Spill Volume(Bbls) Calculator *Inputs in blue, Outputs in red*	
Contaminated Soil measurement	
Area (square feet)	Depth(inches)
2442.37	0.330
Cubic Feet of Soil Impacted	67.165
Barrels of Soil Impacted	11.97
Soil Type	Clay/Sand
Barrels of Oil Assuming 100% Saturation	1.80
Saturation	Fluid present with shovel/backhoe
Estimated Barrels of Oil Released	1.80
Free Standing Fluid Only	
Area (square feet)	Depth(inches)
2442.37	0.330
Standing fluid	11.972
Total fluids spilled	**13.768**

Incident Number: nRM2002843138

Release Assessment and Closure

Sirius 17 Federal #006H

Section 17, Township 19 South, Range 31 East

API: 30-015-41761

County: Eddy

Vertex File Number: 23E-04732

Prepared for:

Devon Energy Production Company, LP

Prepared by:

Vertex Resource Services Inc.

Date:

June 2024

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Release Assessment and Closure
Sirius 17 Federal #006H
Section 17, Township 19 South, Range 31 East
API: 30-015-41761
County: Eddy

Prepared for:
Devon Energy Production Company, LP
6488 Seven Rivers Highway
Artesia, New Mexico 88210

New Mexico Oil Conservation Division – District 2
508 W. Texas Avenue
Artesia, New Mexico 88210

Prepared by:
Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad, New Mexico 88220

Stephanie McCarty

Stephanie McCarty, B.Sc.
ENVIRONMENTAL TECHONOLOGIST, REPORTING

June 21, 2024
Date

kent stallings P.G.

Kent Stallings, P.G.
PROJECT MANAGER, REPORT REVIEW

June 21, 2024
Date

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1.0 Introduction

Devon Energy Production Company, LP (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a produced water and crude oil release that occurred on November 24, 2019, at Sirius 17 Federal #006H API 30-015-41761 (hereafter referred to as the "site"). Devon submitted an initial C-141 Release Notification to New Mexico Oil Conservation Division (NMOCD) District 2 on December 11, 2019. Incident ID number nRM2002843138 was assigned to this incident.

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 remediation 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 release occurred on November 24, 2019, due to a pin hole leak that developed from the pumping unit. The incident was reported on December 11, 2019, and involved the release of approximately 10 barrels (bbl.) of produced water and 3 bbl. of crude oil on the pad site. Approximately 2 bbl. of free fluid was removed during the initial clean-up.

3.0 Site Characteristics

The site is located approximately 32 miles northeast of Carlsbad, New Mexico at 32.66301° N, -103.8837° W. The legal location for the site is Section 17, Township 19 South and Range 31 East in Eddy County, New Mexico. The release area is located on federal property. An aerial photograph and site schematic are presented on Figure 1.

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 and storage. The following sections specifically describe the release area at the site on or in proximity to the constructed pad (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), the soil at the site is characterized as Wink loamy fine sand (United States Department of Agriculture, Natural Resources Conservation Service, 2024). Additional soil characteristics include a drainage class of well drained with very low runoff. The karst geology potential for the site is low (United States Department of the Interior, Bureau of Land Management, 2018).

The surrounding landscape is associated with fan piedmonts and alluvial fans with elevations ranging between 2,800 and 5,000 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 was determined to be grasses with shrubs and half-shrubs. Black grama (*Bouteloua eriopoda*), dropseeds (*Sporobolus flexuosus, S, contractus, S. cryptandrus*) and bluestems (*Schizachyrium scoparium and Andropogon)* dominate the historical plant community

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(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 depth to ground water reference within 0.5 mile of the site, CP-01985 POD-1, was drilled on January 18, 2024. It is located on the site (NMOSE, 2024). The borehole was advanced to a depth of 55 feet, resulting in a dry hole. Information pertaining to the depth to groundwater determination is included in Appendix A.

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 an intermittent stream located approximately 643 feet southeast of the site (United States Fish and Wildlife Service, 2024).

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.

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Table 1. Closure Criteria Determination			
Site Name: Sirius 17 Federal #006H			
Spill Coordinates: 32.6630402, -103.883728		**X: 604674.84**	**Y: 3614482.89**
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater (nearest reference)	**>55**	feet
	Distance between release and nearest DTGW reference	**146**	feet
		0.03	miles
	Date of nearest DTGW reference measurement	**January 18, 2024**	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	643	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	17,195	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	13,472	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**	5,127	feet
	ii) Within 1000 feet of any fresh water well or spring	5,127	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	8,020	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	**46,992**	feet
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest unstable area	**7,920**	feet
10	Within a 100-year Floodplain	500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	**16,729**	feet
11	Soil Type	Wink loamy fine sand	
12	Ecological Classification	Loamy sand	
13	Geology	Qep	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	51-100'	<50' 51-100' >100'

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

Table 2. Closure Criteria for Soils Impacted by a Release

Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
51 feet - 100 feet	Chloride	10,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS – total dissolved solids
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

An initial site inspection of the release area began on September 16, 2023, and was completed on May 29, 2024, which identified the area of the release specified in the initial C-141 Report, estimated the approximate volume of the release. The impacted area was determined to be approximately 180 feet long and 130 feet wide; the total affected area is 12,346 square feet. The field screening and laboratory results are presented in Table 3 and sampling site schematic are presented on Figure 1. The impacted area per closure criteria was determined to be approximately two areas with perimeters of 122 feet and 76 feet and total affected area is 1,163 square feet

Remediation efforts began on May 29, 2024, and were finalized on June 18, 2024. Vertex personnel supervised the excavation of impacted soils. Field screening was completed on a total of nine sample points and consisted of analysis using Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and electroconductivity meter (chlorides). Field screening results were used to identify areas requiring any further remediation. Soil was removed to a depth of 1 foot below ground surface. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility as stipulated by the Form C-138 Request for Approval to Accept Solid Waste – New Mexico filed with the NMOCD. Daily Field Reports documenting various phases of the remediation are presented in Appendix B.

Notification that confirmatory samples were being collected was provided to the NMOCD on May 31, 2024, for sampling on June 5, 2024, and is included in Appendix C. Confirmatory 5-point composite samples were collected from the base and walls of the excavation in 200 square foot increments. A total of nine samples were collected for laboratory analysis following NMOCD soil sampling procedures. Additionally, three composite samples were collected and assessed from selected backfill material prior to hauling onto the site. Samples were submitted to Eurofins in Albuquerque, New Mexico, 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

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presented in Table 4, and the laboratory data reports are included in Appendix D. All confirmatory samples and backfill samples collected and analyzed were below closure criteria for the site.

6.0 Closure Request

The release area was fully delineated, remediated, and backfilled with local soils by June 18, 2024. 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 “51-100 feet to groundwater”. Based on these findings, Devon Energy Production Company, LP requests that this release be closed.

Should you have any questions or concerns, please do not hesitate to contact Kent Stallings at 346.814.1413 or kstallings@vertex.ca.

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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.

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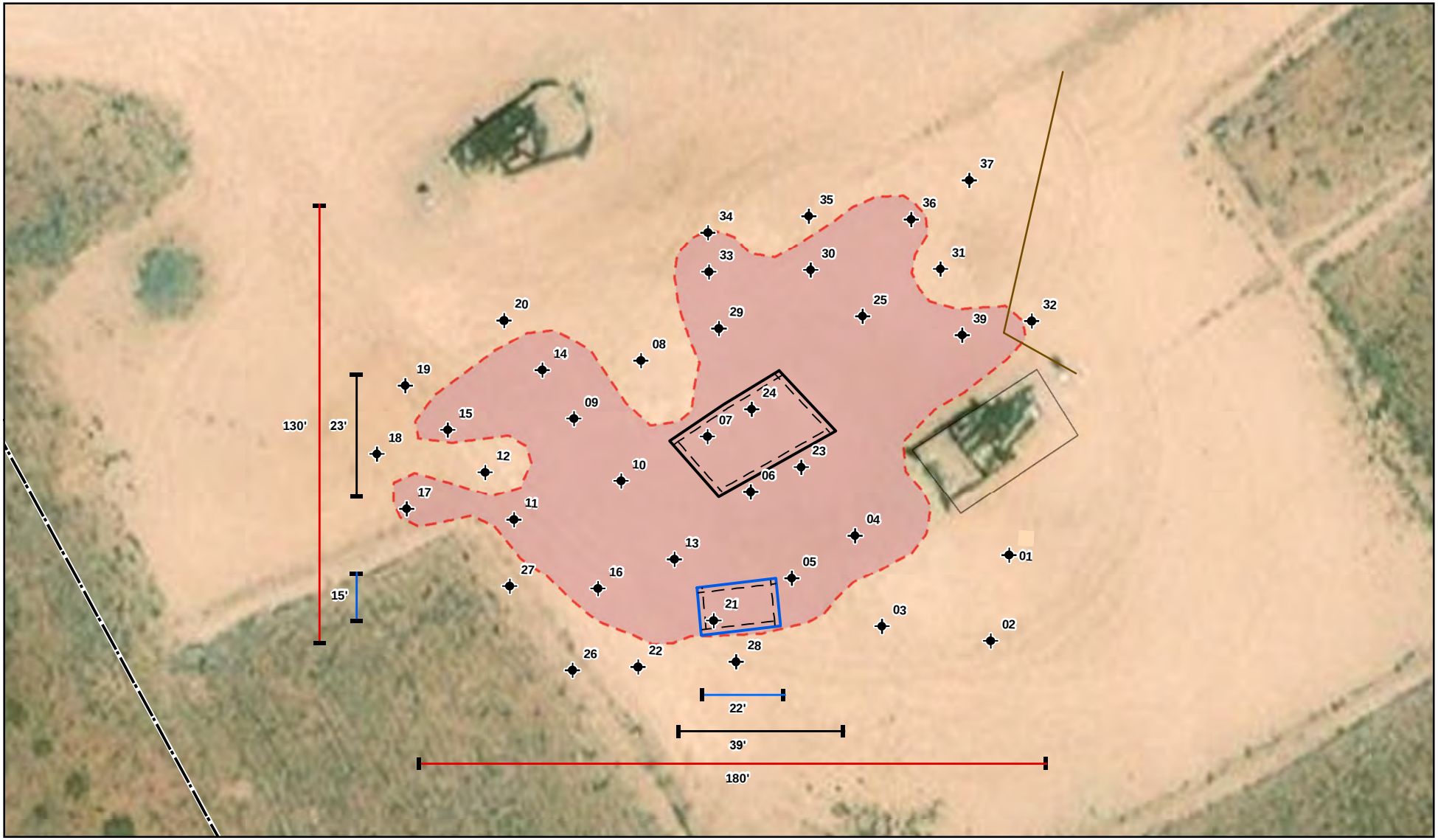
FIGURES



Borehole (Prefixed by "BH23-")

Powerline

Lease Boundary

Proposed Excavation to 1' (~ 897 sq. ft.)

