



Incident Numbers: nKJ1600727914,  
nOY1711838821

## Remediation Closure

Rattlesnake Federal Unit #001

Section 26, Township 26 South, Range 34 East

API: 30-015-36928

County: Lea

Vertex File Number: 23E-04815

**Prepared for:**

Devon Energy Production Company, LP

**Prepared by:**

Vertex Resource Services Inc.

**Date:**

January 2025

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**Remediation Closure**

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**Section 26, Township 26 South, Range 34 East**

**API: 30-015-36928**

**County: Lea**

Prepared for:

**Devon Energy Production Company, LP**

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March 13, 2025  
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Date

  
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PROJECT MANAGER, REPORT REVIEW

March 13, 2025  
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Date

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## 1.0 Introduction

Devon Energy Production Company, LP (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a Remediation Closure for produced water and crude oil releases that occurred on December 24, 2015, and April 6, 2017, respectively, at Rattlesnake Federal Unit #001 API: 30-015-36928 (hereafter referred to as the “site”). Devon submitted an initial C-141 Release Notification to New Mexico Oil Conservation Division (NMOCD) on January 7, 2016, and April 28, 2017 (Appendix A). Incident Identification numbers nKJ1600727914 and nOY1711838821 were assigned to these incidents.

This report provides a description of the release assessment and remediation activities associated with the site. The information presented demonstrates that closure criteria established in Table I of 19.15.29.12 of the *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) related to NMOCD has been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NMOCD for closure of this release, with the understanding that restoration of the release site will be completed following remediation activities as per NMAC 19.15.29.13.

## 2.0 Incident Description

The releases occurred on December 24, 2015, and April 6, 2017, due to equipment failure on stuffing box well and corrosion on a production tank due to hole on bottom of oil tank. The incidents were reported on January 7, 2016, and April 28, 2017, and involved the release of approximately 10 barrels (bbl) of produced water and approximately 20 bbl of crude oil on the pad site. Approximately 7 bbl of free fluid was removed during initial clean-up of produced water. Approximately 0 bbl. of free fluid was removed during the initial clean-up of crude oil. Additional details relevant to the releases are presented in the C-141 Report (Appendix A).

## 3.0 Site Characteristics

The site is located approximately 19 miles southwest of Jal, New Mexico (Google Inc. 2024). The legal location for the site is Section 26, Township 26 South and Range 34 East in Lea County, New Mexico. The release area is located on federal property. An aerial photograph and site schematic are presented on Figure 1.

The *Geological Map of New Mexico* (New Mexico Bureau of Geology and Mineral Resources, 2024) indicates the site’s surface geology primarily comprises Qep – Eolian and piedmont deposits (Holocene to middle Pleistocene) and is characterized as Interlayered eolian sands and piedmont-slope deposits. Predominant soil texture on the site is Pyote and Maljamar fine sand (United States Department of Agriculture, Natural Resources Conservation Service, 2024). Additional soil characteristics include a drainage class of well drained with negligible runoff. The karst geology potential for the site is low (United States Department of the Interior, Bureau of Land Management, 2018).

The location is typical of oil and gas exploration and production sites in the Permian Basin and is currently used for oil and gas production. The following sections specifically describe the release area at the site on or in proximity to the constructed pad (Figure 1). The surrounding landscape is associated with fan piedmonts, alluvial fans, and dunes with elevations ranging between 2,800 and 5,00 feet. The climate is semiarid with average annual precipitation ranging between 8 and 13 inches. Using information from the United States Department of Agriculture, the dominant vegetation

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was determined to be grasses and shrubs. Black grama (*Bouteloua eriopoda*), dropseeds (*Sporobolus flexuosus*, *S. contractus*, *S. cryptandrus*), and bluestems (*Schizachyrium scoparium* and *Andropogon hallii*), dominate the historical plant community (United States Department of Agriculture, Natural Resources Conservation Service, 2024). Limited to no vegetation is allowed to grow on the compacted production pad, right-of-way and access road.

#### 4.0 Closure Criteria Determination

The nearest active well to the site is a New Mexico Office of the State Engineer (NMOSE) monitoring well located approximately 0.36 miles northeast of the location (United States Geological Survey, 2024). Data from C-04809-POD1 shows the NMOSE borehole recorded a depth to groundwater of greater than 102 feet below ground surface (bgs). Documentation related to the exploratory borehole is included in Appendix B.

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is located approximately 1.41 miles northwest of the site (United States Fish and Wildlife Service, 2024). Closure criteria research is included in Appendix B.

At the site, there are no continuously flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

<b>Table 1. Closure Criteria Determination</b>			
<b>Site Name: Rattlesnake Federal Unit #001</b>			
<b>Spill Coordinates: 32.0185623,-103.4385986</b>		<b>X: 647461</b>	<b>Y: 3543559</b>
<b>Site Specific Conditions</b>		<b>Value</b>	<b>Unit</b>
1	Depth to Groundwater (nearest reference)	>102	feet
	Distance between release and nearest DTGW reference	1,909	feet
		0.36	miles
	Date of nearest DTGW reference measurement	March 5, 2024	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	7,441	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	15,000	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	56,500	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or	28,266	feet
	ii) Within 1000 feet of any fresh water well or spring	28,266	feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	9,727	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	182,777	feet
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest unstable area	34,419	feet
10	Within a 100-year Floodplain	Undetermined	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	90,345	feet
11	Soil Type	Loamy fine sand, sandy clay loam	
12	Ecological Classification	Loamy sand	
13	Geology	Eolian and piedmont deposits	
	<b>NMAC 19.15.29.12 E (Table 1) Closure Criteria</b>	>100'	<50' 51-100' >100'

The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 2.

<b>Table 2. Closure Criteria for Soils to Remediation &amp; Reclamation Standards</b>		
	<b>Constituent</b>	<b>Limit</b>
0-4 feet bgs (19.15.29.13)	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
DTGW 51-100 feet (19.15.29.12)	Chloride	20,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

bgs – below ground surface

DTGW – depth to groundwater

TPH – total petroleum hydrocarbons, GRO – gas range organics, DRO – diesel range organics, MRO – motor oil range organics

BTEX – benzene, toluene, ethylbenzene and xylenes

## 5.0 Remedial Actions Taken

Characterization of the historical releases were completed between September 11 and December 21, 2023, which identified the area of the releases specified in the initial C-141 Reports. The impacted area of incident nKJ1600727914 was determined to be approximately 7,618 square feet; The impacted area of incident nOY1711838821 was determined to be approximately 2,827 square feet. Daily Field Reports associated with the characterization are included in Appendix B. Characterization sampling laboratory results are presented in Table 3.

Remediation efforts began on November 22, 2024, and were finalized on December 5, 2024. Vertex personnel supervised the excavation of impacted soils. Field screening was completed with a total of 70 sample points and consisted of analysis using a Photo Ionization Detector (volatile hydrocarbons), Dextsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and titration of silver nitrate (chloride). Field screening results were used to identify areas requiring further remediation. Soil was removed to a depth of 1-foot bgs, 3 feet bgs, and 4.1 feet bgs. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Daily Field Reports documenting various phases of the remediation are presented in Appendix C.

Notification that confirmatory samples were being collected was provided to the NMOCD on December 5, 2024. Due to human error, these notifications were submitted under the incorrect incident number. A notification variance was approved on March 13, 2025 and correspondence regarding the approval can be found in Appendix E. Confirmatory composite samples were collected from the base and walls of the excavation in 200 square foot increments. A total of 59 base samples and 11 wall samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Envirotech Analytical Laboratory under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 4, and the laboratory data reports are included in Appendix

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D. All confirmatory samples collected and analyzed were below closure criteria for the site. Upon review, the original backfill material did not meet the necessary closure criteria for TPH and was therefore removed from the site. To ensure compliance, backfill material from an alternate source was brought in. A 5-point composite sample was collected from the new material, which was found to meet the required closure criteria. This material was then used to cover the excavation in accordance with closure requirements and labeled as Backfill-2 in Table 4.

## 6.0 Closure Request

The release area was fully delineated, remediated, and confirmatory samples were analyzed by the laboratory and found to be below allowable concentrations as per the NMAC Closure Criteria for Soils Impacted by a Release locations "greater than 100 feet to groundwater". Based on these findings Devon request that this release be closed.

Should you have any questions or concerns, please do not hesitate to contact Sally Carttar at 575.361.3561 or [scarttar@vertexresource.com](mailto:scarttar@vertexresource.com).

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## 7.0 References

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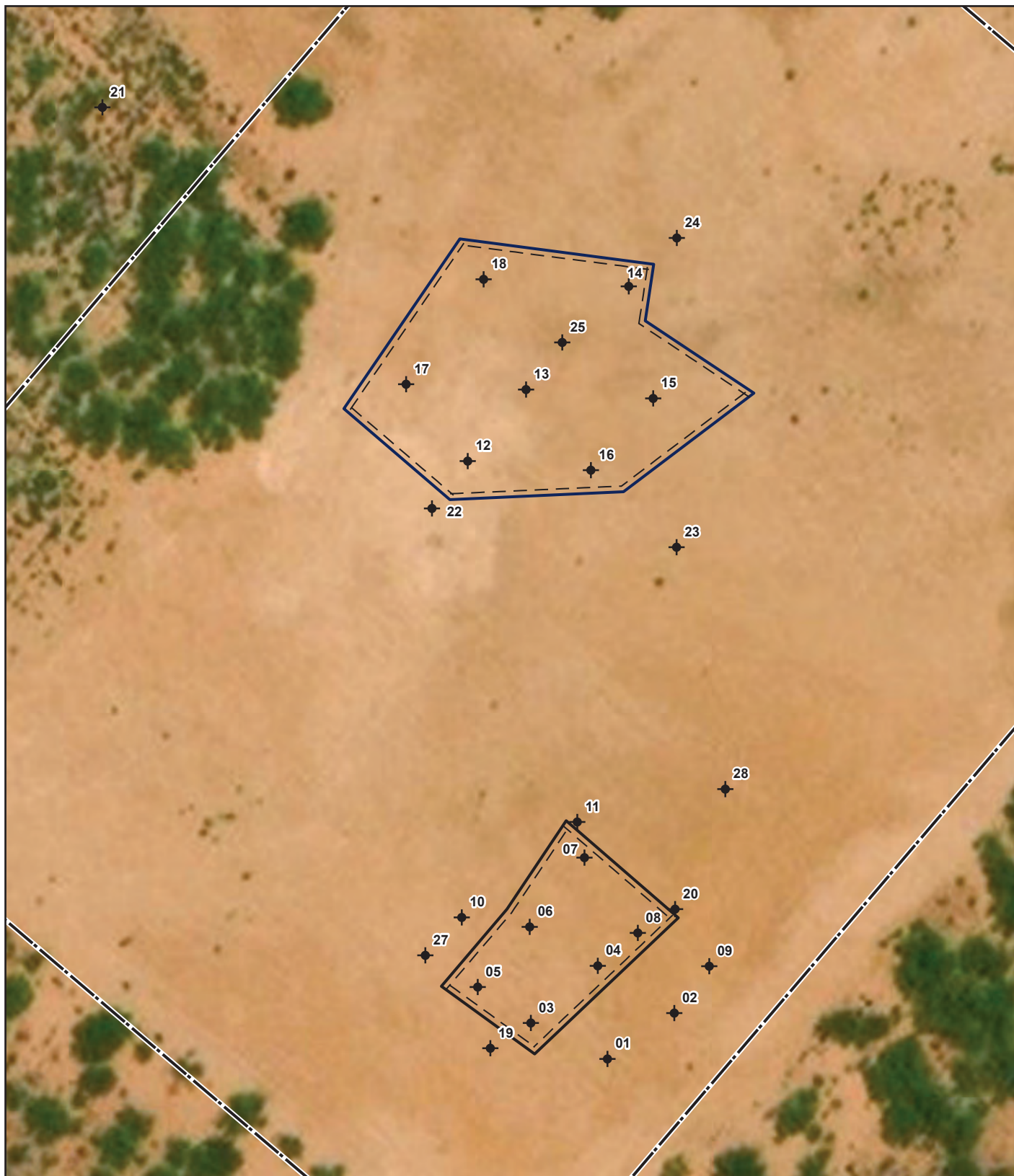
## 8.0 Limitations

This report has been prepared for the sole benefit of Devon Energy Production Company, LP. This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division and the Bureau of Land Management, without the express written consent of Vertex Resource Services Inc. (Vertex) and Devon Energy Production Company, LP. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgement of Vertex based on the data collected during the assessment. Due to the nature of the assessment and the data available, Vertex cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

## **FIGURES**





- ◆ Borehole (Prefixed by "BH23-")
- ▭ North Area of Concern (~7,618 sq.ft.)
- - - Approximate Lease Boundary
- ▭ South Area of Concern (~2,827 sq.ft.)



0 10 20 40 ft  
NAD 1983 UTM Zone 13N  
Date: Dec 17/24

Map Center:  
Lat: 32.018434°N,  
Long: 103.438536°W



### Characterization Site Sampling Schematic Rattlesnake Federal Unit #001

FIGURE:  
**1**



Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Georeferenced image from Esri, 2023. Approximate lease boundary from imagery by Vertex Professional Services Ltd. (VPS), 2024. Site features from GPS by VPS, 2024.

**VERSATILITY. EXPERTISE.**



- Base Sample (Prefixed by "BS24-")
- ▲ Wall Sample (Prefixed by "WS24-")
- Approximate Lease Boundary
- Excavation to 1' bgs (~ 2,342 sq. ft. | 200 ft.)
- Excavation to 3' bgs (~ 1,122 sq. ft. | 152 ft.)
- Excavation to 4' bgs (~ 405 sq.ft. | 100 ft.)
- Excavation to 4' bgs (~7,488 sq. ft. | 344 ft.)



0 10 20 40 ft  
NAD 1983 UTM Zone 13N  
Date: Dec 12/24

Map Center:  
Lat: 32.018342°N,  
Long: 103.438494°W



### Confirmation Site Sampling Schematic Rattlesnake Federal Unit #001

FIGURE:  
2



Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Georeferenced image from Esri, 2023. Approximate lease boundary from imagery by Vertex Professional Services Ltd. (VPS), 2024. Site features from GPS by VPS, 2024.

VERSATILITY. EXPERTISE.

## **TABLES**



Client Name: Devon Energy Production Company, LP

Site Name: Rattlesnake Federal Unit #001

NMOCD Tracking #: nKJ1600727914, nOY1711838821

Project #: 23E-04815

Lab Reports: 2309637, 2309763, 2369918, 2309971, 2310830, 2312F02, and 2312F03

Table 3 . Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater 100- 500 feet bgs										
Sample Description			Laboratory Results							
Sample ID	Depth (ft)	Sample Date	Petroleum Hydrocarbons							Inorganic Chloride Concentration (mg/kg)
			Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
BH23-01	0	September 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	September 11, 2023	ND	ND	ND	ND	ND	ND	ND	71
BH23-02	0	September 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-03	0	September 11, 2023	ND	ND	ND	ND	ND	ND	ND	1400
	2	September 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	September 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-04	0	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	100
	4	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	450
BH23-05	0	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	230
	2	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	600
	4	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	1600
	5	September 14, 2023	ND	ND	ND	ND	ND	ND	ND	230
BH23-06	0	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	680
	2	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	180
	4	September 12, 2023	ND	ND	ND	14	ND	14	14	150
BH23-07	0	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	1100
	2	September 12, 2023	ND	ND	ND	12	ND	12	12	370
	4	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	200
BH23-08	0	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	690
	2	September 12, 2023	ND	ND	ND	11	ND	11	11	190
	4	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	130
BH23-09	0	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	170
	2	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	62
	4	September 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-10	0	September 14, 2023	ND	ND	ND	ND	ND	ND	ND	240
	2	September 14, 2023	ND	ND	ND	ND	ND	ND	ND	98
BH23-11	0	September 14, 2023	ND	ND	ND	ND	ND	ND	ND	240
	2	September 14, 2023	ND	ND	ND	ND	ND	ND	ND	250

Client Name: Devon Energy Production Company, LP

Site Name: Rattlesnake Federal Unit #001

NMOCD Tracking #: nKJ1600727914, nOY1711838821

Project #: 23E-04815

Lab Reports: 2309637, 2309763, 2369918, 2309971, 2310830, 2312F02, and 2312F03

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Sample Description			Laboratory Results							
Sample ID	Depth (ft)	Sample Date	Petroleum Hydrocarbons							Inorganic Chloride Concentration
			Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
BH23-12	0	September 14, 2023	ND	ND	ND	ND	ND	ND	ND	170
	2	September 14, 2023	ND	ND	ND	53	87	53	140	1700
	4	September 14, 2023	ND	ND	ND	270	470	270	740	3100
	6	December 20, 2023	ND	ND	ND	ND	ND	ND	ND	1500
	8	December 20, 2023	ND	ND	ND	ND	ND	ND	ND	570
BH23-13	0	September 14, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 14, 2023	ND	ND	ND	ND	ND	ND	ND	160
	4	September 14, 2023	ND	ND	ND	ND	ND	ND	ND	360
BH23-14	0	September 14, 2023	ND	ND	ND	ND	ND	ND	ND	4600
	2	September 14, 2023	ND	ND	ND	33	ND	33	33	620
	4	September 14, 2023	ND	ND	ND	ND	ND	ND	ND	550
BH23-15	0	September 15, 2023	ND	ND	ND	ND	ND	ND	ND	0
	2	September 15, 2023	ND	ND	ND	370	510	370	880	2100
	4	December 20, 2023	ND	ND	ND	ND	ND	ND	ND	460
	6	December 20, 2023	ND	ND	ND	ND	ND	ND	ND	450
	8	December 20, 2023	ND	ND	ND	ND	ND	ND	ND	470
BH23-16	0	September 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 15, 2023	ND	ND	ND	ND	ND	ND	ND	810
	3	September 15, 2023	ND	ND	ND	ND	ND	ND	ND	1900
BH23-17	0	September 15, 2023	ND	ND	ND	ND	ND	ND	ND	2600
	2	September 15, 2023	ND	ND	ND	10	ND	10	10	2000
	4	September 15, 2023	ND	ND	ND	ND	ND	ND	ND	2000
	6	December 21, 2023	ND	ND	ND	ND	ND	ND	ND	1800
	8	December 21, 2023	ND	ND	ND	ND	ND	ND	ND	2100
BH23-18	0	September 15, 2023	ND	ND	ND	ND	ND	ND	ND	680
	2	September 15, 2023	ND	ND	ND	ND	ND	ND	ND	780
	4	September 15, 2023	ND	ND	ND	ND	ND	ND	ND	2000
	6	December 21, 2023	ND	ND	ND	ND	ND	ND	ND	170
BH23-19	0	October 14, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	October 14, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-20	0	October 14, 2023	ND	ND	ND	ND	ND	ND	ND	310
	2	October 14, 2023	ND	ND	ND	ND	ND	ND	ND	150
BH23-21	0	October 16, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	October 16, 2023	ND	ND	ND	ND	ND	ND	ND	120

Client Name: Devon Energy Production Company, LP

Site Name: Rattlesnake Federal Unit #001

NMOCD Tracking #: nKJ1600727914, nOY1711838821

Project #: 23E-04815

Lab Reports: 2309637, 2309763, 2369918, 2309971, 2310830, 2312F02, and 2312F03

Table 3 . Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater 100- 500 feet bgs										
Sample Description			Laboratory Results							
Sample ID	Depth (ft)	Sample Date	Petroleum Hydrocarbons							Inorganic Chloride Concentration
			Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
BH23-22	0	October 16, 2023	ND	ND	ND	ND	ND	ND	ND	560
	2	October 16, 2023	ND	ND	ND	ND	ND	ND	ND	510
BH23-23	0	October 16, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	October 16, 2023	ND	ND	ND	14	ND	14	14	240
BH23-24	0	October 16, 2023	ND	ND	ND	ND	ND	ND	ND	540
	2	October 16, 2023	ND	ND	ND	28	ND	28	28	180
BH23-25	0	October 16, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	October 16, 2023	ND	ND	ND	20	ND	20	20	ND
	4	October 16, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	5	October 16, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-27	0	December 21, 2023	ND	ND	ND	ND	ND	ND	ND	67
	2	December 21, 2023	ND	ND	ND	ND	ND	ND	ND	65
BH23-28	0	December 21, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	December 21, 2023	ND	ND	ND	ND	ND	ND	ND	ND

"ND" Not Detected at the Reporting Limit

"- " indicates not analyzed/assessed

Bold and grey shaded indicates exceedance outside of NMOCD Remediation Closure Criteria

Bold and green shaded indicates exceedance outside of NMOCD Reclamation Closure Criteria

Client Name: Devon Energy Production Company, LP  
 Site Name: Rattlesnake Federal Unit #001  
 NMOC Tracking #: nOY1711838821 and nKJ1600727914  
 Project #: 24E-04918  
 Lab Report #: E412065, E412066, E412067, E412068, and H250259

Table 4. Confirmation Sample Laboratory Results

Table 4. Confirmation Sample Laboratory Results										
Sample Description			Petroleum Hydrocarbons							Inorganic  Chloride Concentration
Sample ID	Depth (ft)	Sample Date	Volatile		Extractable					
			Benzene  (mg/kg)	BTEX (Total)  (mg/kg)	Gasoline Range Organics (GRO)  (mg/kg)	Diesel Range Organics (DRO)  (mg/kg)	Motor Oil Range Organics (MRO)  (mg/kg)	(GRO + DRO)  (mg/kg)	Total Petroleum Hydrocarbons (TPH)  (mg/kg)	
Depth to Groundwater >100'										
BS24-01	1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	228
BS24-02	1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	224
BS24-03	1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	168
BS24-04	1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	187
BS24-05	1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	149
BS24-06	1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	169
BS24-07	1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	201
BS24-08	1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	154
BS24-09	1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	127
BS24-10	1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	148
BS24-11	1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	196
BS24-12	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	122
BS24-13	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	90.4
BS24-14	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	40
BS24-15	1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	77
BS24-16	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	ND
BS24-17	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	ND
BS24-18	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	ND
BS24-19	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	92.1
BS24-20	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	101
BS24-21	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	ND
BS24-22	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	81.8
BS24-23	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	87.3
BS24-24	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	ND
BS24-25	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	20.3
BS24-26	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	65.9
BS24-27	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	126
BS24-28	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	32.1
BS24-29	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	140
BS24-30	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	89.2
BS24-31	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	185
BS24-32	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	72
BS24-33	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	ND
BS24-34	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	189
BS24-35	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	245
BS24-36	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	89.3
BS24-37	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	135
BS24-38	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	62
BS24-39	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	ND

Client Name: Devon Energy Production Company, LP  
 Site Name: Rattlesnake Federal Unit #001  
 NMOC Tracking #: nOY1711838821 and nKJ1600727914  
 Project #: 24E-04918  
 Lab Report #: E412065, E412066, E412067, E412068, and H250259

Table 4. Confirmation Sample Laboratory Results

Sample Description			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile		Extractable					
			Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)				
Depth to Groundwater >100'										
BS24-40	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	29
BS24-41	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	79.5
BS24-42	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	106
BS24-43	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	121
BS24-44	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	106
BS24-45	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	ND
BS24-46	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	79.1
BS24-47	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	56
BS24-48	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	91
BS24-49	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	246
BS24-50	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	83.3
BS24-51	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	181
BS24-52	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	38.9
BS24-53	4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	87.5
BS24-54	3	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	209
BS24-55	3	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	158
BS24-56	3	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	94.2
BS24-57	3	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	129
BS24-58	3	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	23
BS24-59	3	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	ND
WS24-01	0-4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	108
WS24-02	0-4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	83.4
WS24-03	0-4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	44.7
WS24-04	0-4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	78.3
WS24-05	0-4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	163
WS24-06	0-4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	81.4
WS24-07	0-4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	160
WS24-08	0-4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	200
WS24-09	0-3	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	60.9
WS24-10	0-4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	227
WS24-11	0-4.1	December 5, 2024	ND	ND	ND	ND	ND	ND	ND	168
Backfill	0	December 5, 2024	ND	ND	ND	832	430	832	1262	136
Backfill-2	0	January 14, 2025	ND	ND	ND	ND	ND	ND	ND	64

"ND" Not Detected at the Reporting Limit

"-" indicates not analyzed/assessed

**Bold and grey shaded indicates exceedance outside of NMOC Remediation Closure Criteria**

**Bold and green shaded indicates exceedance outside OCD NM Reclamation Closure Criteria**



## **APPENDIX A - NMOCD C-141 Reports**

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

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 8, 2011  
Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

## Release Notification and Corrective Action

### OPERATOR

☒ Initial Report ☐ Final Report

<b>Name of Company</b> Devon Energy Production Company	<b>Contact</b> Randy Gladden, Production Foreman
<b>Address</b> 6488 Seven Rivers Hwy Artesia, NM 88210	<b>Telephone No.</b> 575-513-9463
<b>Facility Name</b> Rattlesnake Federal Unit 1	<b>Facility Type</b> Oil
<b>Surface Owner</b> Federal	<b>Mineral Owner</b> Federal
<b>API No</b> 30-025-36928	

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	26	26S	34E	1100	North	1980	East	Lea

**Latitude:** N 32°01'06.8"

**Longitude:** W 103°26'18.8"

### NATURE OF RELEASE

<b>Type of Release Spill</b> Produced Water	<b>Volume of Release</b> 10 BBLS	<b>Volume Recovered</b> 7 BBLS
<b>Source of Release</b> Stuffing box on well head	<b>Date and Hour of Occurrence</b> 12/24/2015 @ 12:30pm	<b>Date and Hour of Discovery</b> 12/24/2015 @ 12:30pm
<b>Was Immediate Notice Given?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	<b>If YES, To Whom?</b> BLM Jim Amos OCD Kellie Jones	
<b>By Whom?</b> Randy Gladden, Production Foreman	<b>Date and Hour</b> BLM 12/24/15 @ 1:35pm OCD 12/24/15 @ 1:45pm	
<b>Was a Watercourse Reached?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If YES, Volume Impacting the Watercourse</b> N/A	
<b>If a Watercourse was Impacted, Describe Fully.*</b> N/A		

**RECEIVED**

By Kellie Jones at 7:43 am, Jan 07, 2016


#### Describe Cause of Problem and Remedial Action Taken.\*

Well had been shut in and upon pressuring up the well to return it to production, produced water was released from stuffing box on the well head. Rod rams were shut and the BOP (Blow Out Preventer) was screwed in immediately to prevent further release of produced water.

#### Describe Area Affected and Cleanup Action Taken.\*

10 BBLS of produced water was released affecting an area approximately 10ft x 60ft on the east side of the location. A Vacuum truck recovered 7 BBLS of produced water. All released produced water stayed on location. Environmental agency will be contacted for remediation.

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

<b>Signature:</b> Sarah Gallegos-Troublefield	<b>OIL CONSERVATION DIVISION</b>	
<b>Printed Name:</b> Sarah Gallegos-Troublefield	<b>Approved by Environmental Specialist:</b> 	
<b>Title:</b> Field Admin Support	<b>Approval Date:</b> 01/07/2016	<b>Expiration Date:</b> 03/07/2016
<b>E-mail Address:</b> Sarah.Gallegos-Troublefield@dmv.com	<b>Conditions of Approval:</b>	
<b>Date:</b> 1/05/2016 <b>Phone:</b> 575.748.1864	Site samples required. Delineate and remediate as per MNOCD guides. Geotag photographs of remediation recommended.	
		<b>Attached</b> <input type="checkbox"/> 1RP-4081

\* Attach Additional Sheets If Necessary

nKJ1600727914  
pKJ1600728070

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

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 8, 2011  
Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

## Release Notification and Corrective Action

### OPERATOR

☒ Initial Report ☐ Final Report

<b>Name of Company</b> Devon Energy Production Company	<b>Contact</b> Randy Gladden, Production Foreman
<b>Address</b> 6488 Seven Rivers Hwy Artesia, NM 88210	<b>Telephone No.</b> 575-513-9463
<b>Facility Name</b> Rattlesnake Federal Unit #001	<b>Facility Type</b> Oil
<b>Surface Owner</b> Federal	<b>Mineral Owner</b> Federal
<b>API No</b> 30-025-36928	

### LOCATION OF RELEASE

Unit Letter B	Section 26	Township 26S	Range 34E	Feet from the 1100	North/South Line FNL	Feet from the 1980	East/West Line FEL	County Lea
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**Latitude:** 32.0185623

**Longitude:** 103.4385986

### NATURE OF RELEASE

<b>Type of Release</b> Oil	<b>Volume of Release</b> 19.5BBLS oil	<b>Volume Recovered</b> 0.00
<b>Source of Release</b> Hole in oil tank	<b>Date and Hour of Occurrence</b> 4/6//2017 @ 7:23am	<b>Date and Hour of Discovery</b> 4/6/2017 @ 7:23am
<b>Was Immediate Notice Given?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	<b>If YES, To Whom?</b> BLM-Shelly Tucker OCD-Olivia Yu	
<b>By Whom?</b> Christopher West, Assistant Production Foreman	<b>Date and Hour</b> BLM-4/6/2017 @ 11:45AM OCD-4/6/2017 @ 11:46AM	
<b>Was a Watercourse Reached?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If YES, Volume Impacting the Watercourse</b> N/A	
<b>If a Watercourse was Impacted, Describe Fully.*</b> N/A		

**RECEIVED**

*By Olivia Yu at 10:36 am, Apr 28, 2017*


#### Describe Cause of Problem and Remedial Action Taken.\*

A hole was discovered in the bottom of an oil tank which resulted in a release of 19.5BBLS of oil. No fluid was recovered from the containment. The well was already shut in (under engineer evaluation). A remediation contractor will be contacted to assist with delineation and remediation efforts.

#### Describe Area Affected and Cleanup Action Taken.\*

A hole was discovered in the bottom of an oil tank which resulted in a release of 19.5BBLS of oil. The total area affected by the release was 70' X 25'. A vacuum truck was called in to remove the remaining fluid from inside the tank. Repairs will be made to the tank.

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

<b>Signature:</b> Dana DeLaRosa	<b>OIL CONSERVATION DIVISION</b>	
<b>Printed Name:</b> Dana DeLaRosa	<b>Approved by Environmental Specialist:</b> 	
<b>Title:</b> Field Admin Support	<b>Approval Date:</b> 4/28/2017	<b>Expiration Date:</b>
<b>E-mail Address:</b> Dana.DeLaRosa@dv.com	<b>Conditions of Approval:</b> see attached directive	<b>Attached</b> <input checked="" type="checkbox"/>
<b>Date:</b> 04/17/2017 <b>Phone:</b> 575.746.5594		

\* Attach Additional Sheets If Necessary

1RP-4686

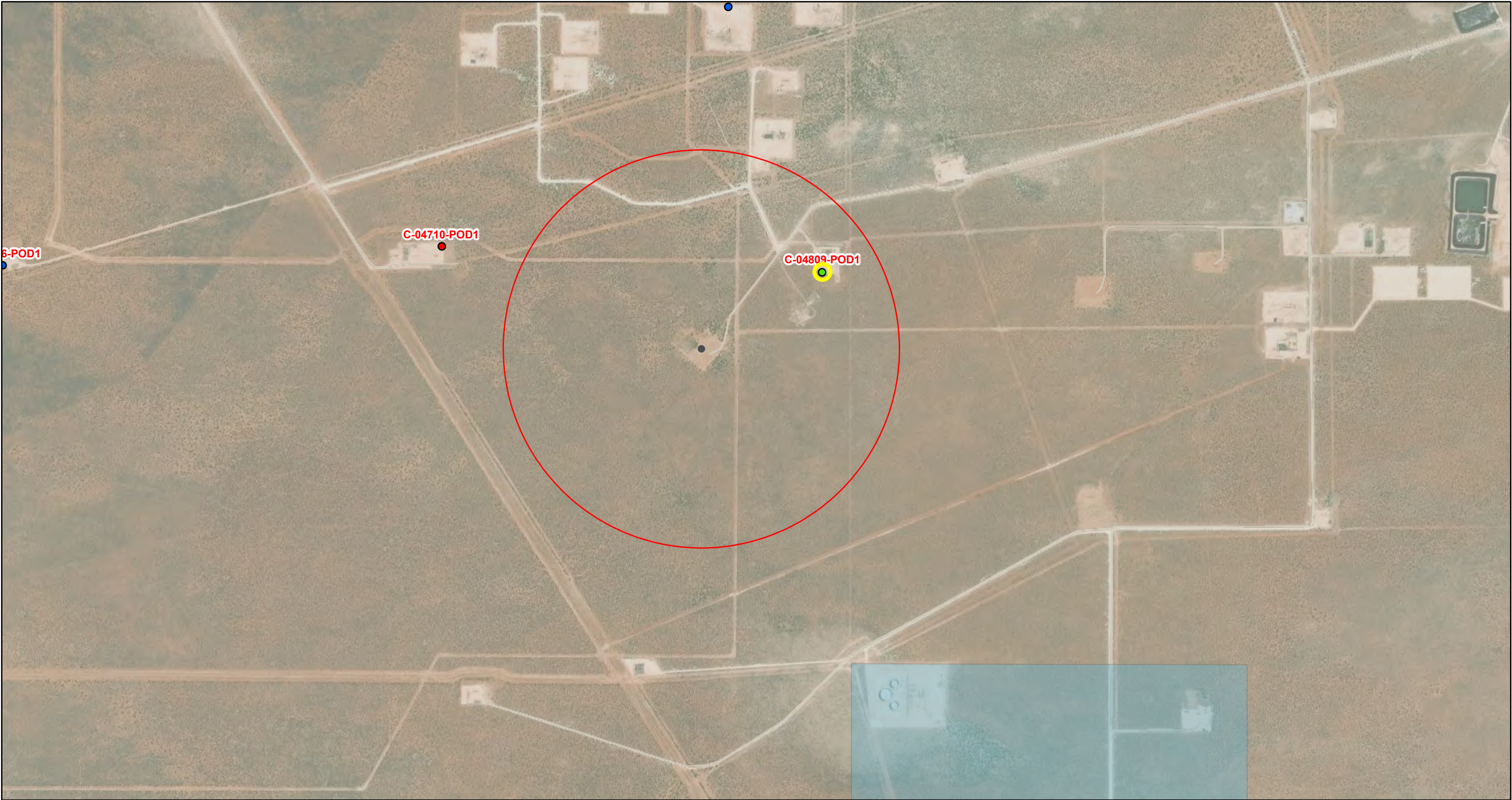
pOY1711839667

nOY1711838821

## **APPENDIX B – Closure Criteria Research Documentation**



# OSE POD 0.5 miles

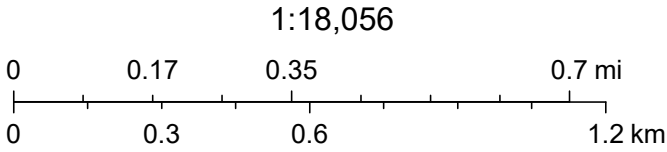


1/19/2025, 5:30:57 PM

GIS WATERS PODs

- Active
- Plugged
- Pending
- OSE District Boundary

- Water Right Regulations
- Closure Area
  - New Mexico State Trust Lands
  - Both Estates



Esri, HERE, iPC, Esri, HERE, Garmin, iPC, Maxar



Water Column/Average Depth to Water

<div>(A CLW##### in the POD suffix indicates the POD has been replaced &amp; no longer serves a water right file.)</div> <div>(R=POD has been replaced, O=orphaned, C=the file is closed)</div> <div>(quarters are smallest to largest)</div> <div>(NAD83 UTM in meters)</div> <div>(In feet)</div> <div>(In feet)</div> <div>(In feet)</div>																	
POD Number	Code	Sub basin	County	Q64	Q16	Q4	Sec	Tws	Range	X	Y	Map	Distance	Well Depth	Depth Water	Water Column	
<a href="#">C 04710 POD1</a>		CUB	LE	SE	SE	SE	22	26S	34E	646399.7	3543956.9		1133				
<a href="#">C 04856 POD1</a>		CUB	LE	NE	SW	NE	23	26S	34E	647550.6	3544940.3		1384	105			
<a href="#">C 04817 POD1</a>		CUB	LE	SW	SE	SW	13	26S	34E	648499.2	3545657.3		2341	105			
<a href="#">C 04852 POD1</a>		CUB	LE	NE	NW	NE	24	26S	34E	649057.5	3545374.4		2417	55			
<a href="#">C 04836 POD1</a>		CUB	LE	SE	SE	SE	21	26S	34E	644618.7	3543853.3		2857	105			
<a href="#">C 04791 POD1</a>		CUB	LE	SE	SE	SE	13	26S	34E	649598.8	3545568.0		2933	60			
<a href="#">C 04583 POD1</a>		CUB	LE	SW	SW	SW	15	26S	34E	644919.7	3545643.4		3286	55			
<a href="#">C 04820 POD1</a>		CUB	LE	NE	NW	NW	13	26S	34E	648389.9	3547088.9		3650	55			
<a href="#">C 04890 POD1</a>		CUB	LE	SW	NW	NW	18	26S	35E	649642.3	3546842.3		3941	55	55	0	
														Average Depth to Water: <b>55 feet</b>			
														Minimum Depth: <b>55 feet</b>			
														Maximum Depth: <b>55 feet</b>			
<div><div></div></div>																	
<div><div><b>Record Count:</b> 9</div><div><b>UTM Filters (in meters):</b><div><b>Easting:</b> 647461</div><div><b>Northing:</b> 3543559</div><div><b>Radius:</b> 005000</div><div>* UTM location was derived from PLSS - see Help</div></div></div>																	

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Active & Inactive Points of Diversion  
(with Ownership Information)

