:	RDX 9-1	
3122 National Parks Hwy	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	5/17/2023 9:16:34AM

#### PH03 - 2' E305076-01

Result	Reporting Limit		n Prepared	Analyzed	Notes
mg/kg	mg/kg	Ana	alyst: IY		Batch: 2319063
ND	0.0250	1	05/12/23	05/12/23	
ND	0.0250	1	05/12/23	05/12/23	
ND	0.0250	1	05/12/23	05/12/23	
ND	0.0250	1	05/12/23	05/12/23	
ND	0.0500	1	05/12/23	05/12/23	
ND	0.0250	1	05/12/23	05/12/23	
	94.7 %	70-130	05/12/23	05/12/23	
mg/kg	mg/kg	Ana	alyst: IY		Batch: 2319063
ND	20.0	1	05/12/23	05/12/23	
	94.9 %	70-130	05/12/23	05/12/23	
mg/kg	mg/kg	Ana	alyst: JL		Batch: 2319065
ND	25.0	1	05/12/23	05/12/23	
ND	50.0	1	05/12/23	05/12/23	
	76.6 %	50-200	05/12/23	05/12/23	
mg/kg	mg/kg	Ana	alyst: RAS		Batch: 2319070
1510	20.0	1	05/15/23	05/15/23	
	mg/kg ND ND ND ND ND ND ND ND Mg/kg ND mg/kg	Result         Limit           mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           MD         0.0250           MD         20.0250           MD         20.0           94.9 %         mg/kg           ND         25.0           ND         50.0           76.6 %         mg/kg           mg/kg         mg/kg	Result         Limit         Dilution           mg/kg         mg/kg         And           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0500         1           ND         0.0250         1           MD         0.0250         1           MD         0.0250         1           Mg/kg         mg/kg         And           ND         20.0         1           Mg/kg         mg/kg         And           ND         25.0         1           ND         50.0         1           76.6 %         50-200           mg/kg         mg/kg         And	Result         Limit         Dilution         Prepared           mg/kg         mg/kg         Analyst: IY           ND         0.0250         1         05/12/23           ND         0.0250         1         05/12/23           ND         0.0250         1         05/12/23           ND         0.0250         1         05/12/23           ND         0.0500         1         05/12/23           ND         0.0250         1         05/12/23           mg/kg         mg/kg         Analyst: IY           ND         20.0         1         05/12/23           mg/kg         mg/kg         Analyst: JL           ND         25.0         1         05/12/23           ND         25.0         1         05/12/23           ND         50.0         1         05/12/23           ND         50.0         1         05/12/23           ND         50.0         0         05/12/23           ND         50.0         0         05/12/23           ND         50.0         0         05/12/23           ND         50.0         0         05/12/23           ND	Result         Limit         Dilution         Prepared         Analyzed           mg/kg         mg/kg         Analyst: IY           ND         0.0250         1         05/12/23         05/12/23           ND         0.0500         1         05/12/23         05/12/23           ND         0.0250         1         05/12/23         05/12/23           mg/kg         mg/kg         Analyst: IY         ND         05/12/23           ND         20.0         1         05/12/23         05/12/23           mg/kg         mg/kg         Analyst: IY         ND         25.0         1         05/12/23         05/12/23           ND         25.0         1         05/12/23         05/12/23         05/12/23           ND         50.0         1         05/12/23         05/12/23           ND         50.0         1         05/12/23         05/12/23           ND         50.0         0         0



Ensolum, LLC	Project Name:	RDX 9-1	
3122 National Parks Hwy	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	5/17/2023 9:16:34AM

#### PH03 - 4' E305076-02

		E303070-02				
Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: IY		Batch: 2319063
Benzene	ND	0.0250	1	05/12/23	05/12/23	
Ethylbenzene	ND	0.0250	1	05/12/23	05/12/23	
Toluene	ND	0.0250	1	05/12/23	05/12/23	
o-Xylene	ND	0.0250	1	05/12/23	05/12/23	
p,m-Xylene	ND	0.0500	1	05/12/23	05/12/23	
Total Xylenes	ND	0.0250	1	05/12/23	05/12/23	
Surrogate: 4-Bromochlorobenzene-PID		94.6 %	70-130	05/12/23	05/12/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: IY		Batch: 2319063
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/12/23	05/12/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		94.0 %	70-130	05/12/23	05/12/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: JL		Batch: 2319065
Diesel Range Organics (C10-C28)	ND	25.0	1	05/12/23	05/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	05/12/23	05/12/23	
Surrogate: n-Nonane		83.7 %	50-200	05/12/23	05/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: RAS		Batch: 2319070
Chloride	1440	20.0	1	05/15/23	05/15/23	



Ensolum, LLC	Project Name:	RDX 9-1	
3122 National Parks Hwy	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	5/17/2023 9:16:34AM

#### PH09 - 2' E305076-03

	1503070 05				
Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
mg/kg	mg/kg	Anal	yst: IY		Batch: 2319063
ND	0.0250	1	05/12/23	05/12/23	
ND	0.0250	1	05/12/23	05/12/23	
ND	0.0250	1	05/12/23	05/12/23	
ND	0.0250	1	05/12/23	05/12/23	
ND	0.0500	1	05/12/23	05/12/23	
ND	0.0250	1	05/12/23	05/12/23	
	94.6 %	70-130	05/12/23	05/12/23	
mg/kg	mg/kg	Anal	yst: IY		Batch: 2319063
ND	20.0	1	05/12/23	05/12/23	
	95.4 %	70-130	05/12/23	05/12/23	
mg/kg	mg/kg	Anal	yst: JL		Batch: 2319065
ND	25.0	1	05/12/23	05/12/23	
ND	50.0	1	05/12/23	05/12/23	
	87.2 %	50-200	05/12/23	05/12/23	
mg/kg	mg/kg	Anal	yst: RAS		Batch: 2319070
565	20.0	1	05/15/23	05/15/23	
	mg/kg ND Mg/kg ND mg/kg	Result         Limit           mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           MD         0.0250           MD         0.0250           94.6 %         mg/kg           MD         20.0           95.4 %         mg/kg           ND         25.0           ND         50.0           87.2 %         mg/kg           mg/kg         mg/kg	mg/kg         mg/kg         Anal           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0500         1           ND         0.0250         1           mg/kg         mg/kg         Anal           ND         20.0         1           95.4 %         70-130         70-130           mg/kg         mg/kg         Anal           ND         25.0         1           ND         50.0         1           87.2 %         50-200           mg/kg         mg/kg         Anal	Result         Limit         Dilution         Prepared           mg/kg         mg/kg         Analyst: IY           ND         0.0250         1         05/12/23           ND         0.0250         1         05/12/23           ND         0.0250         1         05/12/23           ND         0.0250         1         05/12/23           ND         0.0500         1         05/12/23           ND         0.0250         1         05/12/23           mg/kg         mg/kg         Analyst: IY           ND         20.0         1         05/12/23           mg/kg         mg/kg         Analyst: JL           ND         25.4 %         70-130         05/12/23           mg/kg         mg/kg         Analyst: JL           ND         25.0         1         05/12/23           ND         50.0         1         05/12/23           87.2 %         50-200         05/12/23           mg/kg         mg/kg         Analyst: RAS	Result         Limit         Dilution         Prepared         Analyzed           mg/kg         mg/kg         Analyst: IY           ND         0.0250         1         05/12/23         05/12/23           ND         0.0250         1         05/12/23         05/12/23           ND         0.0250         1         05/12/23         05/12/23           ND         0.0500         1         05/12/23         05/12/23           ND         0.0250         1         05/12/23         05/12/23           ND         0.0250         1         05/12/23         05/12/23           mg/kg         mg/kg         Analyst: IY           ND         20.0         1         05/12/23         05/12/23           mg/kg         mg/kg         Analyst: IY         ND         25.4 %         70-130         05/12/23         05/12/23           mg/kg         mg/kg         Analyst: JL         ND         25.0         1         05/12/23         05/12/23           ND         25.0         1         05/12/23         05/12/23         05/12/23           ND         50.0         1         05/12/23         05/12/23           87.2 %         50-200



Ensolum, LLC	Project Name:	RDX 9-1	
3122 National Parks Hwy	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	5/17/2023 9:16:34AM

#### PH9 - 4'

#### E305076-04

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	lyst: IY		Batch: 2319063
Benzene	ND	0.0250	1	05/12/23	05/12/23	
Ethylbenzene	ND	0.0250	1	05/12/23	05/12/23	
Toluene	ND	0.0250	1	05/12/23	05/12/23	
o-Xylene	ND	0.0250	1	05/12/23	05/12/23	
p,m-Xylene	ND	0.0500	1	05/12/23	05/12/23	
Total Xylenes	ND	0.0250	1	05/12/23	05/12/23	
Surrogate: 4-Bromochlorobenzene-PID		95.1 %	70-130	05/12/23	05/12/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	lyst: IY		Batch: 2319063
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/12/23	05/12/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		92.4 %	70-130	05/12/23	05/12/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	lyst: JL		Batch: 2319065
Diesel Range Organics (C10-C28)	ND	25.0	1	05/12/23	05/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	05/12/23	05/12/23	
Surrogate: n-Nonane		89.6 %	50-200	05/12/23	05/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	lyst: RAS		Batch: 2319070
Chloride	237	20.0	1	05/15/23	05/15/23	



Ensolum, LLC	Project Name:	RDX 9-1	
3122 National Parks Hwy	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	5/17/2023 9:16:34AM

#### PH10 - 2' E305076-05

Result	Reporting Limit		n Prepared	Analyzed	Notes
mg/kg	mg/kg	Ana	ılyst: IY		Batch: 2319063
ND	0.0250	1	05/12/23	05/12/23	
ND	0.0250	1	05/12/23	05/12/23	
ND	0.0250	1	05/12/23	05/12/23	
ND	0.0250	1	05/12/23	05/12/23	
ND	0.0500	1	05/12/23	05/12/23	
ND	0.0250	1	05/12/23	05/12/23	
	95.3 %	70-130	05/12/23	05/12/23	
mg/kg	mg/kg	Ana	alyst: IY		Batch: 2319063
ND	20.0	1	05/12/23	05/12/23	
	92.9 %	70-130	05/12/23	05/12/23	
mg/kg	mg/kg	Ana	alyst: JL		Batch: 2319065
ND	25.0	1	05/12/23	05/12/23	
ND	50.0	1	05/12/23	05/12/23	
	82.0 %	50-200	05/12/23	05/12/23	
mg/kg	mg/kg	Ana	ılyst: RAS		Batch: 2319070
878	20.0	1	05/15/23	05/15/23	
	mg/kg ND Mg/kg ND mg/kg	Result         Limit           mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           MD         0.0250           MD         0.0250           MD         20.0           92.9 %         mg/kg           MD         25.0           ND         50.0           82.0 %         mg/kg           mg/kg         mg/kg	mg/kg         mg/kg         Ana           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0500         1           ND         0.0250         1           MD         0.0250         1           MD         20.050         1           MD         20.0         1           Mg/kg         mg/kg         Ana           ND         25.0         1           ND         50.0         1           82.0 %         50-200           mg/kg         mg/kg         Ana	Result         Limit         Dilution         Prepared           mg/kg         mg/kg         Analyst: IY           ND         0.0250         1         05/12/23           ND         0.0250         1         05/12/23           ND         0.0250         1         05/12/23           ND         0.0250         1         05/12/23           ND         0.0500         1         05/12/23           ND         0.0250         1         05/12/23           mg/kg         mg/kg         Analyst: IY           ND         20.0         1         05/12/23           mg/kg         mg/kg         Analyst: JL           ND         25.0         1         05/12/23           ND         25.0         1         05/12/23           ND         50.0         1         05/12/23           ND         50.0         1         05/12/23           82.0 %         50-200         05/12/23           mg/kg         Mg/kg         Analyst: RAS	Result         Limit         Dilution         Prepared         Analyzed           mg/kg         mg/kg         Analyst: IY           ND         0.0250         1         05/12/23         05/12/23           ND         0.0250         1         05/12/23         05/12/23           ND         0.0250         1         05/12/23         05/12/23           ND         0.0500         1         05/12/23         05/12/23           ND         0.0250         1         05/12/23         05/12/23           ND         0.0250         1         05/12/23         05/12/23           mg/kg         mg/kg         Analyst: IY           ND         20.0         1         05/12/23         05/12/23           mg/kg         mg/kg         Analyst: IY         ND         20.0         1         05/12/23         05/12/23           mg/kg         mg/kg         Analyst: JL         ND         25.0         1         05/12/23         05/12/23           ND         25.0         1         05/12/23         05/12/23         05/12/23           ND         50.0         1         05/12/23         05/12/23           ND         50.0         1



Ensolum, LLC	Project Name:	RDX 9-1	
3122 National Parks Hwy	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	5/17/2023 9:16:34AM

#### PH10 - 4' E305076-06

		E303070-00				
Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: IY	<u> </u>	Batch: 2319063
Benzene	ND	0.0250	1	05/12/23	05/12/23	Buten: 2213002
Ethylbenzene	ND	0.0250	1	05/12/23	05/12/23	
Toluene	ND	0.0250	1	05/12/23	05/12/23	
o-Xylene	ND	0.0250	1	05/12/23	05/12/23	
p,m-Xylene	ND	0.0500	1	05/12/23	05/12/23	
Total Xylenes	ND	0.0250	1	05/12/23	05/12/23	
Surrogate: 4-Bromochlorobenzene-PID		95.6 %	70-130	05/12/23	05/12/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: IY		Batch: 2319063
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/12/23	05/12/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		91.3 %	70-130	05/12/23	05/12/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: JL		Batch: 2319065
Diesel Range Organics (C10-C28)	ND	25.0	1	05/12/23	05/12/23	
Oil Range Organics (C28-C36)	ND	50.0	1	05/12/23	05/12/23	
Surrogate: n-Nonane		91.8 %	50-200	05/12/23	05/12/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: RAS		Batch: 2319070
Chloride	395	20.0	1	05/15/23	05/15/23	



#### **QC Summary Data**

RDX 9-1 Ensolum, LLC Project Name: Reported: 3122 National Parks Hwy Project Number: 01058-0007 Carlsbad NM, 88220 Project Manager: Ashley Giovengo 5/17/2023 9:16:34AM **Volatile Organics by EPA 8021B** Analyst: IY Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2319063-BLK1) Prepared: 05/11/23 Analyzed: 05/12/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 Total Xylenes ND 0.0250 Surrogate: 4-Bromochlorobenzene-PID 7.59 8.00 94.8 70-130 LCS (2319063-BS1) Prepared: 05/11/23 Analyzed: 05/12/23 4.70 94.0 70-130 5.00 Benzene 0.0250 Ethylbenzene 4.89 0.0250 5.00 97.8 70-130 4.98 0.0250 5.00 99.6 70-130 Toluene o-Xylene 5.01 0.0250 5.00 100 70-130 9.96 10.0 99.6 70-130 0.0500 p.m-Xvlene 99.8 70-130 15.0 15.0 Total Xylenes 0.0250 8.00 95.0 70-130 Surrogate: 4-Bromochlorobenzene-PID 7.60 Matrix Spike (2319063-MS1) Source: E305073-01 Prepared: 05/11/23 Analyzed: 05/12/23 4.69 0.0250 5.00 ND 54-133 Benzene ND 98.2 61-133 Ethylbenzene 4.91 0.0250 5.00 Toluene 4.97 0.0250 5.00 ND 99.4 61-130 5.02 ND 100 63-131 5.00 0.0250 o-Xylene p,m-Xylene 9.97 0.0500 10.0 ND 99.7 63-131 15.0 0.0250 15.0 ND 63-131 Total Xylenes 70-130 Surrogate: 4-Bromochlorobenzene-PID 7.59 8.00 Matrix Spike Dup (2319063-MSD1) Source: E305073-01 Prepared: 05/11/23 Analyzed: 05/12/23 4.92 0.0250 5.00 ND 98.4 54-133 4.88 20 ND 61-133 4.57 5.14 0.0250 5.00 103 20 Ethylbenzene 61-130 Toluene 5.21 0.0250 5.00 ND 104 4 75 20 5.27 5.00 ND 105 63-131 4.94 20 o-Xylene 0.0250 10.4 10.0 ND 104 63-131 4.65 20 p,m-Xylene 0.0500