Proposed Excavation to 1' for TPH (~ 330 sq. ft.)

Infrastructure (Existing)

Release Area (~ 12,346 sq. ft.)

VERTEX

0 10 20 40 ft

NAD 1983 UTM Zone 13N

Date: Jan 03/24

Map Center: Lat/Long: 32.663017, -103.883875

N

Characterization Sampling and Proposed Excavation Site Schematic

Sirius 17 Federal #006H

FIGURE: 1

devon

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: Background iimage from Esri, 2022. Boreholes and approximate release area from GPS, Vertex Professional Services Ltd. (Vertex), 2023. Approximate lease boundary from imagery by Vertex, 2023.

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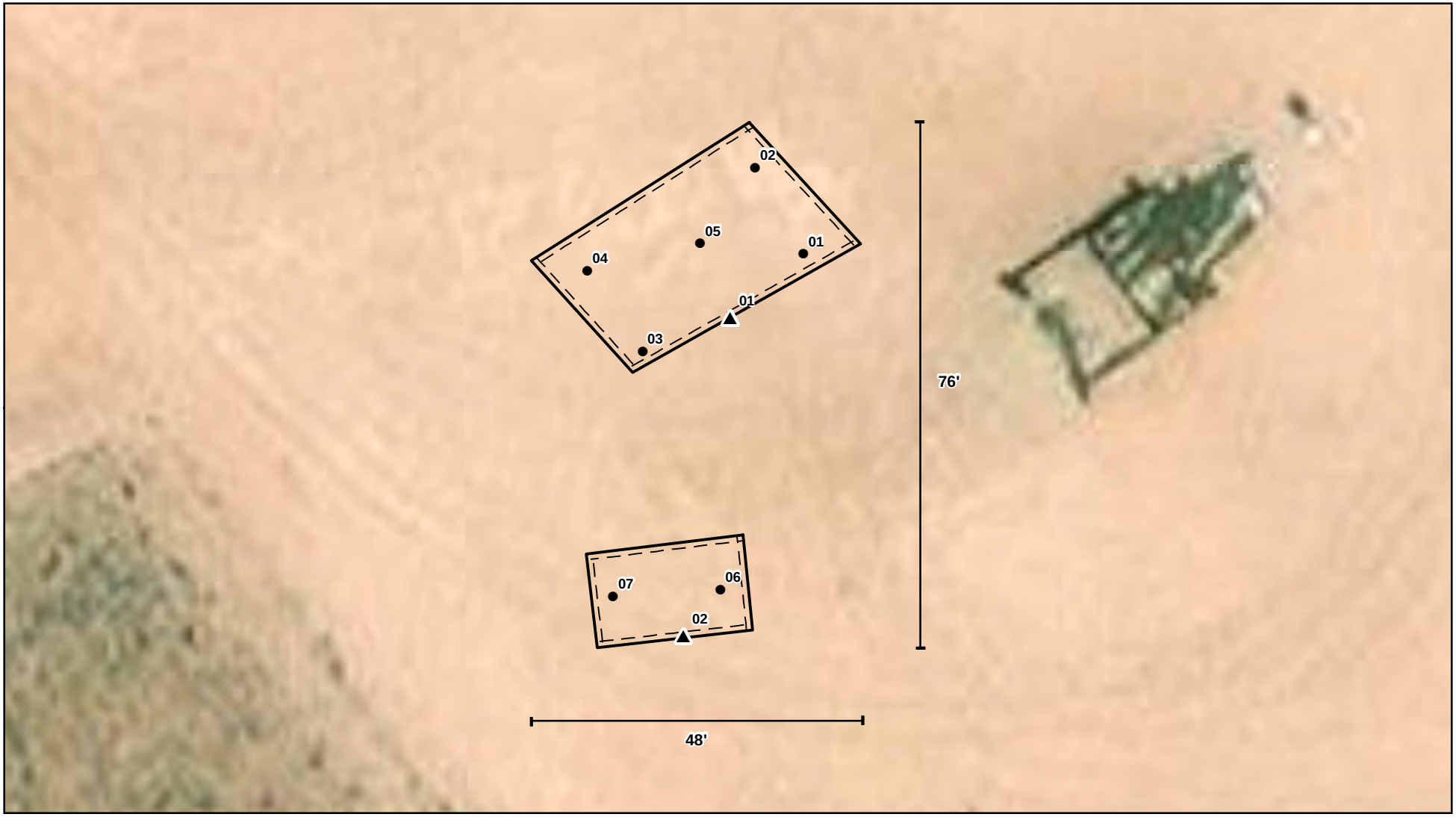
Document Path: D:\Vertex\GeoRequests\23E-04732\Figure 1 Characterization and Proposed Excavation Schematic (23E-04732).mxd



● Base Sample (Prefixed by "BES24-")

▲ Wall Sample (Prefixed by "WES24-")

Excavation to 1' bgs (~ 1,163 sq. ft.)

Excavation Perimeter:
North - ~122 ft.
South - ~76 ft.

VERTEX

0 5 10 20 ft

Map Center:
Lat/Long: 32.662983, -103.883848

NAD 1983 UTM Zone 13N

Date: Jun 10/24

N

Confirmation Sampling Site Schematic
Sirius 17 Federal #006H

FIGURE:
2

devon

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, 2022. Site features from GPS by Vertex Professional Services Ltd., 2024.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\2023\23E-04732 - Sirius 17 Federal #006H\Figure 1 Confirmation Schematic (23E-04732)D18610.mxd

TABLES

Client Name: Devon Energy Production Company, LP
Site Name: Sirius 17 Federal #006H
NMOCD Tracking #: nRM2002843138
Project #: 23E-04732
Lab Reports: 2309972, 2309A67, 2309A65, 2309C49, 2312760, 2402006 and 885-5367-1

Table 3. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater 51 - 100 feet bgs