WR File Nbr	(acre ft per annum)				County	POD Number	Well Tag	Code	Grant	Source	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)		(meters)	
	Sub basin	Use	Diversion	Owner							q64	q16	q4	Sec	Tws	Range	X	Y	Map	Distance
<a href="#">C 04809</a>	CUB	MON	0.000	DEVON ENERGY PRODUCTION CO.	LE	<a href="#">C 04809 POD1</a>	NA				NE	NE	NE	26	26S	34E	647948.9	3543876.1		581.9
<a href="#">C 04710</a>	CUB	MON	0.000	DEVON ENERGY	LE	<a href="#">C 04710 POD1</a>	NA				SE	SE	SE	22	26S	34E	646399.7	3543956.9		1,133.4
<a href="#">C 04856</a>	CUB	EXP	0.000	DEVON ENDERY PRODUCTION CO.	LE	<a href="#">C 04856 POD1</a>	NA				NE	SW	NE	23	26S	34E	647550.6	3544940.3		1,384.2
<a href="#">C 04817</a>	CUB	MON	0.000	DEVON ENERGY RESOURCES	LE	<a href="#">C 04817 POD1</a>	NA				SW	SE	SW	13	26S	34E	648499.2	3545657.3		2,341.1
<a href="#">C 04852</a>	CUB	EXP	0.000	RAYBAW OPERATING, LLC	LE	<a href="#">C 04852 POD1</a>	NA				NE	NW	NE	24	26S	34E	649057.5	3545374.4		2,417.5
<a href="#">C 04836</a>	CUB	MON	0.000	DEVON ENERGY PRODUCTION COMPAN	LE	<a href="#">C 04836 POD1</a>	NA				SE	SE	SE	21	26S	34E	644618.7	3543853.3		2,857.5
<a href="#">C 04791</a>	CUB	MON	0.000	DEVON ENERGY RESOURCES	LE	<a href="#">C 04791 POD1</a>	NA				SE	SE	SE	13	26S	34E	649598.8	3545568.0		2,933.6
<a href="#">C 04583</a>	CUB	MON	0.000	LUCID ENERGY GROUP	LE	<a href="#">C 04583 POD1</a>	NA				SW	SW	SW	15	26S	34E	644919.7	3545643.4		3,286.8
<a href="#">C 04820</a>	CUB	MON	0.000	DEVON ENERGY	LE	<a href="#">C 04820 POD1</a>	NA				NE	NW	NW	13	26S	34E	648389.9	3547088.9		3,650.1
<a href="#">C 04890</a>	CUB	MON	0.000	OWL OPERATING SWD, LLC	LE	<a href="#">C 04890 POD1</a>	NA				SW	NW	NW	18	26S	35E	649642.3	3546842.3		3,941.8
<a href="#">C 04601</a>	CUB	MON	0.000	MARATHON OIL	LE	<a href="#">C 04601 POD1</a>	NA				SW	SE	SW	05	26S	35E	651709.8	3548919.7		6,840.3
<a href="#">C 04827</a>	CUB	MON	0.000	TETRA TECH ON BEHALF OF CONOCO PHILLIPS	LE	<a href="#">C 04827 POD1</a>	NA				NW	SW	SW	08	26S	34E	641658.9	3547317.7		6,913.2
<a href="#">C 04846</a>	CUB	MON	0.000	DEVON ENERGY CORP.	LE	<a href="#">C 04846 POD1</a>	NA				SW	NE	NW	06	26S	35E	650048.2	3550110.5		7,043.8
<a href="#">C 04626</a>	CUB	EXP	0.000	DEVON ENERGY	LE	<a href="#">C 04626 POD1</a>	NA				SE	NE	NW	18	26S	34E	640644.5	3546672.6		7,493.9
<a href="#">C 04793</a>	CUB	EXP	0.000	DEVON ENERGY RESOURCES	LE	<a href="#">C 04793 POD1</a>	NA				NW	SE	NW	27	26S	35E	655087.8	3543576.1		7,626.8
<a href="#">C 02295</a>	CUB	PLS	3.000	INTREPID POTASH NEW MEXICO LLC	LE	<a href="#">C 02295</a>					NE	NE	SE	12	26S	33E	639864.9	3547624.4		8,615.6
<a href="#">C 03442</a>	C	STK	3.000	INTREPID POTASH NEW MEXICO LLC	LE	<a href="#">C 03442 POD1</a>				Shallow	SE	NW	NE	06	26S	34E	641055.8	3550028.1		9,103.6
<a href="#">C 03477</a>	C	PRO	0.000	EOG RESOURCES, INC.	LE	<a href="#">C 03442 POD1</a>				Shallow	SE	NW	NE	06	26S	34E	641055.8	3550028.1		9,103.6
<a href="#">C 03492</a>	C	PRO	0.000	EOG RESOURCES, INC	LE	<a href="#">C 03442 POD1</a>				Shallow	SE	NW	NE	06	26S	34E	641055.8	3550028.1		9,103.6
<a href="#">C 02292</a>	CUB	PLS	3.000	DINWIDDIE CATTLE CO.	LE	<a href="#">C 02292 POD1</a>					SE	NW	NE	06	26S	34E	640991.6	3549987.2		9,120.0
<a href="#">C 03493</a>	C	PRO	0.000	EOG RESOURCES, INC.	LE	<a href="#">C 02292 POD1</a>					SE	NW	NE	06	26S	34E	640991.6	3549987.2		9,120.0
<a href="#">C 03441</a>	C	STK	3.000	INTREPID POTASH NEW MEXICO LLC	LE	<a href="#">C 03441 POD1</a>				Shallow	SE	NW	NE	06	26S	34E	640970.7	3550039.6		9,171.8
<a href="#">C 03491</a>	C	PRO	0.000	EOG RESOURCES, INC	LE	<a href="#">C 03441 POD1</a>				Shallow	SE	NW	NE	06	26S	34E	640970.7	3550039.6		9,171.8
<a href="#">C 02291</a>	CUB	PLS	3.000	INTREPID POTASH NEW MEXICO LLC	LE	<a href="#">C 02291</a>					NW	NW	NE	06	26S	34E	640825.0	3550140.0 *		9,345.9
<a href="#">C 04265</a>	CUB	GEO	0.000	EOG RESOUCES	LE	<a href="#">C 04265 POD1</a>	NA				NE	SW	NW	32	25S	34E	641842.1	3551281.5		9,550.3

Record Count: 25

Filters Applied:

UTM Filters (in meters):

Easting: 647461

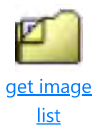
Northing: 3543559

Radius: 010000

Sorted By: Distance

\* UTM location was derived from PLSS - see Help

# Water Right Summary



WR File Number:	C 04809	Subbasin:	CUB	Cross Reference:
Primary Purpose:	MON MONITORING WELL			
Primary Status:	PMT Permit			
Total Acres:		Subfile:	Header:	
Total Diversion:	0.000	Cause/Case:		
Owner:	ENSOLUM LLC	Owner Class:	Agent	
Contact:	ASHLEY GIOVENGO			
Owner:	DEVON ENERGY PRODUCTION CO.	Owner Class:	User	
Contact:	DALE WOODALL			

## Documents on File

(acre-feet per annum)										
Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
<a href="#">get images</a>	<a href="#">755944</a>	EXPL	2024-02-09	PMT	APR	C-4809 POD1	T	0.000	0.000	

## Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
<a href="#">C 04809 POD1</a>	NA		NE	NE	NE	26	26S	34E	647948.9	3543876.1		BH01

\* UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.





# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1		WELL TAG ID NO. N/A		OSE FILE NO(S) C-04809			
	WELL OWNER NAME(S) Devon Energy Production Company				PHONE (OPTIONAL) 575-748-1838			
	WELL OWNER MAILING ADDRESS 205 E. Bender Road #150				CITY Hobbs	STATE Nm	ZIP 88240	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 1	SECONDS 16.8594 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND			
	LONGITUDE -103	26	0.186 W	* DATUM REQUIRED: WGS 84				
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE Unit P, Section 23, Township 26S, Range 34E, Lea County, New Mexico								
2. DRILLING & CASING INFORMATION	LICENSE NO. WD1188		NAME OF LICENSED DRILLER John Scarborough			NAME OF WELL DRILLING COMPANY John Scarborough Drilling Inc.		
	DRILLING STARTED 03/05/2024	DRILLING ENDED 03/05/2024	DEPTH OF COMPLETED WELL (FT) 102	BORE HOLE DEPTH (FT) 102	DEPTH WATER FIRST ENCOUNTERED (FT) N/A			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) N/A			
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl) FROM TO		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	0	102	5.00	Soil Boring	-	-	-	-
3. ANNULAR MATERIAL	DEPTH (feet bgl) FROM TO		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
				N/A				

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 1 OF 2

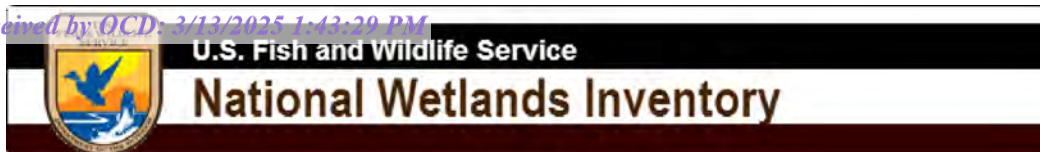
4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	10	10		Y ✓ N	
	10	20	10	Sand, trace gravel, brown to tan, med to fine grain, nonuniform	Y ✓ N	
	20	30	10	Sand with gravel, red to tan, med to fine grain, small to large gravel	Y ✓ N	
	30	40	10	Sandy clay, med to dark brown, noncohesive, uniform	Y ✓ N	
	40	50	10	Sand, light to med brown, fine to medium grain, noncohesive, uniform	Y ✓ N	
	50	60	10	Sand, light to red, fine to med grain size, noncohesive, uniform	Y ✓ N	
	60	70	10	Sand with trace gravel, grey, mostly medium, to fine, noncohesive, nonuniform	Y ✓ N	
	70	80	10	Sandy clay, grey to med brown, fine to very fine grain size, noncohesive	Y ✓ N	
	80	90	10	Caliche, white to grey, thickly bedded, interbedded with sand	Y ✓ N	
	90	100	10	Caliche, brown to red thickly bedded, interbedded with brown to red sand	Y ✓ N	
	100	102	2	Sand with trace gravel, tan to light brown, fine to med fine grain	Y ✓ N	
	102	102	0	caliche, white to grey	Y ✓ N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:						
5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.				
	MISCELLANEOUS INFORMATION: Temporary well material removed and soil boring backfilled using drill cuttings from total depth to 10 ft below ground surface (bgs), then hydrated bentonite chips 10 ft bgs to ground surface.					
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Scott Scarborough					
6. SIGNATURE	BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.					
	Scott Scarborough	Digitally signed by Scott Scarborough Date: 2024.03.25 09:29:53 -06'00'	Scott Scarborough	03/25/2024		
SIGNATURE OF DRILLER / PRINT SIGNEE NAME				DATE		

FOR OSE INTERNAL USE

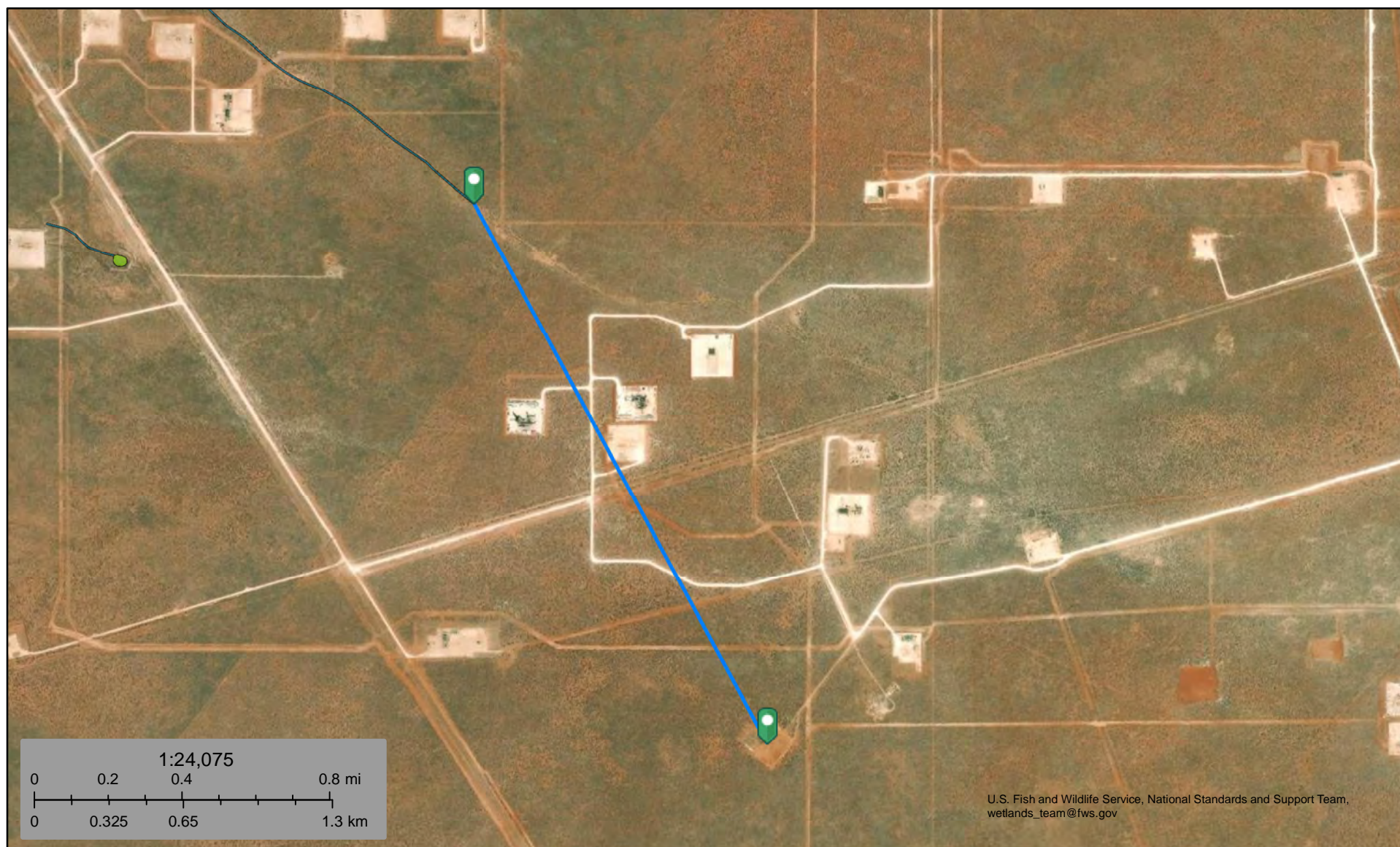
WR-20 WELL RECORD &amp; LOG (Version 04/30/2019)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2





# Rattlesnake Federal Unit #001 Watercourse 7,44ft



August 9, 2023

## Wetlands

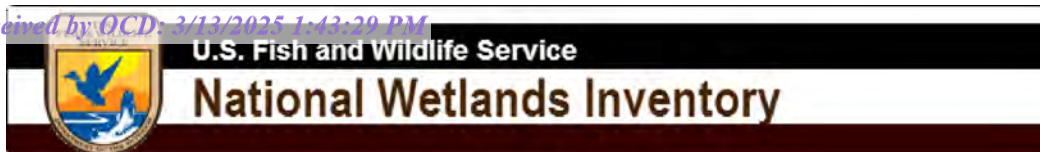
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

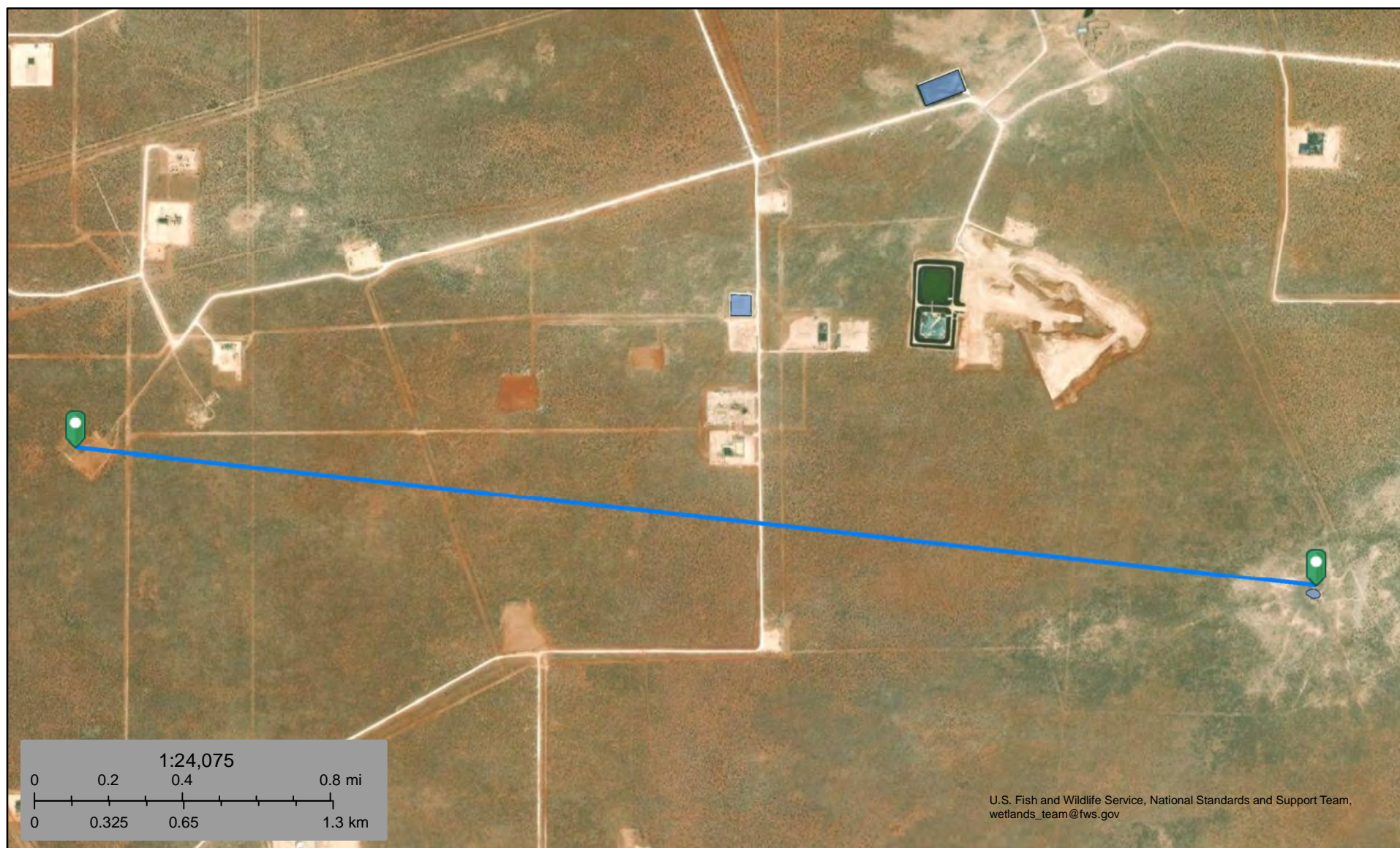
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.





# Rattlesnake Federal #001

## Pond 15,000 feet



August 9, 2023

### Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

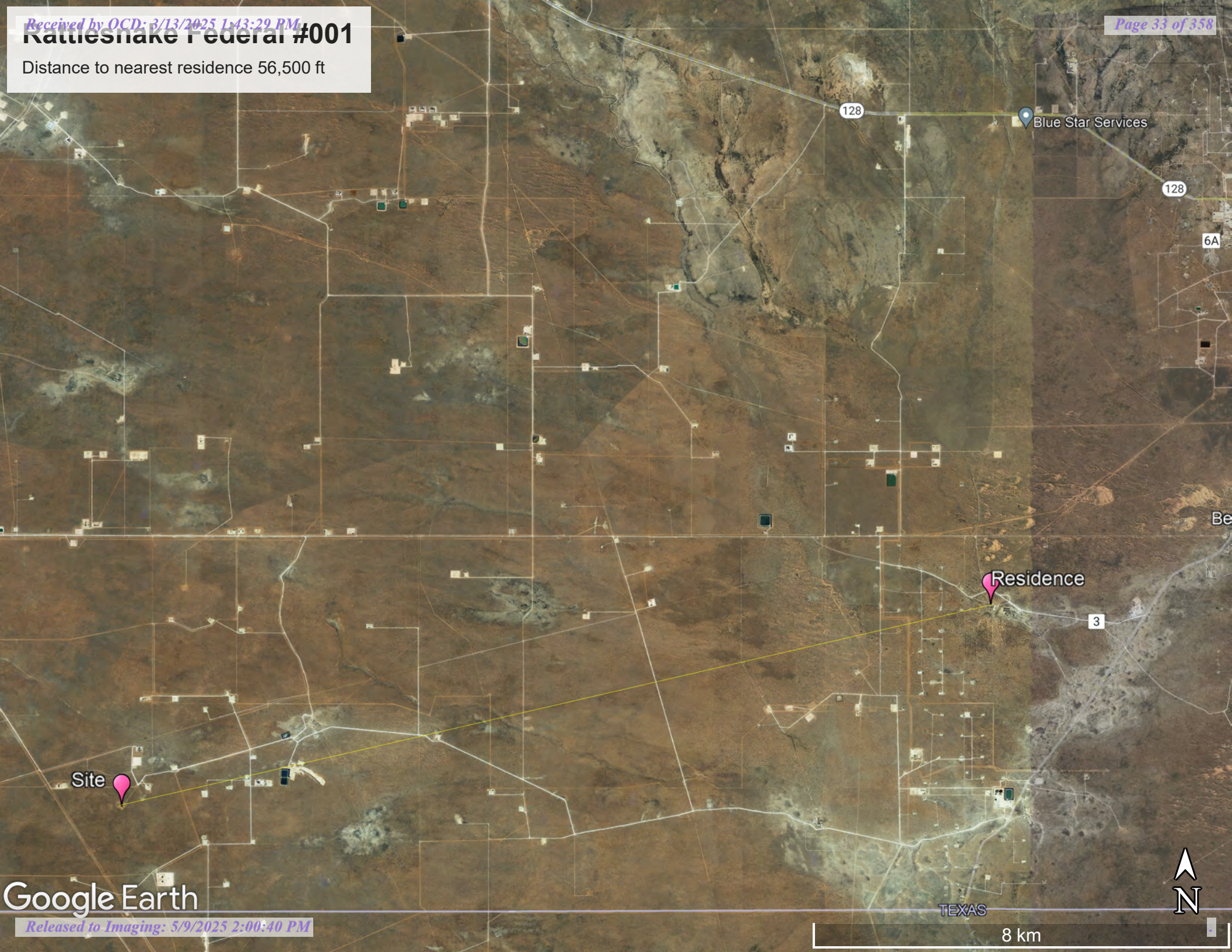
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



# Rattlesnake Federal #001

Distance to nearest residence 56,500 ft



Site

Residence

3

128

128

6A

Blue Star Services

Be

Google Earth

TEXAS

8 km






# Point of Diversion Summary

quarters are 1=NW 2=NE 3=SW 4=SE  
quarters are smallest to largest

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
	C 02295	NE	NE	SE	12	26S	33E	639864.9	3547624.4	

\* UTM location was derived from PLSS - see [Help](#)

Driller License:	122	Driller Company:	UNKNOWN
Driller Name:	UNKNOWN		
Drill Start Date:	Drill Finish Date:	1949-12-31	Plug Date:
Log File Date:	PCW Rcv Date:	Source:	
Pump Type:	Pipe Discharge Size:	Estimated Yield:	12
Casing Size:	8.00	Depth Well:	250
		Depth Water:	200

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Water Right Summary



[get image](#)  
[list](#)

WR File Number:	C 02295	Subbasin:	CUB	Cross Reference:
Primary Purpose:	PLS NON 72-12-1 LIVESTOCK WATERING			
Primary Status:	DCL Declaration			
Total Acres:	0.000	Subfile:	Header:	
Total Diversion:	3.000	Cause/Case:		
Owner:	INTREPID POTASH NEW MEXICO LLC	Owner Class:	Owner	
Contact:	KATIE KELLER			

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
<a href="#">.get images</a> <a href="#">673898</a>		UWL	2020-05-15	UWL	ACC	C 02295	T	0.000	0.000	
<a href="#">.get images</a> <a href="#">652904</a>		COWNF	2019-06-11	CHG	PRC	C 02295	T	0.000	0.000	
<a href="#">.get images</a> <a href="#">648787</a>		COWNF	2019-03-20	CHG	PRC	C 02295	T	0.000	0.000	
<a href="#">.get images</a> <a href="#">198381</a>		DCL	1993-02-02	DCL	PRC	C-02295	T	0.000	3.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
<a href="#">C 02295</a>			NE	NE	SE	12	26S	33E	639864.9	3547624.4		

\* UTM location was derived from PLSS - see Help

Priority Summary

Priority	Status	Acres	Diversion	POD Number	Source
1949-12-31	DCL	0.000	3.000	<a href="#">C 02295</a>	

Place of Use

Q256	Q64	Q16	Q4	Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
							0.000	3.000		PLS	1943-12-31	DCL	NO PLACE OF USE GIVEN

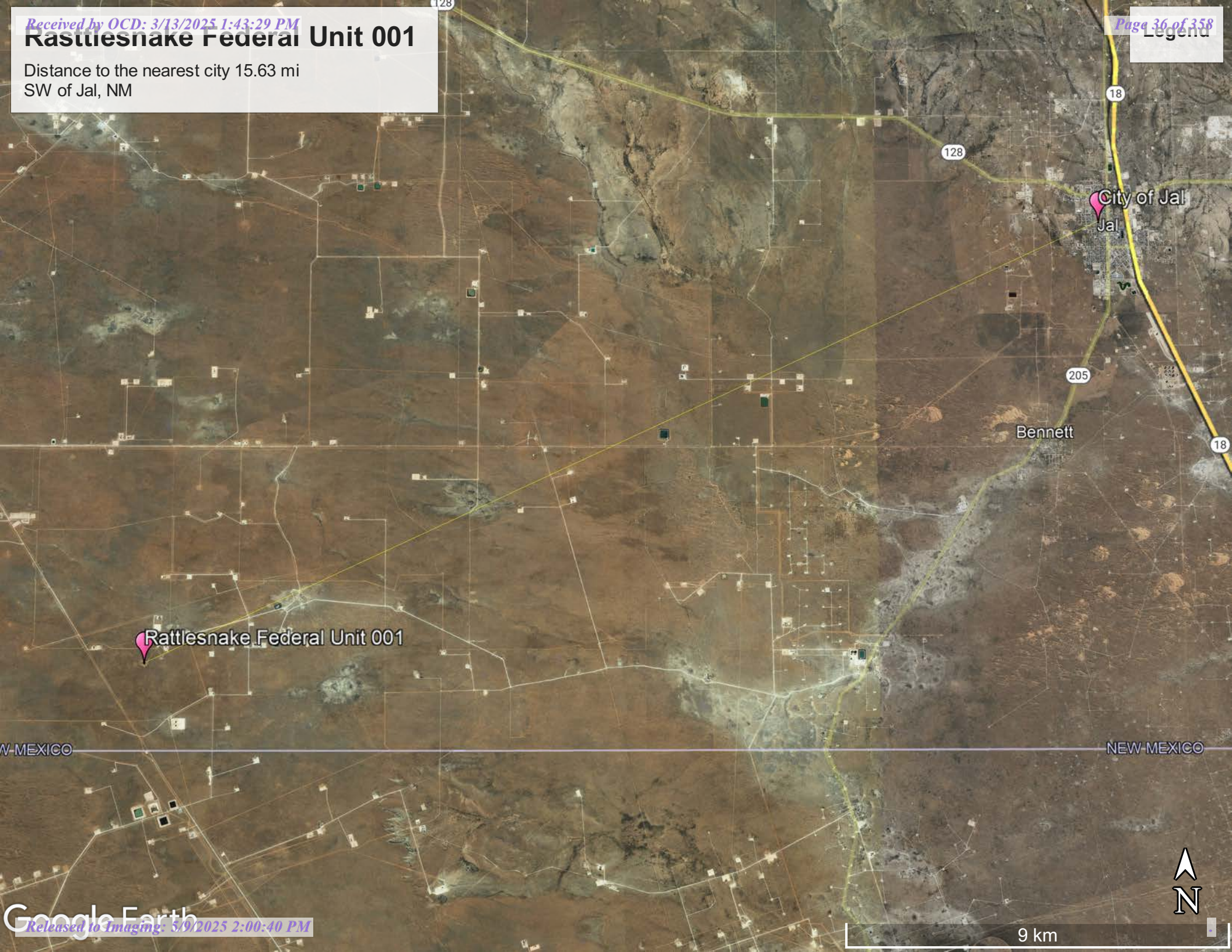
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



# Rattlesnake Federal Unit 001

Distance to the nearest city 15.63 mi  
SW of Jal, NM

Legend



Rattlesnake Federal Unit 001

Bennett

City of Jal  
Jal

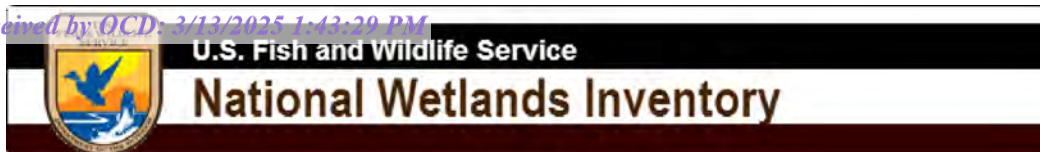
W MEXICO

NEW MEXICO



9 km





# Rattlesnake Federal Unit #001

## Wetland 9,727ft



August 9, 2023

### Wetlands

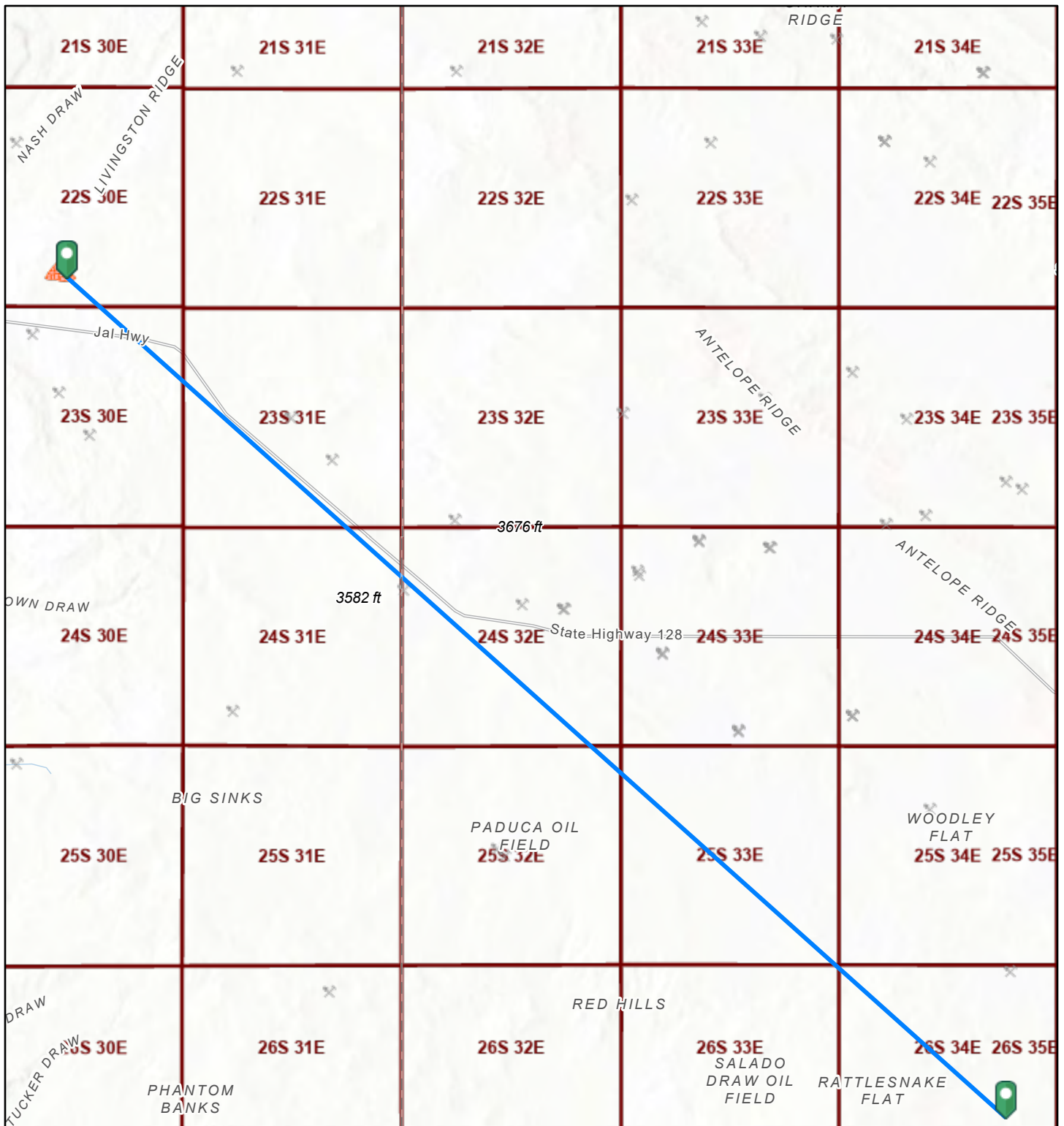
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

## Rattlesnake Federal #001 182,777 ft



1/19/2025, 4:50:38 PM

1:288,895

Registered Mines



Aggregate, Stone etc.



Aggregate, Stone etc.



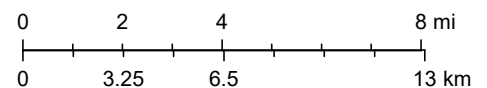
Potash



Aggregate, Stone etc.



PLSS Townships







Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, METI/  
NASA, USGS, EPA, NPS, USDA, USFWS, Esri, NASA, NGA, USGS, BLM

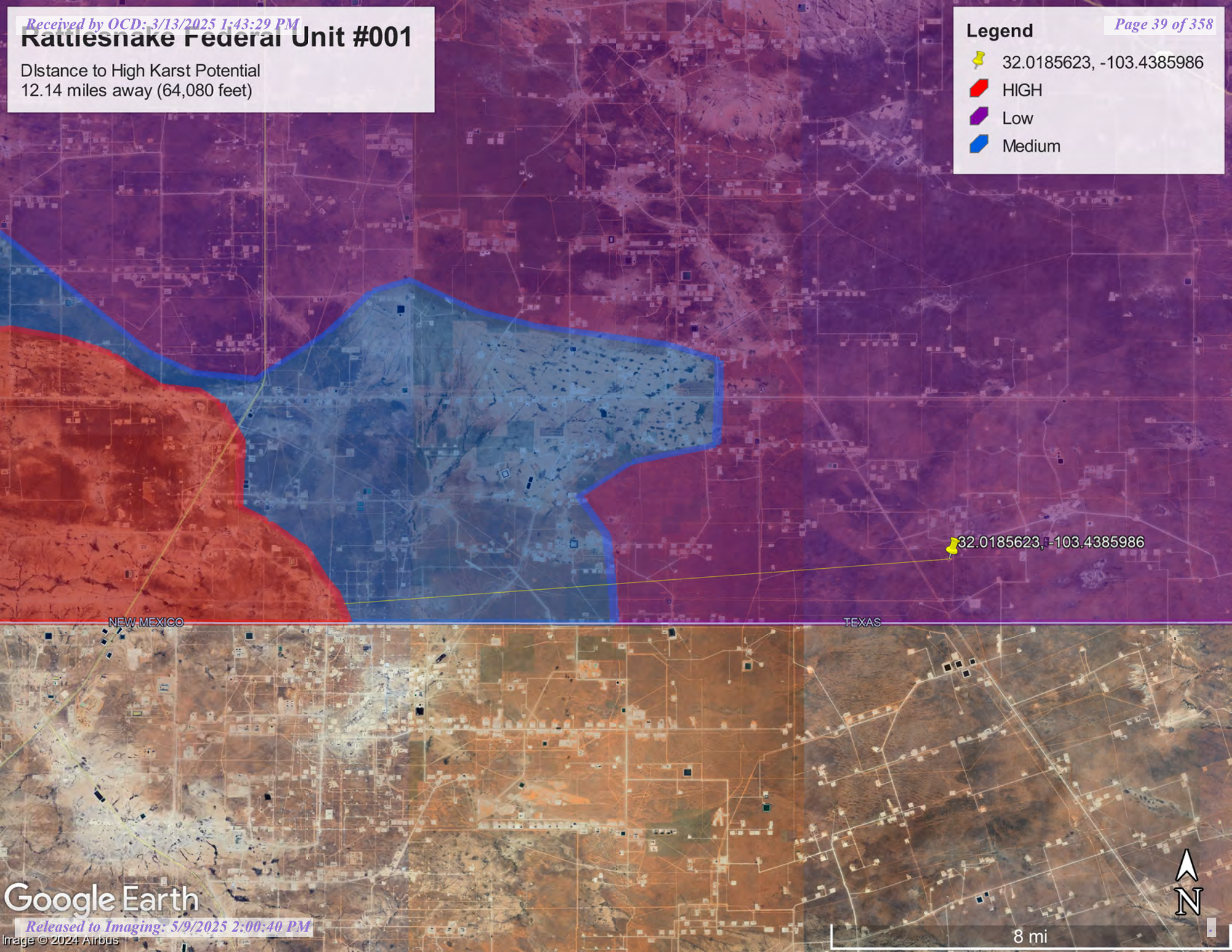


# Rattlesnake Federal Unit #001

Distance to High Karst Potential  
12.14 miles away (64,080 feet)

## Legend

-  32.0185623, -103.4385986
-  HIGH
-  Low
-  Medium



NEW MEXICO

TEXAS

Google Earth

Released to Imaging: 5/9/2025 2:00:40 PM

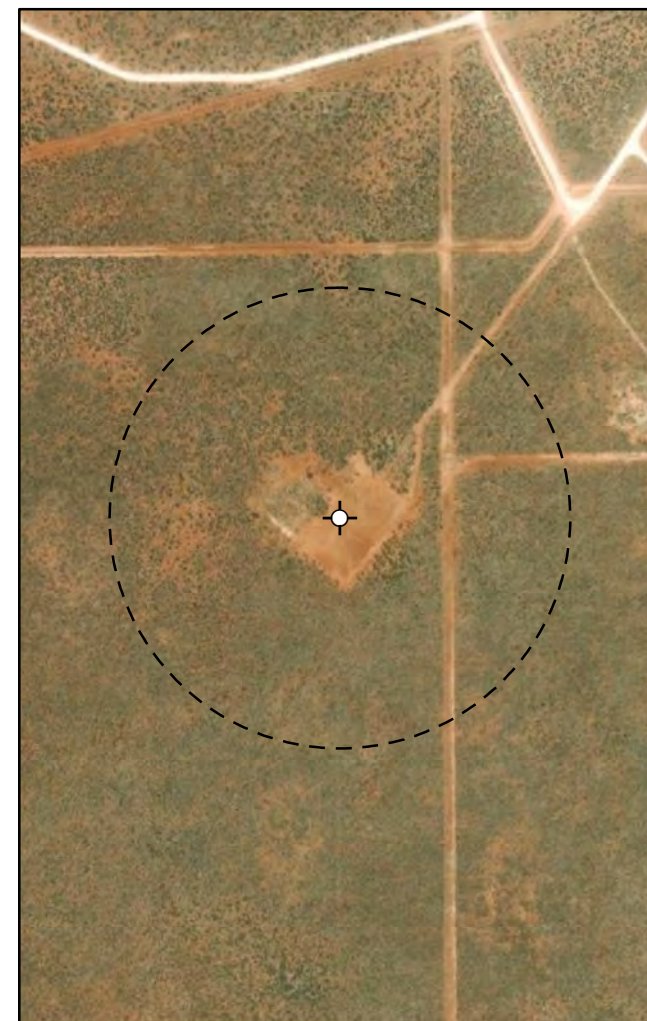
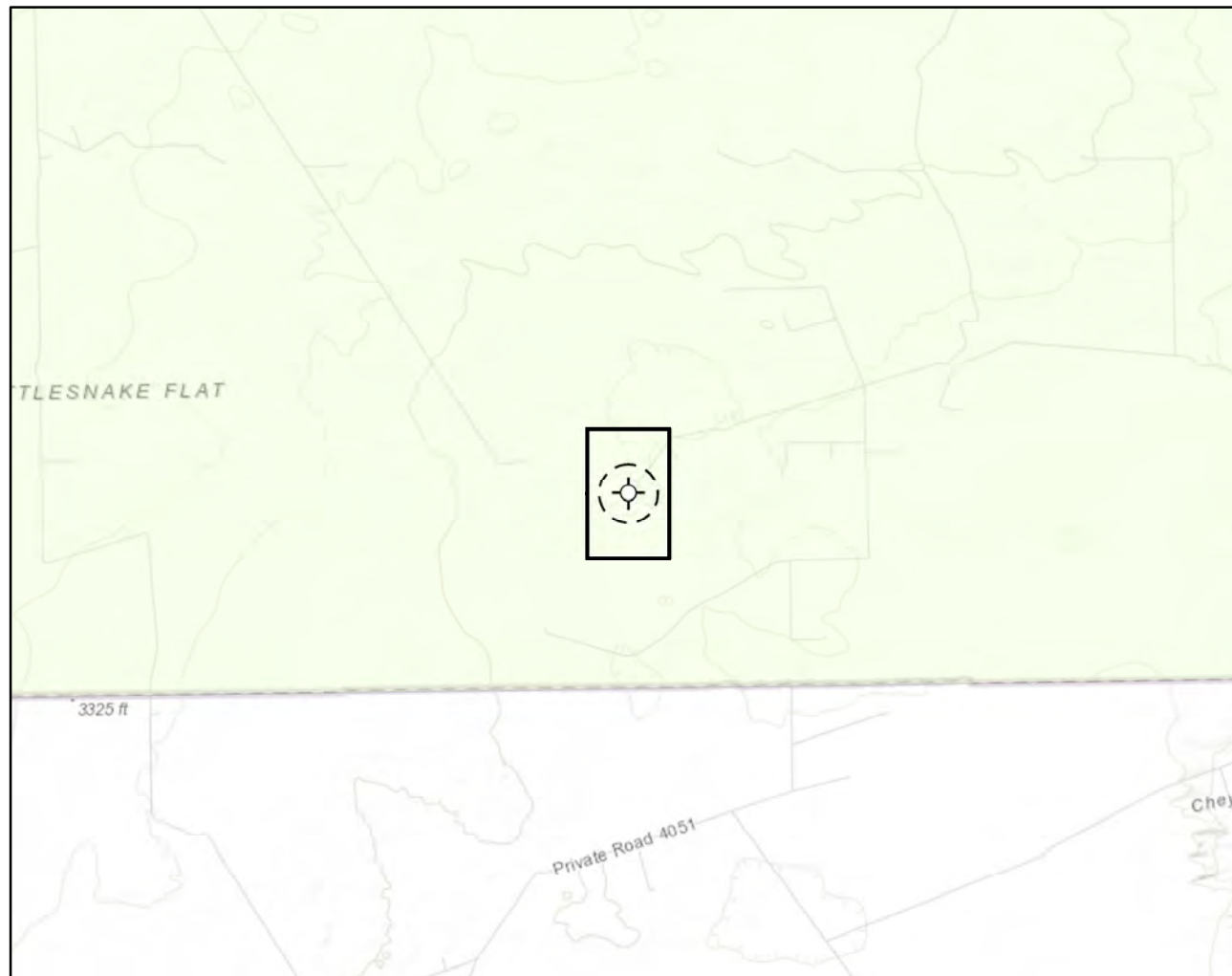
Image © 2024 Airbus

8 mi





Document Path: G:\Projects\US PROJECTS\Devon Energy Corporation\2023\23E-04815 - Rattlesnake Federal Unit #001\Figure X Karst Potential Map (23E-04815).mxd



**Karst Potential**

- Critical
- High
- Medium
- Low

- Site Location
- Buffer1000ft

**Overview Map**

0 0.25 0.5 1 mi

**Detail Map**

0 150 300 600 ft



Map Center:  
Lat/Long: 32.018562, -103.438599

NAD 1983 UTM Zone 13N  
Date: Aug 23/23



**Karst Potential Map  
Rattlesnake Federal Unit #001**

FIGURE:

X



Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Inset Map, ESRI 2022; Overview Map: ESRI World Topographic. Karst potential data sourced from Roswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.