15.7

7.68

0.0250

15.0

8.00

ND

105

96.1

63-131

70-130

4.75

20

Total Xylenes

Surrogate: 4-Bromochlorobenzene-PID

# **QC Summary Data**

Ensolum, LLC	Project Name:	RDX 9-1	Reported:
3122 National Parks Hwy	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	5/17/2023 9:16:34AM

Carlsbad NM, 88220		Project Manage	r: As	shley Giovens	go				5/17/2023 9:16:34AM
	Noi	nhalogenated	Organics	by EPA 80	15D - Gl	RO			Analyst: IY
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2319063-BLK1)							Prepared: 0	5/11/23	Analyzed: 05/12/23
Gasoline Range Organics (C6-C10)	ND	20.0					*		<u> </u>
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.65		8.00		95.6	70-130			
LCS (2319063-BS2)							Prepared: 0	5/11/23	Analyzed: 05/12/23
Gasoline Range Organics (C6-C10)	49.3	20.0	50.0		98.7	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.68		8.00		96.0	70-130			
Matrix Spike (2319063-MS2)				Source:	E305073-	01	Prepared: 0	5/11/23	Analyzed: 05/12/23
Gasoline Range Organics (C6-C10)	53.3	20.0	50.0	ND	107	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.61		8.00		95.2	70-130			
Matrix Spike Dup (2319063-MSD2)				Source:	E305073-	01	Prepared: 0	5/11/23	Analyzed: 05/12/23
Gasoline Range Organics (C6-C10)	49.0	20.0	50.0	ND	98.0	70-130	8.38	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.62		8.00		95.3	70-130			



# **QC Summary Data**

Ensolum, LLC Project Name: RDX 9-1 Reported:
3122 National Parks Hwy Project Number: 01058-0007
Carlsbad NM, 88220 Project Manager: Ashley Giovengo 5/17/2023 9:16:34AM

Carisbad NM, 88220		Project Manage	r: As	sniey Gioveng	30				5/11/2023 9:10:34AF
	Nonha	logenated Or	ganics by l	EPA 8015I	) - DRO	/ORO			Analyst: JL
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2319065-BLK1)							Prepared: 0	5/12/23 <i>A</i>	Analyzed: 05/12/23
Diesel Range Organics (C10-C28)	ND	25.0							
Dil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	44.6		50.0		89.2	50-200			
LCS (2319065-BS1)							Prepared: 0	5/12/23 A	Analyzed: 05/12/23
Diesel Range Organics (C10-C28)	249	25.0	250		99.6	38-132			
Surrogate: n-Nonane	42.4		50.0		84.8	50-200			
Matrix Spike (2319065-MS1)				Source:	E305074-0	03	Prepared: 0	5/12/23 A	Analyzed: 05/12/23
Diesel Range Organics (C10-C28)	275	25.0	250	ND	110	38-132			
Surrogate: n-Nonane	41.3		50.0		82.6	50-200			
Matrix Spike Dup (2319065-MSD1)				Source:	E305074-0	03	Prepared: 0	5/12/23 A	Analyzed: 05/12/23
Diesel Range Organics (C10-C28)	277	25.0	250	ND	111	38-132	0.794	20	
Surrogate: n-Nonane	40.0		50.0		79.9	50-200			

Chloride

Matrix Spike Dup (2319070-MSD1)

#### **QC Summary Data**

Ensolum, LLC 3122 National Parks Hwy		Project Name: Project Number		RDX 9-1 1058-0007					Reported:
Carlsbad NM, 88220		Project Manage	r: A	Ashley Gioveng	go			5	5/17/2023 9:16:34AM
		Anions	by EPA	300.0/9056	4				Analyst: RAS
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2319070-BLK1)							Prepared: 0:	5/15/23 An	nalyzed: 05/15/23
Chloride	ND	20.0							
LCS (2319070-BS1)							Prepared: 0:	5/15/23 An	nalyzed: 05/15/23
Chloride	250	20.0	250		99.8	90-110			
Matrix Spike (2319070-MS1)				Source:	E305050-	01	Prepared: 0:	5/15/23 An	nalyzed: 05/15/23
Chloride	260	20.0	250	ND	104	80-120			

250

Source: E305050-01

ND

104

80-120

0.382

20.0

261

#### QC Summary Report Comment:

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



Prepared: 05/15/23 Analyzed: 05/15/23

20

#### **Definitions and Notes**

Ensolum, LLC	Project Name:	RDX 9-1	
3122 National Parks Hwy	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	05/17/23 09:16

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

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

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



Chain of Custody

WO# EE. 151093.01. ABD

Page \_\_\_\_\_ of \_\_\_\_

Client: Ensolum, LLC.					Ві	ill To				La	b Us	e On	ly		TAT				EPA F	EPA Program	
Project:	RDX 9-1					ention: Jim Raley			Lab	WO#		T	Job I	Numb	er	1D	2D	3D	Standard		SDWA
	Manager: A				Add	lress: 5315 Buena	a Vista Dr		E	305	170	0	DIO	7-17	007				Х		1
Address	: 3122 Nat	ional Par	ks Hwy		City	, State, Zip: Carls	bad NM, 88220	)							Metho	d					RCRA
City, Sta	te, Zip: Car	Isbad NI	И, 88220		Pho	ne: (575)689-759	97			by											
Phone: 575-988-0055 Email: jim.raley@dvn.cor					n.com			ORO										State			
Email: a	agiovengo@	ensolun	n.com							0/0	-			0		ΣN			NM C	O UT AZ	TX
Report o	due by:									J/DF	8021	3260	010	300		100		X	_		
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID				Lab Number		трн GRO/DRO/ORO by 8015	BTEX by	VOC by 8260	Metals 6010	Chloride 300.0		BGDOC		GDOC		Remark	s
11:13	5/9/2023	Soil	1 Jar			PH03 - 2'										x					
11:20	5/9/2023	Soil	1 Jar			PH03 - 4'		2								х					
11:54	5/9/2023	Soil	1 Jar			PH09 - 2'		3								х					
12:00	5/9/2023	Soil	1 Jar			PH09 - 4'		4								х					
12:33	5/9/2023	Soil	1 Jar			PH10 - 2'		5								х					
12:47	5/9/2023	Soil	1 Jar			PH10 - 4'		6								х					
						n, agiovengo@en															
date or tim	e of collection i	s considered		icity of this sample may be grounds fo		that tampering with or Sampled b		lling the sam	ple lo	cation,									eived on ice the o ss than 6 °C on si		pled or
	ned by: (Signat			10-23 Time	145		surk-	Date 5-10-0	23		45	>	Rece	ived o	on ice:		b Us	e Onl	У		
Much		ingles		10-23 1	630		Nesso	Date ラ・ル・	บร	Time 170	00		T1			<u>T2</u>			<u>T3</u>		
Relinquish	ned by: (Signat		Date	11.23 7	300	Received by: (Signat	nava	5/12/2	5	8:	20		AVG	Temp	°c 4						
Sample Ma	trix: S - Soil, Sd			queous, <b>O</b> - Other				Container				<b>p</b> - p	oly/pl	astic,	ag - aml	ber gla					
						er arrangements are										client	exper	ise. Ti	he report for	the analysis	of the above



Printed: 5/12/2023 10:52:43AM

#### **Envirotech Analytical Laboratory**

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Ensolum, LLC	Date Received:	05/12/23	08:20		Work Order ID:	E305076
Phone:	(575) 988-0055	Date Logged In:	05/11/23	15:47		Logged In By:	Caitlin Mars
Email:	a.giovengo@ensolum.com	Due Date:	05/17/23	17:00 (3 day TAT)		,	
Chain of	Custody (COC)						
1. Does th	ne sample ID match the COC?		Yes				
2. Does th	ne number of samples per sampling site location man	tch the COC	Yes				
3. Were sa	amples dropped off by client or carrier?		Yes	Carrier: C	Courier		
4. Was the	e COC complete, i.e., signatures, dates/times, reques	sted analyses?	Yes	_			
5. Were al	Il samples received within holding time?		Yes				
	Note: Analysis, such as pH which should be conducted in					Comment	s/Resolution
C1- T	i.e, 15 minute hold time, are not included in this disucssion.	on.		1		Comment	STATES OF THE STATE OF THE STAT
	Urn Around Time (TAT)		Yes				
	COC indicate standard TAT, or Expedited TAT?		168				
Sample C	ample cooler received?		Yes				
	was cooler received:						
• •	<b>G</b>		Yes				
	e sample(s) received intact, i.e., not broken?		Yes				
	custody/security seals present?		No				
11. If yes,	were custody/security seals intact?		NA				
12. Was the	e sample received on ice? If yes, the recorded temp is 4°C, Note: Thermal preservation is not required, if samples ar minutes of sampling		Yes				
13. If no v	visible ice, record the temperature. Actual sample	temperature: 4°0	<u>C</u>				
Sample C	Container						
	queous VOC samples present?		No				
15. Are V	OC samples collected in VOA Vials?		NA				
	head space less than 6-8 mm (pea sized or less)?		NA				
	trip blank (TB) included for VOC analyses?		NA				
	on-VOC samples collected in the correct containers'	?	Yes				
	appropriate volume/weight or number of sample contain		Yes				
Field Lab	· · · · · · · · · · · · · · · · · · ·						
	— field sample labels filled out with the minimum info	ormation:					
	ample ID?		Yes				
	ate/Time Collected?		No				
	ollectors name?		No				
-	reservation						
	the COC or field labels indicate the samples were pr	reserved?	No				
	ample(s) correctly preserved?	. 1.0	NA				
	filteration required and/or requested for dissolved n	netals?	No				
	se Sample Matrix						
	the sample have more than one phase, i.e., multipha		No				
27. If yes,	does the COC specify which phase(s) is to be analy	zed?	NA				
Subcontr	act Laboratory						
28. Are sa	imples required to get sent to a subcontract laborato	ry?	No				
29. Was a	subcontract laboratory specified by the client and in	f so who?	NA	Subcontract Lab	: NA		
Client In	<u>istruction</u>						

Date

Report to:
Ashley Giovengo



5796 U.S. Hwy 64 Farmington, NM 87401

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





# envirotech

Practical Solutions for a Better Tomorrow

## **Analytical Report**

WPX Energy - Carlsbad

Project Name: RDX 9-1

Work Order: E306222

Job Number: 01058-0007

Received: 6/29/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 7/7/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.

Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.

Envirotech Inc, holds the Utah TNI certification NM00979 for data reported.

Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/7/23

Ashley Giovengo 5315 Buena Vista Dr Carlsbad, NM 88220

Project Name: RDX 9-1 Workorder: E306222

Date Received: 6/29/2023 8:00:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/29/2023 8:00:00AM, under the Project Name: RDX 9-1.

The analytical test results summarized in this report with the Project Name: RDX 9-1 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman

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Envirotech Web Address: www.envirotech-inc.com

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#### Sample Summary

WPX Energy - Carlsbad	Project Name:	RDX 9-1	Donoutode
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	07/07/23 14:27

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS29 - 4'	E306222-01A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS30 - 4'	E306222-02A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS31 - 4'	E306222-03A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS32 - 4'	E306222-04A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS33 - 4'	E306222-05A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS34 - 4'	E306222-06A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS35 - 4'	E306222-07A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS36 - 4'	E306222-08A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS37 - 4'	E306222-09A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS38 - 4'	E306222-10A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS39 - 4'	E306222-11A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS40 - 4'	E306222-12A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS41 - 4'	E306222-13A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS42 - 4'	E306222-14A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS43 - 4'	E306222-15A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS44 - 4'	E306222-16A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS45 - 4'	E306222-17A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS46 - 4'	E306222-18A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.
FS47 - 4'	E306222-19A	Soil	06/27/23	06/29/23	Glass Jar, 2 oz.



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

#### FS29 - 4' E306222-01

Result	Reporting				
Result					
	Limit	Dilution	Prepared	Analyzed	Notes
mg/kg	mg/kg	Ana	llyst: SL		Batch: 2326063
ND	0.0250	1	06/29/23	06/29/23	
ND	0.0250	1	06/29/23	06/29/23	
ND	0.0250	1	06/29/23	06/29/23	
ND	0.0250	1	06/29/23	06/29/23	
ND	0.0500	1	06/29/23	06/29/23	
ND	0.0250	1	06/29/23	06/29/23	
	94.3 %	70-130	06/29/23	06/29/23	
mg/kg	mg/kg	Ana	llyst: SL		Batch: 2326063
ND	20.0	1	06/29/23	06/29/23	
	86.6 %	70-130	06/29/23	06/29/23	
mg/kg	mg/kg	Ana	lyst: KM		Batch: 2327013
ND	25.0	1	07/05/23	07/06/23	
ND	50.0	1	07/05/23	07/06/23	
	96.1 %	50-200	07/05/23	07/06/23	
mg/kg	mg/kg	Ana	llyst: BA		Batch: 2326061
105	20.0	1	06/29/23	06/30/23	
	mg/kg ND ND ND ND ND ND ND ND ND Mg/kg ND mg/kg	mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           MD         0.0250           MD         20.0           86.6 %         mg/kg           ND         25.0           ND         50.0           96.1 %         mg/kg           mg/kg         mg/kg	mg/kg         mg/kg         Ana           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0500         1           ND         0.0250         1           mg/kg         mg/kg         Ana           ND         20.0         1           86.6 %         70-130         70-130           mg/kg         mg/kg         Ana           ND         25.0         1           ND         50.0         1           96.1 %         50-200           mg/kg         mg/kg         Ana	mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         06/29/23           ND         0.0250         1         06/29/23           ND         0.0250         1         06/29/23           ND         0.0250         1         06/29/23           ND         0.0500         1         06/29/23           ND         0.0250         1         06/29/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         06/29/23           mg/kg         mg/kg         Analyst: KM           ND         25.0         1         07/05/23           ND         50.0         1         07/05/23           ND         50.0         1         07/05/23           mg/kg         mg/kg         Analyst: KM	mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         06/29/23         06/29/23           ND         0.0500         1         06/29/23         06/29/23           ND         0.0250         1         06/29/23         06/29/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         06/29/23         06/29/23           mg/kg         mg/kg         Analyst: KM           ND         25.0         1         07/05/23         07/06/23           ND         50.0         1         07/05/23         07/06/23           ND         50.0         1         07/05/23         07/06/23           Mg/kg         mg/kg         Analyst: KM



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

#### FS30 - 4'

		2000222 02				
Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	•		Batch: 2326063
Benzene	ND	0.0250	1	06/29/23	06/29/23	
Ethylbenzene	ND	0.0250	1	06/29/23	06/29/23	
Toluene	ND	0.0250	1	06/29/23	06/29/23	
o-Xylene	ND	0.0250	1	06/29/23	06/29/23	
p,m-Xylene	ND	0.0500	1	06/29/23	06/29/23	
Total Xylenes	ND	0.0250	1	06/29/23	06/29/23	
Surrogate: 4-Bromochlorobenzene-PID		94.5 %	70-130	06/29/23	06/29/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	rst: SL		Batch: 2326063
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/29/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.0 %	70-130	06/29/23	06/29/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	rst: KM		Batch: 2327013
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/06/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/06/23	
Surrogate: n-Nonane		93.6 %	50-200	07/05/23	07/06/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	rst: BA		Batch: 2326061
Chloride	104	20.0	1	06/29/23	06/30/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

FS31 - 4' E306222-03

		E300222-03				
Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	lyst: SL		Batch: 2326063
Benzene	ND	0.0250	1	06/29/23	06/29/23	
Ethylbenzene	ND	0.0250	1	06/29/23	06/29/23	
Toluene	ND	0.0250	1	06/29/23	06/29/23	
o-Xylene	ND	0.0250	1	06/29/23	06/29/23	
p,m-Xylene	ND	0.0500	1	06/29/23	06/29/23	
Total Xylenes	ND	0.0250	1	06/29/23	06/29/23	
Surrogate: 4-Bromochlorobenzene-PID		96.5 %	70-130	06/29/23	06/29/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	lyst: SL		Batch: 2326063
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/29/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.3 %	70-130	06/29/23	06/29/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	lyst: KM		Batch: 2327013
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/06/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/06/23	
Surrogate: n-Nonane		86.1 %	50-200	07/05/23	07/06/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	lyst: BA		Batch: 2326061
Chloride	873	20.0	1	06/29/23	06/30/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

FS32 - 4'