Sample Description			Field Screening			Laboratory Results							
						Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH23-01	0	September 16, 2023	-	39	499	ND	ND	ND	ND	ND	ND	ND	100
	1.5	September 16, 2023	-	52	155	ND	ND	ND	ND	ND	ND	ND	120
BH23-02	0	September 16, 2023	-	29	10	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 16, 2023	-	57	37	ND	ND	ND	ND	ND	ND	ND	ND
BH23-03	0	September 16, 2023	-	77	536	ND	ND	ND	ND	ND	ND	ND	330
	1.5	September 17, 2023	-	47	0	ND	ND	ND	ND	ND	ND	ND	65
BH23-04	0	September 16, 2023	-	-	3,677	ND	ND	ND	79	ND	79	79	2,700
BH23-05	0	September 16, 2023	-	-	886	ND	ND	ND	950	ND	950	950	1,100
	2	September 16, 2023	-	36	41	ND	ND	ND	ND	ND	ND	ND	ND
BH23-06	0	September 17, 2023	-	410	2,635	ND	ND	ND	57	ND	57	57	2,400
	2	September 17, 2023	-	305	62	ND	ND	ND	170	120	170	290	200
BH23-07	0	September 17, 2023	-	1,211	2,154	ND	ND	ND	2,500	2,700	**2,500**	**5,200**	3,500
	2	September 17, 2023	-	60	37	ND	ND	ND	ND	ND	ND	ND	220
	3	September 17, 2023	-	-	-	-	-	-	-	-	-	-	-
BH23-08	0	September 17, 2023	-	63	0	ND	ND	ND	ND	ND	ND	ND	250
	2	September 17, 2023	-	35	0	ND	ND	ND	ND	ND	ND	ND	120
BH23-09	0	September 17, 2023	-	87	3,660	ND	ND	ND	ND	ND	ND	ND	5,600
	2	September 17, 2023	-	-	2,058	ND	ND	ND	ND	ND	ND	ND	1,300
	4	September 19, 2023	-	-	2,483	ND	ND	ND	ND	ND	ND	ND	2,100
	4	January 29, 2024	0	-	2,354	-	-	-	-	-	-	-	-
	5	January 29, 2024	0	42	661	-	-	-	-	-	-	-	-
	6	January 29, 2024	0	24	501	ND	ND	ND	ND	ND	ND	ND	630
	10.5	May 29, 2024	-	-	475	ND	ND	ND	ND	ND	ND	ND	68
BH23-10	0	September 17, 2023	-	-	2,482	ND	ND	ND	ND	ND	ND	ND	2,500
	2	September 17, 2023	-	-	909	ND	ND	ND	ND	ND	ND	ND	560
BH23-11	0	September 17, 2023	-	-	6,952	ND	ND	ND	ND	ND	ND	ND	6,100
	2	September 17, 2023	-	39	308	ND	ND	ND	ND	ND	ND	ND	210
BH23-12	0	September 17, 2023	-	-	871	ND	ND	ND	ND	ND	ND	ND	500
	2	September 17, 2023	-	34	291	ND	ND	ND	ND	ND	ND	ND	130
BH23-13	0	September 17, 2023	-	974	0	ND	ND	ND	430	550	430	980	80
	2	September 17, 2023	-	275	115	ND	ND	ND	190	ND	190	190	110
	4	January 29, 2024	0	38	335	ND	ND	ND	ND	ND	ND	ND	340
BH23-14	0	September 17, 2023	-	-	1,428	ND	ND	ND	ND	ND	ND	ND	1,300
	2	September 17, 2023	-	-	60	ND	ND	ND	ND	ND	ND	ND	320
BH23-15	0	September 17, 2023	-	-	805	ND	ND	ND	ND	ND	ND	ND	650
	2	September 17, 2023	-	-	0	ND	ND	ND	ND	ND	ND	ND	160
BH23-16	0	September 18, 2023	-	48	1,274	ND	ND	ND	ND	ND	ND	ND	1,500
	2	September 18, 2023	-	28	57	ND	ND	ND	ND	ND	ND	ND	170
BH23-17	0	September 18, 2023	-	31	0	ND	ND	ND	ND	ND	ND	ND	810
	2	September 18, 2023	-	34	0	ND	ND	ND	ND	ND	ND	ND	310
BH23-18	0	September 18, 2023	-	11	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 18, 2023	-	18	0	ND	ND	ND	ND	ND	ND	ND	64
BH23-19	0	September 18, 2023	-	28	0	ND	ND	ND	ND	ND	ND	ND	560
	2	September 18, 2023	-	25	0	ND	ND	ND	ND	ND	ND	ND	140
BH23-20	0	September 18, 2023	-	23	0	ND	ND	ND	ND	ND	ND	ND	530
	2	September 18, 2023	-	15	0	ND	ND	ND	ND	ND	ND	ND	220
BH23-21	0	September 18, 2023	-	602	408	ND	ND	ND	3,200	ND	**3,200**	**3,200**	560
	2	September 18, 2023	-	63	0	ND	ND	ND	13	ND	13	13	ND
BH23-22	0	September 18, 2023	-	12	575	ND	ND	ND	ND	ND	ND	ND	390
	2	September 18, 2023	-	45	138	ND	ND	ND	ND	ND	ND	ND	160
BH23-23	0	September 18, 2023	-	-	4,038	ND	ND	ND	ND	ND	ND	ND	3,600
	2	September 18, 2023	-	-	1,085	ND	ND	ND	ND	ND	ND	ND	690
BH23-24	0	September 18, 2023	-	-	10,072	ND	ND	ND	11	ND	11	11	**13,000**
	2	September 18, 2023	-	-	1,013	ND	ND	ND	ND	ND	ND	ND	830
BH23-25	0	September 19, 2023	-	-	3,794	ND	ND	ND	88	ND	88	88	3,100
	2	September 19, 2023	-	-	3,566	ND	ND	ND	11	ND	11	11	3,600

Client Name: Devon Energy Production Company, LP
Site Name: Sirius 17 Federal #006H
NMOCD Tracking #: nRM2002843138
Project #: 23E-04732
Lab Reports: 2309972, 2309A67, 2309A65, 2309C49, 2312760, 2402006 and 885-5367-1

Table 3. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater 51 - 100 feet bgs

Sample Description			Field Screening			Laboratory Results							
						Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH23-26	0	September 19, 2023	-	43	0	ND	ND	ND	ND	ND	ND	ND	ND
	1	September 19, 2023	-	37	67	ND	ND	ND	ND	ND	ND	ND	100
BH23-27	0	September 19, 2023	-	71	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	September 19, 2023	-	25	0	ND	ND	ND	ND	ND	ND	ND	ND
BH23-28	0	September 19, 2023	-	12	0	ND	ND	ND	ND	ND	ND	ND	ND
	1.5	September 19, 2023	-	14	14	ND	ND	ND	ND	ND	ND	ND	62
BH23-29	0	September 19, 2023	-	-	2,342	ND	ND	ND	ND	ND	ND	ND	2,200
BH23-30	0	September 19, 2023	-	-	1,047	ND	ND	ND	ND	ND	ND	ND	720
	2	September 19, 2023	-	-	489	ND	ND	ND	ND	ND	ND	ND	540
BH23-31	0	September 19, 2023	-	42	41	ND	ND	ND	ND	ND	ND	ND	130
	2	September 19, 2023	-	52	56	ND	ND	ND	ND	ND	ND	ND	210
BH23-32	0	September 19, 2023	-	87	248	ND	ND	ND	ND	ND	ND	ND	580
	2	September 19, 2023	-	35	0	ND	ND	ND	ND	ND	ND	ND	120
BH23-33	0	September 19, 2023	-	-	1,125	ND	ND	ND	ND	ND	ND	ND	720
	2	September 19, 2023	-	-	1,597	ND	ND	ND	ND	ND	ND	ND	1,700
BH23-34	0	September 19, 2023	-	-	855	ND	ND	ND	ND	ND	ND	ND	360
	2	September 19, 2023	-	1	1,101	ND	ND	ND	ND	ND	ND	ND	690
BH23-35	0	September 19, 2023	-	21	0	ND	ND	ND	ND	ND	ND	ND	ND
	1	September 19, 2023	-	41	115	ND	ND	ND	ND	ND	ND	ND	430
BH23-36	0	September 19, 2023	-	-	1,841	ND	ND	ND	ND	ND	ND	ND	500
	1.5	September 19, 2023	-	-	510	ND	ND	ND	ND	ND	ND	ND	2,200
BH23-37	0	September 19, 2023	-	41	0	ND	ND	ND	ND	ND	ND	ND	95
	1	September 19, 2023	-	28	0	ND	ND	ND	ND	ND	ND	ND	82
BH23-39	0	December 11, 2023	-	1,099	487	ND	ND	ND	310	560	310	870	340
	2	December 11, 2023	-	27	241	ND	ND	ND	26	ND	26	26	240

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria (on-pad)

Client Name: Devon Energy Production Company, LP
Site Name: Sirius 17 Federal #006H
NMOCD Tracking # nRM2002843138
Project #: 23E-04732
Lab Report : 885-5355-1 and 885-5799-1

Table . Confirmatory Sample Field Screen and Laboratory Results

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
			Depth to Groundwater 51' -100' bgs										
Backfill-01	0	May 29,2024	-	34	0	ND	ND	ND	ND	ND	ND	ND	72
Backfill-02	0	May 29, 2024	-	44	0	ND	ND	ND	ND	ND	ND	ND	65
Backfill-03	0	May 29, 2024	-	32	0	ND	ND	ND	ND	ND	ND	ND	72
WES24-01	1	June 5, 2024	0	41	1,063	ND	ND	ND	ND	ND	ND	ND	380
WES24-02	1	June 5, 2024	0	10	650	ND	ND	ND	ND	ND	ND	ND	74
BES24-01	1	June 5, 2024	0	30	1,825	ND	ND	ND	ND	ND	ND	ND	470
BES24-02	1	June 5, 2024	0	52	2,250	ND	ND	ND	ND	ND	ND	ND	1,000
BES24-03	1	June 5, 2024	0	19	760	ND	ND	ND	ND	ND	ND	ND	220
BES24-04	1	June 5, 2024	0	50	1,645	ND	ND	ND	ND	ND	ND	ND	500
BES24-05	1	June 5, 2024	0	46	1,286	ND	ND	ND	ND	ND	ND	ND	390
BES24-06	1	June 5, 2024	0	13	387	ND	ND	ND	ND	ND	ND	ND	ND
BES24-07	1	June 5, 2024	0	44	285	ND	ND	ND	ND	ND	ND	ND	73

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria (on-pad)

APPENDIX A – Closure Criteria Research Documentation

Closure Criteria Determination			
Site Name: Sirius 17 Federal #006H			
Spill Coordinates: 32.6630402, -103.883728		X: 604674.84	Y: 3614482.89
Site Specific Conditions		Value	Unit
1	Depth to Groundwater (nearest reference)	**>55**	feet
	Distance between release and nearest DTGW reference	**146**	feet
		0.03	miles
	Date of nearest DTGW reference measurement	**January 18, 2024**	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	643	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	17,195	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	13,472	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**	5,127	feet
	ii) Within 1000 feet of any fresh water well or spring	5,127	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	8,020	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	**46,992**	feet
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest unstable area	**7,920**	feet
10	Within a 100-year Floodplain	>100	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	**16,729**	feet
11	Soil Type	Wink loamy fine sand	
12	Ecological Classification	Loamy sand	
13	Geology	Qep	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	51-100'	<50' 51-100' >100'

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
CP-1985-POD 1		CP-1985

WELL OWNER NAME(S)	PHONE (OPTIONAL)
DEVON ENERGY RESOURCES	405-318-4697

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
205 E BENDER ROAD # 150	HOBBS	NM	88240

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	39	45.5076	N
	LONGITUDE	-103	53	1.7664	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

SIRIUS 17 FEDERAL # 006H

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1184	RUSSELL SOUTHERLAND	WEST TEXAS WATER WELL SERVICE

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
1/18/2024	1/18/2024		55	

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) 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)
			NO CASING IN HOLE				

OSE DII FEB 5 2024 PM2:07

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) 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. CP-1985	POD NO. 1	TRN NO. 753942	
LOCATION 195.31E.17 2 4 2		WELL TAG ID NO. NA	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	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)
0	1		CALICHIE PAD	Y ✔ N	
1	5		TAN SAND	Y ✔ N	
5	10		TAN SAND & CALICHIE	Y ✔ N	
10	40		TAN SANDSTONE	Y ✔ N	
40	55		RED SANDSTONE	Y ✔ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				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:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☑ OTHER – SPECIFY: DRY HOLE

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

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:

OSE DII FEB 5 2024 PM2:07

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

RUSSELL SOUTHERLAND

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.