VERSATILITY. EXPERTISE.

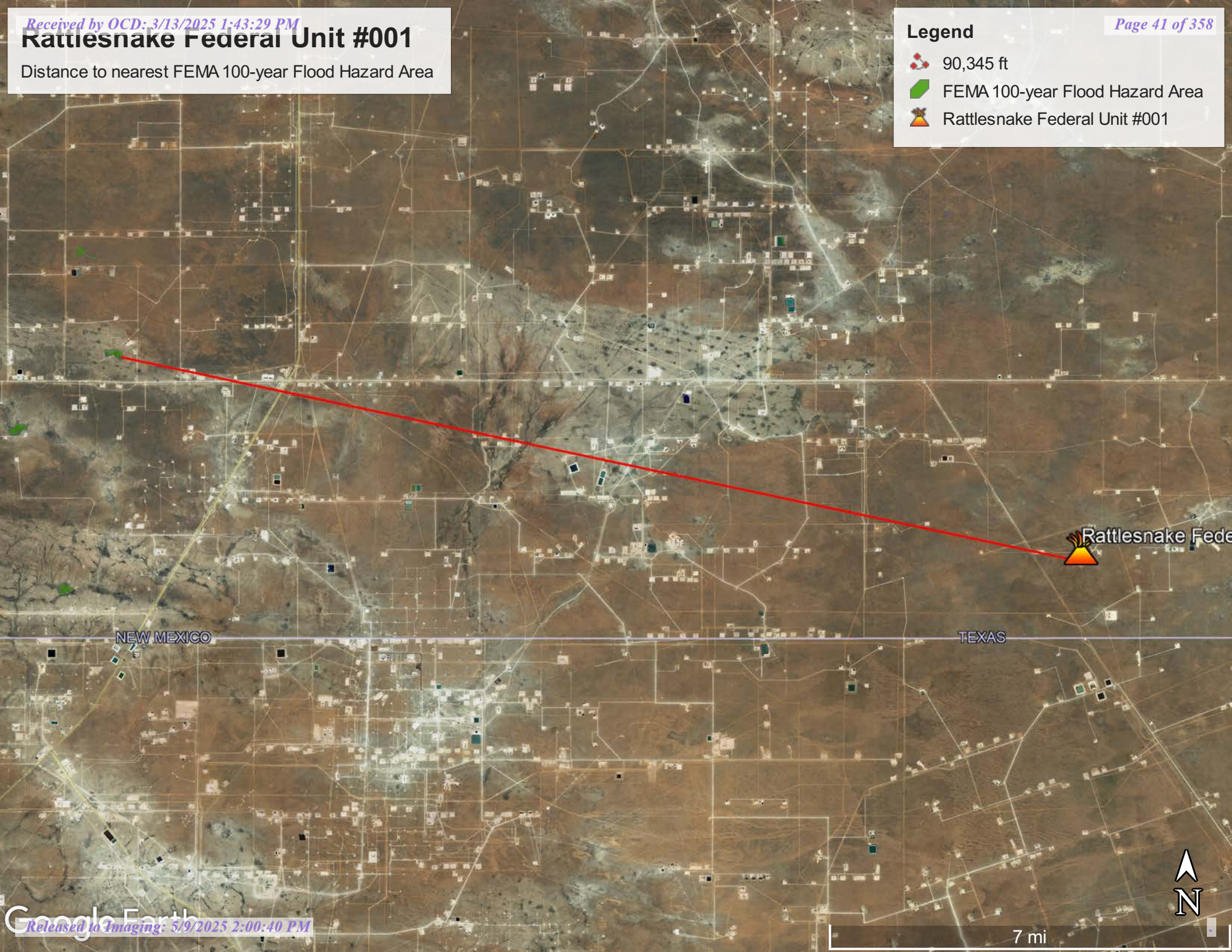


# Rattlesnake Federal Unit #001

Distance to nearest FEMA 100-year Flood Hazard Area

## Legend

-  90,345 ft
-  FEMA 100-year Flood Hazard Area
-  Rattlesnake Federal Unit #001





# National Flood Hazard Layer FIRMette



103°26'38"W 32°1'22"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

103°26'W 32°0'52"N

Released to Imaging: 5/9/2025 2:00:40 PM

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/9/2023 at 7:03 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.





United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Lea County, New Mexico**



August 10, 2023



# Custom Soil Resource Report Soil Map






## Custom Soil Resource Report

## MAP LEGEND

## Area of Interest (AOI)

 Area of Interest (AOI)


## Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

## Special Point Features

 Blowout

 Borrow Pit


 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip


 Sodic Spot

 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

## Water Features

 Streams and Canals

## Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

## Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lea County, New Mexico  
Survey Area Data: Version 19, Sep 8, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 20, 2020—Mar 22, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Custom Soil Resource Report

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BE	Berino-Cacique loamy fine sands association	10.0	69.0%
PU	Pyote and Maljamar fine sands	4.5	31.0%
<b>Totals for Area of Interest</b>		<b>14.5</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

## Custom Soil Resource Report

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Custom Soil Resource Report

## Lea County, New Mexico

**BE—Berino-Cacique loamy fine sands association****Map Unit Setting**

*National map unit symbol:* dmpd  
*Elevation:* 3,000 to 3,900 feet  
*Mean annual precipitation:* 10 to 13 inches  
*Mean annual air temperature:* 60 to 62 degrees F  
*Frost-free period:* 190 to 205 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Berino and similar soils:* 50 percent  
*Cacique and similar soils:* 40 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Berino****Setting**

*Landform:* Plains  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Sandy eolian deposits derived from sedimentary rock over calcareous sandy alluvium derived from sedimentary rock

**Typical profile**

*A - 0 to 6 inches:* loamy fine sand  
*Btk - 6 to 60 inches:* sandy clay loam

**Properties and qualities**

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 40 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water supply, 0 to 60 inches:* Moderate (about 8.7 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7c  
*Hydrologic Soil Group:* B  
*Ecological site:* R070BD003NM - Loamy Sand  
*Hydric soil rating:* No

## Custom Soil Resource Report

**Description of Cacique****Setting**

*Landform:* Plains

*Landform position (three-dimensional):* Rise

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Calcareous eolian deposits derived from sedimentary rock

**Typical profile**

*A - 0 to 12 inches:* loamy fine sand

*Bt - 12 to 28 inches:* sandy clay loam

*Bkm - 28 to 38 inches:* cemented material

**Properties and qualities**

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* 20 to 40 inches to petrocalcic

*Drainage class:* Well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 5 percent

*Gypsum, maximum content:* 1 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water supply, 0 to 60 inches:* Low (about 3.6 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7c

*Hydrologic Soil Group:* C

*Ecological site:* R070BD004NM - Sandy

*Hydric soil rating:* No

**Minor Components****Maljamar**

*Percent of map unit:* 6 percent

*Ecological site:* R077CY028TX - Limy Upland 16-21" PZ

*Hydric soil rating:* No

**Palomas**

*Percent of map unit:* 4 percent

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

## Custom Soil Resource Report

**PU—Pyote and Maljamar fine sands****Map Unit Setting**

*National map unit symbol:* dmqq  
*Elevation:* 3,000 to 3,900 feet  
*Mean annual precipitation:* 10 to 12 inches  
*Mean annual air temperature:* 60 to 62 degrees F  
*Frost-free period:* 190 to 205 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Pyote and similar soils:* 46 percent  
*Maljamar and similar soils:* 44 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Pyote****Setting**

*Landform:* Plains  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Sandy eolian deposits derived from sedimentary rock

**Typical profile**

*A - 0 to 30 inches:* fine sand  
*Bt - 30 to 60 inches:* fine sandy loam

**Properties and qualities**

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* High (2.00 to 6.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 5 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water supply, 0 to 60 inches:* Low (about 5.1 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 6e  
*Land capability classification (nonirrigated):* 7s  
*Hydrologic Soil Group:* A

## Custom Soil Resource Report

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

**Description of Maljamar****Setting**

*Landform:* Plains

*Landform position (three-dimensional):* Rise

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Sandy eolian deposits derived from sedimentary rock

**Typical profile**

*A - 0 to 24 inches:* fine sand

*Bt - 24 to 50 inches:* sandy clay loam

*Bkm - 50 to 60 inches:* cemented material

**Properties and qualities**

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* 40 to 60 inches to petrocalcic

*Drainage class:* Well drained

*Runoff class:* Very low

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 5 percent

*Gypsum, maximum content:* 1 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water supply, 0 to 60 inches:* Low (about 5.6 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 6e

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* B

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

**Minor Components****Kermit**

*Percent of map unit:* 10 percent

*Ecological site:* R070BC022NM - Sandhills

*Hydric soil rating:* No





# Ecological site R070BD003NM

## Loamy Sand

Accessed: 05/19/2023

### General information

**Provisional.** A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

### Associated sites

R070BD004NM	<b>Sandy</b> Sandy
R070BD005NM	<b>Deep Sand</b> Deep Sand

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

### Physiographic features

This site is on uplands, plains, dunes, fan piedmonts and in inter dunal areas. The parent material consists of mixed alluvium and or eolian sands derived from sedimentary rock. Slope range on this site range from 0 to 9 percent with the average of 5 percent.

Low stabilized dunes may occur occasionally on this site. Elevations range from 2,800 to 5,000 feet.

Table 2. Representative physiographic features

Landforms	(1) Fan piedmont (2) Alluvial fan (3) Dune
Elevation	2,800–5,000 ft
Slope	0–9%
Aspect	Aspect is not a significant factor

### Climatic features

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common. Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity-short duration thunderstorms. Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes.

The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer.

The average frost-free season is 207 to 220 days. The last killing frost being late March or early April and the first killing frost being in later October or early November.

Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of this site. Strong winds blow from the southwest from January through June, which accelerates soil drying during a critical period for cool season plant growth.

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

**Table 3. Representative climatic features**

Frost-free period (average)	221 days
Freeze-free period (average)	240 days
Precipitation total (average)	13 in

## Influencing water features

This site is not influenced from water from wetlands or streams.

## Soil features

Soils are moderately deep or very deep. Surface textures are loamy fine sand, fine sandy loam, loamy very fine sand or gravelly sandy loam.

Subsurface is a loamy fine sand, coarse sandy loam, fine sandy loam or loam that averages less than 18 percent clay and less than 15 percent carbonates.

Substratum is a fine sandy loam or gravelly fine sandy loam with less than 15 percent gravel and with less than 40 percent calcium carbonate. Some layers high in lime or with caliche fragments may occur at depths of 20 to 30 inches.

These soils, if unprotected by plant cover and organic residue, become wind blown and low hummocks are formed.

Minimum and maximum values listed below represent the characteristic soils for this site.

Characteristic soils are:

Maljamar  
Berino  
Parjarito  
Palomas  
Wink  
Pyote

**Table 4. Representative soil features**

Surface texture	(1) Fine sand (2) Fine sandy loam (3) Loamy fine sand
Family particle size	(1) Sandy
Drainage class	Well drained to somewhat excessively drained
Permeability class	Moderate to moderately rapid

Soil depth	40–72 in
Surface fragment cover ≤3"	0–10%
Surface fragment cover >3"	0%
Available water capacity (0–40in)	5–7 in
Calcium carbonate equivalent (0–40in)	3–40%
Electrical conductivity (0–40in)	2–4 mmhos/cm
Sodium adsorption ratio (0–40in)	0–2
Soil reaction (1:1 water) (0–40in)	6.6–8.4
Subsurface fragment volume ≤3" (Depth not specified)	4–12%
Subsurface fragment volume >3" (Depth not specified)	0%

## Ecological dynamics

### Overview

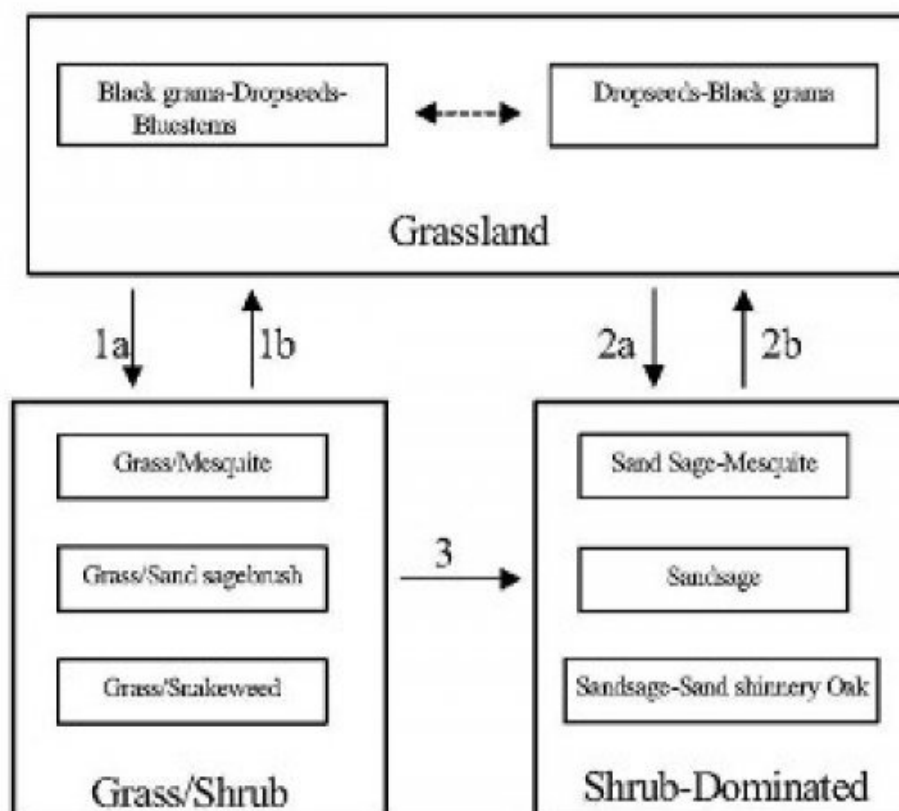
The Loamy Sand site intergrades with the Deep Sand and Sandy sites (SD-3). These sites can be differentiated by surface soil texture and depth to a textural change. Loamy Sand and Deep Sand sites have coarse textured (sands and loamy sand) surface soils while Sandy sites have moderately coarse textured (sandy loam and fine sandy loam) surfaces. Although Loamy Sand and Deep Sand sites have similar surface textures, the depth to a textural change is different—Loamy Sand sub-surface textures typically increase in clay at approximately 20 to 30 inches, and Deep Sand sites not until around 40 inches.

The historic plant community of Loamy Sand sites is dominated by black grama (*Bouteloua eriopoda*), dropseeds (*Sporobolus flexuosus*, *S. contractus*, *S. cryptandrus*), and bluestems (*Schizachyrium scoparium* and *Andropogon hallii*), with scattered shinnery oak (*Quercus havardii*) and sand sage (*Artemisia filifolia*). Perennial and annual forb abundance and distribution are dependent on precipitation. Litter and to a lesser extent, bare ground, are a significant proportion of ground cover while grasses compose the remainder. Decreases in black grama indicate a transition to either a grass/shrub or shrub-dominated state. The grass/shrub state is composed of grasses/honey mesquite (*Prosopis glandulosa*), grasses/broom snakeweed (*Gutierrezia sarothrae*), or grasses/sand sage. The shrub-dominated state occurs after a severe loss of grass cover and a prevalence of sand sage with secondary shinnery oak and mesquite. Heavy grazing intensity and/or drought are influential drivers in decreasing black grama and bluestems and subsequently increasing shrub cover, erosion, and bare patches. Historical fire suppression also encourages shrub pervasiveness and a competitive advantage over grass species (McPherson 1995). Brush and grazing management, however, may reverse grass/shrub and shrub-dominated states toward the grassland-dominated historic plant community.

## State and transition model

## Plant Communities and Transitional Pathways (diagram):

### MLRA-42, SD-3, Loamy Sand



1a. Drought, over grazing, fire suppression.

1b. Brush control, prescribed grazing

2.a Severe loss of grass cover, fire suppression, erosion.

2b. Brush control, seeding, prescribed grazing.

3. Continued loss of grass cover, erosion.

### State 1

#### Historic Climax Plant Community

#### Community 1.1

#### Historic Climax Plant Community

Grassland: The historic plant community is a uniformly distributed grassland dominated by black grama, dropseeds, and bluestems. Sand sage and shinnery oak are evenly dispersed throughout the grassland due to the coarse soil

surface texture. Perennial and annual forbs are common but their abundance and distribution are reflective of precipitation. Bluestems initially, followed by black grama, decrease with drought and heavy grazing intensity. Historical fire frequency is unknown but likely occurred enough to remove small shrubs to the competitive advantage of grass species. Fire suppression, drought conditions, and excessive grazing drive most grass species out of competition with shrub species. Diagnosis: Grassland dominated by black grama, dropseeds, and bluestems. Shrubs, such as sand sage, shinnery oak, and mesquite are dispersed throughout the grassland. Forbs are present and populations fluctuate with precipitation variability.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	442	833	1224
Forb	110	208	306
Shrub/Vine	98	184	270
Total	650	1225	1800

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	28%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	50%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	22%

Figure 5. Plant community growth curve (percent production by month). NM2803, R042XC003NM-Loamy Sand-HCPC. SD-3 Loamy Sand - Warm season plant community .

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	3	5	10	10	25	30	12	5	0	0

State 2  
Grass/Shrub

Community 2.1  
Grass/Shrub



**Grass/Shrub State:** The grass/shrub state is dominated by communities of grasses/mesquite, grasses/snakeweed, or grasses/sand sage. Decreases in black grama and bluestem species lead to an increase in bare patches and mesquite which further competes with grass species. An increase of dropseeds and threeawns occurs. Grass distribution becomes more patchy with an absence or severe decrease in black grama and bluestems. Mesquite provides nitrogen and soil organic matter to co-dominant grasses (Ansley and Jacoby 1998, Ansley et al. 1998). Mesquite mortality when exposed to fire is low due to aggressive resprouting abilities. Herbicide application combined with subsequent prescribed fire may be more effective in mesquite reduction (Britton and Wright 1971). **Diagnosis:** This state is dominated by an increased abundance of communities including grass/mesquite, grass/snakeweed, or grass/sand sage. Dropseeds and threeawns have a patchy distribution. **Transition to Grass/Shrub State (1a):** The historic plant community begins to shift toward the grass/shrub state as drivers such as drought, fire suppression, interspecific competition, and excessive grazing contribute to alterations in soil properties and herbaceous cover. Cover loss and surface soil erosion are initial indicators of transition followed by a decrease in black grama with a subsequent increase of dropseeds, threeawns, mesquite, and snakeweed. Snakeweed has been documented to outcompete black grama especially under conditions of fire suppression and drought (McDaniel et al. 1984). **Key indicators of approach to transition:** • Loss of black grama cover • Surface soil erosion • Bare patch expansion • Increased dropseed/threeawn and mesquite, snakeweed, or sand sage abundances **Transition to Historic Plant Community (1b):** Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community.

### **State 3 Shrub Dominated**

#### **Community 3.1 Shrub Dominated**

**Shrub-Dominated State:** The shrub-dominated state results from a severe loss of grass cover. This state's primary species is sand sage. Shinnery oak and mesquite also occur; however, grass cover is limited to intershrub distribution. Sand sage stabilizes light sandy soils from wind erosion, which enhances protected grass/forb cover (Davis and Bonham 1979). However, shinnery oak also responds to the sandy soils with dense stands due to an



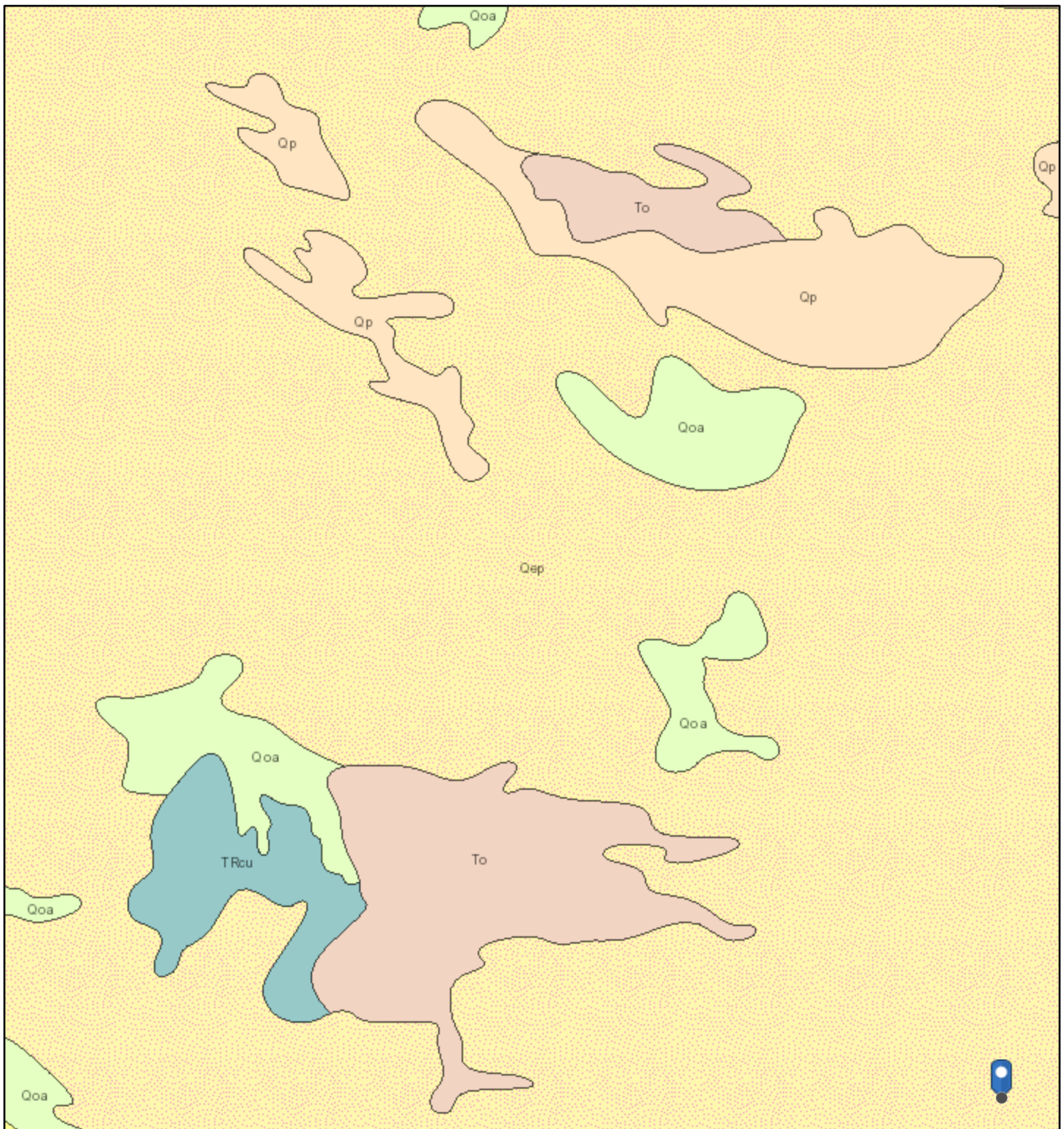
aggressive rhizome system. Shinnery oak's extensive root system promotes competitive exclusion of grasses and forbs. Sand sage, shinnery oak, and mesquite can be controlled with herbicide (Herbel et al. 1979, Pettit 1986). Transition to Shrub-Dominated (2a): Severe loss of grass species with increased erosion and fire suppression will result in a transition to a shrub-dominated state with sand sage, Shin oak, and honey mesquite directly from the grassland-dominated state. Key indicators of approach to transition: • Severe loss of grass species cover • Surface soil erosion • Bare patch expansion • Increased sand sage, shinnery oak, and mesquite abundance Transition to Historic Plant Community (2b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community. In addition, seeding with native grass species will augment the transition to a grassland-dominated state. Transition to Shrub-Dominated (3): If the grass/shrub site continues to lose grass cover with soil erosion, the site will transition to a shrub-dominated state with sand sage, shinnery oak, and honey mesquite. Key indicators of approach to transition: • Continual loss of dropseeds/threawns cover • Surface soil erosion • Bare patch expansion • Increased sand sage, shinnery oak, and mesquite/dropseed/threawn and mesquite/snakeweed abundance

## Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
<b>Grass/Grasslike</b>					
1	<b>Warm Season</b>			61–123	
	little bluestem	SCSC	<i>Schizachyrium scoparium</i>	61–123	–
2	<b>Warm Season</b>			37–61	
	sand bluestem	ANHA	<i>Andropogon hallii</i>	37–61	–
3	<b>Warm Season</b>			37–61	
	cane bluestem	BOBA3	<i>Bothriochloa barbinodis</i>	37–61	–
	silver bluestem	BOSA	<i>Bothriochloa saccharoides</i>	37–61	–
4	<b>Warm Season</b>			123–184	
	black grama	BOER4	<i>Bouteloua eriopoda</i>	123–184	–
	bush muhly	MUPO2	<i>Muhlenbergia porteri</i>	123–184	–
5	<b>Warm Season</b>			123–184	
	thin paspalum	PASE5	<i>Paspalum setaceum</i>	123–184	–
	plains bristlegrass	SEVU2	<i>Setaria vulpiseta</i>	123–184	–
	fringed signalgrass	URCI	<i>Urochloa ciliatissima</i>	123–184	–
6	<b>Warm Season</b>			123–184	
	spike dropseed	SPCO4	<i>Sporobolus contractus</i>	123–184	–
	sand dropseed	SPCR	<i>Sporobolus cryptandrus</i>	123–184	–
	mesa dropseed	SPFL2	<i>Sporobolus flexuosus</i>	123–184	–
7	<b>Warm Season</b>			61–123	
	hooded windmill grass	CHCU2	<i>Chloris cucullata</i>	61–123	–
	Arizona cottontop	DICA8	<i>Digitaria californica</i>	61–123	–
9	<b>Other Perennial Grasses</b>			37–61	
	Grass, perennial	2GP	<i>Grass, perennial</i>	37–61	–
<b>Shrub/Vine</b>					
8	<b>Warm Season</b>			37–61	
	New Mexico feathergrass	HENE5	<i>Hesperostipa neomexicana</i>	37–61	–
	giant dropseed	SPGI	<i>Sporobolus giganteus</i>	37–61	–
10	<b>Shrub</b>			61–123	

## Rattlesnake Federal Unit #001 Geology

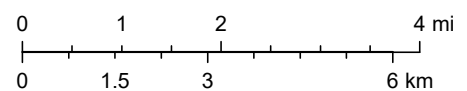


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## Lithologic Units

- Playa—Alluvium and evaporite deposits (Holocene)
- Water—Perennial standing water
- Qa—Alluvium (Holocene to upper Pleistocene)



Esri, NASA, NGA, USGS, NMBGMR, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS

ArcGIS Web AppBuilder

## **APPENDIX C – Daily Field Reports**



## Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	9/14/2023
Site Location Name:	Rattlesnake Federal Unit 1	Report Run Date:	9/14/2023 11:06 PM
Client Contact Name:	Dale Woodall	API #:	30-025-36928
Client Contact Phone #:	405-318-4697		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

### Summary of Times

Arrived at Site 9/14/2023 8:30 AM

Departed Site 9/14/2023 2:30 PM

### Field Notes

**13:24** Completed safety paperwork and initial line locate upon arrival to site

**13:24** Continued delineation efforts on site.

**13:25** Took BH23-05 to 5' to obtain clean.

**13:26** BH23-06 stepped out to 10.

BH23-07 stepped out to 11.

Samples obtained at 0 and 2' depths.

\*southwest portion of site where tank battery used to be.

**13:27** Moved to north side of site where we'll head used to be.

Obtained BH23-12, 13, and 14 all at 0, 2 and 4' depths.

### Next Steps & Recommendations

1 Continue delineation

## Daily Site Visit Report



## Site Photos

Viewing Direction: South



BH23-05

Viewing Direction: South



BH23-10

Viewing Direction: South



BH23-11

Viewing Direction: East



BH23-12



## Daily Site Visit Report





## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Austin Harris

**Signature:**

A handwritten signature in black ink, appearing to be 'AH' or similar initials, written over a horizontal line.

Signature



## Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	10/16/2023
Site Location Name:	Rattlesnake Federal Unit 1	Report Run Date:	10/16/2023 11:31 PM
Client Contact Name:	Jim Raley	API #:	30-025-36928
Client Contact Phone #:	575-748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

### Summary of Times

Arrived at Site	10/16/2023 8:00 AM
Departed Site	10/16/2023 2:15 PM

### Field Notes

- 12:42** Completed safety paperwork and initial line locate upon arrival to site
- 12:42** On site to continue/complete delineation on release area on north side of pad where former wellhead used to be
- 12:44** Obtained:
- BH23-21 step out to north
  - BH23-22 step out to west
  - BH23-23 step out to South
  - BH23-24 step out to east
- All at 0 and 2' depths for horizontal delineation purposes.
- 12:44** Obtained:
- BH23-25 in center at 0, 2, 4 and 5' depths for vertical delineation purposes.

### Next Steps & Recommendations

- 1 Send samples to lab.  
Draft work plan.

## Daily Site Visit Report



## Daily Site Visit Report



## Site Photos

Viewing Direction: South



BH23-21

Viewing Direction: East



BH23-22

Viewing Direction: North



BH23-23

Viewing Direction: West



BH23-24



## Daily Site Visit Report



## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Austin Harris

**Signature:**

A handwritten signature in black ink, appearing to be 'AH' or similar initials, written over a horizontal line.

Signature





## Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	12/2/2024
Site Location Name:	Rattlesnake Federal Unit 1	Report Run Date:	12/11/2024 6:57 PM
Client Contact Name:	Dale Woodall	API #:	30-025-36928
Client Contact Phone #:	405-318-4697		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

### Summary of Times

Arrived at Site	12/2/2024 9:30 AM
Departed Site	12/2/2024 3:00 PM

### Field Notes

- 13:51** Excavation continued
- 13:52** Samples were collected and field screened to verify results were below criteria
- 13:52** All excavation was completed besides north wall
- 13:53** Bellydumps hauled several loads of contaminated material to R360

### Next Steps & Recommendations

- 1 Complete excavation
- 2 Field screen all samples
- 3 Schedule confirmation sampling event

# Daily Site Visit Report



## Site Photos

Viewing Direction: East



BS24-04 and BS 24-05 @ 1'

Viewing Direction: West



BS24-06 and BS24-07 @ 1'

Viewing Direction: Northwest



BS24-08 @ 1'





Viewing Direction: East



BS24-09 and BS24-10 @ 1'





## Daily Site Visit Report

<p><b>Viewing Direction: Southwest</b></p>  <p>BS24-11 @ 1'</p>	<p><b>Viewing Direction: Southwest</b></p>  <p>BS24-12 and BS24-13 @ 4.1'</p>
<p><b>Viewing Direction: Northwest</b></p>  <p>Excavation area</p>	<p><b>Viewing Direction: East</b></p>  <p>Excavation area</p>



## Daily Site Visit Report

Viewing Direction: Southeast	Viewing Direction: East
 <p>Observed Photo Log Viewing Direction: Southeast Issue: Contaminated material on plastic Created: 03/13/2025 1:43:29 PM Lat: 32.008162, Long: -111.9378285</p>	 <p>Observed Photo Log Viewing Direction: East Issue: Completed excavation area Created: 03/13/2025 1:43:29 PM Lat: 32.008162, Long: -111.9378285</p>
Contaminated material on plastic	Completed excavation area



## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Riley Arnold

**Signature:**

Signature 



## Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	12/5/2024
Site Location Name:	Rattlesnake Federal Unit 1	Report Run Date:	12/10/2024 9:41 PM
Client Contact Name:	Dale Woodall	API #:	30-025-36928
Client Contact Phone #:	405-318-4697		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

### Summary of Times

Arrived at Site	12/5/2024 8:00 AM
Departed Site	12/5/2024 3:30 PM

### Field Notes

**13:41** Confirmation samples

**13:42** Samples were field screened to assure site criteria was met

### Next Steps & Recommendations

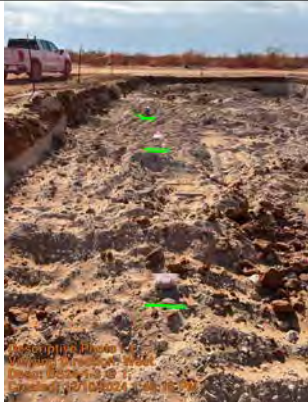
- 1 Complete field screening
- 2 Jar and coc samples for lab

# Daily Site Visit Report



## Site Photos

Viewing Direction: West



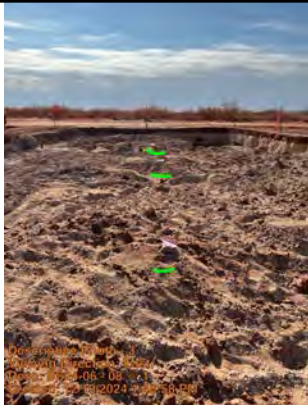
BS24-1-3 @ 1'

Viewing Direction: West



BS24-04- and 5 @ 1'

Viewing Direction: West



BS24-06 - 08 @ 1'





Viewing Direction: West



BS24-09 - 11 @ 1'







## Daily Site Visit Report

<p><b>Viewing Direction: Northwest</b></p>  <p>Disruptive Photo - 5 Viewing Direction: Northwest Date: 12/10/2024 Created: 12/10/2024 1:53:37 PM</p>	<p><b>Viewing Direction: Northeast</b></p>  <p>Disruptive Photo - 4 Viewing Direction: Northeast Date: 12/10/2024 Created: 12/10/2024 1:53:37 PM</p>
BS24-15@ 1'	BS24-12 and 14 @4.1'
<p><b>Viewing Direction: Northeast</b></p>  <p>Disruptive Photo - 3 Viewing Direction: Northeast Date: 12/10/2024 Created: 12/10/2024 1:53:37 PM</p>	<p><b>Viewing Direction: West</b></p>  <p>Disruptive Photo - 6 Viewing Direction: West Date: 12/10/2024 Created: 12/10/2024 1:55:38 PM</p>
BS24-13 @ 4.1'	WS24-01







## Daily Site Visit Report

<p><b>Viewing Direction: Northeast</b></p>  <p>WS24-02 @ 0-4.1'</p>	<p><b>Viewing Direction: Southeast</b></p>  <p>WS24-03 @ 0-1'</p>
<p><b>Viewing Direction: West</b></p>  <p>BS16-18 @4.1'</p>	<p><b>Viewing Direction: East</b></p>  <p>BS24-19-20 @ 4.1'</p>









## Daily Site Visit Report

<p><b>Viewing Direction: West</b></p>  <p>BS24-21-23 @ 4.1'</p>	<p><b>Viewing Direction: East</b></p>  <p>BS24-24-25 @ 4.1'</p>
<p><b>Viewing Direction: West</b></p>  <p>BS24- 26-28 @ 4.1'</p>	<p><b>Viewing Direction: East</b></p>  <p>BS24-29-31 @ 4.1'</p>







## Daily Site Visit Report

<p><b>Viewing Direction: West</b></p>  <p>BS24-32-34 @ 4.1'</p>	<p><b>Viewing Direction: East</b></p>  <p>BS24- 35-38 @ 4.1'</p>
<p><b>Viewing Direction: West</b></p>  <p>BS24-39-41 @ 4.1'</p>	<p><b>Viewing Direction: East</b></p>  <p>BS24-42-44 @ 4.1'</p>







## Daily Site Visit Report

<p><b>Viewing Direction: West</b></p>  <p>BS24-45-47@ 4.1'</p>	<p><b>Viewing Direction: East</b></p>  <p>BS24-48-49 @ 4.1'</p>
<p><b>Viewing Direction: West</b></p>  <p>BS24-50-51@ 4.1'</p>	<p><b>Viewing Direction: East</b></p>  <p>BS24-52-53@ 4.1'</p>



## Daily Site Visit Report

<p><b>Viewing Direction: West</b></p>  <p>Descriptive Photo - 26 Viewing Direction: West Date: 03/13/2024 Time: 1:43:29 PM</p>	<p><b>Viewing Direction: East</b></p>  <p>Descriptive Photo - 26 Viewing Direction: East Date: 03/13/2024 Time: 1:43:29 PM</p>
BS24-54-55@ 3'	BS24-56 @ 3'
<p><b>Viewing Direction: Southwest</b></p>  <p>Descriptive Photo - 27 Viewing Direction: Southwest Date: 03/13/2024 Time: 1:43:29 PM</p>	<p><b>Viewing Direction: Southeast</b></p>  <p>Descriptive Photo - 28 Viewing Direction: Southeast Date: 03/13/2024 Time: 1:43:29 PM</p>
BS24-57-58@ 3'	BS24-59 @ 3'



## Daily Site Visit Report



Daily Site Visit Signature

**Inspector:** Riley Arnold

**Signature:**

A handwritten signature in black ink, appearing to be 'Riley Arnold', written over a horizontal line. The word 'Signature' is printed in small text below the line on the left side.