#### E306222-04

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: SL		Batch: 2326063
Benzene	ND	0.0250	1	06/29/23	06/29/23	
Ethylbenzene	ND	0.0250	1	06/29/23	06/29/23	
Toluene	ND	0.0250	1	06/29/23	06/29/23	
o-Xylene	ND	0.0250	1	06/29/23	06/29/23	
p,m-Xylene	ND	0.0500	1	06/29/23	06/29/23	
Total Xylenes	ND	0.0250	1	06/29/23	06/29/23	
Surrogate: 4-Bromochlorobenzene-PID		95.0 %	70-130	06/29/23	06/29/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: SL		Batch: 2326063
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/29/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.7 %	70-130	06/29/23	06/29/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: KM		Batch: 2327013
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/06/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/06/23	
Surrogate: n-Nonane		95.5 %	50-200	07/05/23	07/06/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: BA		Batch: 2326061
	340	20.0	1	06/29/23	06/30/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

FS33 - 4'

E 20	6222-	Λ5
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Reporting								
Result	Limit	Dilutio	on Prepared	Analyzed	Notes			
mg/kg	mg/kg	A	nalyst: SL		Batch: 2326063			
ND	0.0250	1	06/29/23	06/29/23				
ND	0.0250	1	06/29/23	06/29/23				
ND	0.0250	1	06/29/23	06/29/23				
ND	0.0250	1	06/29/23	06/29/23				
ND	0.0500	1	06/29/23	06/29/23				
ND	0.0250	1	06/29/23	06/29/23				
	95.5 %	70-130	06/29/23	06/29/23				
mg/kg	mg/kg	A	nalyst: SL		Batch: 2326063			
ND	20.0	1	06/29/23	06/29/23				
	87.2 %	70-130	06/29/23	06/29/23				
mg/kg	mg/kg	A	nalyst: KM		Batch: 2327013			
ND	25.0	1	07/05/23	07/06/23				
ND	50.0	1	07/05/23	07/06/23				
	99.7 %	50-200	07/05/23	07/06/23				
mg/kg	99.7 % mg/kg		07/05/23 nalyst: BA	07/06/23	Batch: 2326061			
	mg/kg  ND	Result         Limit           mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           ND         0.0250           MD         0.0250           MD         20.0250           MD         20.0           87.2 %         mg/kg           MD         25.0	Result         Limit         Dilution           mg/kg         mg/kg         A           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0500         1           ND         0.0250         1           MD         0.0250         1           MD         20.0250         1           Mg/kg         mg/kg         A           ND         20.0         1           87.2 %         70-130           mg/kg         mg/kg         A           ND         25.0         1	Result         Limit         Dilution         Prepared           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         06/29/23           ND         0.0250         1         06/29/23           ND         0.0250         1         06/29/23           ND         0.0250         1         06/29/23           ND         0.0500         1         06/29/23           ND         0.0250         1         06/29/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         06/29/23           mg/kg         mg/kg         Analyst: KM           ND         25.0         1         07/05/23	Result         Limit         Dilution         Prepared         Analyzed           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         06/29/23         06/29/23           ND         0.0500         1         06/29/23         06/29/23           ND         0.0250         1         06/29/23         06/29/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         06/29/23         06/29/23           87.2 %         70-130         06/29/23         06/29/23           mg/kg         mg/kg         Analyst: KM           ND         25.0         1         07/05/23         07/06/23			



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

#### FS34 - 4'

E306222-06								
Reporting								
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes		
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	alyst: SL		Batch: 2326063		
Benzene	ND	0.0250	1	06/29/23	06/29/23			
Ethylbenzene	ND	0.0250	1	06/29/23	06/29/23			
Toluene	ND	0.0250	1	06/29/23	06/29/23			
o-Xylene	ND	0.0250	1	06/29/23	06/29/23			
o,m-Xylene	ND	0.0500	1	06/29/23	06/29/23			
Total Xylenes	ND	0.0250	1	06/29/23	06/29/23			
Surrogate: 4-Bromochlorobenzene-PID		95.3 %	70-130	06/29/23	06/29/23			
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	alyst: SL		Batch: 2326063		
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/29/23			
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.5 %	70-130	06/29/23	06/29/23			
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	alyst: KM		Batch: 2327013		
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/06/23			
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/06/23			
Surrogate: n-Nonane		92.4 %	50-200	07/05/23	07/06/23			
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	alyst: BA		Batch: 2326061		
Chloride	563	20.0	1	06/29/23	06/30/23			



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

#### FS35 - 4' E306222-07

E306222-0/							
Analyte	Result	Reporting Limit	Dilution	n Prepared	Analyzed	Notes	
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	ılyst: SL		Batch: 2326063	
Benzene	ND	0.0250	1	06/29/23	06/29/23		
Ethylbenzene	ND	0.0250	1	06/29/23	06/29/23		
Toluene	ND	0.0250	1	06/29/23	06/29/23		
o-Xylene	ND	0.0250	1	06/29/23	06/29/23		
p,m-Xylene	ND	0.0500	1	06/29/23	06/29/23		
Total Xylenes	ND	0.0250	1	06/29/23	06/29/23		
Surrogate: 4-Bromochlorobenzene-PID		95.2 %	70-130	06/29/23	06/29/23		
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	ılyst: SL		Batch: 2326063	
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/29/23		
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.0 %	70-130	06/29/23	06/29/23		
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	ılyst: KM		Batch: 2327013	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/06/23		
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/06/23		
Surrogate: n-Nonane		90.7 %	50-200	07/05/23	07/06/23		
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	ılyst: BA		Batch: 2326061	
Chloride	318	20.0	1	06/29/23	07/01/23		



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

#### FS36 - 4' E306222-08

		E300222-08				
Austra	Result	Reporting Limit	Dilution	D	A	Notes
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	yst: SL		Batch: 2326063
Benzene	ND	0.0250	1	06/29/23	06/29/23	
Ethylbenzene	ND	0.0250	1	06/29/23	06/29/23	
Toluene	ND	0.0250	1	06/29/23	06/29/23	
o-Xylene	ND	0.0250	1	06/29/23	06/29/23	
p,m-Xylene	ND	0.0500	1	06/29/23	06/29/23	
Total Xylenes	ND	0.0250	1	06/29/23	06/29/23	
Surrogate: 4-Bromochlorobenzene-PID		95.3 %	70-130	06/29/23	06/29/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	yst: SL		Batch: 2326063
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/29/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.0 %	70-130	06/29/23	06/29/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	yst: KM		Batch: 2327013
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/06/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/06/23	
Surrogate: n-Nonane		99.2 %	50-200	07/05/23	07/06/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	yst: BA		Batch: 2326061
Chloride	713	20.0	1	06/29/23	07/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

FS37 - 4' E306222-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	st: SL	<u>-</u>	Batch: 2326063
Benzene	ND	0.0250	1	06/29/23	06/29/23	
Ethylbenzene	ND	0.0250	1	06/29/23	06/29/23	
Toluene	ND	0.0250	1	06/29/23	06/29/23	
o-Xylene	ND	0.0250	1	06/29/23	06/29/23	
o,m-Xylene	ND	0.0500	1	06/29/23	06/29/23	
Total Xylenes	ND	0.0250	1	06/29/23	06/29/23	
Surrogate: 4-Bromochlorobenzene-PID		94.3 %	70-130	06/29/23	06/29/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	st: SL		Batch: 2326063
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/29/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.1 %	70-130	06/29/23	06/29/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	st: KM		Batch: 2327013
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/06/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/06/23	
Surrogate: n-Nonane		95.8 %	50-200	07/05/23	07/06/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	st: BA		Batch: 2326061
Chloride	1800	20.0	1	06/29/23	07/01/23	

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

#### FS38 - 4'

E306222-10								
Reporting								
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes		
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	lyst: SL		Batch: 2326063		
Benzene	ND	0.0250	1	06/29/23	06/30/23			
Ethylbenzene	ND	0.0250	1	06/29/23	06/30/23			
Toluene	ND	0.0250	1	06/29/23	06/30/23			
o-Xylene	ND	0.0250	1	06/29/23	06/30/23			
p,m-Xylene	ND	0.0500	1	06/29/23	06/30/23			
Total Xylenes	ND	0.0250	1	06/29/23	06/30/23			
Surrogate: 4-Bromochlorobenzene-PID		95.6 %	70-130	06/29/23	06/30/23			
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	lyst: SL		Batch: 2326063		
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/30/23			
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.2 %	70-130	06/29/23	06/30/23			
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	lyst: KM		Batch: 2327013		
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/06/23			
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/06/23			
Surrogate: n-Nonane		97.5 %	50-200	07/05/23	07/06/23			
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	lyst: BA		Batch: 2326061		
Chloride	1260	20.0	1	06/29/23	07/01/23			



Oil Range Organics (C28-C36)

Anions by EPA 300.0/9056A

Surrogate: n-Nonane

Chloride

#### **Sample Data**

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

FS39 - 4' E306222-11

		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: SL		Batch: 2326063
Benzene	ND	0.0250	1	06/29/23	06/30/23	
Ethylbenzene	ND	0.0250	1	06/29/23	06/30/23	
Toluene	ND	0.0250	1	06/29/23	06/30/23	
o-Xylene	ND	0.0250	1	06/29/23	06/30/23	
p,m-Xylene	ND	0.0500	1	06/29/23	06/30/23	
Total Xylenes	ND	0.0250	1	06/29/23	06/30/23	
Surrogate: 4-Bromochlorobenzene-PID		95.0 %	70-130	06/29/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: SL		Batch: 2326063
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/30/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		89.3 %	70-130	06/29/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: KM		Batch: 2327013
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/06/23	

50.0

20.0

50-200

95.2 %

07/05/23

07/05/23

06/29/23

Analyst: BA

1

07/06/23

07/06/23

07/01/23

Batch: 2326061

ND

mg/kg

227

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

#### FS40 - 4'

		E306222-12				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	yst: SL		Batch: 2326063
Benzene	ND	0.0250	1	06/29/23	06/30/23	
Ethylbenzene	ND	0.0250	1	06/29/23	06/30/23	
Гoluene	ND	0.0250	1	06/29/23	06/30/23	
o-Xylene	ND	0.0250	1	06/29/23	06/30/23	
o,m-Xylene	ND	0.0500	1	06/29/23	06/30/23	
Total Xylenes	ND	0.0250	1	06/29/23	06/30/23	
Surrogate: 4-Bromochlorobenzene-PID		95.1 %	70-130	06/29/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	yst: SL		Batch: 2326063
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/30/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.1 %	70-130	06/29/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	yst: KM		Batch: 2327013
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/06/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/06/23	
Surrogate: n-Nonane		98.2 %	50-200	07/05/23	07/06/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	yst: BA		Batch: 2326061
Chloride	510	20.0	1	06/29/23	07/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

#### FS41 - 4'

		E306222-13						
Reporting								
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes		
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	alyst: SL		Batch: 2326063		
Benzene	ND	0.0250	1	06/29/23	06/30/23			
Ethylbenzene	ND	0.0250	1	06/29/23	06/30/23			
Toluene	ND	0.0250	1	06/29/23	06/30/23			
o-Xylene	ND	0.0250	1	06/29/23	06/30/23			
p,m-Xylene	ND	0.0500	1	06/29/23	06/30/23			
Total Xylenes	ND	0.0250	1	06/29/23	06/30/23			
Surrogate: 4-Bromochlorobenzene-PID		94.3 %	70-130	06/29/23	06/30/23			
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	alyst: SL		Batch: 2326063		
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/30/23			
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.0 %	70-130	06/29/23	06/30/23			
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	alyst: KM		Batch: 2327013		
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/06/23			
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/06/23			
Surrogate: n-Nonane		97.8 %	50-200	07/05/23	07/06/23			
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	alyst: BA		Batch: 2326061		
Chloride	1990	20.0	1	06/29/23	07/01/23			



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

FS42 - 4'

#### E306222-14

	Reporting					
Result	Limit	Dilı	ution	Prepared	Analyzed	Notes
mg/kg	mg/kg		Analyst:	SL		Batch: 2326063
ND	0.0250		1	06/29/23	06/30/23	
ND	0.0250		1	06/29/23	06/30/23	
ND	0.0250		1	06/29/23	06/30/23	
ND	0.0250		1	06/29/23	06/30/23	
ND	0.0500		1	06/29/23	06/30/23	
ND	0.0250		1	06/29/23	06/30/23	
	94.5 %	70-130		06/29/23	06/30/23	
mg/kg	mg/kg		Analyst:	SL		Batch: 2326063
ND	20.0		1	06/29/23	06/30/23	
	89.6 %	70-130		06/29/23	06/30/23	
mg/kg	mg/kg		Analyst:	KM		Batch: 2327013
ND	25.0		1	07/05/23	07/06/23	
ND	50.0		1	07/05/23	07/06/23	
					07/06/22	
	98.8 %	50-200		07/05/23	07/06/23	
mg/kg	98.8 % mg/kg		Analyst		0//06/23	Batch: 2326061
	mg/kg  ND	mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           mg/kg         mg/kg           MD         20.0           89.6 %         mg/kg           ND         25.0	Result         Limit         Dilute           mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           ND         0.0250           mg/kg         mg/kg           ND         20.0           89.6 %         70-130           mg/kg         mg/kg           ND         25.0	Result         Limit         Dilution           mg/kg         mg/kg         Analyst:           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0500         1           ND         0.0250         1           MD         0.0250         1           94.5 %         70-130           mg/kg         mg/kg         Analyst:           ND         20.0         1           mg/kg         mg/kg         Analyst:           ng/kg         mg/kg         Analyst:	Result         Limit         Dilution         Prepared           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         06/29/23           ND         0.0250         1         06/29/23           ND         0.0250         1         06/29/23           ND         0.0250         1         06/29/23           ND         0.0500         1         06/29/23           ND         0.0250         1         06/29/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         06/29/23           mg/kg         mg/kg         Analyst: KM           ND         25.0         1         07/05/23	Result         Limit         Dilution         Prepared         Analyzed           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         06/29/23         06/30/23           ND         0.0500         1         06/29/23         06/30/23           ND         0.0250         1         06/29/23         06/30/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         06/29/23         06/30/23           89.6 %         70-130         06/29/23         06/30/23           mg/kg         mg/kg         Analyst: KM           ND         25.0         1         07/05/23         07/06/23



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

#### FS43 - 4'

F30	1622	7-1	5

		2000222 10				
Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
· ·	mg/kg	mg/kg		yst: SL	7 mary 2cd	Batch: 2326063
Volatile Organics by EPA 8021B	ND	0.0250	1	06/29/23	06/30/23	Batch: 2320003
Benzene			1	06/29/23	06/30/23	
Ethylbenzene	ND	0.0250	1			
Toluene	ND	0.0250	1	06/29/23	06/30/23	
o-Xylene	ND	0.0250	1	06/29/23	06/30/23	
p,m-Xylene	ND	0.0500	1	06/29/23	06/30/23	
Total Xylenes	ND	0.0250	1	06/29/23	06/30/23	
Surrogate: 4-Bromochlorobenzene-PID		94.5 %	70-130	06/29/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	yst: SL		Batch: 2326063
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/30/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.0 %	70-130	06/29/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	yst: KM		Batch: 2327013
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/06/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/06/23	
Surrogate: n-Nonane		103 %	50-200	07/05/23	07/06/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	yst: BA		Batch: 2326061
Chloride	6290	100	5	06/29/23	07/05/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

#### FS44 - 4' E306222-16

		1500222 10				
Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: SL		Batch: 2326063
Benzene	ND	0.0250	1	06/29/23	06/30/23	
Ethylbenzene	ND	0.0250	1	06/29/23	06/30/23	
Coluene	ND	0.0250	1	06/29/23	06/30/23	
-Xylene	ND	0.0250	1	06/29/23	06/30/23	
,m-Xylene	ND	0.0500	1	06/29/23	06/30/23	
Total Xylenes	ND	0.0250	1	06/29/23	06/30/23	
urrogate: 4-Bromochlorobenzene-PID		96.5 %	70-130	06/29/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: SL		Batch: 2326063
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/30/23	
urrogate: 1-Chloro-4-fluorobenzene-FID		88.4 %	70-130	06/29/23	06/30/23	
Sonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: KM		Batch: 2327013
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/06/23	
Dil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/06/23	
Surrogate: n-Nonane		102 %	50-200	07/05/23	07/06/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: BA		Batch: 2326061
Chloride	629	20.0	1	06/29/23	07/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