Russell Southerland — RUSSELL SOUTHERLAND — 01/31/2024

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO. CP-1985	POD NO. 1	TRN NO. 753942	
LOCATION 195.31E.17 242		WELL TAG ID NO. NA	PAGE 2 OF 2

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number		POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 01985 POD1		CP	ED	2	4	2	17	19S	31E	604666	3614438	45	55		
CP 00829 POD1		CP	LE		2	4	16	19S	31E	606165	3614009*	1563	120		
CP 01907 POD1		CP	ED	4	2	2	18	19S	31E	603017	3614737	1677			
CP 01943 POD1		CP	ED	1	3	1	20	19S	31E	603217	3612883	2163	55		
CP 01554 POD1		CP	LE	2	2	1	22	19S	31E	607166	3613354	2734	400		
CP 01554 POD2		CP	LE	2	2	1	22	19S	31E	607165	3613322	2747	400		
CP 01941 POD1		CP	ED	3	2	2	29	19S	31E	604524	3611512	2973	55	54	1
CP 00873 POD1		CP	LE		1	1	19	19S	31E	601772	3613147*	3195	340	180	160
CP 00725 POD1		CP	ED	1	3	3	28	19S	31E	604906	3610473*	4016	231		
CP 00722 POD1		CP	LE	4	3	3	28	19S	31E	605106	3610273*	4231	200		
CP 00722 POD1	R	CP	LE	4	3	3	28	19S	31E	605106	3610273*	4231	200		
CP 00722 POD4		CP	LE	4	3	3	28	19S	31E	605059	3610260	4240	220	100	120
CP 00357 POD1		CP	ED	4	4	1	24	19S	30E	600667	3612631*	4415	630		
CP 00723 POD1		CP	ED	2	1	1	33	19S	31E	605111	3610071*	4433	139		
CP 00357 POD2		CP	ED	4	3	1	24	19S	30E	600265	3612627*	4784	630		
CP 00722 POD3		CP	LE	2	4	1	33	19S	31E	605519	3609673*	4883	220	140	80

Average Depth to Water: **118 feet**

Minimum Depth: **54 feet**

Maximum Depth: **180 feet**

Record Count: 16

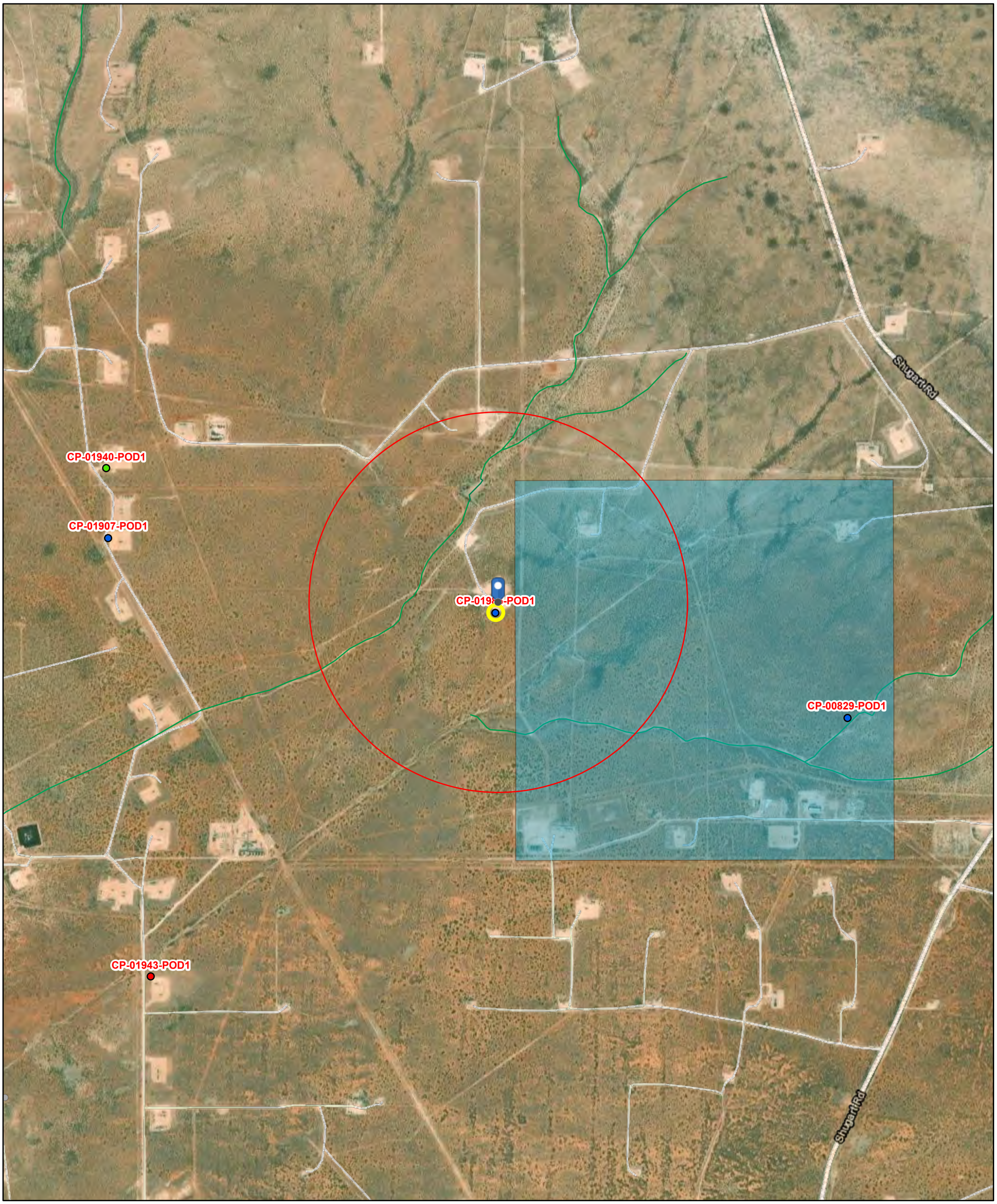
UTMNAD83 Radius Search (in meters):

Easting (X): 604674.84 **Northing (Y):** 3614482.89 **Radius:** 5000

***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.

OSE POD Location Map



3/31/2024, 9:21:11 AM

GIS WATERS PODs
- Active
- Pending
- Plugged

OSE District Boundary

New Mexico State Trust Lands
- Both Estates

NHD Flowlines
- Artificial Path
- Connector
- Stream River

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

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

Online web user

This is an unofficial map from the OSE's online application.

New Mexico Office of the State Engineer

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 Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	CP 01985 POD1	2	4	2	17	19S	31E	604666	3614438

Driller License: 1184 **Driller Company:** WEST TEXAS WATER WELL SERVICE

Driller Name: RUSSELL SOUTHERLAND

Drill Start Date:	01/18/2024	**Drill Finish Date:**	01/18/2024	**Plug Date:**	
Log File Date:	02/05/2024	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:		**Depth Well:**	55 feet	**Depth Water:**	

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.

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: CP 01985 **Subbasin:** CP **Cross Reference:** -

Primary Purpose: MON MONITORING WELL

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Owner: DEVON ENERGY RESOURCES

Contact: DALE WOODALL

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	753942	EXPL	2023-12-11	PMT	APR	CP 01985 POD1	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
CP 01985 POD1	NA		2	4	2	17	19S	31E	604666	3614438	SIRIUS 17

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.

U.S. Fish and Wildlife Service
National Wetlands Inventory

Sirius 17 Federal #006H
Watercourse 643 ft

June 21, 2024

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.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