## **APPENDIX D – Laboratory Data Reports and Chain of Custody Forms**



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

September 21, 2023

Kent Stallings

Devon Energy

6488 Seven Rivers Highway

Artesia, NM 88210

TEL: (505) 350-1336

FAX:

RE: Rattlesnake Federal Unit 001

OrderNo.: 2309637

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 8 sample(s) on 9/13/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order 2309637

Date Reported: 9/21/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-01 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/11/2023 10:00:00 AM

Lab ID: 2309637-001

Matrix: SOIL

Received Date: 9/13/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	9/14/2023 2:15:22 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	9/14/2023 2:15:22 PM
Surr: DNOP	121	69-147		%Rec	1	9/14/2023 2:15:22 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/15/2023 3:46:00 PM
Surr: BFB	99.3	15-244		%Rec	1	9/15/2023 3:46:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	9/15/2023 3:46:00 PM
Toluene	ND	0.049		mg/Kg	1	9/15/2023 3:46:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/15/2023 3:46:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/15/2023 3:46:00 PM
Surr: 4-Bromofluorobenzene	89.6	39.1-146		%Rec	1	9/15/2023 3:46:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	9/15/2023 11:49:42 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309637

Date Reported: 9/21/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-01 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/11/2023 10:10:00 AM

Lab ID: 2309637-002

Matrix: SOIL

Received Date: 9/13/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/14/2023 2:26:05 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/14/2023 2:26:05 PM
Surr: DNOP	110	69-147		%Rec	1	9/14/2023 2:26:05 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/15/2023 4:30:00 PM
Surr: BFB	98.3	15-244		%Rec	1	9/15/2023 4:30:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	9/15/2023 4:30:00 PM
Toluene	ND	0.048		mg/Kg	1	9/15/2023 4:30:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/15/2023 4:30:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/15/2023 4:30:00 PM
Surr: 4-Bromofluorobenzene	88.1	39.1-146		%Rec	1	9/15/2023 4:30:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	9/16/2023 12:02:07 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309637

Date Reported: 9/21/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-01 4.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/11/2023 10:20:00 AM

Lab ID: 2309637-003

Matrix: SOIL

Received Date: 9/13/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/14/2023 2:36:48 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/14/2023 2:36:48 PM
Surr: DNOP	132	69-147		%Rec	1	9/14/2023 2:36:48 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/15/2023 4:51:00 PM
Surr: BFB	102	15-244		%Rec	1	9/15/2023 4:51:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	9/15/2023 4:51:00 PM
Toluene	ND	0.049		mg/Kg	1	9/15/2023 4:51:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/15/2023 4:51:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/15/2023 4:51:00 PM
Surr: 4-Bromofluorobenzene	87.2	39.1-146		%Rec	1	9/15/2023 4:51:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	71	60		mg/Kg	20	9/16/2023 12:39:19 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309637

Date Reported: 9/21/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-02 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/11/2023 10:30:00 AM

Lab ID: 2309637-004

Matrix: SOIL

Received Date: 9/13/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	9/15/2023 4:02:28 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/15/2023 4:02:28 PM
Surr: DNOP	114	69-147		%Rec	1	9/15/2023 4:02:28 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/16/2023 12:42:24 AM
Surr: BFB	96.6	15-244		%Rec	1	9/16/2023 12:42:24 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	9/16/2023 12:42:24 AM
Toluene	ND	0.047		mg/Kg	1	9/16/2023 12:42:24 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/16/2023 12:42:24 AM
Xylenes, Total	ND	0.094		mg/Kg	1	9/16/2023 12:42:24 AM
Surr: 4-Bromofluorobenzene	106	39.1-146		%Rec	1	9/16/2023 12:42:24 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	9/16/2023 12:51:43 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2309637

Date Reported: 9/21/2023

CLIENT: Devon Energy Client Sample ID: BH23-02 2.0'  
Project: Rattlesnake Federal Unit 001 Collection Date: 9/11/2023 10:40:00 AM  
Lab ID: 2309637-005 Matrix: SOIL Received Date: 9/13/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	9/14/2023 2:47:31 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/14/2023 2:47:31 PM
Surr: DNOP	93.1	69-147		%Rec	1	9/14/2023 2:47:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/15/2023 5:13:00 PM
Surr: BFB	94.5	15-244		%Rec	1	9/15/2023 5:13:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	9/15/2023 5:13:00 PM
Toluene	ND	0.049		mg/Kg	1	9/15/2023 5:13:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/15/2023 5:13:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/15/2023 5:13:00 PM
Surr: 4-Bromofluorobenzene	86.9	39.1-146		%Rec	1	9/15/2023 5:13:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	9/16/2023 1:04:08 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309637

Date Reported: 9/21/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-03 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/11/2023 10:50:00 AM

Lab ID: 2309637-006

Matrix: SOIL

Received Date: 9/13/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/14/2023 2:58:25 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/14/2023 2:58:25 PM
Surr: DNOP	125	69-147		%Rec	1	9/14/2023 2:58:25 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/15/2023 5:35:00 PM
Surr: BFB	96.9	15-244		%Rec	1	9/15/2023 5:35:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	9/15/2023 5:35:00 PM
Toluene	ND	0.048		mg/Kg	1	9/15/2023 5:35:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/15/2023 5:35:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/15/2023 5:35:00 PM
Surr: 4-Bromofluorobenzene	87.0	39.1-146		%Rec	1	9/15/2023 5:35:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	1400	60		mg/Kg	20	9/16/2023 1:16:33 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309637

Date Reported: 9/21/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-03 2.0

Project: Rattlesnake Federal Unit 001

Collection Date: 9/11/2023 11:00:00 AM

Lab ID: 2309637-007

Matrix: SOIL

Received Date: 9/13/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	9/15/2023 4:13:09 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/15/2023 4:13:09 PM
Surr: DNOP	118	69-147		%Rec	1	9/15/2023 4:13:09 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/15/2023 3:18:59 PM
Surr: BFB	97.8	15-244		%Rec	1	9/15/2023 3:18:59 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	9/15/2023 3:18:59 PM
Toluene	ND	0.047		mg/Kg	1	9/15/2023 3:18:59 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/15/2023 3:18:59 PM
Xylenes, Total	ND	0.093		mg/Kg	1	9/15/2023 3:18:59 PM
Surr: 4-Bromofluorobenzene	108	39.1-146		%Rec	1	9/15/2023 3:18:59 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	9/16/2023 1:28:58 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309637

Date Reported: 9/21/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-03 4.0

Project: Rattlesnake Federal Unit 001

Collection Date: 9/11/2023 11:10:00 AM

Lab ID: 2309637-008

Matrix: SOIL

Received Date: 9/13/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	9/15/2023 4:23:59 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/15/2023 4:23:59 PM
Surr: DNOP	100	69-147		%Rec	1	9/15/2023 4:23:59 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/15/2023 4:29:16 PM
Surr: BFB	96.6	15-244		%Rec	1	9/15/2023 4:29:16 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	9/15/2023 4:29:16 PM
Toluene	ND	0.049		mg/Kg	1	9/15/2023 4:29:16 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/15/2023 4:29:16 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/15/2023 4:29:16 PM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/15/2023 4:29:16 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: SNS
Chloride	ND	60		mg/Kg	20	9/18/2023 12:04:06 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2309637

21-Sep-23

**Client:** Devon Energy  
**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>MB-77551</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>77551</b>	RunNo: <b>99735</b>								
Prep Date: <b>9/15/2023</b>	Analysis Date: <b>9/15/2023</b>	SeqNo: <b>3645363</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-77551</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>77551</b>	RunNo: <b>99735</b>								
Prep Date: <b>9/15/2023</b>	Analysis Date: <b>9/15/2023</b>	SeqNo: <b>3645364</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.9	90	110			

Sample ID: <b>MB-77567</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>77567</b>	RunNo: <b>99788</b>								
Prep Date: <b>9/18/2023</b>	Analysis Date: <b>9/18/2023</b>	SeqNo: <b>3647767</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-77567</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>77567</b>	RunNo: <b>99788</b>								
Prep Date: <b>9/18/2023</b>	Analysis Date: <b>9/18/2023</b>	SeqNo: <b>3647769</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.0	90	110			

### Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2309637

21-Sep-23

**Client:** Devon Energy  
**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>LCS-77491</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>77491</b>		RunNo: <b>99723</b>							
Prep Date: <b>9/13/2023</b>	Analysis Date: <b>9/14/2023</b>		SeqNo: <b>3644695</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	65	10	50.00	0	131	61.9	130			S
Surr: DNOP	6.7		5.000		133	69	147			

Sample ID: <b>MB-77491</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>77491</b>		RunNo: <b>99723</b>							
Prep Date: <b>9/13/2023</b>	Analysis Date: <b>9/14/2023</b>		SeqNo: <b>3644696</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	14		10.00		140	69	147			

Sample ID: <b>LCS-77525</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>77525</b>		RunNo: <b>99724</b>							
Prep Date: <b>9/14/2023</b>	Analysis Date: <b>9/15/2023</b>		SeqNo: <b>3644757</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	101	61.9	130			
Surr: DNOP	5.4		5.000		109	69	147			

Sample ID: <b>MB-77525</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>77525</b>		RunNo: <b>99724</b>							
Prep Date: <b>9/14/2023</b>	Analysis Date: <b>9/15/2023</b>		SeqNo: <b>3644758</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		115	69	147			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank  
E Above Quantitation Range/Estimated Value  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2309637

21-Sep-23

**Client:** Devon Energy  
**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>ics-77482</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>77482</b>			RunNo: <b>99696</b>						
Prep Date: <b>9/13/2023</b>	Analysis Date: <b>9/14/2023</b>			SeqNo: <b>3643762</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.0	70	130			
Surr: BFB	2200		1000		221	15	244			

Sample ID: <b>mb-77482</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>77482</b>			RunNo: <b>99696</b>						
Prep Date: <b>9/13/2023</b>	Analysis Date: <b>9/15/2023</b>			SeqNo: <b>3643763</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		97.3	15	244			

Sample ID: <b>ics-77494</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>77494</b>			RunNo: <b>99729</b>						
Prep Date: <b>9/13/2023</b>	Analysis Date: <b>9/15/2023</b>			SeqNo: <b>3645788</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	70	130			
Surr: BFB	2100		1000		208	15	244			

Sample ID: <b>mb-77494</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>77494</b>			RunNo: <b>99729</b>						
Prep Date: <b>9/13/2023</b>	Analysis Date: <b>9/15/2023</b>			SeqNo: <b>3645790</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		98.7	15	244			

Sample ID: <b>2309637-007ams</b>	SampType: <b>MS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>BH23-03 2.0</b>	Batch ID: <b>77494</b>			RunNo: <b>99729</b>						
Prep Date: <b>9/13/2023</b>	Analysis Date: <b>9/15/2023</b>			SeqNo: <b>3645800</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.6	23.19	0	97.1	70	130			
Surr: BFB	1900		927.6		210	15	244			

Sample ID: <b>2309637-007amsd</b>	SampType: <b>MSD</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>BH23-03 2.0</b>	Batch ID: <b>77494</b>			RunNo: <b>99729</b>						
Prep Date: <b>9/13/2023</b>	Analysis Date: <b>9/15/2023</b>			SeqNo: <b>3645801</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.6	23.19	0	97.1	70	130			
Surr: BFB	1900		927.6		210	15	244			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank  
E Above Quantitation Range/Estimated Value  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2309637  
21-Sep-23

Client: Devon Energy

Project: Rattlesnake Federal Unit 001

Sample ID: 2309637-007amsd		SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range					
Client ID: BH23-03 2.0		Batch ID: 77494			RunNo: 99729					
Prep Date: 9/13/2023		Analysis Date: 9/15/2023			SeqNo: 3645801		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.7	23.28	0	104	70	130	7.44	20	
Surr: BFB	2000		931.1		211	15	244	0	0	

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2309637

21-Sep-23

**Client:** Devon Energy**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>ics-77482</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>77482</b>			RunNo: <b>99696</b>						
Prep Date: <b>9/13/2023</b>	Analysis Date: <b>9/15/2023</b>			SeqNo: <b>3643842</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	89.9	70	130			
Toluene	0.89	0.050	1.000	0	89.3	70	130			
Ethylbenzene	0.92	0.050	1.000	0	91.8	70	130			
Xylenes, Total	2.8	0.10	3.000	0	92.3	70	130			
Surr: 4-Bromofluorobenzene	0.89		1.000		89.4	39.1	146			

Sample ID: <b>mb-77482</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>	Batch ID: <b>77482</b>			RunNo: <b>99696</b>						
Prep Date: <b>9/13/2023</b>	Analysis Date: <b>9/15/2023</b>			SeqNo: <b>3643843</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.87		1.000		87.3	39.1	146			

Sample ID: <b>LCS-77494</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>77494</b>			RunNo: <b>99729</b>						
Prep Date: <b>9/13/2023</b>	Analysis Date: <b>9/15/2023</b>			SeqNo: <b>3645869</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	99.3	70	130			
Toluene	0.99	0.050	1.000	0	99.2	70	130			
Ethylbenzene	0.99	0.050	1.000	0	99.1	70	130			
Xylenes, Total	3.0	0.10	3.000	0	99.4	70	130			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	39.1	146			

Sample ID: <b>mb-77494</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>	Batch ID: <b>77494</b>			RunNo: <b>99729</b>						
Prep Date: <b>9/13/2023</b>	Analysis Date: <b>9/15/2023</b>			SeqNo: <b>3645871</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		106	39.1	146			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank  
E Above Quantitation Range/Estimated Value  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2309637

21-Sep-23

Client: Devon Energy

Project: Rattlesnake Federal Unit 001

Sample ID: 2309637-008ams		SampType: MS			TestCode: EPA Method 8021B: Volatiles					
Client ID: BH23-03 4.0		Batch ID: 77494			RunNo: 99729					
Prep Date: 9/13/2023		Analysis Date: 9/15/2023			SeqNo: 3645876		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9833	0	108	70	130			
Toluene	1.1	0.049	0.9833	0	109	70	130			
Ethylbenzene	1.1	0.049	0.9833	0	109	70	130			
Xylenes, Total	3.2	0.098	2.950	0	109	70	130			
Surr: 4-Bromofluorobenzene	1.1		0.9833		108	39.1	146			

Sample ID: 2309637-008amsd		SampType: MSD			TestCode: EPA Method 8021B: Volatiles					
Client ID: BH23-03 4.0		Batch ID: 77494			RunNo: 99729					
Prep Date: 9/13/2023		Analysis Date: 9/15/2023			SeqNo: 3645877		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9891	0	109	70	130	0.878	20	
Toluene	1.1	0.049	0.9891	0	110	70	130	1.31	20	
Ethylbenzene	1.1	0.049	0.9891	0	109	70	130	0.866	20	
Xylenes, Total	3.3	0.099	2.967	0	110	70	130	0.911	20	
Surr: 4-Bromofluorobenzene	1.1		0.9891		109	39.1	146	0	0	

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Devon Energy

Work Order Number: 2309637

RcptNo: 1

Received By: Tracy Casarrubias 9/13/2023 7:45:00 AM

Completed By: Tracy Casarrubias 9/13/2023 8:26:27 AM

Reviewed By: *JH 9-13-23*Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☒ NA ☐ *Wq 9/13/23*
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☒ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐ # of preserved bottles checked for pH: *(<2 or >12 unless noted)*
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted? *yua 9/13/23*
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐ Checked by: *yua 9/13/23*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: Mailing address, phone number and Email/Fax are missing on COC - TMC 9/13/23

16. Additional remarks:

Client did not relinquish chain of custody

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	19.0	Good	Yes	Yogi		



## Chain-of-Custody Record

Client: Devon

Direct Bill

Mailing Address:

☒ Standard ☒ Rush 5 Day

Project Name:

Rattlesnake Federal Unit #2001

Phone #:

Project #:

23E-04815

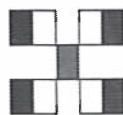
email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☐ EDD (Type)Sampler: ATOn Ice: ☐ Yes ☒ No 4001# of Coolers: 1Cooler Temp (including CF): 18.9 to 19.0 (°C)

Date	Time	Matrix	Sample Name
9-11-23	1000	Soil	BH23-01 0.0
	1010		BH23-01 2.0
	1020		BH23-01 4.0
	1030		BH23-02 0.0
	1040		BH23-02 2.0
	1050		BH23-03 0.0
	1100		BH23-03 2.0
	1110		BH23-03 4.0

Container Type and #	Preservative Type	HEAL No.
402	ICE	23091037
		001
		002
		003
		004
		005
		006
		007
		008

Date: 9/12/23Time: 1900Relinquished by: AluminiDate: 9/12/23Time: 1000Received by: Wm. GaurDate: 9/13/23Time: 7:45Via: airRemarks: CC: kentstallings@vertex.cacharis@vertex.caHALL ENVIRONMENTAL  
ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

## Analysis Request

BTX (MTBE / TMBs) (8021)	TPH (8015D) (GRO / DRO / MRO)	8081 Pesticides/8082 PCBs	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
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Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

September 25, 2023

Kent Stallings

Devon Energy

6488 Seven Rivers Highway

Artesia, NM 88210

TEL: (505) 350-1336

FAX:

RE: Rattlesnake Fed Unit 001

OrderNo.: 2309763

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 18 sample(s) on 9/14/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-04 0'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 9:00:00 AM

Lab ID: 2309763-001

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/19/2023 10:28:38 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/19/2023 10:28:38 PM
Surr: DNOP	116	69-147		%Rec	1	9/19/2023 10:28:38 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/19/2023 3:11:11 PM
Surr: BFB	98.7	15-244		%Rec	1	9/19/2023 3:11:11 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	9/19/2023 3:11:11 PM
Toluene	ND	0.049		mg/Kg	1	9/19/2023 3:11:11 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/19/2023 3:11:11 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/19/2023 3:11:11 PM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	9/19/2023 3:11:11 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	ND	60		mg/Kg	20	9/20/2023 7:55:45 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-04 2'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 9:10:00 AM

Lab ID: 2309763-002

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/19/2023 10:39:37 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/19/2023 10:39:37 PM
Surr: DNOP	105	69-147		%Rec	1	9/19/2023 10:39:37 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/19/2023 3:34:35 PM
Surr: BFB	96.3	15-244		%Rec	1	9/19/2023 3:34:35 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/19/2023 3:34:35 PM
Toluene	ND	0.049		mg/Kg	1	9/19/2023 3:34:35 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/19/2023 3:34:35 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/19/2023 3:34:35 PM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/19/2023 3:34:35 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	100	61		mg/Kg	20	9/20/2023 9:22:10 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-04 4'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 9:20:00 AM

Lab ID: 2309763-003

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/19/2023 10:50:36 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/19/2023 10:50:36 PM
Surr: DNOP	106	69-147		%Rec	1	9/19/2023 10:50:36 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/19/2023 3:58:15 PM
Surr: BFB	96.6	15-244		%Rec	1	9/19/2023 3:58:15 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/19/2023 3:58:15 PM
Toluene	ND	0.048		mg/Kg	1	9/19/2023 3:58:15 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/19/2023 3:58:15 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/19/2023 3:58:15 PM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/19/2023 3:58:15 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	450	60		mg/Kg	20	9/20/2023 9:34:30 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-05 0'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 9:30:00 AM

Lab ID: 2309763-004

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/19/2023 11:01:33 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/19/2023 11:01:33 PM
Surr: DNOP	110	69-147		%Rec	1	9/19/2023 11:01:33 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/19/2023 4:21:41 PM
Surr: BFB	95.5	15-244		%Rec	1	9/19/2023 4:21:41 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/19/2023 4:21:41 PM
Toluene	ND	0.048		mg/Kg	1	9/19/2023 4:21:41 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/19/2023 4:21:41 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/19/2023 4:21:41 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	9/19/2023 4:21:41 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	230	59		mg/Kg	20	9/20/2023 9:46:50 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-05 2'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 9:40:00 AM

Lab ID: 2309763-005

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/19/2023 11:12:30 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/19/2023 11:12:30 PM
Surr: DNOP	122	69-147		%Rec	1	9/19/2023 11:12:30 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/19/2023 5:08:37 PM
Surr: BFB	93.7	15-244		%Rec	1	9/19/2023 5:08:37 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/19/2023 5:08:37 PM
Toluene	ND	0.048		mg/Kg	1	9/19/2023 5:08:37 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/19/2023 5:08:37 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/19/2023 5:08:37 PM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/19/2023 5:08:37 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	600	59		mg/Kg	20	9/20/2023 9:59:10 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-05 4'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 9:50:00 AM

Lab ID: 2309763-006

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/19/2023 11:23:26 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/19/2023 11:23:26 PM
Surr: DNOP	106	69-147		%Rec	1	9/19/2023 11:23:26 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/19/2023 5:32:01 PM
Surr: BFB	95.1	15-244		%Rec	1	9/19/2023 5:32:01 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/19/2023 5:32:01 PM
Toluene	ND	0.049		mg/Kg	1	9/19/2023 5:32:01 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/19/2023 5:32:01 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/19/2023 5:32:01 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	9/19/2023 5:32:01 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	1600	60		mg/Kg	20	9/20/2023 10:11:32 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-06 0'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 10:00:00 AM

Lab ID: 2309763-007

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/19/2023 11:34:20 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/19/2023 11:34:20 PM
Surr: DNOP	116	69-147		%Rec	1	9/19/2023 11:34:20 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/19/2023 5:55:24 PM
Surr: BFB	96.6	15-244		%Rec	1	9/19/2023 5:55:24 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	9/19/2023 5:55:24 PM
Toluene	ND	0.050		mg/Kg	1	9/19/2023 5:55:24 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/19/2023 5:55:24 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/19/2023 5:55:24 PM
Surr: 4-Bromofluorobenzene	106	39.1-146		%Rec	1	9/19/2023 5:55:24 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	680	60		mg/Kg	20	9/20/2023 10:23:52 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-06 2'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 10:10:00 AM

Lab ID: 2309763-008

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/19/2023 11:45:15 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/19/2023 11:45:15 PM
Surr: DNOP	111	69-147		%Rec	1	9/19/2023 11:45:15 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/19/2023 6:18:49 PM
Surr: BFB	93.3	15-244		%Rec	1	9/19/2023 6:18:49 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/19/2023 6:18:49 PM
Toluene	ND	0.048		mg/Kg	1	9/19/2023 6:18:49 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/19/2023 6:18:49 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/19/2023 6:18:49 PM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/19/2023 6:18:49 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	180	60		mg/Kg	20	9/20/2023 11:00:55 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-06 4'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 10:20:00 AM

Lab ID: 2309763-009

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	14	9.8		mg/Kg	1	9/19/2023 11:56:10 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/19/2023 11:56:10 PM
Surr: DNOP	130	69-147		%Rec	1	9/19/2023 11:56:10 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/19/2023 6:42:25 PM
Surr: BFB	98.0	15-244		%Rec	1	9/19/2023 6:42:25 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/19/2023 6:42:25 PM
Toluene	ND	0.048		mg/Kg	1	9/19/2023 6:42:25 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/19/2023 6:42:25 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/19/2023 6:42:25 PM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	9/19/2023 6:42:25 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	150	60		mg/Kg	20	9/20/2023 11:13:15 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-07 0'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 10:30:00 AM

Lab ID: 2309763-010

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/20/2023 12:07:01 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/20/2023 12:07:01 AM
Surr: DNOP	102	69-147		%Rec	1	9/20/2023 12:07:01 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/19/2023 7:05:45 PM
Surr: BFB	97.7	15-244		%Rec	1	9/19/2023 7:05:45 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/19/2023 7:05:45 PM
Toluene	ND	0.048		mg/Kg	1	9/19/2023 7:05:45 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/19/2023 7:05:45 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/19/2023 7:05:45 PM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	9/19/2023 7:05:45 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	1100	59		mg/Kg	20	9/20/2023 11:25:36 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		



## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-07 2'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 10:40:00 AM

Lab ID: 2309763-011

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	12	9.4		mg/Kg	1	9/20/2023 12:17:54 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/20/2023 12:17:54 AM
Surr: DNOP	118	69-147		%Rec	1	9/20/2023 12:17:54 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/19/2023 7:29:08 PM
Surr: BFB	96.9	15-244		%Rec	1	9/19/2023 7:29:08 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/19/2023 7:29:08 PM
Toluene	ND	0.048		mg/Kg	1	9/19/2023 7:29:08 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/19/2023 7:29:08 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/19/2023 7:29:08 PM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/19/2023 7:29:08 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	370	60		mg/Kg	20	9/20/2023 11:37:56 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-07 4'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 10:50:00 AM

Lab ID: 2309763-012

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/20/2023 12:28:49 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/20/2023 12:28:49 AM
Surr: DNOP	107	69-147		%Rec	1	9/20/2023 12:28:49 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/19/2023 7:52:47 PM
Surr: BFB	96.5	15-244		%Rec	1	9/19/2023 7:52:47 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/19/2023 7:52:47 PM
Toluene	ND	0.048		mg/Kg	1	9/19/2023 7:52:47 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/19/2023 7:52:47 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/19/2023 7:52:47 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	9/19/2023 7:52:47 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	200	59		mg/Kg	20	9/20/2023 11:50:17 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-08 0'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 11:00:00 AM

Lab ID: 2309763-013

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/20/2023 12:39:43 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/20/2023 12:39:43 AM
Surr: DNOP	96.6	69-147		%Rec	1	9/20/2023 12:39:43 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/19/2023 8:16:06 PM
Surr: BFB	99.7	15-244		%Rec	1	9/19/2023 8:16:06 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/19/2023 8:16:06 PM
Toluene	ND	0.047		mg/Kg	1	9/19/2023 8:16:06 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/19/2023 8:16:06 PM
Xylenes, Total	ND	0.094		mg/Kg	1	9/19/2023 8:16:06 PM
Surr: 4-Bromofluorobenzene	109	39.1-146		%Rec	1	9/19/2023 8:16:06 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	690	59		mg/Kg	20	9/21/2023 12:02:38 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-08 2'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 11:10:00 AM

Lab ID: 2309763-014

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	11	10		mg/Kg	1	9/20/2023 12:50:34 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/20/2023 12:50:34 AM
Surr: DNOP	118	69-147		%Rec	1	9/20/2023 12:50:34 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/20/2023 12:29:47 PM
Surr: BFB	97.8	15-244		%Rec	1	9/20/2023 12:29:47 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	9/20/2023 12:29:47 PM
Toluene	ND	0.049		mg/Kg	1	9/20/2023 12:29:47 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/20/2023 12:29:47 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/20/2023 12:29:47 PM
Surr: 4-Bromofluorobenzene	108	39.1-146		%Rec	1	9/20/2023 12:29:47 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	190	60		mg/Kg	20	9/21/2023 12:14:58 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-08 4'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 11:20:00 AM

Lab ID: 2309763-015

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/20/2023 1:01:25 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/20/2023 1:01:25 AM
Surr: DNOP	120	69-147		%Rec	1	9/20/2023 1:01:25 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/20/2023 12:53:07 PM
Surr: BFB	96.1	15-244		%Rec	1	9/20/2023 12:53:07 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/20/2023 12:53:07 PM
Toluene	ND	0.048		mg/Kg	1	9/20/2023 12:53:07 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/20/2023 12:53:07 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/20/2023 12:53:07 PM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	9/20/2023 12:53:07 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	130	61		mg/Kg	20	9/21/2023 12:27:18 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-09 0'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 11:30:00 AM

Lab ID: 2309763-016

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/20/2023 1:12:14 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/20/2023 1:12:14 AM
Surr: DNOP	93.4	69-147		%Rec	1	9/20/2023 1:12:14 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/20/2023 1:16:25 PM
Surr: BFB	95.9	15-244		%Rec	1	9/20/2023 1:16:25 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/20/2023 1:16:25 PM
Toluene	ND	0.047		mg/Kg	1	9/20/2023 1:16:25 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/20/2023 1:16:25 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/20/2023 1:16:25 PM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/20/2023 1:16:25 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	170	61		mg/Kg	20	9/21/2023 12:39:39 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-09 2'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 11:40:00 AM

Lab ID: 2309763-017

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/20/2023 2:28:15 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/20/2023 2:28:15 AM
Surr: DNOP	103	69-147		%Rec	1	9/20/2023 2:28:15 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/19/2023 4:12:00 PM
Surr: BFB	98.9	15-244		%Rec	1	9/19/2023 4:12:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	9/19/2023 4:12:00 PM
Toluene	ND	0.048		mg/Kg	1	9/19/2023 4:12:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/19/2023 4:12:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/19/2023 4:12:00 PM
Surr: 4-Bromofluorobenzene	88.9	39.1-146		%Rec	1	9/19/2023 4:12:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	62	60		mg/Kg	20	9/21/2023 12:51:59 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309763

Date Reported: 9/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-09 4'

Project: Rattlesnake Fed Unit 001

Collection Date: 9/12/2023 11:50:00 AM

Lab ID: 2309763-018

Matrix: SOIL

Received Date: 9/14/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: JME
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/20/2023 2:39:08 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/20/2023 2:39:08 AM
Surr: DNOP	105	69-147		%Rec	1	9/20/2023 2:39:08 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/19/2023 4:33:00 PM
Surr: BFB	99.2	15-244		%Rec	1	9/19/2023 4:33:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	9/19/2023 4:33:00 PM
Toluene	ND	0.049		mg/Kg	1	9/19/2023 4:33:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/19/2023 4:33:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/19/2023 4:33:00 PM
Surr: 4-Bromofluorobenzene	88.1	39.1-146		%Rec	1	9/19/2023 4:33:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	ND	60		mg/Kg	20	9/21/2023 1:29:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2309763

25-Sep-23

Client: Devon Energy

Project: Rattlesnake Fed Unit 001

Sample ID: MB-77654	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 77654	RunNo: 99854
Prep Date: 9/20/2023	Analysis Date: 9/20/2023	SeqNo: 3652019 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-77654	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 77654	RunNo: 99854
Prep Date: 9/20/2023	Analysis Date: 9/20/2023	SeqNo: 3652020 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 91.2 90 110

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2309763

25-Sep-23

Client: Devon Energy

Project: Rattlesnake Fed Unit 001

Sample ID: MB-77580	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 77580	RunNo: 99810								
Prep Date: 9/19/2023	Analysis Date: 9/19/2023	SeqNo: 3648794	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		114	69	147			

Sample ID: LCS-77580	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 77580	RunNo: 99810								
Prep Date: 9/19/2023	Analysis Date: 9/19/2023	SeqNo: 3648795	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	109	61.9	130			
Surr: DNOP	5.4		5.000		108	69	147			

Sample ID: MB-77579	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 77579	RunNo: 99809								
Prep Date: 9/18/2023	Analysis Date: 9/19/2023	SeqNo: 3649079	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		118	69	147			

Sample ID: LCS-77579	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 77579	RunNo: 99809								
Prep Date: 9/18/2023	Analysis Date: 9/19/2023	SeqNo: 3649081	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.2	61.9	130			
Surr: DNOP	5.5		5.000		110	69	147			

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2309763

25-Sep-23

**Client:** Devon Energy  
**Project:** Rattlesnake Fed Unit 001

Sample ID: <b>ics-77575</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>77575</b>		RunNo: <b>99813</b>							
Prep Date: <b>9/18/2023</b>	Analysis Date: <b>9/19/2023</b>		SeqNo: <b>3648847</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.0	70	130			
Surr: BFB	2200		1000		216	15	244			

Sample ID: <b>mb-77575</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>77575</b>		RunNo: <b>99813</b>							
Prep Date: <b>9/18/2023</b>	Analysis Date: <b>9/19/2023</b>		SeqNo: <b>3648848</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		99.1	15	244			

Sample ID: <b>ics-77531</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>77531</b>		RunNo: <b>99796</b>							
Prep Date: <b>9/14/2023</b>	Analysis Date: <b>9/19/2023</b>		SeqNo: <b>3649498</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.7	70	130			
Surr: BFB	2000		1000		196	15	244			

Sample ID: <b>mb-77531</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>77531</b>		RunNo: <b>99796</b>							
Prep Date: <b>9/14/2023</b>	Analysis Date: <b>9/19/2023</b>		SeqNo: <b>3649499</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.2	15	244			

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank  
E Above Quantitation Range/Estimated Value  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

Page 21 of 22

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2309763

25-Sep-23

**Client:** Devon Energy  
**Project:** Rattlesnake Fed Unit 001

Sample ID: <b>lcs-77575</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>77575</b>			RunNo: <b>99813</b>						
Prep Date: <b>9/18/2023</b>	Analysis Date: <b>9/19/2023</b>			SeqNo: <b>3648857</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	89.7	70	130			
Toluene	0.90	0.050	1.000	0	90.4	70	130			
Ethylbenzene	0.93	0.050	1.000	0	92.6	70	130			
Xylenes, Total	2.8	0.10	3.000	0	93.2	70	130			
Surr: 4-Bromofluorobenzene	0.89		1.000		88.9	39.1	146			

Sample ID: <b>mb-77575</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>	Batch ID: <b>77575</b>			RunNo: <b>99813</b>						
Prep Date: <b>9/18/2023</b>	Analysis Date: <b>9/19/2023</b>			SeqNo: <b>3648858</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.89		1.000		89.3	39.1	146			

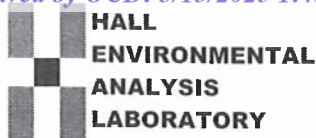
Sample ID: <b>LCS-77531</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>77531</b>			RunNo: <b>99796</b>						
Prep Date: <b>9/14/2023</b>	Analysis Date: <b>9/19/2023</b>			SeqNo: <b>3649520</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	105	70	130			
Toluene	1.0	0.050	1.000	0	105	70	130			
Ethylbenzene	1.1	0.050	1.000	0	105	70	130			
Xylenes, Total	3.2	0.10	3.000	0	106	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	39.1	146			

Sample ID: <b>mb-77531</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>	Batch ID: <b>77531</b>			RunNo: <b>99796</b>						
Prep Date: <b>9/14/2023</b>	Analysis Date: <b>9/19/2023</b>			SeqNo: <b>3649521</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	39.1	146			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank  
E Above Quantitation Range/Estimated Value  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Devon Energy

Work Order Number: 2309763

RcptNo: 1

Received By: Tracy Casarrubias 9/14/2023 7:40:00 AM

Completed By: Tracy Casarrubias 9/14/2023 9:13:18 AM

Reviewed By: *JK 9-14-23*Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☐ No ☒
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

(&lt;2 or &gt;12 unless noted)

Adjusted?