#### FS45 - 4'

		E306222-17				
		Reporting				
Analyte	Result	Limit	Dilutio	on Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL			Batch: 2326063
Benzene	ND	0.0250	1	06/29/23	06/30/23	
Ethylbenzene	ND	0.0250	1	06/29/23	06/30/23	
Toluene	ND	0.0250	1	06/29/23	06/30/23	
o-Xylene	ND	0.0250	1	06/29/23	06/30/23	
p,m-Xylene	ND	0.0500	1	06/29/23	06/30/23	
Total Xylenes	ND	0.0250	1	06/29/23	06/30/23	
Surrogate: 4-Bromochlorobenzene-PID		96.0 %	70-130	06/29/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2326063
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/30/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.8 %	70-130	06/29/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO		mg/kg	Analyst: KM		Batch: 2327013	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/07/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/07/23	
Surrogate: n-Nonane		101 %	50-200	07/05/23	07/07/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Aı	nalyst: BA		Batch: 2326061
Chloride	1020	20.0	1	06/29/23	07/01/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

#### FS46 - 4'

		E306222-18				
		Reporting				
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	alyst: SL		Batch: 2326063
Benzene	ND	0.0250	1	06/29/23	06/30/23	
Ethylbenzene	ND	0.0250	1	06/29/23	06/30/23	
Toluene	ND	0.0250	1	06/29/23	06/30/23	
o-Xylene	ND	0.0250	1	06/29/23	06/30/23	
p,m-Xylene	ND	0.0500	1	06/29/23	06/30/23	
Total Xylenes	ND	0.0250	1	06/29/23	06/30/23	
Surrogate: 4-Bromochlorobenzene-PID		95.9 %	70-130	06/29/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	An	alyst: SL		Batch: 2326063
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/30/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.5 %	70-130	06/29/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	An	alyst: KM		Batch: 2327013
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/07/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/07/23	
Surrogate: n-Nonane		102 %	50-200	07/05/23	07/07/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	An	alyst: BA		Batch: 2326061
Chloride	224	20.0	1	06/29/23	07/01/23	·



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

#### FS47 - 4' E306222-19

		E300222-19				
Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
-	ma/lsa	ma/ka	Anal	yst: SL	<u> </u>	Batch: 2326063
Volatile Organics by EPA 8021B	mg/kg	mg/kg		-	06/20/22	Batch: 2320003
Benzene	ND	0.0250	1	06/29/23	06/30/23	
Ethylbenzene	ND	0.0250	1	06/29/23	06/30/23	
Toluene	ND	0.0250	1	06/29/23	06/30/23	
o-Xylene	ND	0.0250	1	06/29/23	06/30/23	
p,m-Xylene	ND	0.0500	1	06/29/23	06/30/23	
Total Xylenes	ND	0.0250	1	06/29/23	06/30/23	
Surrogate: 4-Bromochlorobenzene-PID		97.0 %	70-130	06/29/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: SL		Batch: 2326063
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/29/23	06/30/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.7 %	70-130	06/29/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: KM		Batch: 2327013
Diesel Range Organics (C10-C28)	ND	25.0	1	07/05/23	07/07/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/05/23	07/07/23	
Surrogate: n-Nonane		97.5 %	50-200	07/05/23	07/07/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: BA		Batch: 2326061
Chloride	128	20.0	1	06/29/23	07/01/23	·



RDX 9-1 WPX Energy - Carlsbad Project Name: Reported: 5315 Buena Vista Dr Project Number: 01058-0007 Carlsbad NM, 88220 Project Manager: Ashley Giovengo 7/7/2023 2:27:08PM **Volatile Organics by EPA 8021B** Analyst: SL Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2326063-BLK1) Prepared: 06/29/23 Analyzed: 06/29/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 Total Xylenes ND 0.0250 Surrogate: 4-Bromochlorobenzene-PID 7.66 8.00 95.8 70-130 LCS (2326063-BS1) Prepared: 06/29/23 Analyzed: 06/29/23 4.29 85.7 70-130 5.00 Benzene 0.0250 Ethylbenzene 4.41 0.0250 5.00 88.1 70-130 4.40 0.0250 5.00 87.9 70-130 Toluene 88.2 o-Xylene 4.41 0.0250 5.00 70-130 8.99 10.0 89.9 70-130 0.0500 p.m-Xvlene 89.3 13.4 15.0 70-130 Total Xylenes 0.0250 8.00 95.8 70-130 Surrogate: 4-Bromochlorobenzene-PID 7.66 Matrix Spike (2326063-MS1) Source: E306222-06 Prepared: 06/29/23 Analyzed: 06/29/23 4.54 0.0250 5.00 ND 54-133 Benzene ND 93.3 61-133 Ethylbenzene 4.67 0.0250 5.00 Toluene 4.66 0.0250 5.00 ND 93.2 61-130 4.71 ND 94.1 63-131 5.00 0.0250 o-Xylene p,m-Xylene 9.52 0.0500 10.0 ND 95.2 63-131 0.0250 15.0 ND 63-131 Total Xylenes 70-130 Surrogate: 4-Bromochlorobenzene-PID 7.61 8.00 Matrix Spike Dup (2326063-MSD1) Source: E306222-06 Prepared: 06/29/23 Analyzed: 06/29/23 4.66 0.0250 5.00 ND 93.2 54-133 2.59 20 61-133 2.92 4.80 0.0250 5.00 ND 96.1 20 Ethylbenzene Toluene 4 79 0.0250 5.00 ND 95.7 61-130 2 69 20 4.81 5.00 ND 96.2 63-131 2.23 20 o-Xylene 0.0250 97.7 9.77 10.0 ND 63-131 2.58 20 p,m-Xylene 0.0500



14.6

7.47

0.0250

15.0

8.00

ND

97.2

93.3

63-131

70-130

2.46

20

Total Xylenes

Surrogate: 4-Bromochlorobenzene-PID

Surrogate: 1-Chloro-4-fluorobenzene-FID

# **QC Summary Data**

WPX Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	·
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

Carlsbad NM, 88220		Project Manage	r: As	hley Gioveng	go			7	7/7/2023 2:27:08PM		
	Nor	halogenated	Organics l	by EPA 80	15D - G	RO		Analyst: SL			
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits	RPD %	RPD Limit %	Notes		
Blank (2326063-BLK1)							Prepared: 0	6/29/23 Ana	alyzed: 06/29/23		
Gasoline Range Organics (C6-C10)	ND	20.0									
Surrogate: 1-Chloro-4-fluorobenzene-FID	6.99		8.00		87.4	70-130					
LCS (2326063-BS2)							Prepared: 0	6/29/23 Ana	alyzed: 06/29/23		
Gasoline Range Organics (C6-C10)	42.4	20.0	50.0		84.8	70-130					
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.06		8.00		88.2	70-130					
Matrix Spike (2326063-MS2)				Source:	E306222-	06	Prepared: 0	6/29/23 Ana	alyzed: 06/29/23		
Gasoline Range Organics (C6-C10)	41.2	20.0	50.0	ND	82.4	70-130					
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.40		8.00		92.5	70-130					
Matrix Spike Dup (2326063-MSD2)				Source:	E306222-	06	Prepared: 0	6/29/23 Ana	alyzed: 06/29/23		
Gasoline Range Organics (C6-C10)	41.1	20.0	50.0	ND	82.3	70-130	0.211	20			

8.00

7.27

90.8

70-130



WPX Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/7/2023 2:27:08PM

Carlsbad NM, 88220		Project Manage	r: As	shley Gioveng	go				7/7/2023 2:27:08PM
	Nonha	logenated Or	ganics by	EPA 8015I	) - DRO	/ORO			Analyst: KM
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2327013-BLK1)							Prepared: 0	7/05/23 Ar	nalyzed: 07/06/23
Diesel Range Organics (C10-C28)	ND	25.0							
Dil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	49.2		50.0		98.4	50-200			
LCS (2327013-BS1)							Prepared: 0	7/05/23 Ar	nalyzed: 07/06/23
Diesel Range Organics (C10-C28)	251	25.0	250		100	38-132			
Surrogate: n-Nonane	49.8		50.0		99.7	50-200			
Matrix Spike (2327013-MS1)				Source:	E306222-	09	Prepared: 0	7/05/23 Ar	nalyzed: 07/06/23
Diesel Range Organics (C10-C28)	257	25.0	250	ND	103	38-132			
Surrogate: n-Nonane	48.7		50.0		97.4	50-200			
Matrix Spike Dup (2327013-MSD1)				Source:	E306222-	09	Prepared: 0	7/05/23 Ar	nalyzed: 07/06/23
Diesel Range Organics (C10-C28)	254	25.0	250	ND	102	38-132	1.26	20	
Surrogate: n-Nonane	45.7		50.0		91.4	50-200			

WPX Energy - Carlsbad		Project Name:		DX 9-1				Reported:				
5315 Buena Vista Dr Carlsbad NM, 88220		Project Number: Project Manager		1058-0007 shley Gioveng	go			7/7/2023 2:27:08PM				
		Anions	by EPA	300.0/9056 <i>E</i>	<b>A</b>				Analyst: BA			
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit				
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes			
Blank (2326061-BLK1)							Prepared: 0	6/29/23 A	nalyzed: 06/30/23			
Chloride	ND	20.0										
LCS (2326061-BS1)							Prepared: 0	6/29/23 A	nalyzed: 07/05/23			
Chloride	252	20.0	250		101	90-110						
Matrix Spike (2326061-MS1)				Source:	E306222-	01	Prepared: 0	6/29/23 A	nalyzed: 06/30/23			
Chloride	428	20.0	250	105	129	80-120			M2			
Matrix Spike Dup (2326061-MSD1)				Source:	E306222-	01	Prepared: 0	6/29/23 A	nalyzed: 06/30/23			
Chloride	425	20.0	250	105	128	80-120	0.751	20	M2			

#### QC Summary Report Comment:

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



### **Definitions and Notes**

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	07/07/23 14:27

M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

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

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



~
ceived
by:
OCD:
8/2/2023
6:14:42
AM

Client: WPX					Bill To		Lab U			se On	ly		TAT				EPA Program	
Project: RDX 9-1			Attention: Jim Raley		Lab WO	#		Job I	Numl	oer	1D	2D	3D	Standard	CWA	SDWA		
Project I	Manager: Asl	nley Giov	engo		Address: 5315 Buena Vista Dr		E3d	Q22	22	010	58-1	$\infty$						
-	: 3122 Natio				City, State, Zir Carlsbad, NM 8822	0						d Metho	od					RCRA
	te, Zip Carls		88220		Phone: 575-689-7597		by											
-	575-988-005				Email: jim.raley@dvn.com		ORO										State	
	agiovengo@e	nsolum.c	om				RO/	21	0		300.0		ΣZ		_	NM CO	UT AZ	TX
Report o	due by:						0/0	/ 80	826	601(	e 30				¥	×		
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID		Lab Number	TPH GRO/DRO/ORO by	BTEX by 8021	VOC by 8260	Metals 6010	Chloride		верос		GDOC		Remarks	
1045	6/27/2023	S	1		FS29-4'								х					
1048	6/27/2023	S	1		FS30-4'	2							х					
1051	6/27/2023	S	1		FS31-4'	3							x					
1140	6/27/2023	S	1		FS32-4'	4							x					
1145	6/27/2023	S	1		FS33-4'	5							х					
1147	6/27/2023	S	1		FS34-4'	6							х					
1150	6/27/2023	S	1		FS35-4'	7							x					
1152	6/27/2023	S	1		FS36-4'	8							х				100 100	
1155	6/27/2023	S	1		FS37-4'	9							х					
1200	6/27/2023	S	1		FS38-4'	10							x					
Addition	nal Instructio	ns:																
				ty of this sample. I y be grounds for le	am aware that tampering with or intentionally mislabe gal action. Sampled by:	lling the sample	e location,									eived on ice the day ss than 6 °C on subs		ed or
4	ed by: (Signatu		Date	28/23 Time	100 Michill Cempele	Date	23 Time	100	)	Rece	eived	on ice:	Li (Y		se Onl	У	16.00	1 - 2 - 2 - 2
Mich	ned by: (Signatu	nodes	Date	28-23 Time	700 WW	6-28	-23 Time	73	0	T1			T2			T3		
Relinquist	ed by: (Signatu	rey	Date	-28% Time	345 Received by Signature Man	Date 6/29/	23 8:	00	)	AVG	Tem	p°c_	1		v (ř			
	trix: <b>S</b> - Soil, <b>Sd</b> - S					Containe												
Note: San	ples are discard	ded 30 days	after resu	lts are reported u	inless other arrangements are made. Hazardous	samples will	be returned	d to cli	ent o	r dispo	sed of	at the cli	ient ex	pense	e. The	report for the a	nalysis of th	e above

6

e client expense. The report for the analysis of the above

samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Project Information Chain of Custody												Pa	rogram SDWA RCRA					
Client: V	/PX					Bill To		The state of the s	la	b Use	e Onl	,			TA	Т	FPΔP	rogram
	RDX 9-1				Attention:	Jim Raley		Lab WO	‡		A COUNTY OF THE PARTY OF THE PA	umber	1D	2D	3D	Standard	CWA	SDWA
	Manager: Asl					5 Buena Vista Dr		E 306	222	2 (	0105	8.00	57					
	3122 Natio					Carlsbad, NM 88220			, ,	А	nalys	is and Met	thod					RCRA
Part of the second	te, Zip Carls	3-3-0	88220		Phone: 575-	The second secon		Áq C										
	575-988-005 giovengo@e		rom		Email: jim.rale	ey@dvn.com		/OR								NA CO	State	
Report o		insolulii.	20111	_	1.44			/DRC	021	760	10	300.0	ΣZ		¥	500	UT AZ	IX
Time			No. of				Lab	GRO,	BTEX by 8021	by 8	als 60	Chloride 300.0	8		0	×		
Sampled	Date Sampled	Matrix	Containers	Sample ID			Number	TPH GRO/DRO/ORO by 8015	ВТЕХ	VOC by 8260	Metals 6010	Cho	BGDOC		GDOC		Remarks	
1205	6/27/2023	S	1		FS39-4'		11						х					
1208	6/27/2023	S	1		FS40-4'		12						х					
1210	6/27/2023	S	1		FS41-4'		13						х					
1215	6/27/2023	S	1		FS42-4'		14						х					
1218	6/27/2023	S	1		FS43-4'		15						х					
1219	6/27/2023	S	1		FS44-4'		10						х					
1223	6/27/2023	S	1		FS45-4'		17						х		$\Box$			
1227	6/27/2023	S	1		FS46-4'		18						х					
1230	6/27/2023	S	1		FS47-4'		19						х					
			1															
Addition	al Instructio	ns:									l_							
						with or intentionally mislabelli										eived on ice the day		ed or
			To .	y be grounds for lega		Sampled by: Romi Ha	yes	T			eceived	раскед іп ісе а				ss than 6 °C on subs	equent days.	
Mh	ed by: (Signatu		6/	28/23 11	Mild	y: (Signature))	Date Le-28	23	100		Recei	ved on ice		U de.	se Onl	У		
Muc	eď by: (Signatu Ull Cu	volt		18-23 170	od ar	y: (Signature)	6-28	-23 17	30		Г1					<u>T3</u>	mineral management	
Relinquish	ed by: (Signatu	ref	bate.	-2843 Time	Received by	the Man	Colza 1	23 Time	00:		AVG 1	emp °C	4					
	trix: <b>S</b> - Soil, <b>Sd</b> - S							Type: g -		<b>p</b> - po	ly/pla	stic, ag - a						
Note: Sam	ples are discard	ded 30 days	after resu	ts are reported un	less other arrangemer	nts are made. Hazardous sa	imples will l	oe returned	to clie	nt or	dispos	ed of at the					nalysis of th	e above



envirotech environment environmen

envirotech Inc.