U.S. Fish and Wildlife Service
National Wetlands Inventory

Sirius 17 Federal #006H
Lake 17,195 ft

August 4, 2023

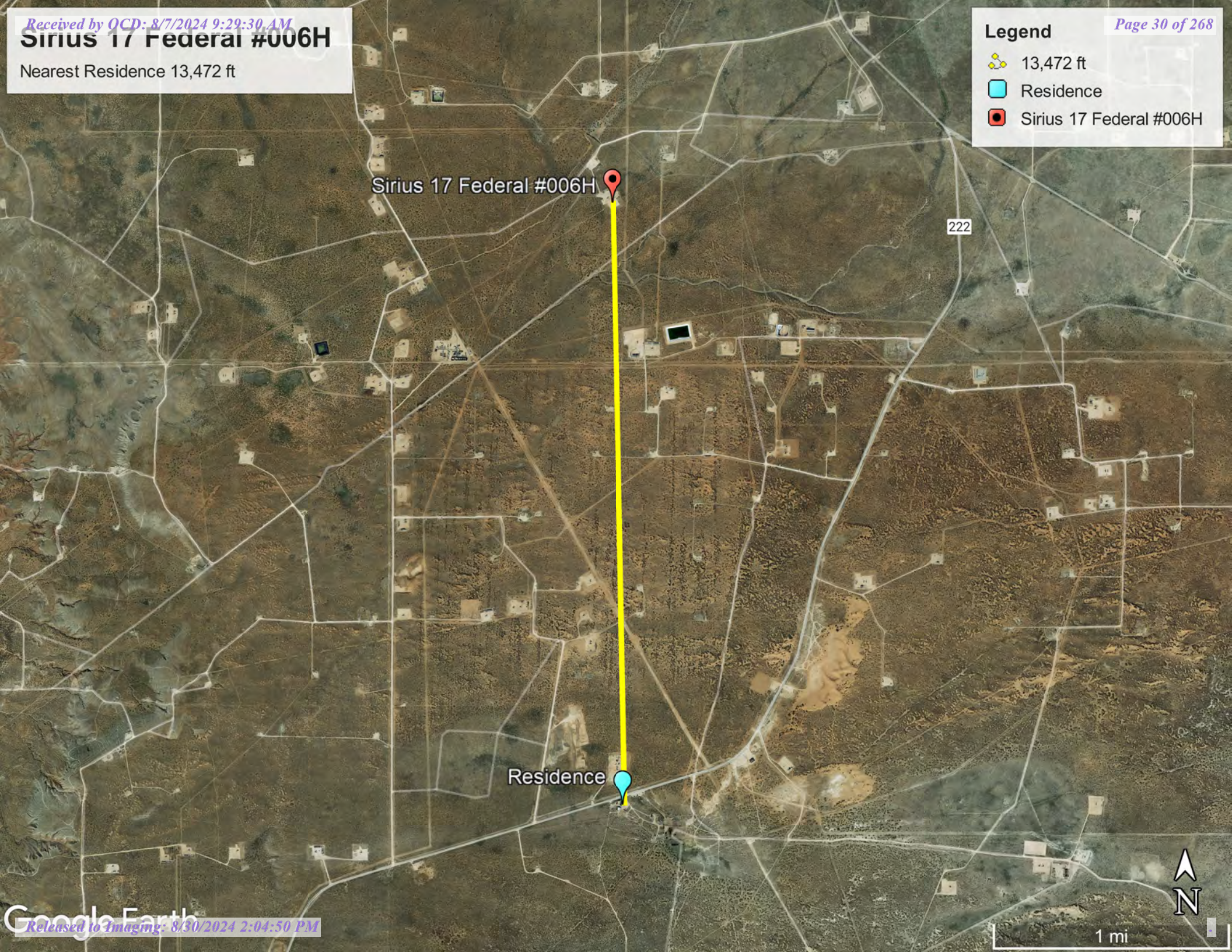
Wetlands

- 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.

Sirius 17 Federal #006H

Nearest Residence 13,472 ft



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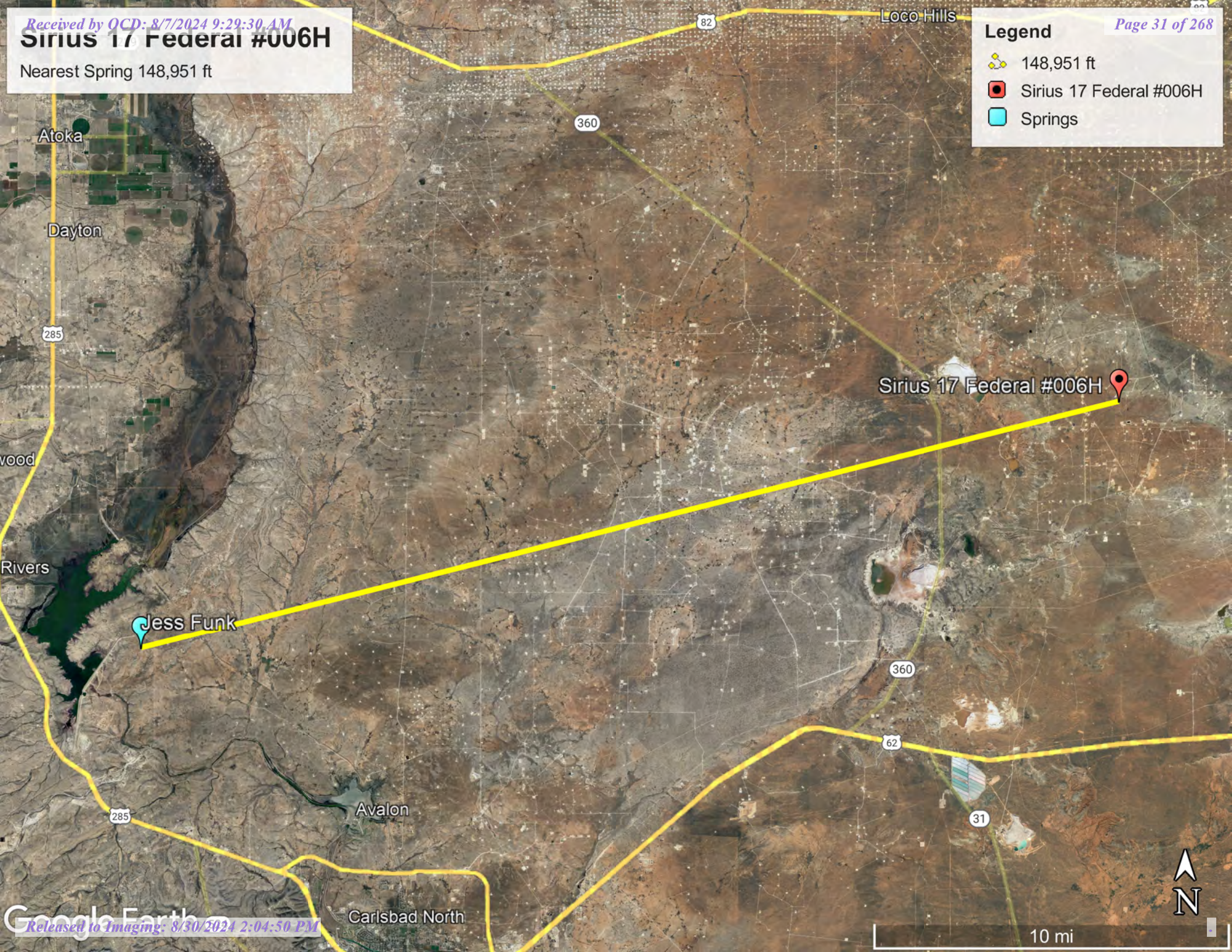

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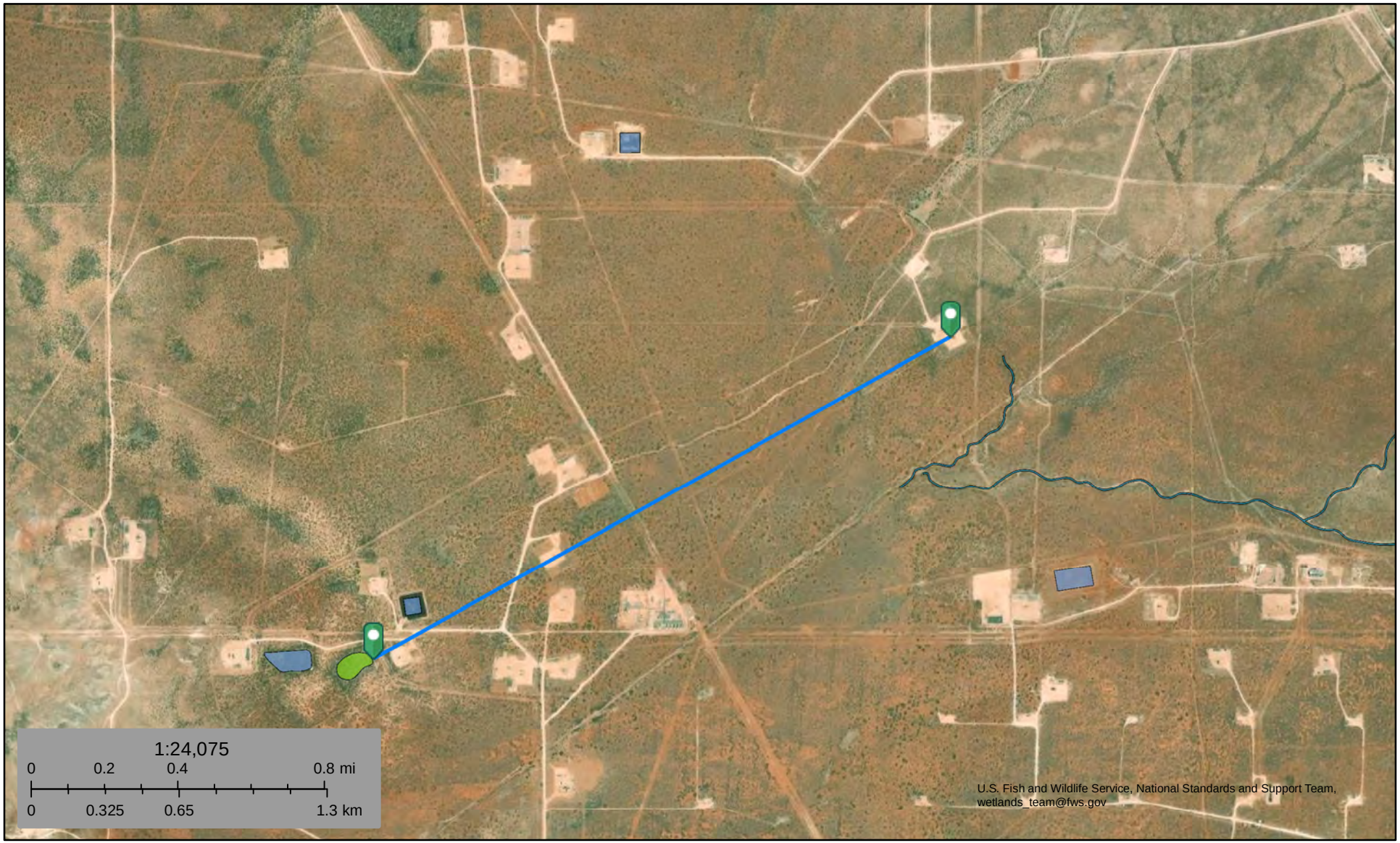
U.S. Fish and Wildlife Service
National Wetlands Inventory