Checked by:

*SCM 9/14/23*Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions: Mailing address, phone number and Email/Fax are missing on COC- TMC 9/14/23

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes	Yogi		

## Chain-of-Custody Record

Client: DevonMailing Address: Direct Bill

Phone #: \_\_\_\_\_

email or Fax#: \_\_\_\_\_

QA/QC Package: \_\_\_\_\_

☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance☐ NELAC ☐ Other \_\_\_\_\_☐ EDD (Type) \_\_\_\_\_

Date	Time	Matrix	Sample Name
9/12	0900	S011	BH23-04 0'
	0910		BH23-04 2'
	0920		BH23-04 4'
	0930		BH23-05 0'
	0940		BH23-05 2'
	0950		BH23-05 4'
	1000		BH23-06 0'
	1010		BH23-06 2'
	1020		BH23-06 4'
	1030		BH23-07 0'
	1040		BH23-07 2'
	1050		BH23-07 4'

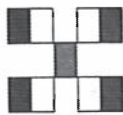
Relinquished by: AMCDate: 9/13/23Relinquished by: AMCDate: 9/13/23

Turn-Around Time: \_\_\_\_\_

☒ Standard ☒ Rush 5 DAMProject Name: Rattle Snake Fed Unit #001Project #: 23E-04815Project Manager: Kent StallingsSampler: AHOn Ice: ☒ Yes ☐ No Y001# of Coolers: 1Cooler Temp (including CF): 1.3 - 0 = 1.3 (°C)

Container Type and #

Preservative Type

HEAL No. 7309-763HEAL No. 001HEAL No. 002HEAL No. 003HEAL No. 004HEAL No. 005HEAL No. 006HEAL No. 007HEAL No. 008HEAL No. 009HEAL No. 010HEAL No. 011HEAL No. 012Received by: AMCVia: carDate: 9/13/23Time: 930Received by: AMCVia: carDate: 9/13/23Time: 730

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

## Analysis Request

BTEX / MTBE / TMBs (8021)	X
TPH:8015D(GRO / DRO / MRO)	X
8081 Pesticides/8082 PCB's	
EDB (Method 504.1)	
PAHs by 8310 or 8270SIMS	
RCRA 8 Metals	
Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	X
8260 (VOA)	
8270 (Semi-VOA)	
Total Coliform (Present/Absent)	

Remarks:

cc: KStallings@Vertex.ca



## Chain-of-Custody Record

Client: Vertex / DevonDirect Bill

Mailing Address:

Phone #:

Email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☐ EDD (Type)

Turn-Around Time:

☒ Standard ☒ Rush 5 Day

Project Name:

Rattlesnake Fed Units 001

Project #:

23E-04815

Project Manager:

Kent StallingsSampler: HHOn Ice: ☒ Yes ☐ No 400g# of Coolers: 1Cooler Temp (including CF): 1.3 - 0 = 1.3 °C (°C)

Container Type and #

Preservative Type

HEAL No.

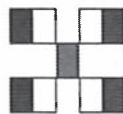
Date Time Matrix Sample Name

9/12 1100 Soil BH23-08 0'1110 BH23-08 2'1120 BH23-08 4'1130 BH23-09 0'1140 BH23-09 2'1150 BH23-09 4'Date: 9/13/23 Time: 907Relinquished by: MR RobachDate: 9/13/23 Time: 1900Relinquished by: CurranReceived by: CurranDate: 9/13/23 Time: 907Received by: CurranDate: 9/13/23 Time: 7:45

Remarks:

CC K. Stallings @ Vertex.CA

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL  
ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

## Analysis Request

BTEX / MTBE / TMB's (8021)

X

TPH:8015D(GRO / DRO / MRO)

8081 Pesticides/8082 PCB's

EDB (Method 504.1)

PAHs by 8310 or 8270SIMS

RCRA 8 Metals

Cl, F, Br, NO<sub>3</sub>, NO<sub>2</sub>, PO<sub>4</sub>, SO<sub>4</sub>

8260 (VOA)

8270 (Semi-VOA)

Total Coliform (Present/Absent)



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

September 26, 2023

Kent Stallings

Devon Energy

6488 Seven Rivers Highway

Artesia, NM 88210

TEL: (575) 748-0176

FAX:

RE: Rattlesnake Federal Unit 001

OrderNo.: 2309918

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 14 sample(s) on 9/16/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-05 5.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 10:00:00 AM

Lab ID: 2309918-001

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/20/2023 4:29:21 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/20/2023 4:29:21 PM
Surr: DNOP	104	69-147		%Rec	1	9/20/2023 4:29:21 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/22/2023 6:37:00 PM
Surr: BFB	93.5	15-244		%Rec	1	9/22/2023 6:37:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	9/22/2023 6:37:00 PM
Toluene	ND	0.050		mg/Kg	1	9/22/2023 6:37:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/22/2023 6:37:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/22/2023 6:37:00 PM
Surr: 4-Bromofluorobenzene	86.9	39.1-146		%Rec	1	9/22/2023 6:37:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	230	60		mg/Kg	20	9/21/2023 9:18:27 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-10 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 10:10:00 AM

Lab ID: 2309918-002

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/20/2023 4:50:47 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/20/2023 4:50:47 PM
Surr: DNOP	101	69-147		%Rec	1	9/20/2023 4:50:47 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/22/2023 6:59:00 PM
Surr: BFB	97.1	15-244		%Rec	1	9/22/2023 6:59:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	9/22/2023 6:59:00 PM
Toluene	ND	0.048		mg/Kg	1	9/22/2023 6:59:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/22/2023 6:59:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/22/2023 6:59:00 PM
Surr: 4-Bromofluorobenzene	86.7	39.1-146		%Rec	1	9/22/2023 6:59:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	240	60		mg/Kg	20	9/21/2023 9:30:48 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-10 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 10:20:00 AM

Lab ID: 2309918-003

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/20/2023 5:01:34 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/20/2023 5:01:34 PM
Surr: DNOP	99.6	69-147		%Rec	1	9/20/2023 5:01:34 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/22/2023 7:20:00 PM
Surr: BFB	99.6	15-244		%Rec	1	9/22/2023 7:20:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	9/22/2023 7:20:00 PM
Toluene	ND	0.049		mg/Kg	1	9/22/2023 7:20:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/22/2023 7:20:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/22/2023 7:20:00 PM
Surr: 4-Bromofluorobenzene	89.0	39.1-146		%Rec	1	9/22/2023 7:20:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	98	60		mg/Kg	20	9/21/2023 9:43:10 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		



## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-11 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 10:30:00 AM

Lab ID: 2309918-004

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/20/2023 5:12:24 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/20/2023 5:12:24 PM
Surr: DNOP	118	69-147		%Rec	1	9/20/2023 5:12:24 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/22/2023 7:42:00 PM
Surr: BFB	95.9	15-244		%Rec	1	9/22/2023 7:42:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	9/22/2023 7:42:00 PM
Toluene	ND	0.050		mg/Kg	1	9/22/2023 7:42:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/22/2023 7:42:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/22/2023 7:42:00 PM
Surr: 4-Bromofluorobenzene	85.1	39.1-146		%Rec	1	9/22/2023 7:42:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	240	60		mg/Kg	20	9/21/2023 9:55:31 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-11 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 10:40:00 AM

Lab ID: 2309918-005

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/20/2023 5:23:11 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/20/2023 5:23:11 PM
Surr: DNOP	131	69-147		%Rec	1	9/20/2023 5:23:11 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/22/2023 8:26:00 PM
Surr: BFB	99.1	15-244		%Rec	1	9/22/2023 8:26:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	9/22/2023 8:26:00 PM
Toluene	ND	0.049		mg/Kg	1	9/22/2023 8:26:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/22/2023 8:26:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/22/2023 8:26:00 PM
Surr: 4-Bromofluorobenzene	87.3	39.1-146		%Rec	1	9/22/2023 8:26:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	250	61		mg/Kg	20	9/21/2023 10:07:50 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-12 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 10:50:00 AM

Lab ID: 2309918-006

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/20/2023 5:34:00 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/20/2023 5:34:00 PM
Surr: DNOP	91.8	69-147		%Rec	1	9/20/2023 5:34:00 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/22/2023 8:47:00 PM
Surr: BFB	95.8	15-244		%Rec	1	9/22/2023 8:47:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	9/22/2023 8:47:00 PM
Toluene	ND	0.049		mg/Kg	1	9/22/2023 8:47:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/22/2023 8:47:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/22/2023 8:47:00 PM
Surr: 4-Bromofluorobenzene	84.4	39.1-146		%Rec	1	9/22/2023 8:47:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	170	60		mg/Kg	20	9/21/2023 10:20:11 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-12 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 11:00:00 AM

Lab ID: 2309918-007

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	53	9.8		mg/Kg	1	9/20/2023 5:44:48 PM
Motor Oil Range Organics (MRO)	87	49		mg/Kg	1	9/20/2023 5:44:48 PM
Surr: DNOP	113	69-147		%Rec	1	9/20/2023 5:44:48 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/22/2023 9:09:00 PM
Surr: BFB	99.0	15-244		%Rec	1	9/22/2023 9:09:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	9/22/2023 9:09:00 PM
Toluene	ND	0.048		mg/Kg	1	9/22/2023 9:09:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/22/2023 9:09:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/22/2023 9:09:00 PM
Surr: 4-Bromofluorobenzene	85.7	39.1-146		%Rec	1	9/22/2023 9:09:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	1700	60		mg/Kg	20	9/21/2023 10:32:32 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-12 4.0

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 11:10:00 AM

Lab ID: 2309918-008

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	270	9.8		mg/Kg	1	9/20/2023 5:55:39 PM
Motor Oil Range Organics (MRO)	470	49		mg/Kg	1	9/20/2023 5:55:39 PM
Surr: DNOP	103	69-147		%Rec	1	9/20/2023 5:55:39 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/22/2023 9:52:00 PM
Surr: BFB	96.9	15-244		%Rec	1	9/22/2023 9:52:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	9/22/2023 9:52:00 PM
Toluene	ND	0.049		mg/Kg	1	9/22/2023 9:52:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/22/2023 9:52:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/22/2023 9:52:00 PM
Surr: 4-Bromofluorobenzene	88.2	39.1-146		%Rec	1	9/22/2023 9:52:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	3100	150		mg/Kg	50	9/22/2023 11:24:30 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		



## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-13 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 11:20:00 AM

Lab ID: 2309918-009

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/20/2023 6:36:59 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/20/2023 6:36:59 PM
Surr: DNOP	102	69-147		%Rec	1	9/20/2023 6:36:59 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/22/2023 10:14:00 PM
Surr: BFB	96.5	15-244		%Rec	1	9/22/2023 10:14:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	9/22/2023 10:14:00 PM
Toluene	ND	0.048		mg/Kg	1	9/22/2023 10:14:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/22/2023 10:14:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/22/2023 10:14:00 PM
Surr: 4-Bromofluorobenzene	86.5	39.1-146		%Rec	1	9/22/2023 10:14:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	ND	60		mg/Kg	20	9/21/2023 11:21:55 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-13 2.0

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 11:30:00 AM

Lab ID: 2309918-010

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/20/2023 6:47:55 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/20/2023 6:47:55 PM
Surr: DNOP	106	69-147		%Rec	1	9/20/2023 6:47:55 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/22/2023 10:36:00 PM
Surr: BFB	98.5	15-244		%Rec	1	9/22/2023 10:36:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	9/22/2023 10:36:00 PM
Toluene	ND	0.049		mg/Kg	1	9/22/2023 10:36:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/22/2023 10:36:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/22/2023 10:36:00 PM
Surr: 4-Bromofluorobenzene	86.8	39.1-146		%Rec	1	9/22/2023 10:36:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	160	60		mg/Kg	20	9/22/2023 2:02:25 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-13 4.0

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 11:40:00 AM

Lab ID: 2309918-011

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/20/2023 6:58:50 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/20/2023 6:58:50 PM
Surr: DNOP	105	69-147		%Rec	1	9/20/2023 6:58:50 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/22/2023 10:58:00 PM
Surr: BFB	91.4	15-244		%Rec	1	9/22/2023 10:58:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	9/22/2023 10:58:00 PM
Toluene	ND	0.049		mg/Kg	1	9/22/2023 10:58:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/22/2023 10:58:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/22/2023 10:58:00 PM
Surr: 4-Bromofluorobenzene	87.1	39.1-146		%Rec	1	9/22/2023 10:58:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	360	60		mg/Kg	20	9/22/2023 2:14:46 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-14 0.0

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 11:50:00 AM

Lab ID: 2309918-012

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/21/2023 9:40:48 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/21/2023 9:40:48 PM
Surr: DNOP	109	69-147		%Rec	1	9/21/2023 9:40:48 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/22/2023 2:30:26 PM
Surr: BFB	94.9	15-244		%Rec	1	9/22/2023 2:30:26 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	9/22/2023 2:30:26 PM
Toluene	ND	0.046		mg/Kg	1	9/22/2023 2:30:26 PM
Ethylbenzene	ND	0.046		mg/Kg	1	9/22/2023 2:30:26 PM
Xylenes, Total	ND	0.093		mg/Kg	1	9/22/2023 2:30:26 PM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	9/22/2023 2:30:26 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	4600	150		mg/Kg	50	9/22/2023 11:36:51 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-14 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 12:00:00 PM

Lab ID: 2309918-013

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	33	9.9		mg/Kg	1	9/21/2023 9:51:54 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/21/2023 9:51:54 PM
Surr: DNOP	123	69-147		%Rec	1	9/21/2023 9:51:54 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/22/2023 2:53:50 PM
Surr: BFB	94.4	15-244		%Rec	1	9/22/2023 2:53:50 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/22/2023 2:53:50 PM
Toluene	ND	0.047		mg/Kg	1	9/22/2023 2:53:50 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/22/2023 2:53:50 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/22/2023 2:53:50 PM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	9/22/2023 2:53:50 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	620	60		mg/Kg	20	9/22/2023 2:39:27 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		



## Analytical Report

Lab Order 2309918

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-14 4.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/14/2023 12:10:00 PM

Lab ID: 2309918-014

Matrix: SOIL

Received Date: 9/16/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/21/2023 10:13:55 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/21/2023 10:13:55 PM
Surr: DNOP	104	69-147		%Rec	1	9/21/2023 10:13:55 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/22/2023 3:17:17 PM
Surr: BFB	95.4	15-244		%Rec	1	9/22/2023 3:17:17 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>JJP</b>
Benzene	ND	0.024		mg/Kg	1	9/22/2023 3:17:17 PM
Toluene	ND	0.048		mg/Kg	1	9/22/2023 3:17:17 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/22/2023 3:17:17 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/22/2023 3:17:17 PM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	9/22/2023 3:17:17 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>RBC</b>
Chloride	550	60		mg/Kg	20	9/22/2023 2:51:48 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2309918

26-Sep-23

**Client:** Devon Energy  
**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>MB-77667</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>77667</b>		RunNo: <b>99905</b>							
Prep Date: <b>9/21/2023</b>	Analysis Date: <b>9/21/2023</b>		SeqNo: <b>3653545</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-77667</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>77667</b>		RunNo: <b>99905</b>							
Prep Date: <b>9/21/2023</b>	Analysis Date: <b>9/21/2023</b>		SeqNo: <b>3653546</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.5	90	110			

Sample ID: <b>MB-77681</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>77681</b>		RunNo: <b>99905</b>							
Prep Date: <b>9/21/2023</b>	Analysis Date: <b>9/21/2023</b>		SeqNo: <b>3653577</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-77681</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>77681</b>		RunNo: <b>99905</b>							
Prep Date: <b>9/21/2023</b>	Analysis Date: <b>9/21/2023</b>		SeqNo: <b>3653578</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.8	90	110			

### Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2309918

26-Sep-23

**Client:** Devon Energy  
**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>LCS-77617</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>77617</b>		RunNo: <b>99836</b>							
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/20/2023</b>		SeqNo: <b>3649951</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.4	61.9	130			
Surr: DNOP	5.3		5.000		107	69	147			

Sample ID: <b>MB-77617</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>77617</b>		RunNo: <b>99836</b>							
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/20/2023</b>		SeqNo: <b>3649954</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		103	69	147			

Sample ID: <b>LCS-77648</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>77648</b>		RunNo: <b>99892</b>							
Prep Date: <b>9/20/2023</b>	Analysis Date: <b>9/21/2023</b>		SeqNo: <b>3653953</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.6	61.9	130			
Surr: DNOP	4.6		5.000		92.7	69	147			

Sample ID: <b>MB-77648</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>77648</b>		RunNo: <b>99892</b>							
Prep Date: <b>9/20/2023</b>	Analysis Date: <b>9/21/2023</b>		SeqNo: <b>3653955</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		94.1	69	147			

**Qualifiers:**

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2309918

26-Sep-23

**Client:** Devon Energy  
**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>ics-77588</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>77588</b>			RunNo: <b>99907</b>						
Prep Date: <b>9/18/2023</b>	Analysis Date: <b>9/22/2023</b>			SeqNo: <b>3654552</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.4	70	130			
Surr: BFB	2200		1000		216	15	244			

Sample ID: <b>mb-77588</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>77588</b>			RunNo: <b>99907</b>						
Prep Date: <b>9/18/2023</b>	Analysis Date: <b>9/22/2023</b>			SeqNo: <b>3654553</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	15	244			

Sample ID: <b>ics-77607</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>77607</b>			RunNo: <b>99922</b>						
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/22/2023</b>			SeqNo: <b>3655350</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.8	70	130			
Surr: BFB	2000		1000		203	15	244			

Sample ID: <b>mb-77607</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>77607</b>			RunNo: <b>99922</b>						
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/22/2023</b>			SeqNo: <b>3655354</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.4	15	244			

**Qualifiers:**

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2309918

26-Sep-23

**Client:** Devon Energy  
**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>lcs-77588</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>77588</b>			RunNo: <b>99907</b>						
Prep Date: <b>9/18/2023</b>	Analysis Date: <b>9/22/2023</b>			SeqNo: <b>3654566</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.025	1.000	0	82.4	70	130			
Toluene	0.83	0.050	1.000	0	83.1	70	130			
Ethylbenzene	0.85	0.050	1.000	0	85.2	70	130			
Xylenes, Total	2.6	0.10	3.000	0	85.1	70	130			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.4	39.1	146			

Sample ID: <b>mb-77588</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>	Batch ID: <b>77588</b>			RunNo: <b>99907</b>						
Prep Date: <b>9/18/2023</b>	Analysis Date: <b>9/22/2023</b>			SeqNo: <b>3654567</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.87		1.000		87.0	39.1	146			

Sample ID: <b>LCS-77607</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>77607</b>			RunNo: <b>99922</b>						
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/22/2023</b>			SeqNo: <b>3655469</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.7	70	130			
Toluene	0.96	0.050	1.000	0	95.8	70	130			
Ethylbenzene	0.96	0.050	1.000	0	96.4	70	130			
Xylenes, Total	2.9	0.10	3.000	0	97.0	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	39.1	146			

Sample ID: <b>mb-77607</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>	Batch ID: <b>77607</b>			RunNo: <b>99922</b>						
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/22/2023</b>			SeqNo: <b>3655476</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		98.2	39.1	146			

**Qualifiers:**

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.	



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2309918

26-Sep-23

**Client:** Devon Energy  
**Project:** Rattlesnake Federal Unit 001

Sample ID: 2309918-012ams		SampType: MS			TestCode: EPA Method 8021B: Volatiles					
Client ID: BH23-14 0.0		Batch ID: 77607			RunNo: 99922					
Prep Date: 9/19/2023		Analysis Date: 9/23/2023			SeqNo: 3655523		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.023	0.9259	0	104	70	130			
Toluene	0.99	0.046	0.9259	0	107	70	130			
Ethylbenzene	0.99	0.046	0.9259	0	106	70	130			
Xylenes, Total	3.0	0.093	2.778	0	107	70	130			
Surr: 4-Bromofluorobenzene	0.97		0.9259		105	39.1	146			

Sample ID: 2309918-012amsd	SampType: MSD			TestCode: EPA Method 8021B: Volatiles						
Client ID: BH23-14 0.0	Batch ID: 77607			RunNo: 99922						
Prep Date: 9/19/2023	Analysis Date: 9/23/2023			SeqNo: 3655524			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.023	0.9234	0	104	70	130	0.738	20	
Toluene	0.96	0.046	0.9234	0	104	70	130	3.01	20	
Ethylbenzene	0.97	0.046	0.9234	0	105	70	130	1.31	20	
Xylenes, Total	2.9	0.092	2.770	0	106	70	130	1.61	20	
Surr: 4-Bromofluorobenzene	0.97		0.9234		105	39.1	146	0	0	

### Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Devon Energy

Work Order Number: 2309918

RcptNo: 1

Received By: Juan Rojas 9/16/2023 7:30:00 AM

Completed By: Juan Rojas 9/16/2023 8:38:29 AM

Reviewed By: *[Signature]* 9/18/23*[Signature]**[Signature]*Chain of Custody1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐2. How was the sample delivered? CourierLog In3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐5. Sample(s) in proper container(s)? Yes ☒ No ☐6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☒10. Were any sample containers received broken? Yes ☐ No ☒11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐13. Is it clear what analyses were requested? Yes ☒ No ☐14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

# of preserved  
bottles checked  
for pH:

(&lt;2 or &gt;12 unless noted)

Adjusted? ☐Checked by: *7m9/16/23*Special Handling (if applicable)15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒Person Notified: Date By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In PersonRegarding: Client Instructions: 

16. Additional remarks:

Client missing mailing address, phone number and email address on COC. JR 9/16/23

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0	Good	No	Yogi		

## Chain-of-Custody Record

Client: Devon

Doreen K. Bill

Mailing Address:

Phone #:

Email or Fax#:

QA/QC Package:

☐ Standard☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC☐ Other☐ EDD (Type)

Turn-Around Time:

☒ Standard ☒ Rush 5 Day

Project Name:

Rattlesnake Federal Unit #001

Project #:

23E-04815

Project Manager:

Kent Stallings

Sampler:

AKOn Ice: ☐ Yes ☐ No# of Coolers: 1Cooler Temp (including CF): 0.1-0.15 (°C)

Container Type and #

Preservative Type

HEAL No.

Date

Time

Date

Time

Date

Time

Date

Time

Date

Time

Date

Time

Date

Time

Date

Time

Date

Time

Date

Time

Date

Time

Date

Time

Date

Time

Date

Time

**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

## Analysis Request

BTEX / MTBE / TMB's (8021)

TPH/8015D(GRO / DRO / MRO)

8081 Pesticides/8082 PCB's

EDB (Method 504.1)

PAHs by 8310 or 8270SIMS

RCRA 8 Metals

(Cl, F, Br, NO<sub>3</sub>, NO<sub>2</sub>, PO<sub>4</sub>, SO<sub>4</sub>)

8260 (VOA)

8270 (Semi-VOA)

Total Coliform (Present/Absent)

Remarks:

CC: Kstallings@vertex.caaharris@vertex.caReceived by: AK Date: 9/15/23 Time: 9:00

Via:

Received by: AK Date: 9/16/23 Time: 7:30

Via:

AK

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.







Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

September 26, 2023

Kent Stallings

Devon Energy

6488 Seven Rivers Highway

Artesia, NM 88210

TEL: (575) 748-0176

FAX:

RE: Rattlesnake Federal Unit 001

OrderNo.: 2309971

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 11 sample(s) on 9/19/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109



## Analytical Report

Lab Order 2309971

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-15 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/15/2023 9:00:00 AM

Lab ID: 2309971-001

Matrix: SOIL

Received Date: 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/21/2023 10:24:57 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/21/2023 10:24:57 PM
Surr: DNOP	94.6	69-147		%Rec	1	9/21/2023 10:24:57 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/22/2023 6:48:01 PM
Surr: BFB	93.9	15-244		%Rec	1	9/22/2023 6:48:01 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	9/22/2023 6:48:01 PM
Toluene	ND	0.049		mg/Kg	1	9/22/2023 6:48:01 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/22/2023 6:48:01 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/22/2023 6:48:01 PM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/22/2023 6:48:01 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	ND	60		mg/Kg	20	9/22/2023 3:04:08 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309971

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-15 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/15/2023 9:10:00 AM

Lab ID: 2309971-002

Matrix: SOIL

Received Date: 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	370	89		mg/Kg	10	9/21/2023 10:35:54 PM
Motor Oil Range Organics (MRO)	510	450		mg/Kg	10	9/21/2023 10:35:54 PM
Surr: DNOP	0	69-147	S	%Rec	10	9/21/2023 10:35:54 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/22/2023 7:11:30 PM
Surr: BFB	99.8	15-244		%Rec	1	9/22/2023 7:11:30 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/22/2023 7:11:30 PM
Toluene	ND	0.048		mg/Kg	1	9/22/2023 7:11:30 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/22/2023 7:11:30 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/22/2023 7:11:30 PM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/22/2023 7:11:30 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	2100	150		mg/Kg	50	9/22/2023 12:13:51 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309971

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-16 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/15/2023 9:20:00 AM

Lab ID: 2309971-003

Matrix: SOIL

Received Date: 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	9/21/2023 10:46:50 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/21/2023 10:46:50 PM
Surr: DNOP	105	69-147		%Rec	1	9/21/2023 10:46:50 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/22/2023 7:34:48 PM
Surr: BFB	93.4	15-244		%Rec	1	9/22/2023 7:34:48 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	9/22/2023 7:34:48 PM
Toluene	ND	0.050		mg/Kg	1	9/22/2023 7:34:48 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/22/2023 7:34:48 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/22/2023 7:34:48 PM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	9/22/2023 7:34:48 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	ND	60		mg/Kg	20	9/22/2023 3:28:49 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309971

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-16 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/15/2023 9:30:00 AM

Lab ID: 2309971-004

Matrix: SOIL

Received Date: 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	9/21/2023 10:57:51 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/21/2023 10:57:51 PM
Surr: DNOP	99.7	69-147		%Rec	1	9/21/2023 10:57:51 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/22/2023 7:58:06 PM
Surr: BFB	94.2	15-244		%Rec	1	9/22/2023 7:58:06 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/22/2023 7:58:06 PM
Toluene	ND	0.048		mg/Kg	1	9/22/2023 7:58:06 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/22/2023 7:58:06 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/22/2023 7:58:06 PM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	9/22/2023 7:58:06 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	810	60		mg/Kg	20	9/22/2023 4:05:51 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309971

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-16 3.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/15/2023 9:40:00 AM

Lab ID: 2309971-005

Matrix: SOIL

Received Date: 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/21/2023 11:08:49 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/21/2023 11:08:49 PM
Surr: DNOP	97.8	69-147		%Rec	1	9/21/2023 11:08:49 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/22/2023 8:21:27 PM
Surr: BFB	96.7	15-244		%Rec	1	9/22/2023 8:21:27 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/22/2023 8:21:27 PM
Toluene	ND	0.048		mg/Kg	1	9/22/2023 8:21:27 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/22/2023 8:21:27 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/22/2023 8:21:27 PM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/22/2023 8:21:27 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	1900	60		mg/Kg	20	9/22/2023 4:18:12 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		



## Analytical Report

Lab Order 2309971

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-17 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/15/2023 9:50:00 AM

Lab ID: 2309971-006

Matrix: SOIL

Received Date: 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	9/21/2023 11:19:50 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/21/2023 11:19:50 PM
Surr: DNOP	100	69-147		%Rec	1	9/21/2023 11:19:50 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/22/2023 8:44:59 PM
Surr: BFB	94.6	15-244		%Rec	1	9/22/2023 8:44:59 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	9/22/2023 8:44:59 PM
Toluene	ND	0.050		mg/Kg	1	9/22/2023 8:44:59 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/22/2023 8:44:59 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/22/2023 8:44:59 PM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	9/22/2023 8:44:59 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	2600	150		mg/Kg	50	9/22/2023 12:26:11 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309971

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-17 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/15/2023 10:00:00 AM

Lab ID: 2309971-007

Matrix: SOIL

Received Date: 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	10	8.8		mg/Kg	1	9/21/2023 11:30:53 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/21/2023 11:30:53 PM
Surr: DNOP	100	69-147		%Rec	1	9/21/2023 11:30:53 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/22/2023 9:31:56 PM
Surr: BFB	93.8	15-244		%Rec	1	9/22/2023 9:31:56 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/22/2023 9:31:56 PM
Toluene	ND	0.048		mg/Kg	1	9/22/2023 9:31:56 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/22/2023 9:31:56 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/22/2023 9:31:56 PM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/22/2023 9:31:56 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	2000	60		mg/Kg	20	9/22/2023 4:42:53 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309971

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-17 4.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/15/2023 10:10:00 AM

Lab ID: 2309971-008

Matrix: SOIL

Received Date: 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/21/2023 11:41:53 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/21/2023 11:41:53 PM
Surr: DNOP	96.1	69-147		%Rec	1	9/21/2023 11:41:53 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/22/2023 9:55:15 PM
Surr: BFB	93.9	15-244		%Rec	1	9/22/2023 9:55:15 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	9/22/2023 9:55:15 PM
Toluene	ND	0.046		mg/Kg	1	9/22/2023 9:55:15 PM
Ethylbenzene	ND	0.046		mg/Kg	1	9/22/2023 9:55:15 PM
Xylenes, Total	ND	0.093		mg/Kg	1	9/22/2023 9:55:15 PM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/22/2023 9:55:15 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	2000	150		mg/Kg	50	9/22/2023 12:38:33 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309971

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-18 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/15/2023 10:20:00 AM

Lab ID: 2309971-009

Matrix: SOIL

Received Date: 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	9/21/2023 11:52:57 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/21/2023 11:52:57 PM
Surr: DNOP	100	69-147		%Rec	1	9/21/2023 11:52:57 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/22/2023 10:18:31 PM
Surr: BFB	94.8	15-244		%Rec	1	9/22/2023 10:18:31 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	9/22/2023 10:18:31 PM
Toluene	ND	0.050		mg/Kg	1	9/22/2023 10:18:31 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/22/2023 10:18:31 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/22/2023 10:18:31 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	9/22/2023 10:18:31 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	680	60		mg/Kg	20	9/22/2023 5:07:34 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2309971

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-18 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/15/2023 10:30:00 AM

Lab ID: 2309971-010

Matrix: SOIL

Received Date: 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/22/2023 12:04:05 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/22/2023 12:04:05 AM
Surr: DNOP	95.8	69-147		%Rec	1	9/22/2023 12:04:05 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/22/2023 11:05:10 PM
Surr: BFB	95.1	15-244		%Rec	1	9/22/2023 11:05:10 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	9/22/2023 11:05:10 PM
Toluene	ND	0.049		mg/Kg	1	9/22/2023 11:05:10 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/22/2023 11:05:10 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/22/2023 11:05:10 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	9/22/2023 11:05:10 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: RBC
Chloride	780	60		mg/Kg	20	9/22/2023 5:19:55 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		



## Analytical Report

Lab Order 2309971

Date Reported: 9/26/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-18 4.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 9/15/2023 10:40:00 AM

Lab ID: 2309971-011

Matrix: SOIL

Received Date: 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/22/2023 12:15:09 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/22/2023 12:15:09 AM
Surr: DNOP	98.9	69-147		%Rec	1	9/22/2023 12:15:09 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 1:02:30 AM
Surr: BFB	93.6	15-244		%Rec	1	9/23/2023 1:02:30 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	9/23/2023 1:02:30 AM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 1:02:30 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 1:02:30 AM
Xylenes, Total	ND	0.095		mg/Kg	1	9/23/2023 1:02:30 AM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/23/2023 1:02:30 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	2000	150		mg/Kg	50	9/22/2023 12:50:54 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2309971

26-Sep-23

Client: Devon Energy

Project: Rattlesnake Federal Unit 001

Sample ID: MB-77681		SampType: MBLK		TestCode: EPA Method 300.0: Anions						
Client ID: PBS		Batch ID: 77681		RunNo: 99905						
Prep Date: 9/21/2023		Analysis Date: 9/21/2023		SeqNo: 3653577			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-77681		SampType: LCS		TestCode: EPA Method 300.0: Anions						
Client ID: LCSS		Batch ID: 77681		RunNo: 99905						
Prep Date: 9/21/2023		Analysis Date: 9/21/2023		SeqNo: 3653578			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.8	90	110			

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2309971

26-Sep-23

Client: Devon Energy

Project: Rattlesnake Federal Unit 001

Sample ID: LCS-77648	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 77648	RunNo: 99892								
Prep Date: 9/20/2023	Analysis Date: 9/21/2023	SeqNo: 3653953	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.6	61.9	130			
Surr: DNOP	4.6		5.000		92.7	69	147			

Sample ID: MB-77648	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 77648	RunNo: 99892								
Prep Date: 9/20/2023	Analysis Date: 9/21/2023	SeqNo: 3653955	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		94.1	69	147			

Qualifiers:

\*

Value exceeds Maximum Contaminant Level.

D

Sample Diluted Due to Matrix

H

Holding times for preparation or analysis exceeded

ND

Not Detected at the Reporting Limit

PQL

Practical Quantitative Limit

S

% Recovery outside of standard limits. If undiluted results may be estimated.

B

Analyte detected in the associated Method Blank

E

Above Quantitation Range/Estimated Value

J

Analyte detected below quantitation limits

P

Sample pH Not In Range

RL

Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2309971

26-Sep-23

**Client:** Devon Energy  
**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>ics-77607</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>77607</b>		RunNo: <b>99922</b>							
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/22/2023</b>		SeqNo: <b>3655350</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.8	70	130			
Surr: BFB	2000		1000		203	15	244			

Sample ID: <b>ics-77620</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>77620</b>		RunNo: <b>99922</b>							
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/22/2023</b>		SeqNo: <b>3655351</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.7	70	130			
Surr: BFB	2000		1000		200	15	244			

Sample ID: <b>MB-77620</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>77620</b>		RunNo: <b>99922</b>							
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/22/2023</b>		SeqNo: <b>3655353</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		95.6	15	244			

Sample ID: <b>mb-77607</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>77607</b>		RunNo: <b>99922</b>							
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/22/2023</b>		SeqNo: <b>3655354</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.4	15	244			

**Qualifiers:**

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2309971

26-Sep-23

**Client:** Devon Energy  
**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>LCS-77607</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>77607</b>			RunNo: <b>99922</b>						
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/22/2023</b>			SeqNo: <b>3655469</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.7	70	130			
Toluene	0.96	0.050	1.000	0	95.8	70	130			
Ethylbenzene	0.96	0.050	1.000	0	96.4	70	130			
Xylenes, Total	2.9	0.10	3.000	0	97.0	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	39.1	146			

Sample ID: <b>LCS-77620</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>77620</b>			RunNo: <b>99922</b>						
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/22/2023</b>			SeqNo: <b>3655471</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	99.8	70	130			
Toluene	1.0	0.050	1.000	0	99.8	70	130			
Ethylbenzene	1.0	0.050	1.000	0	99.8	70	130			
Xylenes, Total	3.0	0.10	3.000	0	101	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	39.1	146			

Sample ID: <b>MB-77620</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>	Batch ID: <b>77620</b>			RunNo: <b>99922</b>						
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/22/2023</b>			SeqNo: <b>3655474</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	39.1	146			

Sample ID: <b>mb-77607</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>	Batch ID: <b>77607</b>			RunNo: <b>99922</b>						
Prep Date: <b>9/19/2023</b>	Analysis Date: <b>9/22/2023</b>			SeqNo: <b>3655476</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		98.2	39.1	146			

**Qualifiers:**

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.	





Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Devon Energy

Work Order Number: 2309971

RcptNo: 1

Received By: Juan Rojas 9/19/2023 7:35:00 AM

Completed By: Tracy Casarrubias 9/19/2023 8:02:05 AM

Reviewed By: *JA 9-19-23**Juan Rojas*

### Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐2. How was the sample delivered? Courier

### Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐5. Sample(s) in proper container(s)? Yes ☒ No ☐6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐9. Received at least 1 vial with headspace  $<1/4"$  for AQ VOA? Yes ☐ No ☐ NA ☒10. Were any sample containers received broken? Yes ☐ No ☒11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

# of preserved  
bottles checked  
for pH:

(&lt;2 or &gt;12 unless noted)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

Adjusted?

13. Is it clear what analyses were requested? Yes ☒ No ☐14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

Checked by: *juan alia/23*

### Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via:

☐ eMail☐ Phone☐ Fax☐ In Person

Regarding:

Client Instructions:

Mailing address, phone number and Email/Fax are missing on COC- TMC 9/19/23

16. Additional remarks:

Client did not relinquish chain of custody

### 17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes	Yogi		

## Chain-of-Custody Record

Client: Devon

Direct Bill

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☐ EDD (Type)

Turn-Around Time:

☒ Standard ☒ Rush 5 Day

Project Name:

Reithlesdale Federal Unit #001

Project #:

23E-04B15

Project Manager:

Kent Stallings

Sampler:

ATOn Ice: ☒ Yes ☐ No# of Coolers: 4091Cooler Temp (including CFI): 7-36.1-24 (°C)

Container Type and #

Preservative Type

HEAL No.