Printed: 6/29/2023 12:59:05PM

#### **Envirotech Analytical Laboratory**

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

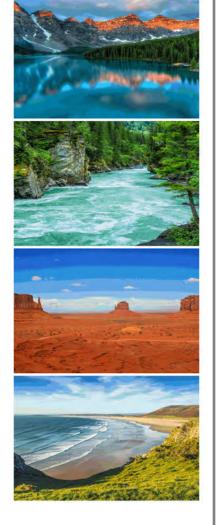
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	06/29/23	08:00	Work Order ID:	E306222
Phone:	(539) 573-4018	Date Logged In:	06/29/23	09:32	Logged In By:	Caitlin Mars
Email:	ashley.giovengo@wesominc.com	Due Date:	07/07/23	17:00 (4 day TAT)		
~ .	10 . 1 (000)					
	f Custody (COC)					
	the sample ID match the COC?	tab the COC	Yes			
	the number of samples per sampling site location ma	ich the COC	Yes			
	samples dropped off by client or carrier?	-4- 4 1 O	Yes Yes	Carrier: Courier		
	ne COC complete, i.e., signatures, dates/times, reque	sted analyses?				
5. were	all samples received within holding time?  Note: Analysis, such as pH which should be conducted in i.e, 15 minute hold time, are not included in this disucssi		Yes		Comment	ts/Resolution
	<u> Turn Around Time (TAT)</u>					
6. Did th	e COC indicate standard TAT, or Expedited TAT?		No			
<b>Sample</b>						
	sample cooler received?		Yes			
8. If yes,	was cooler received in good condition?		Yes			
9. Was th	ne sample(s) received intact, i.e., not broken?		Yes			
10. Were	custody/security seals present?		No			
11. If yes	s, were custody/security seals intact?		NA			
	he sample received on ice? If yes, the recorded temp is 4°C.  Note: Thermal preservation is not required, if samples ar minutes of sampling visible ice, record the temperature. Actual sample	e received w/i 15	Yes <u>C</u>			
Sample	<u>Container</u>					
	aqueous VOC samples present?		No			
	VOC samples collected in VOA Vials?		NA			
	e head space less than 6-8 mm (pea sized or less)?		NA			
	a trip blank (TB) included for VOC analyses?		NA			
	non-VOC samples collected in the correct containers	?	Yes			
	appropriate volume/weight or number of sample contain		Yes			
Field La	· · ·					
•	e field sample labels filled out with the minimum info	ormation:				
	Sample ID?		Yes			
	Date/Time Collected?		Yes			
	Collectors name?		Yes			
	<u>Preservation</u>					
	the COC or field labels indicate the samples were p	reserved?	No			
	sample(s) correctly preserved?		NA			
24. Is lat	o filteration required and/or requested for dissolved n	netals?	No			
	ase Sample Matrix					
	the sample have more than one phase, i.e., multipha		No			
27. If ye	s, does the COC specify which phase(s) is to be analy	yzed?	NA			
Subcont	ract Laboratory					
	samples required to get sent to a subcontract laborato	ry?	No			
	a subcontract laboratory specified by the client and i	•	NA	Subcontract Lab: NA		
Client I	nstruction					
<u>Chent i</u>	nstruction .					

Date

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

Report to:
Ashley Giovengo



5796 U.S. Hwy 64 Farmington, NM 87401

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





# envirotech

Practical Solutions for a Better Tomorrow

## **Analytical Report**

WPX Energy - Carlsbad

Project Name: RDX 9-1

Work Order: E306230

Job Number: 01058-0007

Received: 6/30/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 7/10/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.

Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.

Envirotech Inc, holds the Utah TNI certification NM00979 for data reported.

Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/10/23

Ashley Giovengo 5315 Buena Vista Dr Carlsbad, NM 88220

Project Name: RDX 9-1 Workorder: E306230

Date Received: 6/30/2023 8:20:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/30/2023 8:20:00AM, under the Project Name: RDX 9-1.

The analytical test results summarized in this report with the Project Name: RDX 9-1 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman

Laboratory Director Office: 505-632-1881

Cell: 775-287-1762

whinchman@envirotech-inc.com

Raina Schwanz

Laboratory Administrator Office: 505-632-1881

rainaschwanz@envirotech-inc.com

**Alexa Michaels** 

Sample Custody Officer Office: 505-632-1881

labadmin@envirotech-inc.com

Field Offices:

**Southern New Mexico Area** Lynn Jarboe

Technical Representative/Client Services

Office: 505-421-LABS(5227)

Cell: 505-320-4759

ljarboe@envirotech-inc.com

West Texas Midland/Odessa Area Rayny Hagan Technical Representative

Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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#### Sample Summary

WPX Energy - Carlsbad	Project Name:	RDX 9-1	Donoutoda
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	07/10/23 10:56

Client Sample ID	Lab Sample ID Matrix	Sampled	Received	Container	
FS48 - 4'	E306230-01A Soil	06/28/23	06/30/23	Glass Jar, 2 oz.	
FS49 - 4'	E306230-02A Soil	06/28/23	06/30/23	Glass Jar, 2 oz.	
FS50 - 4'	E306230-03A Soil	06/28/23	06/30/23	Glass Jar, 2 oz.	
FS51 - 4'	E306230-04A Soil	06/28/23	06/30/23	Glass Jar, 2 oz.	
FS52 - 4'	E306230-05A Soil	06/28/23	06/30/23	Glass Jar, 2 oz.	
FS53 - 4'	E306230-06A Soil	06/28/23	06/30/23	Glass Jar, 2 oz.	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 10:56:57AM

#### FS48 - 4' E306230-01

	E300230-01				
Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
mg/kg	mg/kg	Anal	yst: SL	<u> </u>	Batch: 2326079
ND	0.0250	1	06/30/23	06/30/23	
ND	0.0250	1	06/30/23	06/30/23	
ND	0.0250	1	06/30/23	06/30/23	
ND	0.0250	1	06/30/23	06/30/23	
ND	0.0500	1	06/30/23	06/30/23	
ND	0.0250	1	06/30/23	06/30/23	
	96.0 %	70-130	06/30/23	06/30/23	
mg/kg	mg/kg	Analy	yst: SL		Batch: 2326079
ND	20.0	1	06/30/23	06/30/23	
	88.2 %	70-130	06/30/23	06/30/23	
mg/kg	mg/kg	Analy	yst: KM		Batch: 2326083
ND	25.0	1	06/30/23	06/30/23	
ND	50.0	1	06/30/23	06/30/23	
	103 %	50-200	06/30/23	06/30/23	
mg/kg	mg/kg	Analy	yst: BA		Batch: 2327017
364	20.0	1	07/05/23	07/06/23	
	mg/kg ND Mg/kg ND mg/kg	Result         Reporting Limit           mg/kg         mg/kg           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0250           ND         0.0500           ND         0.0250           mg/kg         mg/kg           MD         20.0           88.2 %         mg/kg           ND         25.0           ND         50.0           103 %         mg/kg           mg/kg         mg/kg	Reporting           Result         Limit         Dilution           mg/kg         mg/kg         Analy           ND         0.0250         1           ND         0.0250         1           ND         0.0250         1           ND         0.0500         1           ND         0.0250         1           ND         0.0250         1           MD         0.0250         1           MD         20.0250         1           Mg/kg         mg/kg         Analy           ND         20.0         1           88.2 %         70-130           mg/kg         mg/kg         Analy           ND         25.0         1           ND         50.0         1           103 %         50-200           mg/kg         mg/kg         Analy	Reporting           Result         Limit         Dilution         Prepared           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         06/30/23           ND         0.0250         1         06/30/23           ND         0.0250         1         06/30/23           ND         0.0500         1         06/30/23           ND         0.0250         1         06/30/23           ND         0.0250         1         06/30/23           mg/kg         mg/kg         Analyst: SL           ND         20.0         1         06/30/23           mg/kg         mg/kg         Analyst: KM           ND         25.0         1         06/30/23           ND         50.0         1         06/30/23	Reporting           Result         Limit         Dilution         Prepared         Analyzed           mg/kg         mg/kg         Analyst: SL           ND         0.0250         1         06/30/23         06/30/23           ND         0.0250         1         06/30/23         06/30/23           ND         0.0250         1         06/30/23         06/30/23           ND         0.0500         1         06/30/23         06/30/23           ND         0.0250         1         06/30/23         06/30/23           ND         0.0250         1         06/30/23         06/30/23           MD         0.0250         1         06/30/23         06/30/23           mg/kg         mg/kg         Analyst: SL         ND         06/30/23           ND         20.0         1         06/30/23         06/30/23           mg/kg         mg/kg         Analyst: KM           ND         25.0         1         06/30/23         06/30/23           ND         50.0         1         06/30/23         06/30/23           ND         50.0         1         06/30/23         06/30/23           ND         50.0

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 10:56:57AM

#### FS49 - 4' E306230-02

		E300230-02				
Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Timiye	resuit	- Emili	Ditation	Trepared	7 Hary Zea	110103
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: SL		Batch: 2326079
Benzene	ND	0.0250	1	06/30/23	06/30/23	
Ethylbenzene	ND	0.0250	1	06/30/23	06/30/23	
Toluene	ND	0.0250	1	06/30/23	06/30/23	
o-Xylene	ND	0.0250	1	06/30/23	06/30/23	
p,m-Xylene	ND	0.0500	1	06/30/23	06/30/23	
Total Xylenes	ND	0.0250	1	06/30/23	06/30/23	
Surrogate: 4-Bromochlorobenzene-PID		96.3 %	70-130	06/30/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	yst: SL		Batch: 2326079
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/30/23	06/30/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.1 %	70-130	06/30/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	yst: KM		Batch: 2326083
Diesel Range Organics (C10-C28)	ND	25.0	1	06/30/23	06/30/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/30/23	06/30/23	
Surrogate: n-Nonane		105 %	50-200	06/30/23	06/30/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: BA		Batch: 2327017
Chloride	176	20.0	1	07/05/23	07/06/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 10:56:57AM

#### FS50 - 4'

		E306230-03				
		Reporting				
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	ılyst: SL		Batch: 2326079
Benzene	ND	0.0250	1	06/30/23	06/30/23	
Ethylbenzene	ND	0.0250	1	06/30/23	06/30/23	
Toluene	ND	0.0250	1	06/30/23	06/30/23	
o-Xylene	ND	0.0250	1	06/30/23	06/30/23	
p,m-Xylene	ND	0.0500	1	06/30/23	06/30/23	
Total Xylenes	ND	0.0250	1	06/30/23	06/30/23	
Surrogate: 4-Bromochlorobenzene-PID		95.7 %	70-130	06/30/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	ılyst: SL		Batch: 2326079
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/30/23	06/30/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.7 %	70-130	06/30/23	06/30/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	ılyst: KM		Batch: 2326083
Diesel Range Organics (C10-C28)	ND	25.0	1	06/30/23	06/30/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/30/23	06/30/23	
Surrogate: n-Nonane		106 %	50-200	06/30/23	06/30/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	ılyst: BA		Batch: 2327017
Chloride	329	20.0	1	07/05/23	07/06/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 10:56:57AM

FS51 - 4'

		E306230-04				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: SL		Batch: 2326079
Benzene	ND	0.0250	1	06/30/23	07/01/23	
Ethylbenzene	ND	0.0250	1	06/30/23	07/01/23	
Toluene	ND	0.0250	1	06/30/23	07/01/23	
o-Xylene	ND	0.0250	1	06/30/23	07/01/23	
p,m-Xylene	ND	0.0500	1	06/30/23	07/01/23	
Total Xylenes	ND	0.0250	1	06/30/23	07/01/23	
Surrogate: 4-Bromochlorobenzene-PID		95.5 %	70-130	06/30/23	07/01/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	yst: SL		Batch: 2326079
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/30/23	07/01/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.7 %	70-130	06/30/23	07/01/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	Analyst: KM		Batch: 2326083
Diesel Range Organics (C10-C28)	ND	25.0	1	06/30/23	07/01/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/30/23	07/01/23	
Surrogate: n-Nonane		117 %	50-200	06/30/23	07/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	yst: BA		Batch: 2327017
Chloride	581	20.0	1	07/05/23	07/06/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 10:56:57AM

FS52 - 4'

		E306230-05				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Anal	yst: SL		Batch: 2326079
Benzene	ND	0.0250	1	06/30/23	07/01/23	
Ethylbenzene	ND	0.0250	1	06/30/23	07/01/23	
Toluene	ND	0.0250	1	06/30/23	07/01/23	
o-Xylene	ND	0.0250	1	06/30/23	07/01/23	
p,m-Xylene	ND	0.0500	1	06/30/23	07/01/23	
Total Xylenes	ND	0.0250	1	06/30/23	07/01/23	
Surrogate: 4-Bromochlorobenzene-PID		95.3 %	70-130	06/30/23	07/01/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Anal	Analyst: SL		Batch: 2326079
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/30/23	07/01/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.2 %	70-130	06/30/23	07/01/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Anal	Analyst: KM		Batch: 2326083
Diesel Range Organics (C10-C28)	ND	25.0	1	06/30/23	07/01/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/30/23	07/01/23	
Surrogate: n-Nonane		104 %	50-200	06/30/23	07/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Anal	yst: BA		Batch: 2327017
Chloride	1070	20.0	1	07/05/23	07/06/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 10:56:57AM

FS53 - 4' E306230-06

		E306230-06				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analy	/st: SL		Batch: 2326079
Benzene	ND	0.0250	1	06/30/23	07/01/23	
Ethylbenzene	ND	0.0250	1	06/30/23	07/01/23	
Toluene	ND	0.0250	1	06/30/23	07/01/23	
o-Xylene	ND	0.0250	1	06/30/23	07/01/23	
p,m-Xylene	ND	0.0500	1	06/30/23	07/01/23	
Total Xylenes	ND	0.0250	1	06/30/23	07/01/23	
Surrogate: 4-Bromochlorobenzene-PID		95.5 %	70-130	06/30/23	07/01/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analy	Analyst: SL		Batch: 2326079
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/30/23	07/01/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.9 %	70-130	06/30/23	07/01/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analy	vst: KM		Batch: 2326083
Diesel Range Organics (C10-C28)	ND	25.0	1	06/30/23	07/01/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/30/23	07/01/23	
Surrogate: n-Nonane		105 %	50-200	06/30/23	07/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analy	/st: BA		Batch: 2327017
Chloride	1120	20.0	1	07/05/23	07/06/23	



RDX 9-1 WPX Energy - Carlsbad Project Name: Reported: 5315 Buena Vista Dr Project Number: 01058-0007 Carlsbad NM, 88220 Project Manager: Ashley Giovengo 7/10/2023 10:56:57AM **Volatile Organics by EPA 8021B** Analyst: SL Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2326079-BLK1) Prepared: 06/30/23 Analyzed: 06/30/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 Total Xylenes ND 0.0250 Surrogate: 4-Bromochlorobenzene-PID 7.47 8.00 93.4 70-130 LCS (2326079-BS1) Prepared: 06/30/23 Analyzed: 06/30/23 4.90 98.1 70-130 5.00 Benzene 0.0250 Ethylbenzene 4.78 0.0250 5.00 95.7 70-130 4.86 0.0250 5.00 97.3 70-130 Toluene o-Xylene 4.80 0.0250 5.00 96.1 70-130 9.74 10.0 97.3 70-130 0.0500 p.m-Xvlene 14.5 15.0 96.9 70-130 Total Xylenes 0.0250 8.00 95.7 70-130 Surrogate: 4-Bromochlorobenzene-PID 7.66 Matrix Spike (2326079-MS1) Source: E306230-03 Prepared: 06/30/23 Analyzed: 06/30/23 4.97 0.0250 5.00 ND 54-133 Benzene 96.9 61-133 Ethylbenzene 4.85 0.0250 5.00 ND Toluene 4.94 0.0250 5.00 ND 98.7 61-130 ND 97.3 63-131 4.86 5.00 0.0250 o-Xylene p,m-Xylene 9.84 0.0500 10.0 ND 98.4 63-131 14.7 0.0250 15.0 ND 63-131 Total Xylenes 70-130 Surrogate: 4-Bromochlorobenzene-PID 7.65 8.00 Matrix Spike Dup (2326079-MSD1) Source: E306230-03 Prepared: 06/30/23 Analyzed: 06/30/23 5.06 0.0250 5.00 ND 54-133 1.66 20 61-133 1.52 4.92 0.0250 5.00 ND 98.4 20 Ethylbenzene 61-130 Toluene 5.01 0.0250 5.00 ND 100 1.53 20 4.94 5.00 ND 98.7 63-131 1.48 20 o-Xylene 0.0250 10.0 10.0 ND 100 63-131 1.61 20

0.0500

0.0250

15.0

8.00

ND

99.6

96.0

63-131

70-130

1.57

20

14.9

7.68



p,m-Xylene

Total Xylenes

Surrogate: 4-Bromochlorobenzene-PID

WPX Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	•
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 10:56:57AM