Sirius 17 Federal #006H
Wetland 8,020 ft



August 4, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

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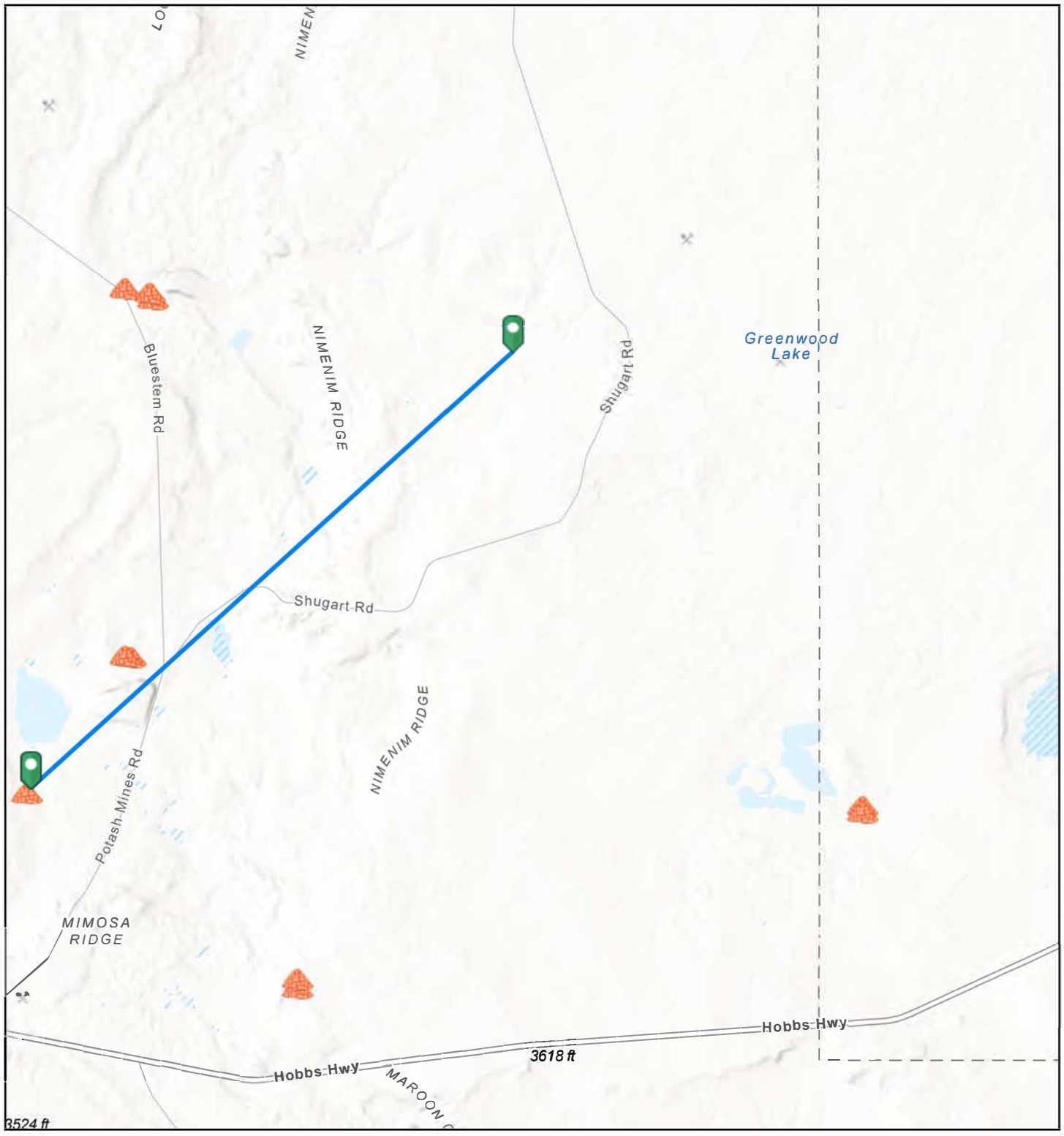
Sirius 17 Federal #006H Mine 8.9 Miles



12/28/2023, 4:40:36 PM

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

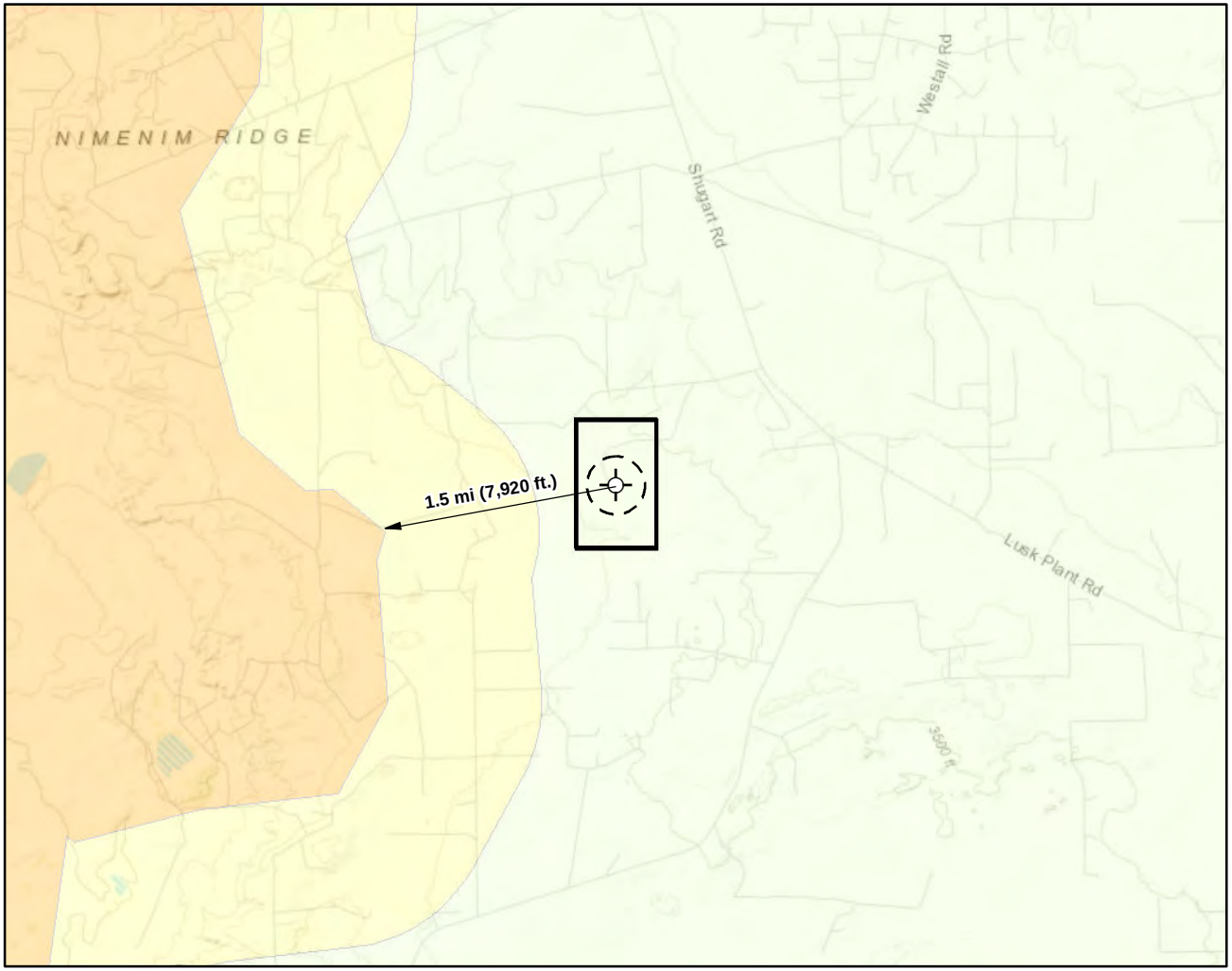
Registered Mines

- Aggregate, Stone etc.
- Aggregate, Stone etc.
- Potash

U.S. BLM, Esri, NASA, NGA, USGS, New Mexico State University, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

EMNRD MMD GIS Coordinator

New Mexico Energy, Minerals and Natural Resources Department (http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=1b5e577974664d689b47790897ca2795)



Karst Potential

- Critical
- High
- Medium
- Low

Site Location

Site Buffer (1,000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft

VERTEX

Map Center:
Lat/Long
32.663245, -103.883698

NAD 1983 UTM Zone 13N
Date: Apr 08/24

N

Karst Potential Map
Sirius 17 Federal #006H

FIGURE:
X

devon

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.