2309971

001

002

003

004

005

006

007

008

009

010

011

Date

Time

Sample Name

BH23-15

0.0'

BH23-15

2.0'

BH23-16

0.0'

BH23-16

2.0'

BH23-16

3.0'

BH23-17

0.0'

BH23-17

2.0'

BH23-17

4.0'

BH23-18

0.0'

BH23-18

2.0'

BH23-18

4.0'

Date:

Time:

Relinquished by:

Date:

Time:

Relinquished by:

Received by:

Via:

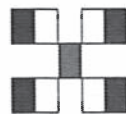
Date

Time

Remarks:

CC: Kstallings@vertex.ca

c.harris@vertex.ca

HALL ENVIRONMENTAL  
ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

## Analysis Request

BTEX / MTBE / TMB's (8021)	TPH: 8015D (GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl <sup>-</sup> , Br <sup>-</sup> , NO <sub>3</sub> <sup>-</sup> , NO <sub>2</sub> <sup>-</sup> , PO <sub>4</sub> <sup>-</sup> , SO <sub>4</sub> <sup>-</sup>	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
----------------------------	------------------------------	----------------------------	--------------------	--------------------------	---------------	---	------------	-----------------	---------------------------------

9-15-23

0900

0910

0920

0930

0940

0950

1000

1010

1020

1030

1040

1050

1100

1110

1120

1130

1140

1150

1200

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3000

3010

3020

3030

3040

3050

3100

3110

3120

3130

3140

3150

3200

3210

3220

3230

3240

3250

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4000

4010

4020

4030

4040

4050

4100

4110

4120

4130

4140

4150

4200

4210

4220

4230

4240

4250

4300

4310

4320

4330

4340

4350

4400

4410

4420

4430

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4810

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4900

4910

4920

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5000

5010

5020

5030

5040

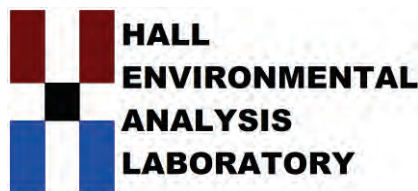
5050

5100

5110

5120

5130



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

October 24, 2023

Kent Stallings

Devon Energy

6488 Seven Rivers Highway

Artesia, NM 88210

TEL: (575) 748-0176

FAX:

RE: Rattlesnake Federal Unit 001

OrderNo.: 2310830

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 16 sample(s) on 10/18/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman'.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-21 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/16/2023 9:00:00 AM

Lab ID: 2310830-001

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/19/2023 12:51:13 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/19/2023 12:51:13 PM
Surr: DNOP	98.7	69-147		%Rec	1	10/19/2023 12:51:13 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>KMN</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/19/2023 10:00:00 PM
Surr: BFB	99.0	15-244		%Rec	1	10/19/2023 10:00:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>KMN</b>
Benzene	ND	0.024		mg/Kg	1	10/19/2023 10:00:00 PM
Toluene	ND	0.048		mg/Kg	1	10/19/2023 10:00:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/19/2023 10:00:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	10/19/2023 10:00:00 PM
Surr: 4-Bromofluorobenzene	88.6	39.1-146		%Rec	1	10/19/2023 10:00:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/20/2023 5:34:45 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-21 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/16/2023 9:10:00 AM

Lab ID: 2310830-002

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/19/2023 1:01:50 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/19/2023 1:01:50 PM
Surr: DNOP	99.0	69-147		%Rec	1	10/19/2023 1:01:50 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>KMN</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/19/2023 10:22:00 PM
Surr: BFB	99.4	15-244		%Rec	1	10/19/2023 10:22:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>KMN</b>
Benzene	ND	0.024		mg/Kg	1	10/19/2023 10:22:00 PM
Toluene	ND	0.049		mg/Kg	1	10/19/2023 10:22:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/19/2023 10:22:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	10/19/2023 10:22:00 PM
Surr: 4-Bromofluorobenzene	88.7	39.1-146		%Rec	1	10/19/2023 10:22:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	120	60		mg/Kg	20	10/20/2023 5:47:09 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		



## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-22 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/16/2023 9:20:00 AM

Lab ID: 2310830-003

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/19/2023 1:12:26 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/19/2023 1:12:26 PM
Surr: DNOP	96.1	69-147		%Rec	1	10/19/2023 1:12:26 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>KMN</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/19/2023 10:43:00 PM
Surr: BFB	101	15-244		%Rec	1	10/19/2023 10:43:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>KMN</b>
Benzene	ND	0.025		mg/Kg	1	10/19/2023 10:43:00 PM
Toluene	ND	0.049		mg/Kg	1	10/19/2023 10:43:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/19/2023 10:43:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	10/19/2023 10:43:00 PM
Surr: 4-Bromofluorobenzene	89.6	39.1-146		%Rec	1	10/19/2023 10:43:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	560	60		mg/Kg	20	10/20/2023 5:59:34 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-22 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/16/2023 9:30:00 AM

Lab ID: 2310830-004

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/19/2023 1:23:06 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/19/2023 1:23:06 PM
Surr: DNOP	103	69-147		%Rec	1	10/19/2023 1:23:06 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>KMN</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/19/2023 11:05:00 PM
Surr: BFB	97.7	15-244		%Rec	1	10/19/2023 11:05:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>KMN</b>
Benzene	ND	0.024		mg/Kg	1	10/19/2023 11:05:00 PM
Toluene	ND	0.048		mg/Kg	1	10/19/2023 11:05:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/19/2023 11:05:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	10/19/2023 11:05:00 PM
Surr: 4-Bromofluorobenzene	88.2	39.1-146		%Rec	1	10/19/2023 11:05:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	510	60		mg/Kg	20	10/20/2023 6:11:59 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-23 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/16/2023 9:40:00 AM

Lab ID: 2310830-005

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	10/19/2023 1:33:45 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/19/2023 1:33:45 PM
Surr: DNOP	102	69-147		%Rec	1	10/19/2023 1:33:45 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>KMN</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/19/2023 11:48:00 PM
Surr: BFB	98.7	15-244		%Rec	1	10/19/2023 11:48:00 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>KMN</b>
Benzene	ND	0.023		mg/Kg	1	10/19/2023 11:48:00 PM
Toluene	ND	0.047		mg/Kg	1	10/19/2023 11:48:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/19/2023 11:48:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	10/19/2023 11:48:00 PM
Surr: 4-Bromofluorobenzene	87.1	39.1-146		%Rec	1	10/19/2023 11:48:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/20/2023 6:24:23 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-23 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/16/2023 9:50:00 AM

Lab ID: 2310830-006

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	14	9.3		mg/Kg	1	10/19/2023 1:44:24 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/19/2023 1:44:24 PM
Surr: DNOP	98.8	69-147		%Rec	1	10/19/2023 1:44:24 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>KMN</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/20/2023 12:10:00 AM
Surr: BFB	101	15-244		%Rec	1	10/20/2023 12:10:00 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>KMN</b>
Benzene	ND	0.024		mg/Kg	1	10/20/2023 12:10:00 AM
Toluene	ND	0.047		mg/Kg	1	10/20/2023 12:10:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	10/20/2023 12:10:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	10/20/2023 12:10:00 AM
Surr: 4-Bromofluorobenzene	88.6	39.1-146		%Rec	1	10/20/2023 12:10:00 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	240	60		mg/Kg	20	10/20/2023 7:01:37 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-24 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/16/2023 10:00:00 AM

Lab ID: 2310830-007

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/20/2023 11:43:37 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/20/2023 11:43:37 PM
Surr: DNOP	98.1	69-147		%Rec	1	10/20/2023 11:43:37 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/19/2023 12:19:52 PM
Surr: BFB	95.6	15-244		%Rec	1	10/19/2023 12:19:52 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>JJP</b>
Benzene	ND	0.025		mg/Kg	1	10/19/2023 12:19:52 PM
Toluene	ND	0.049		mg/Kg	1	10/19/2023 12:19:52 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/19/2023 12:19:52 PM
Xylenes, Total	ND	0.098		mg/Kg	1	10/19/2023 12:19:52 PM
Surr: 4-Bromofluorobenzene	99.2	39.1-146		%Rec	1	10/19/2023 12:19:52 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	540	60		mg/Kg	20	10/20/2023 7:14:02 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		



## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-24 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/16/2023 10:10:00 AM

Lab ID: 2310830-008

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	28	9.3		mg/Kg	1	10/21/2023 12:15:58 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/21/2023 12:15:58 AM
Surr: DNOP	70.1	69-147		%Rec	1	10/21/2023 12:15:58 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/19/2023 12:43:36 PM
Surr: BFB	89.7	15-244		%Rec	1	10/19/2023 12:43:36 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>JJP</b>
Benzene	ND	0.024		mg/Kg	1	10/19/2023 12:43:36 PM
Toluene	ND	0.048		mg/Kg	1	10/19/2023 12:43:36 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/19/2023 12:43:36 PM
Xylenes, Total	ND	0.096		mg/Kg	1	10/19/2023 12:43:36 PM
Surr: 4-Bromofluorobenzene	96.3	39.1-146		%Rec	1	10/19/2023 12:43:36 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	180	60		mg/Kg	20	10/20/2023 7:26:27 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-25 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/16/2023 10:20:00 AM

Lab ID: 2310830-009

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/21/2023 12:26:45 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/21/2023 12:26:45 AM
Surr: DNOP	105	69-147		%Rec	1	10/21/2023 12:26:45 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/19/2023 1:07:21 PM
Surr: BFB	90.6	15-244		%Rec	1	10/19/2023 1:07:21 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>JJP</b>
Benzene	ND	0.024		mg/Kg	1	10/19/2023 1:07:21 PM
Toluene	ND	0.048		mg/Kg	1	10/19/2023 1:07:21 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/19/2023 1:07:21 PM
Xylenes, Total	ND	0.096		mg/Kg	1	10/19/2023 1:07:21 PM
Surr: 4-Bromofluorobenzene	97.1	39.1-146		%Rec	1	10/19/2023 1:07:21 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/20/2023 7:38:52 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-25 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/16/2023 10:30:00 AM

Lab ID: 2310830-010

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	20	9.7		mg/Kg	1	10/21/2023 12:37:33 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/21/2023 12:37:33 AM
Surr: DNOP	76.4	69-147		%Rec	1	10/21/2023 12:37:33 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/19/2023 1:30:58 PM
Surr: BFB	94.3	15-244		%Rec	1	10/19/2023 1:30:58 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>JJP</b>
Benzene	ND	0.024		mg/Kg	1	10/19/2023 1:30:58 PM
Toluene	ND	0.049		mg/Kg	1	10/19/2023 1:30:58 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/19/2023 1:30:58 PM
Xylenes, Total	ND	0.098		mg/Kg	1	10/19/2023 1:30:58 PM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	10/19/2023 1:30:58 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/20/2023 7:51:16 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-25 4.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/16/2023 10:40:00 AM

Lab ID: 2310830-011

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/21/2023 12:48:22 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/21/2023 12:48:22 AM
Surr: DNOP	89.9	69-147		%Rec	1	10/21/2023 12:48:22 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/19/2023 1:54:19 PM
Surr: BFB	94.7	15-244		%Rec	1	10/19/2023 1:54:19 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	10/19/2023 1:54:19 PM
Toluene	ND	0.048		mg/Kg	1	10/19/2023 1:54:19 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/19/2023 1:54:19 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/19/2023 1:54:19 PM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	10/19/2023 1:54:19 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JTT
Chloride	ND	60		mg/Kg	20	10/20/2023 8:03:41 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-25 5.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/16/2023 10:50:00 AM

Lab ID: 2310830-012

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/21/2023 12:59:11 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/21/2023 12:59:11 AM
Surr: DNOP	87.6	69-147		%Rec	1	10/21/2023 12:59:11 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/19/2023 3:28:12 PM
Surr: BFB	93.1	15-244		%Rec	1	10/19/2023 3:28:12 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>JJP</b>
Benzene	ND	0.024		mg/Kg	1	10/19/2023 3:28:12 PM
Toluene	ND	0.048		mg/Kg	1	10/19/2023 3:28:12 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/19/2023 3:28:12 PM
Xylenes, Total	ND	0.095		mg/Kg	1	10/19/2023 3:28:12 PM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	10/19/2023 3:28:12 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/20/2023 8:40:54 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		



## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-19 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/14/2023 9:00:00 AM

Lab ID: 2310830-013

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/21/2023 3:42:20 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/21/2023 3:42:20 AM
Surr: DNOP	87.9	69-147		%Rec	1	10/21/2023 3:42:20 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/19/2023 4:38:14 PM
Surr: BFB	91.1	15-244		%Rec	1	10/19/2023 4:38:14 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>JJP</b>
Benzene	ND	0.024		mg/Kg	1	10/19/2023 4:38:14 PM
Toluene	ND	0.047		mg/Kg	1	10/19/2023 4:38:14 PM
Ethylbenzene	ND	0.047		mg/Kg	1	10/19/2023 4:38:14 PM
Xylenes, Total	ND	0.094		mg/Kg	1	10/19/2023 4:38:14 PM
Surr: 4-Bromofluorobenzene	99.5	39.1-146		%Rec	1	10/19/2023 4:38:14 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/20/2023 8:53:18 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-19 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/14/2023 9:10:00 AM

Lab ID: 2310830-014

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/21/2023 1:10:01 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/21/2023 1:10:01 AM
Surr: DNOP	85.9	69-147		%Rec	1	10/21/2023 1:10:01 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/19/2023 5:01:37 PM
Surr: BFB	96.5	15-244		%Rec	1	10/19/2023 5:01:37 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>JJP</b>
Benzene	ND	0.025		mg/Kg	1	10/19/2023 5:01:37 PM
Toluene	ND	0.050		mg/Kg	1	10/19/2023 5:01:37 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/19/2023 5:01:37 PM
Xylenes, Total	ND	0.099		mg/Kg	1	10/19/2023 5:01:37 PM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	10/19/2023 5:01:37 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	ND	60		mg/Kg	20	10/20/2023 10:20:10 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-20 0.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/14/2023 9:20:00 AM

Lab ID: 2310830-015

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/21/2023 1:20:52 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/21/2023 1:20:52 AM
Surr: DNOP	89.4	69-147		%Rec	1	10/21/2023 1:20:52 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/19/2023 5:24:54 PM
Surr: BFB	93.2	15-244		%Rec	1	10/19/2023 5:24:54 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>JJP</b>
Benzene	ND	0.024		mg/Kg	1	10/19/2023 5:24:54 PM
Toluene	ND	0.048		mg/Kg	1	10/19/2023 5:24:54 PM
Ethylbenzene	ND	0.048		mg/Kg	1	10/19/2023 5:24:54 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/19/2023 5:24:54 PM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	10/19/2023 5:24:54 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	310	60		mg/Kg	20	10/20/2023 10:32:34 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2310830

Date Reported: 10/24/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH23-20 2.0'

Project: Rattlesnake Federal Unit 001

Collection Date: 10/14/2023 9:30:00 AM

Lab ID: 2310830-016

Matrix: SOIL

Received Date: 10/18/2023 7:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>DGH</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	10/21/2023 1:31:43 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/21/2023 1:31:43 AM
Surr: DNOP	88.9	69-147		%Rec	1	10/21/2023 1:31:43 AM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/19/2023 5:48:39 PM
Surr: BFB	90.8	15-244		%Rec	1	10/19/2023 5:48:39 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>JJP</b>
Benzene	ND	0.024		mg/Kg	1	10/19/2023 5:48:39 PM
Toluene	ND	0.049		mg/Kg	1	10/19/2023 5:48:39 PM
Ethylbenzene	ND	0.049		mg/Kg	1	10/19/2023 5:48:39 PM
Xylenes, Total	ND	0.097		mg/Kg	1	10/19/2023 5:48:39 PM
Surr: 4-Bromofluorobenzene	98.3	39.1-146		%Rec	1	10/19/2023 5:48:39 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JTT</b>
Chloride	150	60		mg/Kg	20	10/20/2023 10:44:59 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT  
Hall Environmental Analysis Laboratory, Inc.

WO#: 2310830  
24-Oct-23

Client: Devon Energy  
Project: Rattlesnake Federal Unit 001

Sample ID: MB-78269		SampType: MBLK		TestCode: EPA Method 300.0: Anions						
Client ID: PBS		Batch ID: 78269		RunNo: 100629						
Prep Date: 10/20/2023		Analysis Date: 10/20/2023		SeqNo: 3689507		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-78269		SampType: LCS		TestCode: EPA Method 300.0: Anions						
Client ID: LCSS		Batch ID: 78269		RunNo: 100629						
Prep Date: 10/20/2023		Analysis Date: 10/20/2023		SeqNo: 3689508		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.0	90	110			

Sample ID: MB-78279		SampType: MBLK		TestCode: EPA Method 300.0: Anions						
Client ID: PBS		Batch ID: 78279		RunNo: 100629						
Prep Date: 10/20/2023		Analysis Date: 10/20/2023		SeqNo: 3689537		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-78279		SampType: LCS		TestCode: EPA Method 300.0: Anions						
Client ID: LCSS		Batch ID: 78279		RunNo: 100629						
Prep Date: 10/20/2023		Analysis Date: 10/20/2023		SeqNo: 3689538		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quantitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit



**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2310830

24-Oct-23

**Client:** Devon Energy**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>LCS-78235</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>78235</b>		RunNo: <b>100548</b>							
Prep Date: <b>10/18/2023</b>	Analysis Date: <b>10/19/2023</b>		SeqNo: <b>3687181</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.7	61.9	130			
Surr: DNOP	4.2		5.000		84.1	69	147			

Sample ID: <b>MB-78235</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>78235</b>		RunNo: <b>100548</b>							
Prep Date: <b>10/18/2023</b>	Analysis Date: <b>10/19/2023</b>		SeqNo: <b>3687182</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.8		10.00		88.1	69	147			

Sample ID: <b>LCS-78243</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>78243</b>		RunNo: <b>100627</b>							
Prep Date: <b>10/19/2023</b>	Analysis Date: <b>10/20/2023</b>		SeqNo: <b>3689324</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.3	61.9	130			
Surr: DNOP	4.5		5.000		89.7	69	147			

Sample ID: <b>MB-78243</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>78243</b>		RunNo: <b>100627</b>							
Prep Date: <b>10/19/2023</b>	Analysis Date: <b>10/20/2023</b>		SeqNo: <b>3689328</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.1		10.00		91.5	69	147			

Sample ID: <b>2310830-007AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>BH23-24 0.0'</b>	Batch ID: <b>78243</b>		RunNo: <b>100627</b>							
Prep Date: <b>10/19/2023</b>	Analysis Date: <b>10/20/2023</b>		SeqNo: <b>3689691</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.4	46.82	0	93.7	54.2	135			
Surr: DNOP	3.6		4.682		77.0	69	147			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank  
E Above Quantitation Range/Estimated Value  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2310830  
24-Oct-23

Client: Devon Energy

Project: Rattlesnake Federal Unit 001

Sample ID: 2310830-007AMSD		SampType: MSD			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID: BH23-24 0.0'		Batch ID: 78243			RunNo: 100627					
Prep Date: 10/19/2023		Analysis Date: 10/21/2023			SeqNo: 3689692		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	9.7	48.50	0	115	54.2	135	24.2	29.2	
Surr: DNOP	4.7		4.850		96.2	69	147	0	0	

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2310830

24-Oct-23

**Client:** Devon Energy**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>ics-78237</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>78237</b>		RunNo: <b>100590</b>							
Prep Date: <b>10/18/2023</b>	Analysis Date: <b>10/19/2023</b>		SeqNo: <b>3687197</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.6	70	130			
Surr: BFB	1900		1000		192	15	244			

Sample ID: <b>mb-78237</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>78237</b>		RunNo: <b>100590</b>							
Prep Date: <b>10/18/2023</b>	Analysis Date: <b>10/19/2023</b>		SeqNo: <b>3687198</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.5	15	244			

Sample ID: <b>2310830-007ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>BH23-24 0.0'</b>	Batch ID: <b>78237</b>		RunNo: <b>100590</b>							
Prep Date: <b>10/18/2023</b>	Analysis Date: <b>10/19/2023</b>		SeqNo: <b>3687976</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.9	24.68	0	103	70	130			
Surr: BFB	2100		987.2		210	15	244			

Sample ID: <b>2310830-007amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>BH23-24 0.0'</b>	Batch ID: <b>78237</b>		RunNo: <b>100590</b>							
Prep Date: <b>10/18/2023</b>	Analysis Date: <b>10/19/2023</b>		SeqNo: <b>3687977</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.56	0	96.2	70	130	7.20	20	
Surr: BFB	2000		982.3		199	15	244	0	0	

Sample ID: <b>ics-78227</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>78227</b>		RunNo: <b>100580</b>							
Prep Date: <b>10/18/2023</b>	Analysis Date: <b>10/19/2023</b>		SeqNo: <b>3688395</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.8	70	130			
Surr: BFB	2200		1000		219	15	244			

Sample ID: <b>mb-78227</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>78227</b>		RunNo: <b>100580</b>							
Prep Date: <b>10/18/2023</b>	Analysis Date: <b>10/19/2023</b>		SeqNo: <b>3688396</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank  
E Above Quantitation Range/Estimated Value  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2310830  
24-Oct-23

Client: Devon Energy

Project: Rattlesnake Federal Unit 001

Sample ID: mb-78227	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 78227	RunNo: 100580								
Prep Date: 10/18/2023	Analysis Date: 10/19/2023	SeqNo: 3688396		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		98.9	15	244			

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2310830

24-Oct-23

**Client:** Devon Energy**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>LCS-78237</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>78237</b>		RunNo: <b>100590</b>							
Prep Date: <b>10/18/2023</b>	Analysis Date: <b>10/19/2023</b>		SeqNo: <b>3687200</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	85.5	70	130			
Toluene	0.88	0.050	1.000	0	87.6	70	130			
Ethylbenzene	0.89	0.050	1.000	0	89.3	70	130			
Xylenes, Total	2.7	0.10	3.000	0	89.2	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	39.1	146			

Sample ID: <b>mb-78237</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>78237</b>		RunNo: <b>100590</b>							
Prep Date: <b>10/18/2023</b>	Analysis Date: <b>10/19/2023</b>		SeqNo: <b>3687201</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	39.1	146			

Sample ID: <b>2310830-008ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BH23-24 2.0'</b>	Batch ID: <b>78237</b>		RunNo: <b>100590</b>							
Prep Date: <b>10/18/2023</b>	Analysis Date: <b>10/19/2023</b>		SeqNo: <b>3687980</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.024	0.9653	0	89.1	70	130			
Toluene	0.89	0.048	0.9653	0	92.4	70	130			
Ethylbenzene	0.91	0.048	0.9653	0	94.5	70	130			
Xylenes, Total	2.7	0.097	2.896	0	94.3	70	130			
Surr: 4-Bromofluorobenzene	0.99		0.9653		103	39.1	146			

Sample ID: <b>2310830-008amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BH23-24 2.0'</b>	Batch ID: <b>78237</b>		RunNo: <b>100590</b>							
Prep Date: <b>10/18/2023</b>	Analysis Date: <b>10/19/2023</b>		SeqNo: <b>3687981</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.024	0.9625	0	86.1	70	130	3.74	20	
Toluene	0.86	0.048	0.9625	0	89.1	70	130	3.93	20	
Ethylbenzene	0.87	0.048	0.9625	0	90.3	70	130	4.78	20	
Xylenes, Total	2.6	0.096	2.887	0	90.3	70	130	4.65	20	
Surr: 4-Bromofluorobenzene	0.98		0.9625		101	39.1	146	0	0	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank  
E Above Quantitation Range/Estimated Value  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2310830

24-Oct-23

Client: Devon Energy

Project: Rattlesnake Federal Unit 001

Sample ID: lcs-78227	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 78227	RunNo: 100580								
Prep Date: 10/18/2023	Analysis Date: 10/19/2023	SeqNo: 3688352	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.025	1.000	0	82.1	70	130			
Toluene	0.85	0.050	1.000	0	84.5	70	130			
Ethylbenzene	0.87	0.050	1.000	0	87.5	70	130			
Xylenes, Total	2.6	0.10	3.000	0	87.0	70	130			
Surr: 4-Bromofluorobenzene	0.89		1.000		89.3	39.1	146			

Sample ID: mb-78227	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 78227	RunNo: 100580								
Prep Date: 10/18/2023	Analysis Date: 10/19/2023	SeqNo: 3688353	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.89		1.000		89.2	39.1	146			

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

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E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Devon Energy

Work Order Number: 2310830

RcptNo: 1

Received By: Tracy Casarrubias 10/18/2023 7:18:00 AM

Completed By: Tracy Casarrubias 10/18/2023 7:52:57 AM

Reviewed By: SCM 10/18/23

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace  $<1/4"$  for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐
- # of preserved bottles checked for pH: 7  
( $<2$  or  $>12$  unless noted)  
Adjusted? 7
- Checked by: SCM 10/18/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: Mailing address, phone number and Email/Fax are missing on COC - TMC 10/18/23

16. Additional remarks:

Client did not relinquish chain of custody

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.7	Good	Yes	Morty		

## Chain-of-Custody Record

Client: Devon

Mailing Address: Direct Bill

Phone #: \_\_\_\_\_

email or Fax#: \_\_\_\_\_

QA/QC Package: ☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other \_\_\_\_\_

☐ EDD (Type) \_\_\_\_\_

Date	Time	Matrix	Sample Name	Depth
10/16-23	0900	Soil	BA23-21	0.0'
	0910		BA23-21	2.0'
	0920		BA23-22	0.0'
	0930		BA23-22	2.0'
	0940		BA23-23	0.0'
	0950		BA23-23	2.0'
	1006		BA23-24	0.0'
	1010		BA23-24	2.0'
	1020		BA23-25	0.0'
	1030		BA23-25	2.0'
	1040		BA23-25	4.0'
	1050		BA23-25	5.0'

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by: \_\_\_\_\_

Date: 10/16/23 Time: 1900

Relinquished by: AMMUNIA

Turn-Around Time: ☒ Standard ☒ Rush 5 DAY

Project Name: Rattlesnake Federal / Unit #001

Project #: 23E-04815

Project Manager: Ken Stallings

Sampler: AT

On Ice: ☒ Yes ☐ No many

# of Coolers: 1

Cooler Temp (including CF): 3.7-0.2 3.7 (°C)

Container Type and #	Preservative Type	HEAL No.
702	ICE	2310830
		001
		002
		003
		004
		005
		006
		007
		008
		009
		010
		011
		012

Received by: AMMUNIA Date: 10/16/23 Time: 900

Received by: Via Courier Date: 10/18/23 Time: 18



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

## Analysis Request

TPH 8015D (GRO / DRO / MRO)	
8081 Pesticides/8082 PCB's	
EDB (Method 504.1)	
PAHs by 8310 or 8270SIMS	
RCRA 8 Metals	
Cl, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	
8260 (VOA)	
8270 (Semi-VOA)	
Total Coliform (Present/Absent)	

Remarks:

CC: kstallings@vertex.cq

charrisse@vertex.cq







Environment Testing

Eurofins Environment Testing South  
Central, LLC  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

January 08, 2024

Kent Stallings

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL:

FAX:

RE: Rattlesnake Federal Unit 001

OrderNo.: 2312F03

Dear Kent Stallings:

Eurofins Environment Testing South Central, LLC received 5 sample(s) on 12/29/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", with a stylized flourish at the end.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order 2312F03

Date Reported: 1/8/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-12 6'

Project: Rattlesnake Federal Unit 001

Collection Date: 12/20/2023 12:00:00 PM

Lab ID: 2312F03-001

Matrix: SOIL

Received Date: 12/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	1/1/2024 9:15:50 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/1/2024 9:15:50 PM
Surr: DNOP	93.9	69-147		%Rec	1	1/1/2024 9:15:50 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/2/2024 11:29:32 AM
Surr: BFB	99.8	15-244		%Rec	1	1/2/2024 11:29:32 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	1/2/2024 11:29:32 AM
Toluene	ND	0.048		mg/Kg	1	1/2/2024 11:29:32 AM
Ethylbenzene	ND	0.048		mg/Kg	1	1/2/2024 11:29:32 AM
Xylenes, Total	ND	0.096		mg/Kg	1	1/2/2024 11:29:32 AM
Surr: 4-Bromofluorobenzene	97.5	39.1-146		%Rec	1	1/2/2024 11:29:32 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JMT
Chloride	1500	60		mg/Kg	20	1/2/2024 9:22:23 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2312F03  
Date Reported: 1/8/2024

**CLIENT:** Vertex Resources Services, Inc.  
**Project:** Rattlesnake Federal Unit 001  
**Lab ID:** 2312F03-002

**Matrix:** SOIL

**Client Sample ID:** BH23-12 8'  
**Collection Date:** 12/20/2023 12:20:00 PM  
**Received Date:** 12/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>PRD</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/1/2024 9:26:18 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/1/2024 9:26:18 PM
Surr: DNOP	94.2	69-147		%Rec	1	1/1/2024 9:26:18 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/2/2024 11:53:13 AM
Surr: BFB	99.5	15-244		%Rec	1	1/2/2024 11:53:13 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>JJP</b>
Benzene	ND	0.024		mg/Kg	1	1/2/2024 11:53:13 AM
Toluene	ND	0.048		mg/Kg	1	1/2/2024 11:53:13 AM
Ethylbenzene	ND	0.048		mg/Kg	1	1/2/2024 11:53:13 AM
Xylenes, Total	ND	0.096		mg/Kg	1	1/2/2024 11:53:13 AM
Surr: 4-Bromofluorobenzene	96.3	39.1-146		%Rec	1	1/2/2024 11:53:13 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	570	60		mg/Kg	20	1/2/2024 9:34:48 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2312F03

Date Reported: 1/8/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-15 4'

Project: Rattlesnake Federal Unit 001

Collection Date: 12/20/2023 12:45:00 PM

Lab ID: 2312F03-003

Matrix: SOIL

Received Date: 12/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	1/1/2024 9:36:46 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/1/2024 9:36:46 PM
Surr: DNOP	92.2	69-147		%Rec	1	1/1/2024 9:36:46 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/2/2024 12:16:51 PM
Surr: BFB	97.6	15-244		%Rec	1	1/2/2024 12:16:51 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	1/2/2024 12:16:51 PM
Toluene	ND	0.049		mg/Kg	1	1/2/2024 12:16:51 PM
Ethylbenzene	ND	0.049		mg/Kg	1	1/2/2024 12:16:51 PM
Xylenes, Total	ND	0.099		mg/Kg	1	1/2/2024 12:16:51 PM
Surr: 4-Bromofluorobenzene	95.2	39.1-146		%Rec	1	1/2/2024 12:16:51 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JMT
Chloride	460	60		mg/Kg	20	1/2/2024 9:47:13 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2312F03

Date Reported: 1/8/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-15 6'

Project: Rattlesnake Federal Unit 001

Collection Date: 12/20/2023 12:55:00 PM

Lab ID: 2312F03-004

Matrix: SOIL

Received Date: 12/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	1/1/2024 9:47:13 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/1/2024 9:47:13 PM
Surr: DNOP	95.5	69-147		%Rec	1	1/1/2024 9:47:13 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/2/2024 12:40:46 PM
Surr: BFB	102	15-244		%Rec	1	1/2/2024 12:40:46 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	1/2/2024 12:40:46 PM
Toluene	ND	0.049		mg/Kg	1	1/2/2024 12:40:46 PM
Ethylbenzene	ND	0.049		mg/Kg	1	1/2/2024 12:40:46 PM
Xylenes, Total	ND	0.097		mg/Kg	1	1/2/2024 12:40:46 PM
Surr: 4-Bromofluorobenzene	99.4	39.1-146		%Rec	1	1/2/2024 12:40:46 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JMT
Chloride	450	60		mg/Kg	20	1/2/2024 10:24:27 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2312F03  
Date Reported: 1/8/2024

CLIENT: Vertex Resources Services, Inc.      Client Sample ID: BH23-15 8'  
Project: Rattlesnake Federal Unit 001      Collection Date: 12/20/2023 1:05:00 PM  
Lab ID: 2312F03-005      Matrix: SOIL      Received Date: 12/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/1/2024 9:57:48 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/1/2024 9:57:48 PM
Surr: DNOP	96.5	69-147		%Rec	1	1/1/2024 9:57:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/2/2024 1:04:40 PM
Surr: BFB	103	15-244		%Rec	1	1/2/2024 1:04:40 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	1/2/2024 1:04:40 PM
Toluene	ND	0.050		mg/Kg	1	1/2/2024 1:04:40 PM
Ethylbenzene	ND	0.050		mg/Kg	1	1/2/2024 1:04:40 PM
Xylenes, Total	ND	0.10		mg/Kg	1	1/2/2024 1:04:40 PM
Surr: 4-Bromofluorobenzene	98.6	39.1-146		%Rec	1	1/2/2024 1:04:40 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	470	60		mg/Kg	20	1/2/2024 10:36:52 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2312F03

08-Jan-24

Client: Vertex Resources Services, Inc.

Project: Rattlesnake Federal Unit 001

Sample ID: MB-79690	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 79690	RunNo: 102194
Prep Date: 1/2/2024	Analysis Date: 1/2/2024	SeqNo: 3772697 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-79690	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 79690	RunNo: 102194
Prep Date: 1/2/2024	Analysis Date: 1/2/2024	SeqNo: 3772698 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 92.0 90 110

Qualifiers:

\*

Value exceeds Maximum Contaminant Level.

D

Sample Diluted Due to Matrix

H

Holding times for preparation or analysis exceeded

ND

Not Detected at the Reporting Limit

PQL

Practical Quantitative Limit

S

% Recovery outside of standard limits. If undiluted results may be estimated.

B

Analyte detected in the associated Method Blank

E

Above Quantitation Range/Estimated Value

J

Analyte detected below quantitation limits

P

Sample pH Not In Range

RL

Reporting Limit



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2312F03

08-Jan-24

Client: Vertex Resources Services, Inc.  
Project: Rattlesnake Federal Unit 001

Sample ID: 2312F03-005AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH23-15 8'	Batch ID: 79675	RunNo: 102162								
Prep Date: 1/1/2024	Analysis Date: 1/1/2024	SeqNo: 3771002			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.3	46.73	0	97.3	54.2	135			
Surr: DNOP	4.7		4.673		100	69	147			

Sample ID: 2312F03-005AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH23-15 8'	Batch ID: 79675	RunNo: 102162								
Prep Date: 1/1/2024	Analysis Date: 1/1/2024	SeqNo: 3771003			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	49.75	0	114	54.2	135	22.1	29.2	
Surr: DNOP	5.7		4.975		114	69	147	0	0	

Sample ID: LCS-79675	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 79675	RunNo: 102162								
Prep Date: 1/1/2024	Analysis Date: 1/1/2024	SeqNo: 3771005			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.4	61.9	130			
Surr: DNOP	4.9		5.000		98.0	69	147			

Sample ID: MB-79675	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 79675	RunNo: 102162								
Prep Date: 1/1/2024	Analysis Date: 1/1/2024	SeqNo: 3771008			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		107	69	147			

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 7 of 9

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2312F03  
08-Jan-24

Client: Vertex Resources Services, Inc.  
Project: Rattlesnake Federal Unit 001

Sample ID: <b>ics-79669</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>79669</b>			RunNo: <b>102187</b>						
Prep Date: <b>12/29/2023</b>	Analysis Date: <b>1/2/2024</b>			SeqNo: <b>3772357</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.4	70	130			
Surr: BFB	2000		1000		202	15	244			

Sample ID: <b>mb-79669</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>79669</b>			RunNo: <b>102187</b>						
Prep Date: <b>12/29/2023</b>	Analysis Date: <b>1/2/2024</b>			SeqNo: <b>3772358</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		99.2	15	244			

Qualifiers:

- \*

Value exceeds Maximum Contaminant Level.
- D

Sample Diluted Due to Matrix
- H

Holding times for preparation or analysis exceeded
- ND

Not Detected at the Reporting Limit
- PQL

Practical Quantitative Limit
- S

% Recovery outside of standard limits. If undiluted results may be estimated.
- B

Analyte detected in the associated Method Blank
- E

Above Quantitation Range/Estimated Value
- J

Analyte detected below quantitation limits
- P

Sample pH Not In Range
- RL

Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2312F03

08-Jan-24

Client: Vertex Resources Services, Inc.