Carlsbad NM, 88220		Project Manage	r: As	shley Gioveng	go			7	7/10/2023 10:56:57AM	
	Non	halogenated	Analyst: SL							
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit		
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes	
Blank (2326079-BLK1)							Prepared: 0	6/30/23 Aı	nalyzed: 06/30/23	
Gasoline Range Organics (C6-C10)	ND	20.0								
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.36		8.00		91.9	70-130				
LCS (2326079-BS2)							Prepared: 0	6/30/23 Aı	nalyzed: 06/30/23	
Gasoline Range Organics (C6-C10)	45.7	20.0	50.0		91.3	70-130				
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.30		8.00		91.2	70-130				
Matrix Spike (2326079-MS2)				Source:	E306230-	03	Prepared: 0	pared: 06/30/23 Analyzed: 06/30/23		
Gasoline Range Organics (C6-C10)	42.6	20.0	50.0	ND	85.3	70-130				
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.06		8.00		88.2	70-130				
Matrix Spike Dup (2326079-MSD2)				Source:	E306230-	03	Prepared: 0	6/30/23 Aı	nalyzed: 06/30/23	
Gasoline Range Organics (C6-C10)	42.9	20.0	50.0	ND	85.7	70-130	0.521	20		
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.13		8.00		89.1	70-130				



WPX Energy - Carlsbad Project Name: RDX 9-1 Reported:
5315 Buena Vista Dr Project Number: 01058-0007
Carlsbad NM, 88220 Project Manager: Ashley Giovengo 7/10/2023 10:56:57AM

Carlsbad NM, 88220		Project Manage	r: As	shley Giovens	go			7	7/10/2023 10:56:57AN			
Nonhalogenated Organics by EPA 8015D - DRO/ORO  Analyst: KM												
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit				
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes			
Blank (2326083-BLK1)							Prepared: 0	6/30/23 An	nalyzed: 06/30/23			
biesel Range Organics (C10-C28)	ND	25.0										
vil Range Organics (C28-C36)	ND	50.0										
urrogate: n-Nonane	52.8		50.0		106	50-200						
.CS (2326083-BS1)							Prepared: 0	6/30/23 An	nalyzed: 06/30/23			
riesel Range Organics (C10-C28)	277	25.0	250		111	38-132						
urrogate: n-Nonane	51.5		50.0		103	50-200						
Matrix Spike (2326083-MS1)				Source:	E306227-	01	Prepared: 0	6/30/23 An	nalyzed: 06/30/23			
riesel Range Organics (C10-C28)	11400	2500	250	10100	520	38-132			M4			
urrogate: n-Nonane	70.3		50.0		141	50-200						
Matrix Spike Dup (2326083-MSD1)				Source:	E306227-	01	Prepared: 0	6/30/23 An	nalyzed: 06/30/23			
tiesel Range Organics (C10-C28)	10500	2500	250	10100	153	38-132	8.40	20	M4			
urrogate: n-Nonane	69.8		50.0		140	50-200						
trix Spike Dup (2326083-MSD1)	10500	2500	250		<b>E306227-</b>	38-132						



WPX Energy - Carlsbad		Project Name:		DX 9-1					Reported:
5315 Buena Vista Dr Carlsbad NM, 88220		Project Number: Project Manager		1058-0007 Ishley Gioveng	go				7/10/2023 10:56:57AM
		Anions	by EPA	300.0/9056 <i>A</i>	4				Analyst: BA
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2327017-BLK1)							Prepared: 0	7/05/23 A	nalyzed: 07/06/23
Chloride	ND	20.0							
LCS (2327017-BS1)							Prepared: 0	7/05/23 A	nalyzed: 07/06/23
Chloride	255	20.0	250		102	90-110			
Matrix Spike (2327017-MS1)				Source:	E306230-	01	Prepared: 0	7/05/23 A	nalyzed: 07/06/23
Chloride	604	20.0	250	364	95.8	80-120			
Matrix Spike Dup (2327017-MSD1)				Source:	E306230-	01	Prepared: 0	7/05/23 A	nalyzed: 07/06/23
Chloride	614	20.0	250	364	100	80-120	1.73	20	

#### QC Summary Report Comment:

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



#### **Definitions and Notes**

ſ	WPX Energy - Carlsbad	Project Name:	RDX 9-1	
l	5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
l	Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	07/10/23 10:56

M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The

associated LCS spike recovery was acceptable.

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

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

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



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6:14	
1:42	
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lient: W	VPX				77.20	Bill To				Lab U	se Or	nly	1000			TAT		EPA Pr	ogran
-	RDX 9-1 Manager: Ash	lev Giov	engo			ention: Jim Raley dress: 5315 Buena Vista Dr		Lab W E 30			Job	Numb	er Sa7	1D	2D		Standard	CWA	SDW
200	: 3122 Natio					y, State, Zir Carlsbad, NM 882	20	La					Metho	d		_			RCI
	te, Zip Carlsh		88220		Pho	one: 575-689-7597		by											
	575-988-005				Em	ail: jim.raley@dvn.com		/ORC										State	
	giovengo@e	nsolum.c	om					DRO,	321	09	10	300.0		Z		¥	NM CO	UT AZ	TX
leport d	T I						Lab	SRO/	bv 8(	y 82	ls 60	ide 3		2			×		
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID			Number	TPH GRO/DRO/ORO by	8015 BTEX by 8021	VOC by 8260	Metals 6010	Chloride		BGDOC		GDOC		Remarks	
1135	6/28/2023	S	1			FS48-4'	1							х					
1140	6/28/2023	S	1			FS49-4'	2							х					
1145	6/28/2023	S	1			FS50-4'	3							х					
1150	6/28/2023	S	1			FS51-4'	4		T					x					
1155	6/28/2023	S	1			FS52-4'	5							х					
1212	6/28/2023	S	1		FS53-4'		le		+					х					
							17												
										-									
Addition	al Instructio	ns:																	
(field sam	ppler), attest to th	e validity an	d authentic	ity of this samp	e. I am aware t	that tampering with or intentionally mislab	elling the sampl	e location			Sample	es requiri	ng thermal p	oreservati	on must	be receiv	ed on ice the day	they are sampl	ed or
Section of the second	e of collection is o			A. C.		Sampled by:					receive	ed packed	in ice at an	avg temp	above (	0 but less	than 6 °C on subse	equent days.	
elinquish	ed by: (Signatur	re)	Date	29/23	1500	Received by: (Signature)	Date 4-29	23 Time 560		٥	Received on ice:			(Y)		Only			
elinquish Micl	ulle Cu	ruls	Date	19-23	ime 1700	Received by: (Signature)  HICK MSSo	Date 6-29	1-23 Tir	ne 173	30	T1			<u>T2</u>			Ţ3		
11.01	ed by: (Signatur	(e) V500	Date		2300	Received by: (Signature)	Date /	las S	2.1	'n		i Temp	° 6	4				Section Section	



e client expense. The report for the analysis of the above

envirotech

envirotech Inc.

Printed: 6/30/2023 10:25:39AM

#### **Envirotech Analytical Laboratory**

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	WPX Energy - Carlsbad	Date Received:	06/30/23	08:20		Work Order ID:	E306230
Phone:	(539) 573-4018	Date Logged In:	06/29/23	16:53		Logged In By:	Caitlin Mars
Email:	ashley.giovengo@wesominc.com	Due Date:	07/10/23	17:00 (4 day TAT)			
Chain of	Custody (COC)						
	ne sample ID match the COC?		Yes				
	e number of samples per sampling site location ma	tch the COC	Yes				
	amples dropped off by client or carrier?		Yes	Carrier: <u>C</u>	Courier_		
4. Was the	e COC complete, i.e., signatures, dates/times, reque	sted analyses?	Yes				
5. Were al	Il samples received within holding time?  Note: Analysis, such as pH which should be conducted in i.e, 15 minute hold time, are not included in this disucssi		Yes			<u>Comment</u>	s/Resolution
Sample T	urn Around Time (TAT)						
6. Did the	COC indicate standard TAT, or Expedited TAT?		Yes				
Sample C							
	sample cooler received?		Yes				
8. If yes, v	was cooler received in good condition?		Yes				
9. Was the	e sample(s) received intact, i.e., not broken?		Yes				
10. Were	custody/security seals present?		No				
11. If yes,	were custody/security seals intact?		NA				
	e sample received on ice? If yes, the recorded temp is 4°C. Note: Thermal preservation is not required, if samples ar minutes of sampling visible ice, record the temperature. Actual sample	re received w/i 15	Yes				
Sample C		<u> </u>	<u>~</u>				
	queous VOC samples present?		No				
	OC samples collected in VOA Vials?		NA				
	head space less than 6-8 mm (pea sized or less)?		NA				
	trip blank (TB) included for VOC analyses?		NA				
	on-VOC samples collected in the correct containers	9	Yes				
	appropriate volume/weight or number of sample contain		Yes				
Field Lab	· · ·	ners concerca:	103				
	field sample labels filled out with the minimum info	ormation:					
	ample ID?	ormation.	Yes				
	ate/Time Collected?		Yes				
C	ollectors name?		Yes				
Sample P	<u>reservation</u>						
21. Does t	the COC or field labels indicate the samples were p	reserved?	No				
22. Are sa	ample(s) correctly preserved?		NA				
24. Is lab	filteration required and/or requested for dissolved n	netals?	No				
Multipha	se Sample Matrix						
26. Does 1	the sample have more than one phase, i.e., multipha	ise?	No				
27. If yes,	does the COC specify which phase(s) is to be analy	yzed?	NA				
Subcontr	act Laboratory						
	imples required to get sent to a subcontract laborato	ary?	No				
	subcontract laboratory specified by the client and i	•	NA	Subcontract Lab	· NΔ		
		1 50 WHO.	1471	Subcontract Lat	), IVA		
Client In	<u>struction</u>						

Date

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

Report to:
Ashley Giovengo



5796 U.S. Hwy 64 Farmington, NM 87401

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





# envirotech

Practical Solutions for a Better Tomorrow

# **Analytical Report**

WPX Energy - Carlsbad

Project Name: RDX 9-1

Work Order: E306231

Job Number: 01058-0007

Received: 6/30/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 7/10/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.

Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.

Envirotech Inc, holds the Utah TNI certification NM00979 for data reported.

Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/10/23

Ashley Giovengo 5315 Buena Vista Dr Carlsbad, NM 88220

Project Name: RDX 9-1 Workorder: E306231

Date Received: 6/30/2023 8:20:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/30/2023 8:20:00AM, under the Project Name: RDX 9-1.

The analytical test results summarized in this report with the Project Name: RDX 9-1 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman

Laboratory Director Office: 505-632-1881

Cell: 775-287-1762

whinchman@envirotech-inc.com

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Lynn Jarbuc

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Rayny Hagan

West Texas Midland/Odessa Area

Envirotech Web Address: www.envirotech-inc.com

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#### **Sample Summary**

Γ	WPX Energy - Carlsbad	Project Name:	RDX 9-1	Donosate de
١	5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
l	Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	07/10/23 10:58

Client Sample ID	Lab Sample ID Matrix	Sampled	Received	Container
SW03 - 0 - 4'	E306231-01A Soil	06/27/23	06/30/23	Glass Jar, 2 oz.
SW06 - 0 - 4'	E306231-02A Soil	06/27/23	06/30/23	Glass Jar, 2 oz.



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 10:58:30AM

#### SW03 - 0 - 4'

		E306231-01				
		Reporting				
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	alyst: SL		Batch: 2326079
Benzene	ND	0.0250	1	06/30/23	07/01/23	
Ethylbenzene	ND	0.0250	1	06/30/23	07/01/23	
Toluene	ND	0.0250	1	06/30/23	07/01/23	
o-Xylene	ND	0.0250	1	06/30/23	07/01/23	
p,m-Xylene	ND	0.0500	1	06/30/23	07/01/23	
Total Xylenes	ND	0.0250	1	06/30/23	07/01/23	
Surrogate: 4-Bromochlorobenzene-PID		95.0 %	70-130	06/30/23	07/01/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL			Batch: 2326079
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/30/23	07/01/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.1 %	70-130	06/30/23	07/01/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	alyst: KM		Batch: 2326083
Diesel Range Organics (C10-C28)	ND	25.0	1	06/30/23	07/01/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/30/23	07/01/23	
Surrogate: n-Nonane		100 %	50-200	06/30/23	07/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	alyst: BA		Batch: 2327017
Chloride	38.8	20.0	1	07/05/23	07/06/23	



WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 10:58:30AM

#### SW06 - 0 - 4'

		E306231-02				
		Reporting				
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	ılyst: SL		Batch: 2326079
Benzene	ND	0.0250	1	06/30/23	07/01/23	
Ethylbenzene	ND	0.0250	1	06/30/23	07/01/23	
Toluene	ND	0.0250	1	06/30/23	07/01/23	
o-Xylene	ND	0.0250	1	06/30/23	07/01/23	
o,m-Xylene	ND	0.0500	1	06/30/23	07/01/23	
Total Xylenes	ND	0.0250	1	06/30/23	07/01/23	
Surrogate: 4-Bromochlorobenzene-PID		96.1 %	70-130	06/30/23	07/01/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	Analyst: SL		Batch: 2326079
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/30/23	07/01/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.1 %	70-130	06/30/23	07/01/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	ılyst: KM		Batch: 2326083
Diesel Range Organics (C10-C28)	ND	25.0	1	06/30/23	07/01/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/30/23	07/01/23	
Surrogate: n-Nonane		108 %	50-200	06/30/23	07/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	ılyst: BA		Batch: 2327017
Chloride	586	20.0	1	07/05/23	07/06/23	



RDX 9-1 WPX Energy - Carlsbad Project Name: Reported: 5315 Buena Vista Dr Project Number: 01058-0007 Carlsbad NM, 88220 Project Manager: Ashley Giovengo 7/10/2023 10:58:30AM **Volatile Organics by EPA 8021B** Analyst: SL Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2326079-BLK1) Prepared: 06/30/23 Analyzed: 06/30/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 Total Xylenes ND 0.0250 Surrogate: 4-Bromochlorobenzene-PID 7.47 8.00 93.4 70-130 LCS (2326079-BS1) Prepared: 06/30/23 Analyzed: 06/30/23 4.90 98.1 70-130 5.00 Benzene 0.0250 Ethylbenzene 4.78 0.0250 5.00 95.7 70-130 4.86 0.0250 5.00 97.3 70-130 Toluene o-Xylene 4.80 0.0250 5.00 96.1 70-130 9.74 10.0 97.3 70-130 0.0500 p.m-Xvlene 14.5 15.0 96.9 70-130 Total Xylenes 0.0250 8.00 95.7 70-130 Surrogate: 4-Bromochlorobenzene-PID 7.66 Matrix Spike (2326079-MS1) Source: E306230-03 Prepared: 06/30/23 Analyzed: 06/30/23 4.97 0.0250 5.00 ND 54-133 Benzene 96.9 61-133 Ethylbenzene 4.85 0.0250 5.00 ND Toluene 4.94 0.0250 5.00 ND 98.7 61-130 ND 97.3 63-131 4.86 5.00 0.0250 o-Xylene p,m-Xylene 9.84 0.0500 10.0 ND 98.4 63-131 14.7 0.0250 15.0 ND 63-131 Total Xylenes 70-130 Surrogate: 4-Bromochlorobenzene-PID 7.65 8.00 Matrix Spike Dup (2326079-MSD1) Source: E306230-03 Prepared: 06/30/23 Analyzed: 06/30/23 5.06 0.0250 5.00 ND 54-133 1.66 20 61-133 1.52 4.92 0.0250 5.00 ND 98.4 20 Ethylbenzene 61-130 Toluene 5.01 0.0250 5.00 ND 100 1.53 20 4.94 5.00 ND 98.7 63-131 1.48 20 o-Xylene 0.0250 10.0 10.0 ND 100 63-131 1.61 20 p,m-Xylene 0.0500 Total Xylenes 14.9 0.0250 15.0 ND 99.6 63-131 1.57 20