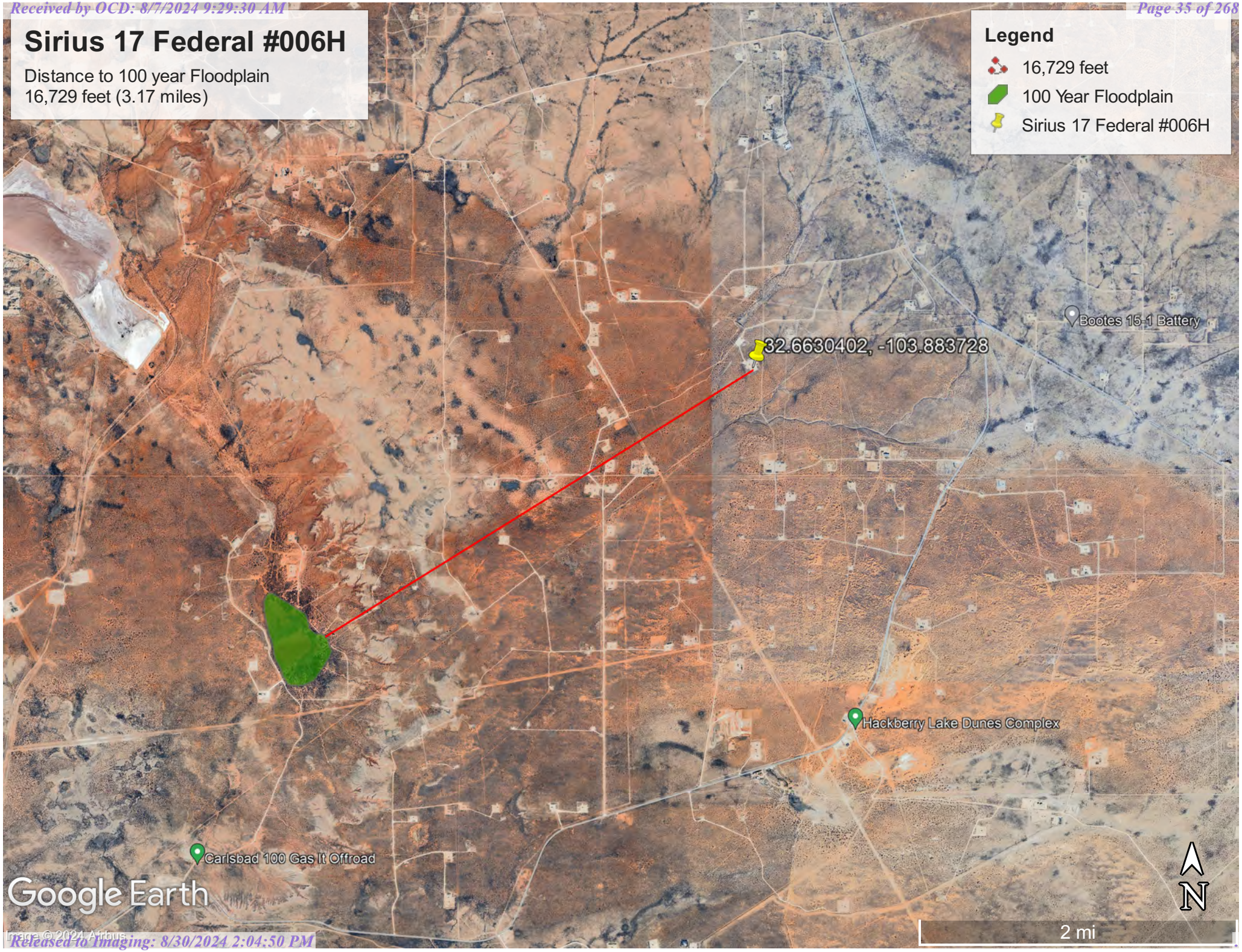
Note: Inset Map, Esri 2022; Overview Map: Esri World Topographic. Karst potential data sourced from Roswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

VERSATILITY. EXPERTISE.

Document Path: S:\04 - Geomatics\1-Projects_US PROJECTS\Devon Energy Corporation\2023\23E-04732 - Sirius 17 Federal #006H\Figure X Karst Potential (23E-04732)\D18130.mxd

Sirius 17 Federal #006H

Distance to 100 year Floodplain
16,729 feet (3.17 miles)



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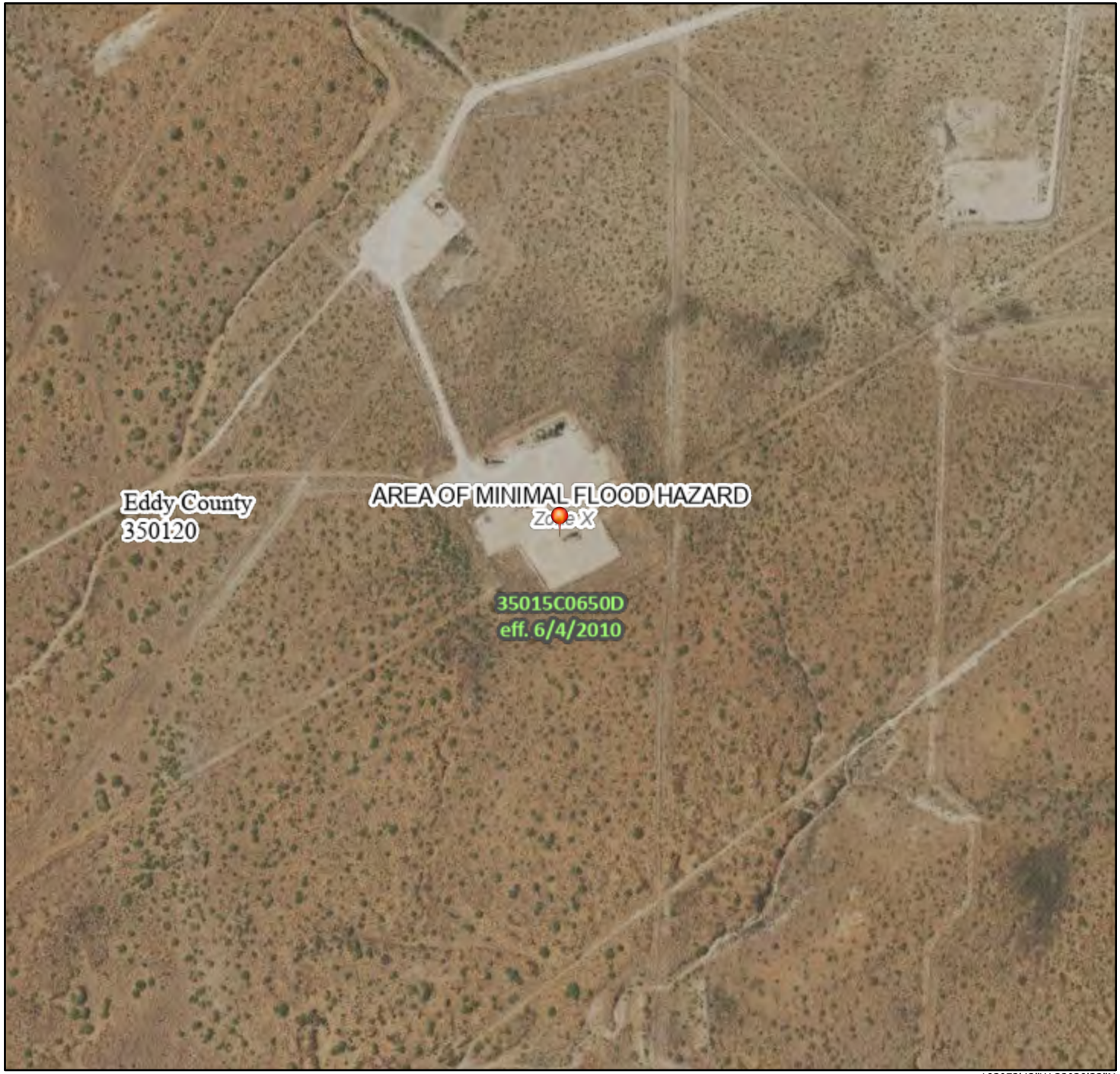
National Flood Hazard Layer FIRMette

FEMA

103°53'20"W 32°40'2"N



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

1:6,000

103°52'43"W 32°39'32"N

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
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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 8/4/2023 at 10:21 AM 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.

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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 Eddy Area, New Mexico

August 4, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

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: Eddy Area, New Mexico
Survey Area Data: Version 18, 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: Feb 7, 2020—May 12, 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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
WK	Wink loamy fine sand, 0 to 3 percent slopes, eroded	13.6	100.0%
Totals for Area of Interest		**13.6**	**100.0%**

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, 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.

Eddy Area, New Mexico

WK—Wink loamy fine sand, 0 to 3 percent slopes, eroded

Map Unit Setting

National map unit symbol: 1w6c
Elevation: 2,700 to 5,000 feet
Mean annual precipitation: 5 to 14 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Wink and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wink

Setting

Landform: Swales, depressions
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 8 inches: loamy fine sand
H2 - 8 to 38 inches: fine sandy loam
H3 - 38 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: Very low
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: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

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

Minor Components

Wink

Percent of map unit: 1 percent
Ecological site: R070BD004NM - Sandy
Hydric soil rating: No

Simona

Percent of map unit: 1 percent
Ecological site: R070BD002NM - Shallow Sandy
Hydric soil rating: No

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USDA Natural Resources Conservation Service

Ecological site R070BD003NM
Loamy Sand

Accessed: 08/04/2023

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	**Sandy** Sandy
R070BD005NM	**Deep Sand** 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