Project: Rattlesnake Federal Unit 001

Sample ID: <b>LCS-79669</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>79669</b>		RunNo: <b>102187</b>							
Prep Date: <b>12/29/2023</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772369</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	90.8	70	130			
Toluene	0.92	0.050	1.000	0	92.2	70	130			
Ethylbenzene	0.93	0.050	1.000	0	92.6	70	130			
Xylenes, Total	2.8	0.10	3.000	0	93.2	70	130			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.2	39.1	146			

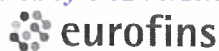
Sample ID: <b>mb-79669</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>79669</b>		RunNo: <b>102187</b>							
Prep Date: <b>12/29/2023</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772370</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		94.8	39.1	146			

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank  
E Above Quantitation Range/Estimated Value  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

Page 9 of 9



Environment Testin

Eurofins Environment Testing South  
Central, LLC4901 Hawkins NE  
Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Vertex Resources

Work Order Number: 2312F03

RcptNo: 1

Received By: Tracy Casarrubias

12/29/2023 7:15:00 AM

Completed By: Tracy Casarrubias

12/29/2023 8:00:43 AM

Reviewed By:

12-29-23

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace  $<1/4"$  for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

(&lt;2 or &gt;12 unless noted)

Adjusted? \_\_\_\_\_

Checked by: ju 12/29/23Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: Mailing address, phone number and Email/Fax are missing on COC- TMC 12/29/23

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Yes	Morty		







Eurofins Environment Testing South  
Central, LLC  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

January 08, 2024

Kent Stallings

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL:

FAX:

RE: Rattlesnake Federal Unit 001

OrderNo.: 2312F02

Dear Kent Stallings:

Eurofins Environment Testing South Central, LLC received 7 sample(s) on 12/29/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2312F02  
Date Reported: 1/8/2024

CLIENT: Vertex Resources Services, Inc.      Client Sample ID: BH23-17 6'  
Project: Rattlesnake Federal Unit 001      Collection Date: 12/21/2023 3:15:00 PM  
Lab ID: 2312F02-001      Matrix: SOIL      Received Date: 12/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/1/2024 8:01:59 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/1/2024 8:01:59 PM
Surr: DNOP	103	69-147		%Rec	1	1/1/2024 8:01:59 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/2/2024 1:28:31 PM
Surr: BFB	101	15-244		%Rec	1	1/2/2024 1:28:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	1/2/2024 1:28:31 PM
Toluene	ND	0.049		mg/Kg	1	1/2/2024 1:28:31 PM
Ethylbenzene	ND	0.049		mg/Kg	1	1/2/2024 1:28:31 PM
Xylenes, Total	ND	0.097		mg/Kg	1	1/2/2024 1:28:31 PM
Surr: 4-Bromofluorobenzene	96.4	39.1-146		%Rec	1	1/2/2024 1:28:31 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	1800	60		mg/Kg	20	1/2/2024 4:24:33 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2312F02

Date Reported: 1/8/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-17 8'

Project: Rattlesnake Federal Unit 001

Collection Date: 12/21/2023 3:30:00 PM

Lab ID: 2312F02-002

Matrix: SOIL

Received Date: 12/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	1/1/2024 8:12:36 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/1/2024 8:12:36 PM
Surr: DNOP	107	69-147		%Rec	1	1/1/2024 8:12:36 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/2/2024 1:52:20 PM
Surr: BFB	100	15-244		%Rec	1	1/2/2024 1:52:20 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	1/2/2024 1:52:20 PM
Toluene	ND	0.049		mg/Kg	1	1/2/2024 1:52:20 PM
Ethylbenzene	ND	0.049		mg/Kg	1	1/2/2024 1:52:20 PM
Xylenes, Total	ND	0.098		mg/Kg	1	1/2/2024 1:52:20 PM
Surr: 4-Bromofluorobenzene	95.5	39.1-146		%Rec	1	1/2/2024 1:52:20 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JMT
Chloride	2100	60		mg/Kg	20	1/2/2024 4:36:58 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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## Analytical Report

Lab Order 2312F02

Date Reported: 1/8/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-18 6'

Project: Rattlesnake Federal Unit 001

Collection Date: 12/21/2023 2:15:00 PM

Lab ID: 2312F02-003

Matrix: SOIL

Received Date: 12/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/1/2024 8:23:11 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/1/2024 8:23:11 PM
Surr: DNOP	102	69-147		%Rec	1	1/1/2024 8:23:11 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/2/2024 2:16:11 PM
Surr: BFB	99.6	15-244		%Rec	1	1/2/2024 2:16:11 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	1/2/2024 2:16:11 PM
Toluene	ND	0.048		mg/Kg	1	1/2/2024 2:16:11 PM
Ethylbenzene	ND	0.048		mg/Kg	1	1/2/2024 2:16:11 PM
Xylenes, Total	ND	0.096		mg/Kg	1	1/2/2024 2:16:11 PM
Surr: 4-Bromofluorobenzene	96.4	39.1-146		%Rec	1	1/2/2024 2:16:11 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JMT
Chloride	170	60		mg/Kg	20	1/2/2024 4:49:22 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2312F02  
Date Reported: 1/8/2024

CLIENT: Vertex Resources Services, Inc. Client Sample ID: BH23-27 0'  
Project: Rattlesnake Federal Unit 001 Collection Date: 12/21/2023 9:35:00 AM  
Lab ID: 2312F02-004 Matrix: SOIL Received Date: 12/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/2/2024 10:46:24 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/2/2024 10:46:24 AM
Surr: DNOP	110	69-147		%Rec	1	1/2/2024 10:46:24 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/2/2024 2:40:02 PM
Surr: BFB	103	15-244		%Rec	1	1/2/2024 2:40:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	1/2/2024 2:40:02 PM
Toluene	ND	0.047		mg/Kg	1	1/2/2024 2:40:02 PM
Ethylbenzene	ND	0.047		mg/Kg	1	1/2/2024 2:40:02 PM
Xylenes, Total	ND	0.093		mg/Kg	1	1/2/2024 2:40:02 PM
Surr: 4-Bromofluorobenzene	99.1	39.1-146		%Rec	1	1/2/2024 2:40:02 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	67	60		mg/Kg	20	1/2/2024 8:32:45 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

## Analytical Report

Lab Order 2312F02

Date Reported: 1/8/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-27 2'

Project: Rattlesnake Federal Unit 001

Collection Date: 12/21/2023 10:30:00 AM

Lab ID: 2312F02-005

Matrix: SOIL

Received Date: 12/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/1/2024 8:44:18 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/1/2024 8:44:18 PM
Surr: DNOP	97.4	69-147		%Rec	1	1/1/2024 8:44:18 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/2/2024 3:03:53 PM
Surr: BFB	106	15-244		%Rec	1	1/2/2024 3:03:53 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	1/2/2024 3:03:53 PM
Toluene	ND	0.047		mg/Kg	1	1/2/2024 3:03:53 PM
Ethylbenzene	ND	0.047		mg/Kg	1	1/2/2024 3:03:53 PM
Xylenes, Total	ND	0.095		mg/Kg	1	1/2/2024 3:03:53 PM
Surr: 4-Bromofluorobenzene	99.5	39.1-146		%Rec	1	1/2/2024 3:03:53 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JMT
Chloride	65	60		mg/Kg	20	1/2/2024 8:45:10 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		



## Analytical Report

Lab Order 2312F02

Date Reported: 1/8/2024

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-28 0'

Project: Rattlesnake Federal Unit 001

Collection Date: 12/21/2023 12:30:00 PM

Lab ID: 2312F02-006

Matrix: SOIL

Received Date: 12/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	1/1/2024 8:54:49 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/1/2024 8:54:49 PM
Surr: DNOP	97.3	69-147		%Rec	1	1/1/2024 8:54:49 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/2/2024 5:03:09 PM
Surr: BFB	101	15-244		%Rec	1	1/2/2024 5:03:09 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	1/2/2024 5:03:09 PM
Toluene	ND	0.048		mg/Kg	1	1/2/2024 5:03:09 PM
Ethylbenzene	ND	0.048		mg/Kg	1	1/2/2024 5:03:09 PM
Xylenes, Total	ND	0.095		mg/Kg	1	1/2/2024 5:03:09 PM
Surr: 4-Bromofluorobenzene	94.7	39.1-146		%Rec	1	1/2/2024 5:03:09 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JMT
Chloride	ND	60		mg/Kg	20	1/2/2024 8:57:34 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
Lab Order 2312F02  
Date Reported: 1/8/2024

CLIENT: Vertex Resources Services, Inc.      Client Sample ID: BH23-28 2'  
Project: Rattlesnake Federal Unit 001      Collection Date: 12/21/2023 12:40:00 PM  
Lab ID: 2312F02-007      Matrix: SOIL      Received Date: 12/29/2023 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/1/2024 9:05:20 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/1/2024 9:05:20 PM
Surr: DNOP	95.4	69-147		%Rec	1	1/1/2024 9:05:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/2/2024 5:26:59 PM
Surr: BFB	97.1	15-244		%Rec	1	1/2/2024 5:26:59 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	1/2/2024 5:26:59 PM
Toluene	ND	0.049		mg/Kg	1	1/2/2024 5:26:59 PM
Ethylbenzene	ND	0.049		mg/Kg	1	1/2/2024 5:26:59 PM
Xylenes, Total	ND	0.098		mg/Kg	1	1/2/2024 5:26:59 PM
Surr: 4-Bromofluorobenzene	91.6	39.1-146		%Rec	1	1/2/2024 5:26:59 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	1/2/2024 9:09:59 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2312F02

08-Jan-24

**Client:** Vertex Resources Services, Inc.**Project:** Rattlesnake Federal Unit 001

Sample ID: <b>MB-79684</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>79684</b>		RunNo: <b>102194</b>							
Prep Date: <b>1/2/2024</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772679</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-79684</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>79684</b>		RunNo: <b>102194</b>							
Prep Date: <b>1/2/2024</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772680</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.8	90	110			

Sample ID: <b>MB-79690</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>79690</b>		RunNo: <b>102194</b>							
Prep Date: <b>1/2/2024</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772697</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-79690</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>79690</b>		RunNo: <b>102194</b>							
Prep Date: <b>1/2/2024</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772698</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.0	90	110			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank  
E Above Quantitation Range/Estimated Value  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2312F02  
08-Jan-24

Client: Vertex Resources Services, Inc.  
Project: Rattlesnake Federal Unit 001

Sample ID: LCS-79675	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 79675	RunNo: 102162								
Prep Date: 1/1/2024	Analysis Date: 1/1/2024	SeqNo: 3771005			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.4	61.9	130			
Surr: DNOP	4.9		5.000		98.0	69	147			

Sample ID: MB-79675	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 79675	RunNo: 102162								
Prep Date: 1/1/2024	Analysis Date: 1/1/2024	SeqNo: 3771008			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		107	69	147			

Qualifiers:

- \*

Value exceeds Maximum Contaminant Level.
- D

Sample Diluted Due to Matrix
- H

Holding times for preparation or analysis exceeded
- ND

Not Detected at the Reporting Limit
- PQL

Practical Quantitative Limit
- S

% Recovery outside of standard limits. If undiluted results may be estimated.
- B

Analyte detected in the associated Method Blank
- E

Above Quantitation Range/Estimated Value
- J

Analyte detected below quantitation limits
- P

Sample pH Not In Range
- RL

Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2312F02

08-Jan-24

Client: Vertex Resources Services, Inc.

Project: Rattlesnake Federal Unit 001

Sample ID: <b>lcs-79669</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>79669</b>		RunNo: <b>102187</b>							
Prep Date: <b>12/29/2023</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772357</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.4	70	130			
Surr: BFB	2000		1000		202	15	244			

Sample ID: <b>mb-79669</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>79669</b>		RunNo: <b>102187</b>							
Prep Date: <b>12/29/2023</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772358</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		99.2	15	244			

Sample ID: <b>2312f02-001ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>BH23-17 6'</b>	Batch ID: <b>79669</b>		RunNo: <b>102187</b>							
Prep Date: <b>12/29/2023</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772488</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.41	0	86.0	70	130			
Surr: BFB	2000		976.6		205	15	244			

Sample ID: <b>2312f02-001amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>BH23-17 6'</b>	Batch ID: <b>79669</b>		RunNo: <b>102187</b>							
Prep Date: <b>12/29/2023</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772489</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.9	24.39	0	90.4	70	130	4.85	20	
Surr: BFB	2000		975.6		202	15	244	0	0	

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank  
E Above Quantitation Range/Estimated Value  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2312F02

08-Jan-24

Client: Vertex Resources Services, Inc.

Project: Rattlesnake Federal Unit 001

Sample ID: <b>LCS-79669</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>79669</b>		RunNo: <b>102187</b>							
Prep Date: <b>12/29/2023</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772369</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	90.8	70	130			
Toluene	0.92	0.050	1.000	0	92.2	70	130			
Ethylbenzene	0.93	0.050	1.000	0	92.6	70	130			
Xylenes, Total	2.8	0.10	3.000	0	93.2	70	130			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.2	39.1	146			

Sample ID: <b>mb-79669</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>79669</b>		RunNo: <b>102187</b>							
Prep Date: <b>12/29/2023</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772370</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		94.8	39.1	146			

Sample ID: <b>2312f02-002ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BH23-17 8'</b>	Batch ID: <b>79669</b>		RunNo: <b>102187</b>							
Prep Date: <b>12/29/2023</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772472</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.024	0.9737	0	88.2	70	130			
Toluene	0.87	0.049	0.9737	0	89.6	70	130			
Ethylbenzene	0.89	0.049	0.9737	0	91.5	70	130			
Xylenes, Total	2.7	0.097	2.921	0	91.6	70	130			
Surr: 4-Bromofluorobenzene	0.90		0.9737		92.2	39.1	146			

Sample ID: <b>2312f02-002amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>BH23-17 8'</b>	Batch ID: <b>79669</b>		RunNo: <b>102187</b>							
Prep Date: <b>12/29/2023</b>	Analysis Date: <b>1/2/2024</b>		SeqNo: <b>3772473</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.024	0.9775	0	88.9	70	130	1.23	20	
Toluene	0.88	0.049	0.9775	0	90.3	70	130	1.17	20	
Ethylbenzene	0.88	0.049	0.9775	0	90.4	70	130	0.808	20	
Xylenes, Total	2.7	0.098	2.933	0	91.9	70	130	0.732	20	
Surr: 4-Bromofluorobenzene	0.91		0.9775		93.4	39.1	146	0	0	

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank  
E Above Quantitation Range/Estimated Value  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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Environment Testin

Eurofins Environment Testing South  
Central, LLC

4901 Hawkins NE

Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Vertex Resources

Work Order Number: 2312F02

RcptNo: 1

Received By: Tracy Casarrubias

12/29/2023 7:15:00 AM

Completed By: Tracy Casarrubias

12/29/2023 7:50:26 AM

Reviewed By:

12-29-23

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace  $<1/4$ " for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

(&lt;2 or &gt;12 unless noted)

Adjusted? \_\_\_\_\_

Checked by: TM 12/29/23Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: Mailing address, phone number and Email/Fax are missing on COC- TMC 12/29/23

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Yes	Morty		

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

## Analysis Request

**Turn-Around Time:**

☐ Standard

☒ Rush 2 day

Project Name:

Rattlesnake Federal Unit #001

Project #:

23E-04815

**Project Manager:**

Kent Stallings

Sampler: Bryce Mortimer

On Ice: ☒ Yes ☐ No mart

# of Coolers: 1

Cooler Temp (including CF):  $0.4 \pm 0 = 0.4$  ( $^{\circ}\text{C}$ )

Container	Preservative	HEAL No.

Preservative

HEAL No.

24/21/23	15:15	Soil	BH23-17	6'
	15:30		BH23-17	8'
	14:15		BH23-18	6'
	9:35		BH23-27	0'
	10:30		BH23-27	2'
	12:30		BH23-28	0'
✓	12:50	✓	BH23-28	2'

Date:	Time:	Relinquished by:
-------	-------	------------------

Relinquished by: Depl. Mcd

Date:	Time:	Relinquished by:
-------	-------	------------------

Acquired by:

Received by:	Via:	Date	Time
--------------	------	------	------

Date \_\_\_\_\_

Time

Received by:	Via: <i>courier</i>	Date	Time
--------------	---------------------	------	------

Date \_\_\_\_\_

Time

1900	<i>[Signature]</i>	<i>[Signature]</i>	7:15	CL. KStallings @ verizon
------	--------------------	--------------------	------	--------------------------

Any sub-contracted data will be clearly notated on the analytical report.

Report to:  
Chad Hensley



5796 U.S. Hwy 64  
Farmington, NM 87401

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



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Vertex Resource Services Inc.

Project Name: Rattlesnake Federal Unit #001

Work Order: E412065

Job Number: 01058-0007

Received: 12/10/2024

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
12/12/24

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: 12/12/24

Chad Hensley  
3101 Boyd Drive  
Carlsbad, NM 88220



Project Name: Rattlesnake Federal Unit #001  
Workorder: E412065  
Date Received: 12/10/2024 7:00:00AM

Chad Hensley,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/10/2024 7:00:00AM, under the Project Name: Rattlesnake Federal Unit #001.

The analytical test results summarized in this report with the Project Name: Rattlesnake Federal Unit #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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## Sample Summary

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/24 12:51
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Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BS24-10 @ 1'	E412065-01A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-9 @ 1'	E412065-02A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-8 @ 1'	E412065-03A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-7 @ 1'	E412065-04A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-6 @ 1'	E412065-05A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-5 @ 1'	E412065-06A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-4 @ 1'	E412065-07A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-3 @ 1'	E412065-08A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-2 @ 1'	E412065-09A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-1 @ 1'	E412065-10A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-11 @ 1'	E412065-11A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-12 @ 4.1'	E412065-12A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-13 @ 4.1'	E412065-13A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-14 @ 4.1'	E412065-14A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-15 @ 1'	E412065-15A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-16 @ 4.1'	E412065-16A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-17 @ 4.1'	E412065-17A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-18 @ 4.1'	E412065-18A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-19 @ 4.1'	E412065-19A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-20 @ 4.1'	E412065-20A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:51:31PM

BS24-10 @ 1'

E412065-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		125 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		108 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: AF		Batch: 2450025	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
		107 %	50-200	12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: JM		Batch: 2450030	
Chloride	148	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:51:31PM
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BS24-9 @ 1'  
E412065-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	124 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	108 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450025	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	112 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: JM		Batch: 2450030	
Chloride	127	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:51:31PM

BS24-8 @ 1'

E412065-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		126 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		109 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450025
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
		99.9 %	50-200	12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: JM		Batch: 2450030
Chloride	154	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:51:31PM

BS24-7 @ 1'

E412065-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	126 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	109 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450025	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: JM		Batch: 2450030	
Chloride	201	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:51:31PM
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BS24-6 @ 1'

E412065-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
Surrogate: 4-Bromochlorobenzene-PID	124 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	107 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: AF		Batch: 2450025	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane	104 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: JM		Batch: 2450030	
Chloride	169	20.0	1	12/10/24	12/10/24	





Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:51:31PM
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BS24-5 @ 1'  
E412065-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	126 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	108 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450025	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: JM		Batch: 2450030	
Chloride	149	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:51:31PM
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BS24-4 @ 1'  
E412065-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	126 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	109 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450025	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	101 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: JM		Batch: 2450030	
Chloride	187	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:51:31PM

BS24-3 @ 1'

E412065-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		125 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		109 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450025
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
		103 %	50-200	12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: JM		Batch: 2450030
Chloride	168	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:51:31PM

BS24-2 @ 1'

E412065-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		125 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		110 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450025
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
		112 %	50-200	12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: JM		Batch: 2450030
Chloride	224	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:51:31PM
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BS24-1 @ 1'  
E412065-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	125 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	110 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450025	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	106 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: JM		Batch: 2450030	
Chloride	228	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:51:31PM
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BS24-11 @ 1'

E412065-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
Surrogate: 4-Bromochlorobenzene-PID	126 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	109 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: AF		Batch: 2450025	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane	104 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: JM		Batch: 2450030	
Chloride	196	20.0	1	12/10/24	12/10/24	





## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:51:31PM

BS24-12 @ 4.1'

E412065-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		126 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		111 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450025
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
		105 %	50-200	12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: JM		Batch: 2450030
Chloride	122	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:51:31PM

BS24-13 @ 4.1'

E412065-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		126 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		111 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450025
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
		105 %	50-200	12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: JM		Batch: 2450030
Chloride	90.4	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:51:31PM

BS24-14 @ 4.1'

E412065-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		126 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		111 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450025
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
		107 %	50-200	12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: JM		Batch: 2450030
Chloride	40.0	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:51:31PM

BS24-15 @ 1'

E412065-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		126 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450023
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		112 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450025
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
		108 %	50-200	12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: JM		Batch: 2450030
Chloride	77.0	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:51:31PM
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## BS24-16 @ 4.1'

## E412065-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
Surrogate: 4-Bromochlorobenzene-PID	126 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	111 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: AF		Batch: 2450025	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	104 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: JM		Batch: 2450030	
Chloride	ND	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:51:31PM
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BS24-17 @ 4.1'  
E412065-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: 4-Bromochlorobenzene-PID	127 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	113 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: AF		Batch: 2450025	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	105 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: JM		Batch: 2450030	
Chloride	ND	20.0	1	12/10/24	12/10/24	





Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:51:31PM
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BS24-18 @ 4.1'  
E412065-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	126 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	112 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450025	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	107 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: JM		Batch: 2450030	
Chloride	ND	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:51:31PM
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BS24-19 @ 4.1'  
E412065-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	127 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	112 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450025	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: JM		Batch: 2450030	
Chloride	92.1	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:51:31PM
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BS24-20 @ 4.1'  
E412065-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	126 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450023	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	113 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450025	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	104 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: JM		Batch: 2450030	
Chloride	101	20.0	1	12/10/24	12/10/24	



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/12/2024 12:51:31PM
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Volatile Organics by EPA 8021B

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 (2450023-BLK1) Prepared: 12/10/24 Analyzed: 12/10/24

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	9.50		8.00		119	70-130			

LCS (2450023-BS1) Prepared: 12/10/24 Analyzed: 12/10/24

Benzene	4.45	0.0250	5.00		89.0	70-130			
Ethylbenzene	4.34	0.0250	5.00		86.8	70-130			
Toluene	4.41	0.0250	5.00		88.2	70-130			
o-Xylene	4.34	0.0250	5.00		86.8	70-130			
p,m-Xylene	8.86	0.0500	10.0		88.6	70-130			
Total Xylenes	13.2	0.0250	15.0		88.0	70-130			
Surrogate: 4-Bromochlorobenzene-PID	9.83		8.00		123	70-130			

Matrix Spike (2450023-MS1) Source: E412065-05 Prepared: 12/10/24 Analyzed: 12/10/24

Benzene	4.33	0.0250	5.00	ND	86.6	54-133			
Ethylbenzene	4.21	0.0250	5.00	ND	84.1	61-133			
Toluene	4.28	0.0250	5.00	ND	85.7	61-130			
o-Xylene	4.22	0.0250	5.00	ND	84.5	63-131			
p,m-Xylene	8.59	0.0500	10.0	ND	85.9	63-131			
Total Xylenes	12.8	0.0250	15.0	ND	85.4	63-131			
Surrogate: 4-Bromochlorobenzene-PID	9.92		8.00		124	70-130			

Matrix Spike Dup (2450023-MSD1) Source: E412065-05 Prepared: 12/10/24 Analyzed: 12/10/24

Benzene	4.36	0.0250	5.00	ND	87.2	54-133	0.700	20	
Ethylbenzene	4.25	0.0250	5.00	ND	85.0	61-133	1.07	20	
Toluene	4.32	0.0250	5.00	ND	86.5	61-130	0.915	20	
o-Xylene	4.25	0.0250	5.00	ND	85.1	63-131	0.692	20	
p,m-Xylene	8.68	0.0500	10.0	ND	86.8	63-131	1.09	20	
Total Xylenes	12.9	0.0250	15.0	ND	86.2	63-131	0.962	20	
Surrogate: 4-Bromochlorobenzene-PID	9.96		8.00		124	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/12/2024 12:51:31PM
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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
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Blank (2450023-BLK1) Prepared: 12/10/24 Analyzed: 12/10/24

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.56		8.00		107	70-130			

LCS (2450023-BS2) Prepared: 12/10/24 Analyzed: 12/10/24

Gasoline Range Organics (C6-C10)	40.2	20.0	50.0		80.5	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.67		8.00		108	70-130			

Matrix Spike (2450023-MS2) Source: E412065-05 Prepared: 12/10/24 Analyzed: 12/10/24

Gasoline Range Organics (C6-C10)	40.8	20.0	50.0	ND	81.6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.67		8.00		108	70-130			

Matrix Spike Dup (2450023-MSD2) Source: E412065-05 Prepared: 12/10/24 Analyzed: 12/10/24

Gasoline Range Organics (C6-C10)	40.1	20.0	50.0	ND	80.1	70-130	1.76	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.73		8.00		109	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/12/2024 12:51:31PM
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Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: AF

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

Blank (2450025-BLK1) Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	57.3		50.0		115	50-200			

LCS (2450025-BS1) Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	256	25.0	250		102	38-132			
Surrogate: n-Nonane	52.7		50.0		105	50-200			

Matrix Spike (2450025-MS1) Source: E412065-05 Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	278	25.0	250	ND	111	38-132			
Surrogate: n-Nonane	51.4		50.0		103	50-200			

Matrix Spike Dup (2450025-MSD1) Source: E412065-05 Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	282	25.0	250	ND	113	38-132	1.36	20	
Surrogate: n-Nonane	48.6		50.0		97.2	50-200			





QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/12/2024 12:51:31PM
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Anions by EPA 300.0/9056A

Analyst: JM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2450030-BLK1)					Prepared: 12/10/24 Analyzed: 12/10/24				
Chloride	ND	20.0							
LCS (2450030-BS1)					Prepared: 12/10/24 Analyzed: 12/10/24				
Chloride	249	20.0	250		99.6	90-110			
LCS Dup (2450030-BSD1)					Prepared: 12/10/24 Analyzed: 12/10/24				
Chloride	250	20.0	250		99.9	90-110	0.336	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

Vertex Resource Services Inc.	Project Name:	Rattlesnake Federal Unit #001	
3101 Boyd Drive	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/12/24 12:51

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.

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

Page 1 of 8

Invoice Information		Lab Use Only		TAT				State			
Company: Devon Energy		Lab WO#		1D 2D 3D Std				NM CO UT TX			
Address: 5315 Buena Vista		E412065		01058-0057				x			
City, State, Zip: Carlsbad, NM, 88220											
Phone: 575-689-7597											
Email: Jim.Raley@devon.com											
Miscellaneous:											

Analysis and Method										EPA Program			
DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	IEEQ 1005 - TX	RCRA 8 Metals	Cation/Anion Pkg		SDWA	CWA	RCRA	
										Compliance	Y	or	N
										PWSID #			
										Remarks			

Sample ID	Field	Filter	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	IEEQ 1005 - TX	RCRA 8 Metals	Cation/Anion Pkg	Remarks
3524-10 ③ 1'			1	X	X	X		X					
9			2	X	X	X		X					
8			3	X	X	X		X					
7			4	X	X	X		X					
6			5	X	X	X		X					
5			6	X	X	X		X					
4			7	X	X	X		X					
3			8	X	X	X		X					
2			9	X	X	X		X					
1			10	X	X	X		X					

E-01414 Jim Raley

I certify the authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Date	Time	Received by: (Signature)	Date	Time	Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 5 °C on ice.
12-9-24	11:00	[Signature]	12-9-24	1145	
Date	Time	Received by: (Signature)	Date	Time	
12-9-24	11:30	[Signature]			
Date	Time	Received by: (Signature)	Date	Time	Lab Use Only
		[Signature]			Received on ice: Y / N
Date	Time	Received by: (Signature)	Date	Time	T1 T2 T3
12-9-24	12:30	[Signature]	12-9-24	1630	
Date	Time	Received by: (Signature)	Date	Time	AVG Temp °C
12-9-24	2230	[Signature]	12-10-24	7:00	4

A - Aqueous, O - Other

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

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 was received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



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## Chain of Custody

Page 2 of 8

Invoice Information		Lab Use Only		TAT				State								
Company: Devon Energy		Lab WO#	Job Number	1D	2D	3D	Std	NM	CO	UT	TX					
Address: 5315 Buena Vista		E 412005	01058-0007				x	x								
City, State, Zip: Carlsbad, NM, 88220																
Phone: 575-689-7597																
Email: Jim.Raley@dvn.com																
Miscellaneous:																
Sample Information		Analysis and Method								EPA Program						
No. of Containers	Sample ID	Field	Filter	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCEQ 1005 - TX	RCRA 8 Metals	Cation/Anion Pkg	SDWA	CWA	RCRA
1	BS24-11 @ 1'			11	X	X	X		X							
1	BS24-12 @ 4.1'			12	X	X	X		X							
1	BS24-13 @ 4.1'			13	X	X	X		X							
1	BS24-14 @ 4.1'			14	X	X	X		X							
1	BS24-15 @ 1'			15	X	X	X		X							
1	BS24-16 @ 4.1'			16	X	X	X		X							
1	BS24-17 @ 4.1'			17	X	X	X		X							
1	BS24-18 @ 4.1'			18	X	X	X		X							
1	BS24-19 @ 4.1'			19	X	X	X		X							
1	BS24-20 @ 4.1'			20	X	X	X		X							
E-01414 Jim Raley																
Authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																
Date	Time	Received by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Received by: (Signature)		Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 5 °C on subsequent dates.				
12-9-24	11:00	[Signature]		12-9-24	11:45	[Signature]		12-9-24	1630	[Signature]		Lab Use Only				
12-9-24	1630	[Signature]		12-9-24	1630	[Signature]		12-9-24	1630	[Signature]		Received on ice: <input checked="" type="radio"/> Y <input type="radio"/> N				
12-9-24	9230	[Signature]		12-10-24	7:00	[Signature]		12-10-24	7:00	[Signature]		T1 _____ T2 _____ T3 _____				
12-10-24	7:00	[Signature]		12-10-24	7:00	[Signature]		12-10-24	7:00	[Signature]		AVG Temp °C 4				
A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA																
All results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																



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## Envirotech Analytical Laboratory

Printed: 12/10/2024 9:53:18AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Vertex Resource Services Inc.	Date Received:	12/10/24 07:00	Work Order ID:	E412065
Phone:	(575) 748-0176	Date Logged In:	12/09/24 16:07	Logged In By:	Noe Soto
Email:	chensley@vertexresources.com	Due Date:	12/16/24 17:00 (4 day TAT)		

Chain of Custody (COC)

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

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

Carrier: CourierComments/Resolution

Project Rattlesnake Federal Unit #001 has been seprted into mutiple WOs due to high sample volume. WOs are E412065-E412068.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? No

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Report to:  
Chad Hensley



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

Vertex Resource Services Inc.

Project Name: Rattlesnake Federal Unit #001

Work Order: E412066

Job Number: 01058-0007

Received: 12/10/2024

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
12/12/24

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: 12/12/24

Chad Hensley  
3101 Boyd Drive  
Carlsbad, NM 88220



Project Name: Rattlesnake Federal Unit #001  
Workorder: E412066  
Date Received: 12/10/2024 7:00:00AM

Chad Hensley,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/10/2024 7:00:00AM, under the Project Name: Rattlesnake Federal Unit #001.

The analytical test results summarized in this report with the Project Name: Rattlesnake Federal Unit #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

**Raina Schwanz**  
Laboratory Administrator  
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## Sample Summary

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/24 12:55
--	--	-----------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BS24-21 @ 4.1'	E412066-01A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-22 @ 4.1'	E412066-02A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-23 @ 4.1'	E412066-03A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-24 @ 4.1'	E412066-04A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-25 @ 4.1'	E412066-05A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-26 @ 4.1'	E412066-06A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-27 @ 4.1'	E412066-07A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-28 @ 4.1'	E412066-08A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-29 @ 4.1'	E412066-09A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-30 @ 4.1'	E412066-10A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-31 @ 4.1'	E412066-11A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-32 @ 4.1'	E412066-12A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-33 @ 4.1'	E412066-13A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-34 @ 4.1'	E412066-14A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-35 @ 4.1'	E412066-15A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-36 @ 4.1'	E412066-16A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-37 @ 4.1'	E412066-17A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-38 @ 4.1'	E412066-18A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-39 @ 4.1'	E412066-19A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-40 @ 4.1'	E412066-20A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:55:54PM

BS24-21 @ 4.1'

E412066-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		86.3 %	70-130	12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		97.0 %	70-130	12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>		115 %	50-200	12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	ND	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:55:54PM

BS24-22 @ 4.1'

E412066-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	85.9 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.6 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	111 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	81.8	20.0	1	12/10/24	12/10/24	





## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:55:54PM

BS24-23 @ 4.1'

E412066-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	85.7 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.3 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	114 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	87.3	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:55:54PM

BS24-24 @ 4.1'

E412066-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450027
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	85.2 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450027
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	97.0 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: NV		Batch: 2450035
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	108 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450033
Chloride	ND	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:55:54PM

BS24-25 @ 4.1'

E412066-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	88.1 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	95.0 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	116 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	20.3	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:55:54PM

BS24-26 @ 4.1'

E412066-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450027
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	85.0 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450027
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.2 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: NV		Batch: 2450035
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	107 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450033
Chloride	65.9	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:55:54PM
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BS24-27 @ 4.1'  
E412066-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	85.3 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	97.6 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	116 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	126	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:55:54PM
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BS24-28 @ 4.1'  
E412066-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
Surrogate: 4-Bromochlorobenzene-PID	85.1 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	97.8 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane	118 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	32.1	20.0	1	12/10/24	12/10/24	





## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:55:54PM

BS24-29 @ 4.1'

E412066-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	83.6 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.5 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	110 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	140	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:55:54PM
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BS24-30 @ 4.1'  
E412066-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
Surrogate: 4-Bromochlorobenzene-PID	84.2 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	98.5 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane	118 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	89.2	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:55:54PM

BS24-31 @ 4.1'

E412066-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	84.1 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.4 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	114 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	185	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:55:54PM

BS24-32 @ 4.1'

E412066-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	83.8 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	97.8 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
<i>Surrogate: n-Nonane</i>						
	112 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	72.0	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:55:54PM
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BS24-33 @ 4.1'  
E412066-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
Surrogate: 4-Bromochlorobenzene-PID	83.5 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	97.8 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane	111 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	ND	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:55:54PM
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BS24-34 @ 4.1'

E412066-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
Surrogate: 4-Bromochlorobenzene-PID	83.3 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	96.9 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	111 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	189	20.0	1	12/10/24	12/10/24	





## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:55:54PM

BS24-35 @ 4.1'

E412066-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	83.0 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	97.4 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	112 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	245	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:55:54PM
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BS24-36 @ 4.1'  
E412066-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
Surrogate: 4-Bromochlorobenzene-PID	83.5 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID	98.2 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	112 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	89.3	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:55:54PM

BS24-37 @ 4.1'

E412066-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	83.2 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.2 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	111 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	135	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:55:54PM
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BS24-38 @ 4.1'  
E412066-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	83.0 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.6 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	116 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	62.0	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:55:54PM
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BS24-39 @ 4.1'  
E412066-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	83.8 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	97.9 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	113 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	ND	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:55:54PM

BS24-40 @ 4.1'

E412066-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Benzene	ND	0.0250	1	12/10/24	12/12/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/12/24	
Toluene	ND	0.0250	1	12/10/24	12/12/24	
o-Xylene	ND	0.0250	1	12/10/24	12/12/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/12/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/12/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	82.3 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450027	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/12/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.4 %	70-130		12/10/24	12/12/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: NV		Batch: 2450035	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	111 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450033	
Chloride	29.0	20.0	1	12/10/24	12/10/24	





QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/12/2024 12:55:54PM
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Volatile Organics by EPA 8021B

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
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Blank (2450027-BLK1) Prepared: 12/10/24 Analyzed: 12/11/24

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	6.99		8.00		87.3	70-130			

LCS (2450027-BS1) Prepared: 12/10/24 Analyzed: 12/11/24

Benzene	4.53	0.0250	5.00		90.7	70-130			
Ethylbenzene	4.44	0.0250	5.00		88.8	70-130			
Toluene	4.52	0.0250	5.00		90.4	70-130			
o-Xylene	4.44	0.0250	5.00		88.8	70-130			
p,m-Xylene	9.03	0.0500	10.0		90.3	70-130			
Total Xylenes	13.5	0.0250	15.0		89.8	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.03		8.00		87.9	70-130			

Matrix Spike (2450027-MS1) Source: E412066-05 Prepared: 12/10/24 Analyzed: 12/11/24

Benzene	4.36	0.0250	5.00	ND	87.2	54-133			
Ethylbenzene	4.27	0.0250	5.00	ND	85.5	61-133			
Toluene	4.35	0.0250	5.00	ND	87.0	61-130			
o-Xylene	4.27	0.0250	5.00	ND	85.5	63-131			
p,m-Xylene	8.70	0.0500	10.0	ND	87.0	63-131			
Total Xylenes	13.0	0.0250	15.0	ND	86.5	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.02		8.00		87.7	70-130			

Matrix Spike Dup (2450027-MSD1) Source: E412066-05 Prepared: 12/10/24 Analyzed: 12/11/24

Benzene	4.53	0.0250	5.00	ND	90.6	54-133	3.78	20	
Ethylbenzene	4.45	0.0250	5.00	ND	89.0	61-133	4.02	20	
Toluene	4.53	0.0250	5.00	ND	90.6	61-130	4.02	20	
o-Xylene	4.43	0.0250	5.00	ND	88.7	63-131	3.72	20	
p,m-Xylene	9.05	0.0500	10.0	ND	90.5	63-131	3.96	20	
Total Xylenes	13.5	0.0250	15.0	ND	89.9	63-131	3.88	20	
Surrogate: 4-Bromochlorobenzene-PID	6.89		8.00		86.2	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/12/2024 12:55:54PM
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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
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Blank (2450027-BLK1) Prepared: 12/10/24 Analyzed: 12/11/24

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.69		8.00		96.2	70-130			

LCS (2450027-BS2) Prepared: 12/10/24 Analyzed: 12/11/24

Gasoline Range Organics (C6-C10)	43.6	20.0	50.0		87.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.84		8.00		98.0	70-130			

Matrix Spike (2450027-MS2) Source: E412066-05 Prepared: 12/10/24 Analyzed: 12/11/24

Gasoline Range Organics (C6-C10)	39.5	20.0	50.0	ND	79.1	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.68		8.00		96.0	70-130			

Matrix Spike Dup (2450027-MSD2) Source: E412066-05 Prepared: 12/10/24 Analyzed: 12/11/24

Gasoline Range Organics (C6-C10)	41.7	20.0	50.0	ND	83.5	70-130	5.42	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.81		8.00		97.6	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/12/2024 12:55:54PM
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Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: NV

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2450035-BLK1) Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	55.6		50.0		111	50-200			

LCS (2450035-BS1) Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	263	25.0	250		105	38-132			
Surrogate: n-Nonane	53.9		50.0		108	50-200			

Matrix Spike (2450035-MS1) Source: E412066-10 Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	263	25.0	250	ND	105	38-132			
Surrogate: n-Nonane	54.4		50.0		109	50-200			

Matrix Spike Dup (2450035-MSD1) Source: E412066-10 Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	275	25.0	250	ND	110	38-132	4.25	20	
Surrogate: n-Nonane	56.0		50.0		112	50-200			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/12/2024 12:55:54PM
--	--	--

Anions by EPA 300.0/9056A

Analyst: DT

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

Blank (2450033-BLK1)					Prepared: 12/10/24 Analyzed: 12/10/24				
Chloride	ND	20.0							
LCS (2450033-BS1)					Prepared: 12/10/24 Analyzed: 12/10/24				
Chloride	256	20.0	250		103	90-110			
LCS Dup (2450033-BSD1)					Prepared: 12/10/24 Analyzed: 12/10/24				
Chloride	259	20.0	250		103	90-110	0.799	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

Vertex Resource Services Inc.	Project Name:	Rattlesnake Federal Unit #001	
3101 Boyd Drive	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/12/24 12:55

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.

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

Page 3 of 8

Invoice Information		Lab Use Only		TAT				State								
Company: Devon Energy		Lab WO#	Job Number	1D	2D	3D	Std	NM	CO	UT	TX					
Address: 5315 Buena Vista		E4120666	010580051				x	x								
City, State, Zip: Carlsbad, NM, 88220																
Phone: 575-689-7597																
Email: Jim.Raley@devon.com																
Miscellaneous:																
Sample Information		Analysis and Method								EPA Program						
No. of Containers	Sample ID	Field	Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCED 1005 - TX	RCRA 8 Metals	Cation/Anion Pkg	SDWA	CWA	RCRA
1	BS24-21 @ 4.1'			1	X	x	x		x							
1	BS24-22 @ 4.1'			2	X	x	x		x							
1	BS24-23 @ 4.1'			3	X	x	x		x							
1	BS24-24 @ 4.1'			4	X	x	x		x							
1	BS24-25 @ 4.1'			5	X	x	x		x							
1	BS24-26 @ 4.1'			6	X	x	x		x							
1	BS24-27 @ 4.1'			7	X	x	x		x							
1	BS24-28 @ 4.1'			8	X	x	x		x							
1	BS24-29 @ 4.1'			9	X	x	x		x							
1	BS24-30 @ 4.1'			10	X	x	x		x							
E-01414 Jim Raley																
Authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																
Date	Time	Received by: (Signature)	Date	Time	Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on the same day.											
12-9-24	11:00	[Signature]	12-9-24	11:45												
Date	Time	Received by: (Signature)	Date	Time	Lab Use Only											
12-9-24	1630	[Signature]	12-9-24	1630	Received on ice: Y / N											
Date	Time	Received by: (Signature)	Date	Time	T1 T2 T3											
12-9-24	2230	[Signature]	12-10-24	7:00	4											
A - Aqueous, O - Other					Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA											
All results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																



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## Chain of Custody

Page 4 of 8

Invoice Information		Lab Use Only		TAT				State							
Company: Devon Energy		Lab WO#	Job Number	1D	2D	3D	Std	NM	CO	UT	TX				
Address: 5315 Buena Vista		E41206	LAB1058-0051				x	x							
City, State, Zip: Carlsbad, NM, 88220															
Phone: 575-689-7597															
Email: Jim.Raley@dvn.com															
Miscellaneous:															
Sample Information		Analysis and Method								EPA Program					
No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	ICEL 1005 - TX	RCRA 8 Metals	Cation/Anion Pkg	SDWA	CWA	RCRA
1	BS24-31 @ 4.1'		11	X	X	X		X							
1	BS24-32 @ 4.1'		12	X	X	X		X							
1	BS24-33 @ 4.1'		13	X	X	X		X							
1	BS24-34 @ 4.1'		14	X	X	X		X							
1	BS24-35 @ 4.1'		15	X	X	X		X							
1	BS24-36 @ 4.1'		16	X	X	X		X							
1	BS24-37 @ 4.1'		17	X	X	X		X							
1	BS24-38 @ 4.1'		18	X	X	X		X							
1	BS24-39 @ 4.1'		19	X	X	X		X							
1	BS24-40 @ 4.1'		20	X	X	X		X							
E-01414 Jim Raley															
Authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.															
Date	Time	Received by: (Signature)	Date	Time	Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 5 °C on										
12-9-24	11:00	[Signature]	12-9-24	11:45											
Date	Time	Received by: (Signature)	Date	Time	Lab Use Only										
12-9-24	1630	[Signature]	12-9-24	1630	Received on ice: <input checked="" type="radio"/> Y / <input type="radio"/> N										
Date	Time	Received by: (Signature)	Date	Time	T1 _____ T2 _____ T3 _____										
12-9-24	2230	[Signature]	12-10-24	7:00	AVG Temp °C 4										
A - Aqueous, O - Other _____ Container type: g - glass, p - poly/plastic, ag - amber glass, v - VOA															
Results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.															