8.00

96.0

70-130



Surrogate: 4-Bromochlorobenzene-PID

7.68

WPX Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 10:58:30AM

Carlsbad NM, 88220		Project Manage	r: As	shley Gioveng	go			7	7/10/2023 10:58:30AM			
	Non	Nonhalogenated Organics by EPA 8015D - GRO							Analyst: SL			
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit				
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes			
Blank (2326079-BLK1)							Prepared: 0	6/30/23 Aı	nalyzed: 06/30/23			
Gasoline Range Organics (C6-C10)	ND	20.0										
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.36		8.00		91.9	70-130						
LCS (2326079-BS2)							Prepared: 0	6/30/23 Aı	nalyzed: 06/30/23			
Gasoline Range Organics (C6-C10)	45.7	20.0	50.0		91.3	70-130						
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.30		8.00		91.2	70-130						
Matrix Spike (2326079-MS2)				Source:	E306230-	03	Prepared: 0	6/30/23 Aı	nalyzed: 06/30/23			
Gasoline Range Organics (C6-C10)	42.6	20.0	50.0	ND	85.3	70-130						
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.06		8.00		88.2	70-130						
Matrix Spike Dup (2326079-MSD2)				Source:	E306230-	03	Prepared: 0	6/30/23 Aı	nalyzed: 06/30/23			
Gasoline Range Organics (C6-C10)	42.9	20.0	50.0	ND	85.7	70-130	0.521	20				
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.13		8.00		89.1	70-130						

WPX Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	·
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 10:58:30AM

Carlsbad NM, 88220		Project Manage	r: As	hley Gioveng	go			7/	10/2023 10:58:30AM
	Nonha	Nonhalogenated Organics by EPA 8015D - DRO/ORO							Analyst: KM
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
elank (2326083-BLK1)							Prepared: 0	6/30/23 Ana	alyzed: 06/30/23
iesel Range Organics (C10-C28)	ND	25.0							
il Range Organics (C28-C36)	ND	50.0							
urrogate: n-Nonane	52.8		50.0		106	50-200			
CS (2326083-BS1)							Prepared: 0	6/30/23 Ana	alyzed: 06/30/23
iesel Range Organics (C10-C28)	277	25.0	250		111	38-132			
urrogate: n-Nonane	51.5		50.0		103	50-200			
Iatrix Spike (2326083-MS1)				Source:	E306227-0	01	Prepared: 0	6/30/23 Ana	alyzed: 06/30/23
iesel Range Organics (C10-C28)	11400	2500	250	10100	520	38-132			M4
ırrogate: n-Nonane	70.3		50.0		141	50-200			
1atrix Spike Dup (2326083-MSD1)				Source:	E306227-0	01	Prepared: 0	6/30/23 Ana	alyzed: 06/30/23
iesel Range Organics (C10-C28)	10500	2500	250	10100	153	38-132	8.40	20	M4
ırrogate: n-Nonane	69.8		50.0		140	50-200			

WPX Energy - Carlsbad		Project Name:		DX 9-1					Reported:
5315 Buena Vista Dr Carlsbad NM, 88220		Project Number: Project Manager		1058-0007 Ashley Gioveng	go				7/10/2023 10:58:30AM
		Anions	by EPA	300.0/9056 <i>E</i>	4				Analyst: BA
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2327017-BLK1)							Prepared: 0	7/05/23 A	nalyzed: 07/06/23
Chloride	ND	20.0							
LCS (2327017-BS1)							Prepared: 0	7/05/23 A	nalyzed: 07/06/23
Chloride	255	20.0	250		102	90-110			
Matrix Spike (2327017-MS1)				Source:	E306230-	01	Prepared: 0	7/05/23 A	nalyzed: 07/06/23
Chloride	604	20.0	250	364	95.8	80-120			
Matrix Spike Dup (2327017-MSD1)				Source:	E306230-	01	Prepared: 0	7/05/23 A	nalyzed: 07/06/23
Chloride	614	20.0	250	364	100	80-120	1.73	20	

#### QC Summary Report Comment:

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



### **Definitions and Notes**

ſ	WPX Energy - Carlsbad	Project Name:	RDX 9-1	
١	5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
١	Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	07/10/23 10:58

M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The

associated LCS spike recovery was acceptable.

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

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

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



		K
f	1	eceived
		by
		OCD:
		8/2/2023
		6:14:42
		A

Client: W	PX			10	Bill To			1	ab U	se Or	nly	770			TAT		EPA Pi	ograr
Project:		lev Giov	engo		Attention: Jim Raley Address: 5315 Buena Vista Dr		Lab WO				Numb	er <b>0007</b>	1D :	2D 3		tandard	CWA	SDV
	3122 Natio				City, State, Zig Carlsbad, NM 88	220	L	<b>C</b>				Metho				1		RC
	e, Zip Carlst		88220		Phone: 575-689-7597		by by											
	75-988-005				Email: jim.raley@dvn.com		/ORC									V-1-1	State	
:mail: ag Report di	giovengo@e	nsolum.c	om				DRO	021	09	10	0.00		Z		×	NM CO	UT AZ	TX
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID		Lab	TPH GRO/DRO/ORO by	8015 BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0		BGDOC		GDOC	×	Remarks	
	6/27/2023				SW03-0-4'	Number		8 8	>	Σ	٥	+	m	-	5			-
1033	0/2//2023	S	1		3003-0-4								х					
1120	6/28/2023	S	1		SW06-0-4'	2							х					
					1													
Addition	al Instructio	ns:					·		-									
					n aware that tampering with or intentionally mis	labelling the samp	le location,									d on ice the day nan 6 °C on subse		ed or
Relinquishe	ed by: (Signatur			128/23 Time	Received by: (Signature)	Date Lesse.	))	e 501					Lal	b Use				
	ed by: (Signatur	e)	Date	Time	Received by: (Signature)  Mon Missa	Date 6-19	Tim	97	200		eived o	m ice:	T	N				
Relinquishe	ed by: (Signatur	e) SSO	Date	Time	Received by Signature Mou	Date	/ Tim			T1		L	12			<u>T3</u>		



enviroteche analysis of the above

Printed: 6/30/2023 10:24:28AM

### **Envirotech Analytical Laboratory**

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	WPX Energy - Carlsbad	Date Received:	06/30/23 0	8:20		Work Order ID:	E306231
Phone:	(539) 573-4018	Date Logged In:	06/29/23 1	6:58		Logged In By:	Caitlin Mars
Email:	ashley.giovengo@wesominc.com	Due Date:		7:00 (4 day TAT)		20 ,	
Chain of	Custody (COC)						
	e sample ID match the COC?		Yes				
2. Does th	e number of samples per sampling site location ma	tch the COC	Yes				
3. Were sa	imples dropped off by client or carrier?		Yes	Carrier: <u>C</u>	ourier		
4. Was the	e COC complete, i.e., signatures, dates/times, reque	sted analyses?	Yes				
5. Were al	I samples received within holding time? Note: Analysis, such as pH which should be conducted in i.e, 15 minute hold time, are not included in this disucssi	•	Yes			Comment	s/Resolution
Sample T	urn Around Time (TAT)						
6. Did the	COC indicate standard TAT, or Expedited TAT?		Yes				
Sample C			Vec				
	ample cooler received?		Yes				
•	was cooler received in good condition?		Yes				
	e sample(s) received intact, i.e., not broken?		Yes				
	custody/security seals present?		No				
11. If yes,	were custody/security seals intact?		NA				
	e sample received on ice? If yes, the recorded temp is 4°C. Note: Thermal preservation is not required, if samples ar minutes of sampling	re received w/i 15	Yes				
	risible ice, record the temperature. Actual sample	temperature: 4°0	<u>C</u>				
Sample C							
	queous VOC samples present?		No				
	OC samples collected in VOA Vials?		NA				
	head space less than 6-8 mm (pea sized or less)?		NA				
	trip blank (TB) included for VOC analyses?		NA				
	on-VOC samples collected in the correct containers		Yes				
	ppropriate volume/weight or number of sample contain	ners collected?	Yes				
Field Lab	e <u>l</u> field sample labels filled out with the minimum info	ormation:					
	imple ID?	ormation.	Yes				
	ate/Time Collected?		Yes	L			
Co	ollectors name?		Yes				
Sample P	<u>reservation</u>						
21. Does t	the COC or field labels indicate the samples were p	reserved?	No				
	mple(s) correctly preserved?		NA				
24. Is lab	filteration required and/or requested for dissolved n	netals?	No				
Multipha	se Sample Matrix						
26. Does t	he sample have more than one phase, i.e., multipha	ise?	No				
27. If yes,	does the COC specify which phase(s) is to be analy	yzed?	NA				
Subcontr	act Laboratory						
28. Are sa	mples required to get sent to a subcontract laborato	ory?	No				
	subcontract laboratory specified by the client and i	•	NA	Subcontract Lab	: NA		
Client In	struction						
	<del></del>						

Date

Report to:
Ashley Giovengo



5796 U.S. Hwy 64 Farmington, NM 87401

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





# envirotech

Practical Solutions for a Better Tomorrow

# **Analytical Report**

WPX Energy - Carlsbad

Project Name: RDX 9-1

Work Order: E306232

Job Number: 01058-0007

Received: 6/30/2023

Revision: 1

Report Reviewed By:

Walter Hinchman Laboratory Director 7/10/23

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.

Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.

Envirotech Inc, holds the Utah TNI certification NM00979 for data reported.

Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.

Date Reported: 7/10/23

Ashley Giovengo 5315 Buena Vista Dr Carlsbad, NM 88220

Project Name: RDX 9-1 Workorder: E306232

Date Received: 6/30/2023 8:20:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/30/2023 8:20:00AM, under the Project Name: RDX 9-1.

The analytical test results summarized in this report with the Project Name: RDX 9-1 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

Walter Hinchman

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Cell: 775-287-1762

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Cell: 505-320-4759

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### **Sample Summary**

WPX Energy - Carlsbad	Project Name:	RDX 9-1	Donoutoda
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	07/10/23 11:00

Client Sample ID	Lab Sample ID Matrix	Sampled	Received	Container
SW01 - 0 - 4'	E306232-01A Soil	06/28/23	06/30/23	Glass Jar, 2 oz.
SW02 - 0 - 4'	E306232-02A Soil	06/28/23	06/30/23	Glass Jar, 2 oz.
SW04 - 0 - 4'	E306232-03A Soil	06/28/23	06/30/23	Glass Jar, 2 oz.
SW05 - 0 - 4'	E306232-04A Soil	06/28/23	06/30/23	Glass Jar, 2 oz.



Chloride

# Sample Data

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 11:00:28AM

# SW01 - 0 - 4'

		E306232-01				
		Reporting				
Analyte	Result	Limit	Dilutio	on Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Aı	nalyst: SL		Batch: 2326082
Benzene	ND	0.0250	1	06/30/23	07/06/23	
Ethylbenzene	ND	0.0250	1	06/30/23	07/06/23	
Toluene	ND	0.0250	1	06/30/23	07/06/23	
o-Xylene	ND	0.0250	1	06/30/23	07/06/23	
p,m-Xylene	ND	0.0500	1	06/30/23	07/06/23	
Total Xylenes	ND	0.0250	1	06/30/23	07/06/23	
Surrogate: 4-Bromochlorobenzene-PID		95.7 %	70-130	06/30/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Aı	nalyst: SL		Batch: 2326082
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/30/23	07/06/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.0 %	70-130	06/30/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Aı	nalyst: KM		Batch: 2326083
Diesel Range Organics (C10-C28)	ND	25.0	1	06/30/23	07/01/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/30/23	07/01/23	
Surrogate: n-Nonane		109 %	50-200	06/30/23	07/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Aı	nalyst: BA		Batch: 2327017

20.0

349

07/05/23

07/06/23



# **Sample Data**

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 11:00:28AM

#### SW02 - 0 - 4'

		E306232-02				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	llyst: SL		Batch: 2326082
Benzene	ND	0.0250	1	06/30/23	07/06/23	
Ethylbenzene	ND	0.0250	1	06/30/23	07/06/23	
Toluene	ND	0.0250	1	06/30/23	07/06/23	
o-Xylene	ND	0.0250	1	06/30/23	07/06/23	
p,m-Xylene	ND	0.0500	1	06/30/23	07/06/23	
Total Xylenes	ND	0.0250	1	06/30/23	07/06/23	
Surrogate: 4-Bromochlorobenzene-PID		95.8 %	70-130	06/30/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	llyst: SL		Batch: 2326082
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/30/23	07/06/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.1 %	70-130	06/30/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	lyst: KM		Batch: 2326083
Diesel Range Organics (C10-C28)	ND	25.0	1	06/30/23	07/01/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/30/23	07/01/23	
Surrogate: n-Nonane		106 %	50-200	06/30/23	07/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	llyst: BA		Batch: 2327017
Chloride	274	20.0	1	07/05/23	07/06/23	



# **Sample Data**

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 11:00:28AM

### SW04 - 0 - 4'

		E306232-03				
		Reporting				
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	lyst: SL		Batch: 2326082
Benzene	ND	0.0250	1	06/30/23	07/06/23	
Ethylbenzene	ND	0.0250	1	06/30/23	07/06/23	
Toluene	ND	0.0250	1	06/30/23	07/06/23	
o-Xylene	ND	0.0250	1	06/30/23	07/06/23	
p,m-Xylene	ND	0.0500	1	06/30/23	07/06/23	
Total Xylenes	ND	0.0250	1	06/30/23	07/06/23	
Surrogate: 4-Bromochlorobenzene-PID		95.7 %	70-130	06/30/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	lyst: SL		Batch: 2326082
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/30/23	07/06/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		90.5 %	70-130	06/30/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	lyst: KM		Batch: 2326083
Diesel Range Organics (C10-C28)	ND	25.0	1	06/30/23	07/01/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/30/23	07/01/23	
Surrogate: n-Nonane		110 %	50-200	06/30/23	07/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Ana	lyst: BA		Batch: 2327017
Chloride	37.1	20.0	1	07/05/23	07/06/23	



# **Sample Data**

WPX Energy - Carlsbad	Project Name:	RDX 9-1	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 11:00:28AM

### SW05 - 0 - 4'

E	306232-04

		Reporting				
Analyte	Result	Limit	Dilution	n Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Ana	alyst: SL		Batch: 2326082
Benzene	ND	0.0250	1	06/30/23	07/06/23	
Ethylbenzene	ND	0.0250	1	06/30/23	07/06/23	
Toluene	ND	0.0250	1	06/30/23	07/06/23	
o-Xylene	ND	0.0250	1	06/30/23	07/06/23	
p,m-Xylene	ND	0.0500	1	06/30/23	07/06/23	
Total Xylenes	ND	0.0250	1	06/30/23	07/06/23	
Surrogate: 4-Bromochlorobenzene-PID		95.3 %	70-130	06/30/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Ana	alyst: SL		Batch: 2326082
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/30/23	07/06/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		87.3 %	70-130	06/30/23	07/06/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Ana	alyst: KM		Batch: 2326083
Diesel Range Organics (C10-C28)	ND	25.0	1	06/30/23	07/01/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/30/23	07/01/23	
Surrogate: n-Nonane		112 %	50-200	06/30/23	07/01/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA			Batch: 2327017
Chloride	59.5	20.0	1	07/05/23	07/06/23	



RDX 9-1 WPX Energy - Carlsbad Project Name: Reported: 5315 Buena Vista Dr Project Number: 01058-0007 Carlsbad NM, 88220 Project Manager: Ashley Giovengo 7/10/2023 11:00:28AM **Volatile Organics by EPA 8021B** Analyst: SL Reporting Spike Source Rec RPD Analyte Result Limit Level Result Rec Limits RPD Limit mg/kg mg/kg mg/kg mg/kg % % % % Notes Blank (2326082-BLK1) Prepared: 06/30/23 Analyzed: 07/06/23 ND 0.0250 ND Ethylbenzene 0.0250 Toluene ND 0.0250 ND o-Xylene 0.0250 ND p,m-Xylene 0.0500 Total Xylenes ND 0.0250 Surrogate: 4-Bromochlorobenzene-PID 7.61 8.00 95.1 70-130 LCS (2326082-BS1) Prepared: 06/30/23 Analyzed: 07/06/23 4.94 98.7 70-130 5.00 Benzene 0.0250 Ethylbenzene 4.83 0.0250 5.00 96.5 70-130 4.92 0.0250 5.00 98.4 70-130 Toluene 97.3 o-Xylene 4.86 0.0250 5.00 70-130 9.80 10.0 98.0 70-130 0.0500 p.m-Xvlene 97.8 14.7 15.0 70-130 Total Xylenes 0.0250 8.00 95.3 70-130 Surrogate: 4-Bromochlorobenzene-PID 7.62 Matrix Spike (2326082-MS1) Source: E306232-04 Prepared: 06/30/23 Analyzed: 07/06/23 4.92 0.0250 5.00 ND 54-133 Benzene ND 96.2 61-133 Ethylbenzene 4.81 0.0250 5.00 Toluene 4.92 0.0250 5.00 ND 98.3 61-130 4.84 ND 96.9 63-131 5.00 0.0250 o-Xylene p,m-Xylene 9.79 0.0500 10.0 ND 97.9 63-131 14.6 0.0250 15.0 ND 63-131 Total Xylenes 70-130 Surrogate: 4-Bromochlorobenzene-PID 7.70 8.00 Matrix Spike Dup (2326082-MSD1) Source: E306232-04 Prepared: 06/30/23 Analyzed: 07/06/23 5.18 0.0250 5.00 ND 104 54-133 5.15 20 ND 61-133 5.95 5.10 0.0250 5.00 102 20 Ethylbenzene 61-130 Toluene 5.18 0.0250 5.00 ND 104 5 32 20 5.11 5.00 ND 102 63-131 5.37 20 o-Xylene 0.0250 10.4 10.0 ND 104 63-131 5.89 20 p,m-Xylene 0.0500