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## Envirotech Analytical Laboratory

Printed: 12/10/2024 10:00:17AM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

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

Client:	Vertex Resource Services Inc.	Date Received:	12/10/24 07:00	Work Order ID:	E412066
Phone:	(575) 748-0176	Date Logged In:	12/09/24 16:15	Logged In By:	Noe Soto
Email:	chensley@vertexresources.com	Due Date:	12/16/24 17:00 (4 day TAT)		

Chain of Custody (COC)

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

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

Carrier: CourierComments/Resolution

Project Rattlesnake Federal Unit #001 has been seprted into mutiple WOs due to high sample volume. WOs are E412065-E412068.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? No

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Report to:  
Chad Hensley



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

Vertex Resource Services Inc.

Project Name: Rattlesnake Federal Unit #001

Work Order: E412067

Job Number: 01058-0007

Received: 12/10/2024

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
12/13/24

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: 12/13/24

Chad Hensley  
3101 Boyd Drive  
Carlsbad, NM 88220



Project Name: Rattlesnake Federal Unit #001  
Workorder: E412067  
Date Received: 12/10/2024 7:00:00AM

Chad Hensley,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/10/2024 7:00:00AM, under the Project Name: Rattlesnake Federal Unit #001.

The analytical test results summarized in this report with the Project Name: Rattlesnake Federal Unit #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

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

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## Sample Summary

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/13/24 08:51
--	--	-----------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BS24-41 @ 4.1'	E412067-01A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-42 @ 4.1'	E412067-02A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-43 @ 4.1'	E412067-03A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-44 @ 4.1'	E412067-04A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-45 @ 4.1'	E412067-05A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-46 @ 4.1'	E412067-06A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-47 @ 4.1'	E412067-07A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-48 @ 4.1'	E412067-08A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-49 @ 4.1'	E412067-09A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-50 @ 4.1'	E412067-10A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-51 @ 4.1'	E412067-11A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-52 @ 4.1'	E412067-12A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-53 @ 4.1'	E412067-13A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-54 @ 3'	E412067-14A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-55 @ 3'	E412067-15A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-56 @ 3'	E412067-16A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-57 @ 3'	E412067-17A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-58 @ 3'	E412067-18A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
BS24-59 @ 3'	E412067-19A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
Backfill Material	E412067-20A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-41 @ 4.1'

E412067-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene		93.9 %	70-130	12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130	12/10/24	12/10/24	
Surrogate: Toluene-d8		105 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene		93.9 %	70-130	12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4		103 %	70-130	12/10/24	12/10/24	
Surrogate: Toluene-d8		105 %	70-130	12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450036
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane		121 %	50-200	12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450034
Chloride	79.5	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-42 @ 4.1'

E412067-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene	98.6 %	70-130		12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4	103 %	70-130		12/10/24	12/10/24	
Surrogate: Toluene-d8	103 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene	98.6 %	70-130		12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4	103 %	70-130		12/10/24	12/10/24	
Surrogate: Toluene-d8	103 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450036
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane	116 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450034
Chloride	106	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-43 @ 4.1'

E412067-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene	95.7 %	70-130		12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4	98.4 %	70-130		12/10/24	12/10/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene	95.7 %	70-130		12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4	98.4 %	70-130		12/10/24	12/10/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450036
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane	120 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450034
Chloride	121	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-44 @ 4.1'

E412067-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene	94.3 %	70-130		12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		12/10/24	12/10/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene	94.3 %	70-130		12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		12/10/24	12/10/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450036
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane	118 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450034
Chloride	106	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-45 @ 4.1'

E412067-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene	95.9 %	70-130		12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		12/10/24	12/10/24	
Surrogate: Toluene-d8	105 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene	95.9 %	70-130		12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		12/10/24	12/10/24	
Surrogate: Toluene-d8	105 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450036	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane	120 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450034	
Chloride	ND	20.0	1	12/10/24	12/10/24	





## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-46 @ 4.1'

E412067-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene	93.9 %	70-130		12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		12/10/24	12/10/24	
Surrogate: Toluene-d8	103 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene	93.9 %	70-130		12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		12/10/24	12/10/24	
Surrogate: Toluene-d8	103 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450036
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane	114 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450034
Chloride	79.1	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-47 @ 4.1'

E412067-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Benzene	ND	0.0250	1	12/10/24	12/10/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/10/24	
Toluene	ND	0.0250	1	12/10/24	12/10/24	
o-Xylene	ND	0.0250	1	12/10/24	12/10/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/10/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene	92.5 %	70-130		12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4	98.6 %	70-130		12/10/24	12/10/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/10/24	
Surrogate: Bromofluorobenzene	92.5 %	70-130		12/10/24	12/10/24	
Surrogate: 1,2-Dichloroethane-d4	98.6 %	70-130		12/10/24	12/10/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/10/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450036	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane	116 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450034	
Chloride	56.0	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/13/2024 8:51:13AM
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BS24-48 @ 4.1'  
E412067-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	93.3 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	106 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	93.3 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	106 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450036	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane	120 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450034	
Chloride	91.0	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-49 @ 4.1'

E412067-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	92.1 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	95.0 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	103 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	92.1 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	95.0 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	103 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450036
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/10/24	
Surrogate: n-Nonane	127 %	50-200		12/10/24	12/10/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450034
Chloride	246	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-50 @ 4.1'

E412067-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	94.0 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	99.5 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	103 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	94.0 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	99.5 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	103 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450036
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	110 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450034
Chloride	83.3	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-51 @ 4.1'

E412067-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	95.4 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	95.4 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450036
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	112 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450034
Chloride	181	20.0	1	12/10/24	12/10/24	





Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/13/2024 8:51:13AM
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BS24-52 @ 4.1'  
E412067-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	95.1 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	97.7 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	95.1 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	97.7 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450036	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	115 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450034	
Chloride	38.9	20.0	1	12/10/24	12/10/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/13/2024 8:51:13AM
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BS24-53 @ 4.1'  
E412067-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	94.8 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	94.8 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450036	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	123 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450034	
Chloride	87.5	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-54 @ 3'

E412067-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	93.6 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	103 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	93.6 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	103 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450036
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	117 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450034
Chloride	209	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-55 @ 3'

E412067-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	94.2 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	97.1 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	105 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	94.2 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	97.1 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	105 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450036
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	121 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450034
Chloride	158	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-56 @ 3'

E412067-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	94.5 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	97.2 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	94.5 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	97.2 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450036	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	121 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450034	
Chloride	94.2	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-57 @ 3'

E412067-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	92.8 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	98.9 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	92.8 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	98.9 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450036
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	119 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450034
Chloride	129	20.0	1	12/10/24	12/10/24	





## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-58 @ 3'

E412067-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	93.0 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	98.1 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	93.0 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	98.1 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450036	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	119 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450034	
Chloride	23.0	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/13/2024 8:51:13AM

BS24-59 @ 3'

E412067-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	93.3 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	99.4 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	105 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: BA		Batch: 2450037
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	93.3 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	99.4 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	105 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450036
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	115 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450034
Chloride	ND	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/13/2024 8:51:13AM
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## Backfill Material

E412067-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organic Compounds by EPA 8260B</b>	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	93.6 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	96.7 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: BA		Batch: 2450037	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
Surrogate: Bromofluorobenzene	93.6 %	70-130		12/10/24	12/11/24	
Surrogate: 1,2-Dichloroethane-d4	96.7 %	70-130		12/10/24	12/11/24	
Surrogate: Toluene-d8	104 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: AF		Batch: 2450036	
Diesel Range Organics (C10-C28)	832	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	430	50.0	1	12/10/24	12/11/24	
Surrogate: n-Nonane	122 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: DT		Batch: 2450034	
Chloride	136	20.0	1	12/10/24	12/10/24	



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/13/2024 8:51:13AM
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Volatile Organic Compounds by EPA 8260B

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
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Blank (2450037-BLK1) Prepared: 12/10/24 Analyzed: 12/10/24

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	0.467		0.500		93.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.518		0.500		104	70-130			
Surrogate: Toluene-d8	0.514		0.500		103	70-130			

LCS (2450037-BS1) Prepared: 12/10/24 Analyzed: 12/10/24

Benzene	2.07	0.0250	2.50		82.8	70-130			
Ethylbenzene	2.25	0.0250	2.50		89.8	70-130			
Toluene	2.20	0.0250	2.50		88.1	70-130			
o-Xylene	2.32	0.0250	2.50		92.9	70-130			
p,m-Xylene	4.57	0.0500	5.00		91.4	70-130			
Total Xylenes	6.89	0.0250	7.50		91.9	70-130			
Surrogate: Bromofluorobenzene	0.475		0.500		95.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.541		0.500		108	70-130			
Surrogate: Toluene-d8	0.514		0.500		103	70-130			

Matrix Spike (2450037-MS1) Source: E412067-06 Prepared: 12/10/24 Analyzed: 12/11/24

Benzene	2.17	0.0250	2.50	ND	86.7	48-131			
Ethylbenzene	2.27	0.0250	2.50	ND	90.8	45-135			
Toluene	2.22	0.0250	2.50	ND	88.7	48-130			
o-Xylene	2.41	0.0250	2.50	ND	96.4	43-135			
p,m-Xylene	4.71	0.0500	5.00	ND	94.2	43-135			
Total Xylenes	7.12	0.0250	7.50	ND	95.0	43-135			
Surrogate: Bromofluorobenzene	0.506		0.500		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.501		0.500		100	70-130			
Surrogate: Toluene-d8	0.508		0.500		102	70-130			

Matrix Spike Dup (2450037-MSD1) Source: E412067-06 Prepared: 12/10/24 Analyzed: 12/11/24

Benzene	2.16	0.0250	2.50	ND	86.3	48-131	0.416	23	
Ethylbenzene	2.29	0.0250	2.50	ND	91.6	45-135	0.921	27	
Toluene	2.23	0.0250	2.50	ND	89.1	48-130	0.382	24	
o-Xylene	2.44	0.0250	2.50	ND	97.7	43-135	1.34	27	
p,m-Xylene	4.75	0.0500	5.00	ND	95.0	43-135	0.793	27	
Total Xylenes	7.19	0.0250	7.50	ND	95.9	43-135	0.978	27	
Surrogate: Bromofluorobenzene	0.509		0.500		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.544		0.500		109	70-130			
Surrogate: Toluene-d8	0.509		0.500		102	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/13/2024 8:51:13AM
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Nonhalogenated Organics by EPA 8015D - GRO

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
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Blank (2450037-BLK1) Prepared: 12/10/24 Analyzed: 12/10/24

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.467		0.500		93.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.518		0.500		104	70-130			
Surrogate: Toluene-d8	0.514		0.500		103	70-130			

LCS (2450037-BS2) Prepared: 12/10/24 Analyzed: 12/10/24

Gasoline Range Organics (C6-C10)	51.5	20.0	50.0		103	70-130			
Surrogate: Bromofluorobenzene	0.487		0.500		97.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.523		0.500		105	70-130			
Surrogate: Toluene-d8	0.531		0.500		106	70-130			

Matrix Spike (2450037-MS2) Source: E412067-06 Prepared: 12/10/24 Analyzed: 12/10/24

Gasoline Range Organics (C6-C10)	53.6	20.0	50.0	ND	107	70-130			
Surrogate: Bromofluorobenzene	0.496		0.500		99.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.520		0.500		104	70-130			
Surrogate: Toluene-d8	0.526		0.500		105	70-130			

Matrix Spike Dup (2450037-MSD2) Source: E412067-06 Prepared: 12/10/24 Analyzed: 12/10/24

Gasoline Range Organics (C6-C10)	52.3	20.0	50.0	ND	105	70-130	2.44	20	
Surrogate: Bromofluorobenzene	0.491		0.500		98.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.506		0.500		101	70-130			
Surrogate: Toluene-d8	0.520		0.500		104	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/13/2024 8:51:13AM
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Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: AF

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2450036-BLK1) Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	58.1		50.0		116	50-200			

LCS (2450036-BS1) Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	279	25.0	250		112	38-132			
Surrogate: n-Nonane	58.3		50.0		117	50-200			

Matrix Spike (2450036-MS1) Source: E412067-01 Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	310	25.0	250	ND	124	38-132			
Surrogate: n-Nonane	63.4		50.0		127	50-200			

Matrix Spike Dup (2450036-MSD1) Source: E412067-01 Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	292	25.0	250	ND	117	38-132	5.81	20	
Surrogate: n-Nonane	60.2		50.0		120	50-200			





QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/13/2024 8:51:13AM
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Anions by EPA 300.0/9056A

Analyst: DT

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2450034-BLK1)					Prepared: 12/10/24 Analyzed: 12/10/24				
Chloride	ND	20.0							
LCS (2450034-BS1)					Prepared: 12/10/24 Analyzed: 12/10/24				
Chloride	251	20.0	250		100	90-110			
LCS Dup (2450034-BSD1)					Prepared: 12/10/24 Analyzed: 12/10/24				
Chloride	251	20.0	250		100	90-110	0.109	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

Vertex Resource Services Inc.	Project Name:	Rattlesnake Federal Unit #001	
3101 Boyd Drive	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/13/24 08:51

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.

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

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Invoice Information		Lab Use Only		TAT				State						
Company: Devon Energy Address: 5315 Buena Vista City, State, Zip: Carlsbad, NM, 88220 Phone: 575-689-7597 Email: Jim.Raley@dvn.com Miscellaneous:		Lab WO# E412067	Job Number 01058.0057	1D	2D	3D	Std	NM	CO	UT	TX			
		Analysis and Method							EPA Program					
		DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	ICEQ 1005 - TX	RCRA 8 Metals	Cation/Anion Pkg	SDWA	CWA	RCRA	
											Compliance	Y	or	N
											PWSID #			
											Remarks			
No. of Containers	Sample ID	Field	Filter	Lab Number										
1	BS24-41 @ 4.1'			1	X	X	X	X						
1	BS24-42 @ 4.1'			2	X	X	X	X						
1	BS24-43 @ 4.1'			3	X	X	X	X						
1	BS24-44 @ 4.1'			4	X	X	X	X						
1	BS24-45 @ 4.1'			5	X	X	X	X						
1	BS24-46 @ 4.1'			6	X	X	X	X						
1	BS24-47 @ 4.1'			7	X	X	X	X						
1	BS24-48 @ 4.1'			8	X	X	X	X						
1	BS24-49 @ 4.1'			9	X	X	X	X						
1	BS24-50 @ 4.1'			10	X	X	X	X						

3E-01414 Jim Raley

Authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Date	Time	Received by: (Signature)	Date	Time	Received by: (Signature)
12-9-24	11:00	[Signature]	12-9-24	11:45	[Signature]
12-9-24	1630	[Signature]	12-9-24	1630	[Signature]
12-9-24	2230	[Signature]	12-10-24	7:00	[Signature]

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

Lab Use Only

Received on ice: ☒ Y / ☐ N

T1 \_\_\_\_\_ T2 \_\_\_\_\_ T3 \_\_\_\_\_

AVG Temp °C 4

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

After results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

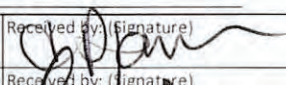
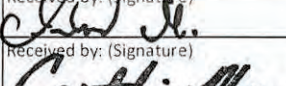
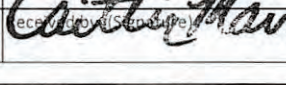


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## Chain of Custody

Page 6 of 8

Invoice Information		Lab Use Only		TAT				State								
Company: Devon Energy Address: 5315 Buena Vista City, State, Zip: Carlsbad, NM, 88220 Phone: 575-689-7597 Email: Jim.Raley@devn.com Miscellaneous:		Lab WO# E412007	Job Number C1058-0007	1D	2D	3D	Std	NM	CO	UT	TX					
									x							
Sample Information		Analysis and Method							EPA Program							
No. of Containers	Sample ID	Field	Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCEQ 11005 - TX	RCRA 8 Metals	Cation/Anion Pkg	SDWA	CWA	RCRA
1	BS24-51 @ 4.1'			11	X	x	x		x							
1	BS24-52 @ 4.1'			12	X	x	x		x							
1	BS24-53 @ 4.1'			13	X	x	x		x							
1	BS24-54 @ 3'			14	X	x	x		x							
1	BS24-55 @ 3'			15	X	x	x		x							
1	BS24-56 @ 3'			16	X	x	x		x							
1	BS24-57 @ 3'			17	X	x	x		x							
1	BS24-58 @ 3'			18	X	x	x		x							
1	BS24-59 @ 3'			19	X	x	x		x							
1	Backfill Material			20	X	x	x		x							
23E-01414 Jim Raley																
Authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																
Date	Time	Received by: (Signature)		Date	Time	Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on _____ date.										
12-9-24	11:00			12-9-24	1145	Lab Use Only										
12-9-24	1630			12-9-24	1630	Received on ice: <input checked="" type="radio"/> Y / N										
12-9-24	2230			12-10-24	7:00	T1 _____ T2 _____ T3 _____										
								AVG Temp °C 4								
e, A - Aqueous, O - Other _____				Container type: g - glass, p - poly/plastic, ag - amber glass, v - VOA												
After results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																



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## Envirotech Analytical Laboratory

Printed: 12/10/2024 10:08:39AM

## 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:	Vertex Resource Services Inc.	Date Received:	12/10/24 07:00	Work Order ID:	E412067
Phone:	(575) 748-0176	Date Logged In:	12/09/24 16:15	Logged In By:	Noe Soto
Email:	chensley@vertexresources.com	Due Date:	12/16/24 17:00 (4 day TAT)		

Chain of Custody (COC)

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

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

Carrier: CourierComments/Resolution

Project Rattlesnake Federal Unit #001 has been seprted into mutiple WOs due to high sample volume. WOs are E412065-E412068.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? No

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.

Report to:  
Chad Hensley



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Vertex Resource Services Inc.

Project Name: Rattlesnake Federal Unit #001

Work Order: E412068

Job Number: 01058-0007

Received: 12/10/2024

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
12/12/24

5796 U.S. Hwy 64  
Farmington, NM 87401

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



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



Date Reported: 12/12/24

Chad Hensley  
3101 Boyd Drive  
Carlsbad, NM 88220



Project Name: Rattlesnake Federal Unit #001  
Workorder: E412068  
Date Received: 12/10/2024 7:00:00AM

Chad Hensley,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/10/2024 7:00:00AM, under the Project Name: Rattlesnake Federal Unit #001.

The analytical test results summarized in this report with the Project Name: Rattlesnake Federal Unit #001 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

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

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

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

Respectfully,

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

**Raina Schwanz**  
Laboratory Administrator  
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[rainaschwanz@envirotech-inc.com](mailto:rainaschwanz@envirotech-inc.com)

Field Offices:

**Southern New Mexico Area**

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[ljjarboe@envirotech-inc.com](mailto:ljjarboe@envirotech-inc.com)

**Michelle Gonzales**  
Client Representative  
Office: 505-421-LABS(5227)  
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[mgonzales@envirotech-inc.com](mailto:mgonzales@envirotech-inc.com)

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

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## Sample Summary

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/24 12:58
--	--	-----------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
WS24-01 @ 0-4.1'	E412068-01A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
WS24-02 @ 0-4.1'	E412068-02A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
WS24-03 @ 0-1'	E412068-03A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
WS24-04 @ 0-4.1'	E412068-04A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
WS24-05 @ 0-4.1'	E412068-05A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
WS24-06 @ 0-4.1'	E412068-06A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
WS24-07 @ 0-4.1'	E412068-07A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
WS24-08 @ 0-4.1'	E412068-08A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
WS24-09 @ 0-3'	E412068-09A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
WS24-10 @ 0-4.1'	E412068-10A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.
WS24-11 @ 0-4.1'	E412068-11A	Soil	12/05/24	12/10/24	Glass Jar, 2 oz.



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:58:08PM

WS24-01 @ 0-4.1'

E412068-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	82.8 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.1 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: AF		Batch: 2450043	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	112 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: DT		Batch: 2450040	
Chloride	108	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:58:08PM

WS24-02 @ 0-4.1'

E412068-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	82.5 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.3 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450043	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	107 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450040	
Chloride	83.4	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:58:08PM

WS24-03 @ 0-1'

E412068-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	84.1 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	97.6 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450043	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	115 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450040	
Chloride	44.7	20.0	1	12/10/24	12/10/24	





## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:58:08PM

WS24-04 @ 0-4.1'

E412068-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450038
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	81.9 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450038
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.7 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450043
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	120 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450040
Chloride	78.3	20.0	1	12/10/24	12/10/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:58:08PM

WS24-05 @ 0-4.1'

E412068-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	81.4 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	97.7 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: AF		Batch: 2450043	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>	117 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: DT		Batch: 2450040	
Chloride	163	20.0	1	12/10/24	12/11/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:58:08PM

WS24-06 @ 0-4.1'

E412068-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	82.0 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.3 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450043	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	121 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450040	
Chloride	81.4	20.0	1	12/10/24	12/11/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:58:08PM
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WS24-07 @ 0-4.1'  
E412068-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	81.3 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.6 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450043	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	115 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450040	
Chloride	160	20.0	1	12/10/24	12/11/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:58:08PM

WS24-08 @ 0-4.1'

E412068-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	82.1 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	99.2 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450043	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	117 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450040	
Chloride	200	20.0	1	12/10/24	12/11/24	



## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:58:08PM

WS24-09 @ 0-3'

E412068-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		81.1 %	70-130	12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		99.4 %	70-130	12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: AF		Batch: 2450043	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>		121 %	50-200	12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: DT		Batch: 2450040	
Chloride	60.9	20.0	1	12/10/24	12/11/24	





## Sample Data

Vertex Resource Services Inc.  
3101 Boyd Drive  
Carlsbad NM, 88220

Project Name: Rattlesnake Federal Unit #001  
Project Number: 01058-0007  
Project Manager: Chad Hensley

**Reported:**  
12/12/2024 12:58:08PM

WS24-10 @ 0-4.1'

E412068-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450038
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	81.0 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2450038
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	99.4 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: AF		Batch: 2450043
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	128 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: DT		Batch: 2450040
Chloride	227	20.0	1	12/10/24	12/11/24	



Sample Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported: 12/12/2024 12:58:08PM
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WS24-11 @ 0-4.1'  
E412068-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Benzene	ND	0.0250	1	12/10/24	12/11/24	
Ethylbenzene	ND	0.0250	1	12/10/24	12/11/24	
Toluene	ND	0.0250	1	12/10/24	12/11/24	
o-Xylene	ND	0.0250	1	12/10/24	12/11/24	
p,m-Xylene	ND	0.0500	1	12/10/24	12/11/24	
Total Xylenes	ND	0.0250	1	12/10/24	12/11/24	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	82.3 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2450038	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/10/24	12/11/24	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	99.3 %	70-130		12/10/24	12/11/24	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: AF		Batch: 2450043	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/10/24	12/11/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/10/24	12/11/24	
<i>Surrogate: n-Nonane</i>						
	130 %	50-200		12/10/24	12/11/24	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: DT		Batch: 2450040	
Chloride	168	20.0	1	12/10/24	12/11/24	



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/12/2024 12:58:08PM
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Volatile Organics by EPA 8021B

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
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Blank (2450038-BLK1) Prepared: 12/10/24 Analyzed: 12/11/24

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	6.70		8.00		83.7	70-130			

LCS (2450038-BS1) Prepared: 12/10/24 Analyzed: 12/11/24

Benzene	4.76	0.0250	5.00		95.2	70-130			
Ethylbenzene	4.59	0.0250	5.00		91.7	70-130			
Toluene	4.70	0.0250	5.00		94.0	70-130			
o-Xylene	4.57	0.0250	5.00		91.4	70-130			
p,m-Xylene	9.31	0.0500	10.0		93.1	70-130			
Total Xylenes	13.9	0.0250	15.0		92.5	70-130			
Surrogate: 4-Bromochlorobenzene-PID	6.76		8.00		84.5	70-130			

Matrix Spike (2450038-MS1) Source: E412068-03 Prepared: 12/10/24 Analyzed: 12/11/24

Benzene	4.80	0.0250	5.00	ND	96.0	54-133			
Ethylbenzene	4.62	0.0250	5.00	ND	92.5	61-133			
Toluene	4.74	0.0250	5.00	ND	94.8	61-130			
o-Xylene	4.60	0.0250	5.00	ND	92.0	63-131			
p,m-Xylene	9.39	0.0500	10.0	ND	93.9	63-131			
Total Xylenes	14.0	0.0250	15.0	ND	93.3	63-131			
Surrogate: 4-Bromochlorobenzene-PID	6.68		8.00		83.5	70-130			

Matrix Spike Dup (2450038-MSD1) Source: E412068-03 Prepared: 12/10/24 Analyzed: 12/11/24

Benzene	4.82	0.0250	5.00	ND	96.4	54-133	0.443	20	
Ethylbenzene	4.66	0.0250	5.00	ND	93.3	61-133	0.876	20	
Toluene	4.77	0.0250	5.00	ND	95.4	61-130	0.652	20	
o-Xylene	4.65	0.0250	5.00	ND	92.9	63-131	1.00	20	
p,m-Xylene	9.47	0.0500	10.0	ND	94.7	63-131	0.902	20	
Total Xylenes	14.1	0.0250	15.0	ND	94.1	63-131	0.936	20	
Surrogate: 4-Bromochlorobenzene-PID	6.70		8.00		83.7	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/12/2024 12:58:08PM
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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
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Blank (2450038-BLK1) Prepared: 12/10/24 Analyzed: 12/11/24

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.75		8.00		96.8	70-130			

LCS (2450038-BS2) Prepared: 12/10/24 Analyzed: 12/11/24

Gasoline Range Organics (C6-C10)	42.0	20.0	50.0		84.1	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.94		8.00		99.2	70-130			

Matrix Spike (2450038-MS2) Source: E412068-03 Prepared: 12/10/24 Analyzed: 12/11/24

Gasoline Range Organics (C6-C10)	42.1	20.0	50.0	ND	84.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.91		8.00		98.9	70-130			

Matrix Spike Dup (2450038-MSD2) Source: E412068-03 Prepared: 12/10/24 Analyzed: 12/11/24

Gasoline Range Organics (C6-C10)	42.3	20.0	50.0	ND	84.5	70-130	0.295	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.86		8.00		98.3	70-130			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/12/2024 12:58:08PM
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Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: AF

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2450043-BLK1) Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	55.3		50.0		111	50-200			

LCS (2450043-BS1) Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	266	25.0	250		106	38-132			
Surrogate: n-Nonane	55.6		50.0		111	50-200			

Matrix Spike (2450043-MS1) Source: E412068-08 Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	286	25.0	250	ND	114	38-132			
Surrogate: n-Nonane	58.4		50.0		117	50-200			

Matrix Spike Dup (2450043-MSD1) Source: E412068-08 Prepared: 12/10/24 Analyzed: 12/10/24

Diesel Range Organics (C10-C28)	294	25.0	250	ND	117	38-132	2.72	20	
Surrogate: n-Nonane	59.8		50.0		120	50-200			



QC Summary Data

Vertex Resource Services Inc. 3101 Boyd Drive Carlsbad NM, 88220	Project Name: Rattlesnake Federal Unit #001 Project Number: 01058-0007 Project Manager: Chad Hensley	Reported:  12/12/2024 12:58:08PM
--	--	--

Anions by EPA 300.0/9056A

Analyst: DT

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

Blank (2450040-BLK1)					Prepared: 12/10/24 Analyzed: 12/10/24				
Chloride	ND	20.0							
LCS (2450040-BS1)					Prepared: 12/10/24 Analyzed: 12/10/24				
Chloride	257	20.0	250		103	90-110			
LCS Dup (2450040-BSD1)					Prepared: 12/10/24 Analyzed: 12/10/24				
Chloride	257	20.0	250		103	90-110	0.232	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

Vertex Resource Services Inc.	Project Name:	Rattlesnake Federal Unit #001	
3101 Boyd Drive	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/12/24 12:58

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.

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

Page 7 of 8

E412008 CM

Client Information				Invoice Information		Lab Use Only		TAT				State				
Client: Vertex (bill to Devon)				Company: Devon Energy		Lab WO#	Job Number	1D	2D	3D	Std	NM	CO	UT	TX	
Project Name: Rattlesnake Federal Unit #001				Address: 5315 Buena Vista		E 4102	01058-007				x	x				
Project Manager: Chad Hensley				City, State, Zip: Carlsbad, NM, 88220												
Address: 3101 Boyd dr.				Phone: 575-689-7597												
City, State, Zip: Carlsbad, NM, 88220				Email: Jim.Raley@devn.com												
Phone: 575-200-6167				Miscellaneous:												
Email: Rarnold@vertexresource.com, Rplogger@vert																
Sample Information																
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCEQ 1005 - TX	RCRA 8 Metals	Cation/Anion Pkg	Remarks
2:15	12/5/2024	Soil	1	WS24-01 @ 0-4.1'		1	X	X	X		X					
2:22	12/5/2024	Soil	1	WS24-02 @ 0-4.1'		2	X	X	X		X					
2:23	12/5/2024	Soil	1	WS24-03 @ 0-1'		3	X	X	X		X					
2:30	12/5/2024	Soil	1	WS24-04 @ 0-4.1'		4	X	X	X		X					
2:37	12/5/2024	Soil	1	WS24-05 @ 0-4.1'		5	X	X	X		X					
2:46	12/5/2024	Soil	1	WS24-06 @ 0-4.1'		6	X	X	X		X					
2:56	12/5/2024	Soil	1	WS24-07 @ 0-4.1'		7	X	X	X		X					
3:09	12/5/2024	Soil	1	WS24-08 @ 0-4.1'		8	X	X	X		X					
3:20	12/5/2024	Soil	1	WS24-09 @ 0-3'		9	X	X	X		X					
3:29	12/5/2024	Soil	1	WS24-10 @ 0-4.1'		10	X	X	X		X					
Additional Instructions: WO: 23E-01414 Jim Raley																
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																
Sampled by: Riley Arnold																
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on Lab Use Only Received on ice: <u>Y</u> / N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>				
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time						
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time						
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time						
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time						
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other																
Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																



envirotech

[illegible]



## Envirotech Analytical Laboratory

Printed: 12/10/2024 10:11:47AM

## 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:	Vertex Resource Services Inc.	Date Received:	12/10/24 07:00	Work Order ID:	E412068
Phone:	(575) 748-0176	Date Logged In:	12/09/24 16:17	Logged In By:	Noe Soto
Email:	chensley@vertexresources.com	Due Date:	12/16/24 17:00 (4 day TAT)		

Chain of Custody (COC)

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

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

Carrier: CourierComments/Resolution

Project Rattlesnake Federal Unit #001 has been seprted into mutiple WOs due to high sample volume. WOs are E412065-E412068.

Sample Turn Around Time (TAT)

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

Sample Cooler

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

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

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

Sample Container

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

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? No

Sample Preservation

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

Multiphase Sample Matrix

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

Subcontract Laboratory

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

Client Instruction

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

Date



envirotech Inc.



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

January 22, 2025

SALLY CARTTAR  
VERTEX RESOURCE  
3101 BOYD DRIVE  
CARLSBAD, NM 88220

RE: RATTLESNAKE FEDERAL UNIT 001 H

Enclosed are the results of analyses for samples received by the laboratory on 01/16/25 13:39.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene  
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

VERTEX RESOURCE  
SALLY CARTTAR  
3101 BOYD DRIVE  
CARLSBAD NM, 88220  
Fax To: NA

Received:	01/16/2025	Sampling Date:	01/14/2025
Reported:	01/22/2025	Sampling Type:	Soil
Project Name:	RATTLESNAKE FEDERAL UNIT 001 H	Sampling Condition:	Cool & Intact
Project Number:	24E - 04918	Sample Received By:	Alyssa Parras
Project Location:	NONE GIVEN		

**Sample ID: BACKFILL - 2 (H250259-01)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/20/2025	ND	2.08	104	2.00	3.90		
Toluene*	<0.050	0.050	01/20/2025	ND	2.18	109	2.00	7.32		
Ethylbenzene*	<0.050	0.050	01/20/2025	ND	2.46	123	2.00	8.06		
Total Xylenes*	<0.150	0.150	01/20/2025	ND	7.69	128	6.00	8.38		
Total BTEX	<0.300	0.300	01/20/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 128 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	01/21/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/20/2025	ND	216	108	200	1.07	
DRO >C10-C28*	<10.0	10.0	01/20/2025	ND	187	93.7	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	01/20/2025	ND					

Surrogate: 1-Chlorooctane 90.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.2 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager





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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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### Notes and Definitions

S-05	The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



## **APPENDIX E – Sampling Notification Variance Correspondence**



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**RE: [EXTERNAL] Variance Request - nKJ1600727914, nOY1711838821 Sampling Notification**

---

**From** Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>

**Date** Thu 3/13/2025 7:34 AM

**To** Sally Carttar <SCarttar@vertexresource.com>

**Cc** Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>

**Caution:** This email is from an external sender. Please take care when clicking links or opening attachments. When in doubt, contact your IT Department

Sally,

The variance for the 2-business day notification on confirmation samples collected for release numbers **nKJ1600727914** and **nOY1711838821** at the Rattlesnake Federal Unit #001 is approved. I will put a note in "Incident Events" explaining the miscommunication on the wrong incident number. Meanwhile, please complete the notifications on the correct incident numbers.

Regards,

**Robert Hamlet** • Environmental Specialist - Advanced  
Environmental Bureau  
EMNRD - Oil Conservation Division  
506 W. Texas Ave. | Artesia, NM 88210  
575.909.0302 | [robert.hamlet@emnrd.nm.gov](mailto:robert.hamlet@emnrd.nm.gov)  
<http://www.emnrd.state.nm.us/OCD/>



---

**From:** Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>

**Sent:** Wednesday, March 12, 2025 4:47 PM

**To:** Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>

**Cc:** Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>

**Subject:** FW: [EXTERNAL] Variance Request - nKJ1600727914, nOY1711838821 Sampling Notification

---

**From:** Sally Carttar <[SCarttar@vertexresource.com](mailto:SCarttar@vertexresource.com)>

**Sent:** Wednesday, March 12, 2025 3:25 PM

**To:** Enviro, OCD, EMNRD <[OCD.Enviro@emnrd.nm.gov](mailto:OCD.Enviro@emnrd.nm.gov)>

**Cc:** Raley, Jim <[Jim.Raley@dmv.com](mailto:Jim.Raley@dmv.com)>; Kent Stallings <[kstallings@vertexresource.com](mailto:kstallings@vertexresource.com)>

**Subject:** [EXTERNAL] Variance Request - nKJ1600727914, nOY1711838821 Sampling Notification

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You don't often get email from [scarttar@vertexresource.com](mailto:scarttar@vertexresource.com). [Learn why this is important](#)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

To whom it may concern,

Vertex is requesting a notification variance for confirmation samples collected for release numbers **nKJ1600727914** and **nOY1711838821** at the Rattlesnake Federal Unit #001.

Due to human error, the sampling notification (Submission ID [407772](#)) was submitted under an incorrect incident number. However, all other details—including sampling location driving directions and coordinates—were entered correctly and directed observers to the Rattlesnake Federal Unit #001.

For reference, I have attached the original email from December requesting the notification. Details of the sampling event can be found on the [notification page](#) on the OCD website.

Best regards,

**Sally Carttar**

Project Manager

Vertex Resource Services Inc.

3101 Boyd Drive,

Carlsbad, NM 88220

**C 575.361.3561**

[www.vertex.ca](http://www.vertex.ca)

[webpage]Connect with LinkedIn

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Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

QUESTIONS

Action 442302

**QUESTIONS**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 442302
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nOY1711838821
Incident Name	NOY1711838821 RATTLESNAKE FEDERAL UNIT #001 @ 30-025-36928
Incident Type	Oil Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-025-36928] RATTLESNAKE FEDERAL UNIT #001

**Location of Release Source**

Please answer all the questions in this group.

Site Name	RATTLESNAKE FEDERAL UNIT #001
Date Release Discovered	04/06/2017
Surface Owner	Federal

**Incident Details**

Please answer all the questions in this group.

Incident Type	Oil Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

**Nature and Volume of Release**

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Cause: Corrosion   Production Tank   Crude Oil   Released: 20 BBL   Recovered: 0 BBL   Lost: 20 BBL.
Produced Water Released (bbls) Details	Not answered.
Is the concentration of chloride in the produced water >10,000 mg/l	Not answered.
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.



Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

QUESTIONS, Page 2

Action 442302

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 442302
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
Is this a gas only submission (i.e. only significant Mcf values reported)	<b>No, according to supplied volumes this does not appear to be a "gas only" report.</b>
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	<b>No</b>
Reasons why this would be considered a submission for a notification of a major release	<i>Unavailable.</i>
<i>With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.</i>	

**Initial Response**

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

The source of the release has been stopped	<b>True</b>
The impacted area has been secured to protect human health and the environment	<b>True</b>
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	<b>True</b>
All free liquids and recoverable materials have been removed and managed appropriately	<b>True</b>
If all the actions described above have not been undertaken, explain why	<i>Not answered.</i>

*Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.*

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.

I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvni.com Date: 03/13/2025
--	---

Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

QUESTIONS, Page 3

Action 442302

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 442302
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS****Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

**Remediation Plan**

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

**Soil Contamination Sampling:** (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride (EPA 300.0 or SM4500 Cl B)	4600
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	880
GRO+DRO (EPA SW-846 Method 8015M)	370
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	11/22/2024
On what date will (or did) the final sampling or liner inspection occur	12/05/2024
On what date will (or was) the remediation complete(d)	12/05/2024
What is the estimated surface area (in square feet) that will be reclaimed	11457
What is the estimated volume (in cubic yards) that will be reclaimed	1392
What is the estimated surface area (in square feet) that will be remediated	11457
What is the estimated volume (in cubic yards) that will be remediated	1392

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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

QUESTIONS, Page 4

Action 442302

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 442302
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	HALFWAY DISPOSAL AND LANDFILL [FEEM0112334510]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
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.	
I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dmv.com Date: 03/13/2025
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5

Action 442302

QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 442302
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS, Page 6

Action 442302

**QUESTIONS (continued)**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 442302
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	442285
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	12/05/2024
What was the (estimated) number of samples that were to be gathered	69
What was the sampling surface area in square feet	10445

Remediation Closure Request	
<i>Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.</i>	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	0
What was the total volume (cubic yards) remediated	0
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	11457
What was the total volume (in cubic yards) reclaimed	1392
Summarize any additional remediation activities not included by answers (above)	Remediation complete.
<i>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 (in .pdf format) 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.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.	
I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 03/13/2025

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QUESTIONS, Page 7  
  
Action 442302

QUESTIONS (continued)

Operator:  DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID:  6137
	Action Number:  442302
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No



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CONDITIONS

Action 442302

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 442302
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NOY1711838821 RATTLESNAKE FEDERAL UNIT #001, thank you. This Remediation Closure Report is approved.	5/9/2025