15.5

7.68

0.0250

15.0

8.00

ND

103

96.0

63-131

70-130

5.71

20

Total Xylenes

Surrogate: 4-Bromochlorobenzene-PID

WPX Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 11:00:28AM

Carlsbad NM, 88220		Project Manager	r: As	hley Gioveng	go			7.	/10/2023 11:00:28AM
Nonhalogenated Organics by EPA 8015D - GRO  Analyst: SL									
Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits	RPD %	RPD Limit %	Notes
Blank (2326082-BLK1)							Prepared: 0	6/30/23 An	alyzed: 07/06/23
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.31		8.00		91.4	70-130			
LCS (2326082-BS2)							Prepared: 0	6/30/23 An	alyzed: 07/06/23
Gasoline Range Organics (C6-C10)	44.3	20.0	50.0		88.6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.35		8.00		91.8	70-130			
Matrix Spike (2326082-MS2)				Source:	E306232-	04	Prepared: 0	6/30/23 An	alyzed: 07/06/23
Gasoline Range Organics (C6-C10)	45.6	20.0	50.0	ND	91.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.21		8.00		90.1	70-130			
Matrix Spike Dup (2326082-MSD2)				Source:	E306232-0	04	Prepared: 0	6/30/23 An	alyzed: 07/06/23
Gasoline Range Organics (C6-C10)	47.2	20.0	50.0	ND	94.4	70-130	3.40	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.31		8.00		91.4	70-130			

WPX Energy - Carlsbad	Project Name:	RDX 9-1	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	7/10/2023 11:00:28AM

Carlsbad NM, 88220		Project Manage	r: As	shley Gioveng	go			7/	10/2023 11:00:28AN
	Nonha	logenated Or	ganics by	EPA 8015I	D - DRO	/ORO			Analyst: KM
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2326083-BLK1)							Prepared: 0	6/30/23 Ana	alyzed: 06/30/23
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	52.8		50.0		106	50-200			
LCS (2326083-BS1)							Prepared: 0	6/30/23 Ana	alyzed: 06/30/23
Diesel Range Organics (C10-C28)	277	25.0	250		111	38-132			
Surrogate: n-Nonane	51.5		50.0		103	50-200			
Matrix Spike (2326083-MS1)				Source:	E306227-	01	Prepared: 0	6/30/23 Ana	alyzed: 06/30/23
Diesel Range Organics (C10-C28)	11400	2500	250	10100	520	38-132			M4
Surrogate: n-Nonane	70.3		50.0		141	50-200			
Matrix Spike Dup (2326083-MSD1)				Source:	E306227-	01	Prepared: 0	6/30/23 Ana	alyzed: 06/30/23
Diesel Range Organics (C10-C28)	10500	2500	250	10100	153	38-132	8.40	20	M4
Surrogate: n-Nonane	69.8		50.0		140	50-200			



WPX Energy - Carlsbad		Project Name:		DX 9-1					Reported:
5315 Buena Vista Dr Carlsbad NM, 88220		Project Number: Project Manager:		.058-0007 shley Giovens	go				7/10/2023 11:00:28AM
		Anions	by EPA 3	300.0/9056 <i>A</i>	4				Analyst: BA
Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	Notes
Blank (2327017-BLK1)							Prepared: 0	07/05/23 A	.nalyzed: 07/06/23
Chloride	ND	20.0							
LCS (2327017-BS1)							Prepared: 0	7/05/23 A	nalyzed: 07/06/23
Chloride	255	20.0	250		102	90-110			
Matrix Spike (2327017-MS1)				Source:	E306230-	01	Prepared: 0	7/05/23 A	nalyzed: 07/06/23
Chloride	604	20.0	250	364	95.8	80-120			
Matrix Spike Dup (2327017-MSD1)				Source:	E306230-	01	Prepared: 0	7/05/23 A	nalyzed: 07/06/23
Chloride	614	20.0	250	364	100	80-120	1.73	20	

#### QC Summary Report Comment:

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



### **Definitions and Notes**

	WPX Energy - Carlsbad	Project Name:	RDX 9-1	
ı	5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
l	Carlsbad NM, 88220	Project Manager:	Ashley Giovengo	07/10/23 11:00

M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The

associated LCS spike recovery was acceptable.

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

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

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



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		nt days.
Lab Use Or ice: (Y)/ N		
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e client expense. The report for the analysis of the above

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Printed: 6/30/2023 10:23:02AM

#### **Envirotech Analytical Laboratory**

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	WPX Energy - Carlsbad	Date Received:	06/30/23	08:20	Work Order ID:	E306232
Phone:	(539) 573-4018	Date Logged In:	06/29/23	17:00	Logged In By:	Caitlin Mars
Email:	ashley.giovengo@wesominc.com	Due Date:	07/10/23	17:00 (4 day TAT)		
Chain of	Custody (COC)					
	ne sample ID match the COC?		Yes			
	ne number of samples per sampling site location ma	tch the COC	Yes			
3. Were s	amples dropped off by client or carrier?		Yes	Carrier: Courier		
4. Was the	e COC complete, i.e., signatures, dates/times, reque	sted analyses?	Yes			
5. Were a	Il samples received within holding time?  Note: Analysis, such as pH which should be conducted it.		Yes		Comment	s/Resolution
Commis T	i.e, 15 minute hold time, are not included in this disucssi	ion.			- Comment	<u> </u>
	Curn Around Time (TAT)  a COC indicate standard TAT, or Expedited TAT?		Yes			
			103			
Sample C	sample cooler received?		Yes			
	was cooler received in good condition?					
•	<u>•</u>		Yes			
	e sample(s) received intact, i.e., not broken?		Yes			
	custody/security seals present?		No			
11. If yes,	, were custody/security seals intact?		NA			
	e sample received on ice? If yes, the recorded temp is 4°C  Note: Thermal preservation is not required, if samples as minutes of sampling visible ice, record the temperature. Actual sample	re received w/i 15	Yes			
	Container .	·	_			
	queous VOC samples present?		No			
	OC samples collected in VOA Vials?		NA			
	head space less than 6-8 mm (pea sized or less)?		NA			
	trip blank (TB) included for VOC analyses?		NA			
	on-VOC samples collected in the correct containers	.9	Yes			
	appropriate volume/weight or number of sample contain		Yes			
	· ·	ners conceted:	103			
Field Lat	field sample labels filled out with the minimum inf	ormation:				
	ample ID?	Offication.	Yes			
	pate/Time Collected?		Yes			
	ollectors name?		Yes			
Sample P	Preservation					
21. Does	the COC or field labels indicate the samples were p	reserved?	No			
22. Are sa	ample(s) correctly preserved?		NA			
24. Is lab	filteration required and/or requested for dissolved r	netals?	No			
Multipha	ase Sample Matrix					
	the sample have more than one phase, i.e., multipha	ise?	No			
	, does the COC specify which phase(s) is to be anal		NA			
		, 200.	INA			
	act Laboratory	9	3.7			
	amples required to get sent to a subcontract laborator subcontract laboratory specified by the client and it	•	No NA	Subcontract Lab: NA		
Client In	<u>nstruction</u>					
						_



# **APPENDIX F**

# **Email Correspondence**

#### **Erick Herrera**

**From:** Erick Herrera

**Sent:** Wednesday, October 26, 2022 3:01 PM

**To:** OCD.Enviro@emnrd.nm.gov; 'CFO\_Spill, BLM\_NM'

Cc: Raley, Jim

**Subject:** WPX Site Sampling Activity Update (10/31 - 11/4)

#### Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following sites between October 31 – November 4, 2022:

Site Name: RDX 9-1 API: 30-015-36211

Incident Number: nAB1728635377

Site Name: RDX 17-2 API: 30-015-36464

Incident Number: nAB1633449255

Site Name: LVP SWD #001

API: 30-015-42234

Incident Number: nAPP2135033453

Site Name: RDX Federal 21-44

API: 30-015-41193

Incident Number: nAPP2115533694

Site Name: RDU 54 API: 30-015-41975

Incident Number: nAB1722953239

Site Name: Electrolux 21 State Com #001

API: 30-025-35769

Incident Number: nTO1424150643

Site Name: EP USA 3 API: 30-015-24249

Incident Number: nAB1622531873

#### Thank you,



### PLEASE NOTE OUR NEW CORPORATE ADDRESS:

Ensolum, LLC 8330 LBJ Freeway, Ste. B830 Dallas, TX 75243

#### **Erick Herrera**

**From:** Erick Herrera

Sent: Friday, November 4, 2022 2:41 PM

To: OCD.Enviro@emnrd.nm.gov; 'CFO\_Spill, BLM\_NM'

**Cc:** Devon-Team; Raley, Jim

**Subject:** WPX Site Sampling Activity Update (11/7 - 11/11)

Good afternoon,

WPX has added an additional site for anticipated confirmation sampling toward the end of next week.

Site Name: RDX 9-1 API: 30-015-36211

Incident Numbers: nAB1728635377

Thanks,



#### PLEASE NOTE OUR NEW CORPORATE ADDRESS:

Ensolum, LLC 8330 LBJ Freeway, Ste. B830 Dallas, TX 75243

#### **Erick Herrera**

From: Enviro, OCD, EMNRD < OCD.Enviro@emnrd.nm.gov>

**Sent:** Thursday, March 16, 2023 10:21 AM

To: Erick Herrera

Cc: Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD

Subject: RE: [EXTERNAL] WPX Site Sampling Activity Update (3/20 - 3/24/2023)

#### [ \*\*EXTERNAL EMAIL\*\*]

Erick,

Thank you for the notification. The notification requirement is two full business days which would require notification at the latest at the end of the workday on Wednesday for Monday morning sampling. Also please indicate specific times, dates and locations for each sampling event. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon • Environmental Specialist

Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | <u>Jocelyn.Harimon@emnrd.nm.gov</u>

http://www.emnrd.nm.gov



From: Erick Herrera <eherrera@ensolum.com> Sent: Thursday, March 16, 2023 8:41 AM

To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; 'CFO Spill, BLM NM' <blm> nm cfo spill@blm.gov>

**Cc:** Raley, Jim <jim.raley@dvn.com>; Devon Team <Devon-Team@ensolum.com> **Subject:** [EXTERNAL] WPX Site Sampling Activity Update (3/20 - 3/24/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Good morning,

WPX anticipates conducting confirmation soil sampling activities at the following sites between March 20 – March 24, 20023:

Site Name: Pecos Federal #001Y

API: 30-015-24875

Incident Number: nAPP2208846424

Site Name: RDX 9-1

API: 30-015-36211

Incident Number: nAB1728635377

Site Name: Federal G Gas Com #001

API: 30-015-20848

Incident Number: nAB1428733041

Thank you,



From: Ashley Giovengo
To: Ronni Hayes

Subject: FW: [EXTERNAL] RE: 48-Hour Confirmation Sampling Notice - RDX 9-1 (NAB1728635377)

**Date:** Monday, July 3, 2023 11:19:37 AM

Attachments: <u>image006.png</u>

image007.png image008.png image009.png



### Ashley Giovengo

Senior Engineer 575-988-0055 Ensolum, LLC

From: Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

**Sent:** Wednesday, June 28, 2023 3:02 PM

To: Ashley Giovengo <agiovengo@ensolum.com>

Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD

<Robert.Hamlet@emnrd.nm.gov>

Subject: RE: [EXTERNAL] RE: 48-Hour Confirmation Sampling Notice - RDX 9-1 (NAB1728635377)

#### [ \*\*EXTERNAL EMAIL\*\*]

Ashley,

Please be aware that notification requirements are **two business days**, per rule. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to ensure inclusion in the project file.

JH

Jocelyn Harimon • Environmental Specialist

Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov

http://www.emnrd.nm.gov



**From:** Ashley Giovengo <a href="mailto:agiovengo@ensolum.com">agiovengo@ensolum.com</a>>

**Sent:** Wednesday, June 28, 2023 7:09 AM

To: Cole Burton < cburton@ensolum.com >; Enviro, OCD, EMNRD < OCD.Enviro@emnrd.nm.gov >

**Cc:** Cason Dillon <<u>cdillon@ensolum.com</u>>; Raley, Jim <<u>Jim.Raley@dvn.com</u>>

**Subject:** [EXTERNAL] RE: 48-Hour Confirmation Sampling Notice - RDX 9-1 (NAB1728635377)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Hello,

Please extend this confirmation sampling notification to include samples collected on 06/28/2023 and 06/29/2023.

Please let us know if you plan to be onsite to oversee this sampling event.

Thanks,



**From:** Cole Burton < cburton@ensolum.com>

**Sent:** Friday, June 23, 2023 10:34 AM

To: Enviro, OCD, EMNRD < ocd.enviro@emnrd.nm.gov>

Cc: Ashley Giovengo <a href="mailto:agiovengo@ensolum.com">agiovengo@ensolum.com</a>; Cason Dillon <a href="mailto:cdillon@ensolum.com">cdillon@ensolum.com</a>; Raley, Jim

<<u>Jim.Raley@dvn.com</u>>

**Subject:** 48-Hour Confirmation Sampling Notice - RDX 9-1 (NAB1728635377)

Hello,

We intend collect confirmation samples at RDX 9-1 site (NAB1728635377) on Tuesday, June 27, 2023.

Please let us know if you plan to be onsite to oversee this sampling event.

Thanks,



From: <u>Enviro, OCD, EMNRD</u>

To: <u>Cole Burton</u>

Cc: <u>Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD</u>

Subject: RE: [EXTERNAL] 48-Hour Confirmation Sampling Notice - RDX 9-1 (NAB1728635377)

**Date:** Friday, June 23, 2023 2:53:25 PM

Attachments: <u>image006.png</u>

image007.png image008.png image009.png

#### [ \*\*EXTERNAL EMAIL\*\*]

Cole,

Please be aware that notification requirements are **two business days**, per rule. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to ensure inclusion in the project file.

JH

Jocelyn Harimon • Environmental Specialist

Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov

http://www.emnrd.nm.gov



From: Cole Burton <cburton@ensolum.com>

Sent: Friday, June 23, 2023 10:34 AM

**To:** Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

**Cc:** Ashley Giovengo <agiovengo@ensolum.com>; Cason Dillon <cdillon@ensolum.com>; Raley, Jim

<Jim.Raley@dvn.com>

Subject: [EXTERNAL] 48-Hour Confirmation Sampling Notice - RDX 9-1 (NAB1728635377)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Hello,

We intend collect confirmation samples at RDX 9-1 site (NAB1728635377) on Tuesday, June 27, 2023.

Please let us know if you plan to be onsite to oversee this sampling event.

Thanks,



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

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 246901

#### **CONDITIONS**

Operator:	OGRID:	
WPX Energy Permian, LLC	246289	
Devon Energy - Regulatory	Action Number:	
Oklahoma City, OK 73102	246901	
	Action Type:	
	[C-141] Release Corrective Action (C-141)	

#### CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAB1728635377 RDX 9 #001, thank you. This Remediation Closure Report is approved. Areas reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as they are no longer reasonably needed. A report for reclamation and revegetation including pictures of the contoured backfilled excavation surface and a thorough discussion on reseeding mixture, vegetation ratio, timelines, etc, will need to be submitted and approved prior to this incident receiving the final status of "Restoration Complete".	1/16/2024