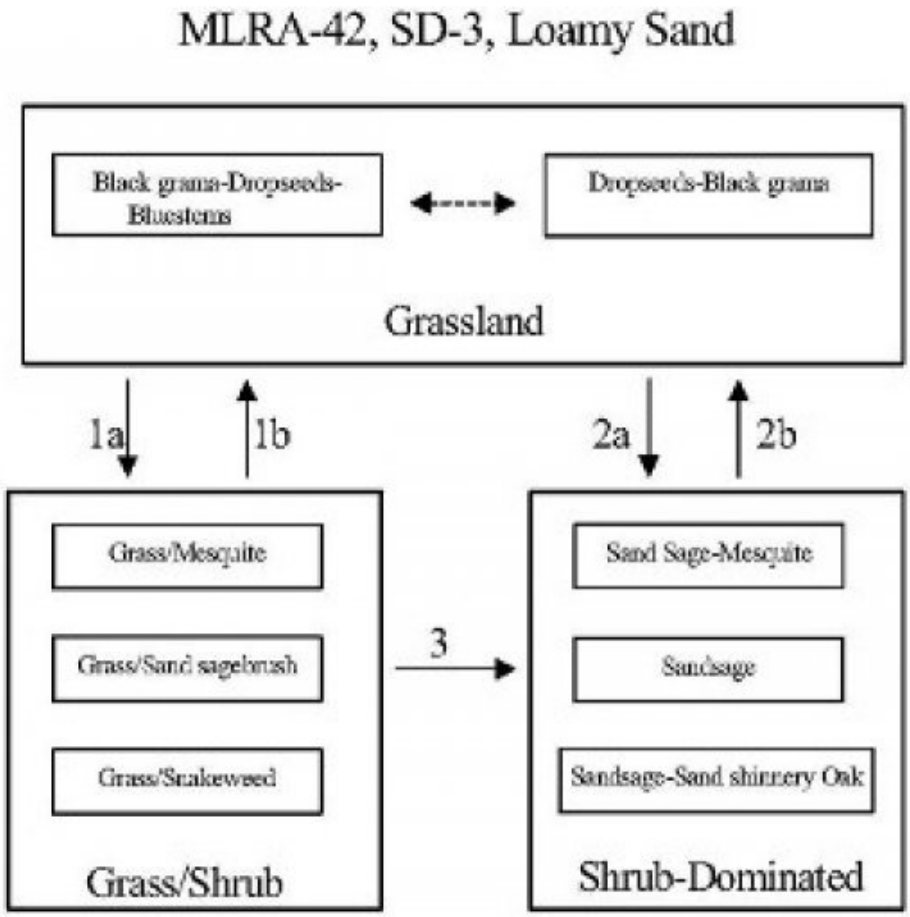
Overview

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):



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/threeawns cover • Surface soil erosion • Bare patch expansion • Increased sand sage, shinnery oak, and mesquite/dropseed/threeawn 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 (%)
Grass/Grasslike					
1	**Warm Season**			61–123	
	little bluestem	SCSC	*Schizachyrium scoparium*	61–123	–
2	**Warm Season**			37–61	
	sand bluestem	ANHA	*Andropogon hallii*	37–61	–
3	**Warm Season**			37–61	
	cane bluestem	BOBA3	*Bothriochloa barbinodis*	37–61	–
	silver bluestem	BOSA	*Bothriochloa saccharoides*	37–61	–
4	**Warm Season**			123–184	
	black grama	BOER4	*Bouteloua eriopoda*	123–184	–
	bush muhly	MUPO2	*Muhlenbergia porteri*	123–184	–
5	**Warm Season**			123–184	
	thin paspalum	PASE5	*Paspalum setaceum*	123–184	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	123–184	–
	fringed signalgrass	URCI	*Urochloa ciliatissima*	123–184	–
6	**Warm Season**			123–184	
	spike dropseed	SPCO4	*Sporobolus contractus*	123–184	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	123–184	–
	mesa dropseed	SPFL2	*Sporobolus flexuosus*	123–184	–
7	**Warm Season**			61–123	
	hooded windmill grass	CHCU2	*Chloris cucullata*	61–123	–
	Arizona cottontop	DICA8	*Digitaria californica*	61–123	–
9	**Other Perennial Grasses**			37–61	
	Grass, perennial	2GP	*Grass, perennial*	37–61	–
Shrub/Vine					
8	**Warm Season**			37–61	
	New Mexico feathergrass	HENE5	*Hesperostipa neomexicana*	37–61	–
	giant dropseed	SPGI	*Sporobolus giganteus*	37–61	–
10	**Shrub**			61–123	

	sand sagebrush	ARFI2	*Artemisia filifolia*	61–123	–
	Havard oak	QUHA3	*Quercus havardii*	61–123	–
11	**Shrub**			34–61	
	fourwing saltbush	ATCA2	*Atriplex canescens*	37–61	–
	featherplume	DAFO	*Dalea formosa*	37–61	–
12	**Shrub**			37–61	
	jointfir	EPHED	*Ephedra*	37–61	–
	littleleaf ratany	KRER	*Krameria erecta*	37–61	–
13	**Other Shrubs**			37–61	
	Shrub (>.5m)	2SHRUB	*Shrub (>.5m)*	37–61	–
Forb					
14	**Forb**			61–123	
	leatherweed	CRPOP	*Croton pottsii var. pottsii*	61–123	–
	Indian blanket	GAPU	*Gaillardia pulchella*	61–123	–
	globemallow	SPHAE	*Sphaeralcea*	61–123	–
15	**Forb**			12–37	
	woolly groundsel	PACA15	*Packera cana*	12–37	–
16	**Forb**			61–123	
	touristplant	DIWI2	*Dimorphocarpa wislizeni*	61–123	–
	woolly plantain	PLPA2	*Plantago patagonica*	61–123	–
17	**Other Forbs**			37–61	
	Forb (herbaceous, not grass nor grass-like)	2FORB	*Forb (herbaceous, not grass nor grass-like)*	37–61	–

Animal community

This Ecological Site provides habitat which supports a resident animal community that is characterized by pronghorn antelope, desert cottontail, spotted ground squirrel, black-tailed prairie dog, yellow faced pocket gopher, Ord’s kangaroo rat, northern grasshopper mouse, southern plains woodrat, badger, roadrunner, meadowlark, burrowing owl, white necked raven, lesser prairie chicken, morning dove, scaled quail, Harris hawk, side blotched lizard, marbled whiptail, Texas horned lizard, western diamondback rattlesnake, dusty hognose snake and ornate box turtle.
Where mesquite has invaded, most resident birds and scissor-tailed flycatcher, morning dove and Swainson’s hawk, nest. Vesper and grasshopper sparrows utilize the site during migration.

Hydrological functions

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.
Hydrologic Interpretations
Soil Series Hydrologic Group
Berino B
Kinco A
Maljamar B
Pajarito B
Palomas B
Wink B
Pyote A

Recreational uses

This site offers recreation potential for hiking, borseback riding, nature observation, photography and hunting. During years of abundant spring moisture, this site displays a colorful array of wildflowers during May and June.

Wood products

This site has no potential for wood products.

Other products

This site is suitable for grazing by all kinds and classes of livestock at any time of year. In cases where this site has been invaded by brush species it is especially suited for goats. Mismanagement of this site will cause a decrease in species such as the bluestems, blsck grama, bush muhly, plains bristlegrass, New Mexico feathergrass, Arizona cottontop and fourwing saltbush. A corresponding increase in the dropseeds, windmill grass, fall witchgrass, silver bluestem, sand sagebrush, shinery oak and ephedra will occur. This will also cause an increase in bare ground which will increase soil erodibility. This site will respond well to a system of management that rotates the season of use.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month
Similarity Index Ac/AUM
100 - 76 2.3 – 3.5
75 – 51 3.0 – 4.5
50 – 26 4.6 – 9.0
25 – 0 9.1 +

Inventory data references

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Eddy County, Lea County, and Chaves County.

Other references

Literature Cited:

Ansley, R. J.; Jacoby, P. W. 1998. Manipulation of fire intensity to achieve mesquite management goals in north Texas. In: Pruden, Teresa L.; Brennan, Leonard A., eds. Fire in ecosystem management: shifting the paradigm from suppression to prescription: Proceedings, Tall Timbers fire ecology conference; 1996 May 7-10; Boise, ID. No. 20. Tallahassee, FL: Tall Timbers Research Station: 195-204.

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Britton, Carlton M.; Wright, Henry A. 1971. Correlation of weather and fuel variables to mesquite damage by fire. Journal of Range Management 24:136-141.

Davis, Joseph H., III and Bonham, Charles D. 1979. Interference of sand sagebrush canopy with needleandthread. Journal of Range Management 32(5):384-386.

Herbel, C. H, Steger, R, Gould, W. L. 1974. Managing semidesert ranges of the Southwest Circular 456. Las Cruces, NM: New Mexico State University, Cooperative Extension Service. 48 p.

McDaniel, Kirk C.; Pieper, Rex D.; Loomis, Lyn E.; Osman, Abdelgader A. 1984. Taxonomy and ecology of perennial snakeweeds in New Mexico. Bulletin 711. Las Cruces, NM: New Mexico State University, Agricultural Experiment Station. 34 p.

McPherson, Guy R. 1995. The role of fire in the desert grasslands. In: McClaran, Mitchel P.; Van Devender, Thomas R., eds. The desert grassland. Tucson, AZ: The University of Arizona Press: 130-151.

Pettit, Russell D. 1986. Sand shinnery oak: control and management. Management Note 8. Lubbock, TX: Texas Tech University, College of Agricultural Sciences, Department of Range and Wildlife Management. 5 p.

Contributors

Don Sylvester
Quinn Hodgson

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

2. **Presence of water flow patterns:**

3. **Number and height of erosional pedestals or terracettes:**

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

5. **Number of gullies and erosion associated with gullies:**

6. **Extent of wind scoured, blowouts and/or depositional areas:**

7. **Amount of litter movement (describe size and distance expected to travel):**

---

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

---

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

---

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

---

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

---

12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant:

    Sub-dominant:

    Other:

    Additional:

---

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

---

14. **Average percent litter cover (%) and depth (in):**

---

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

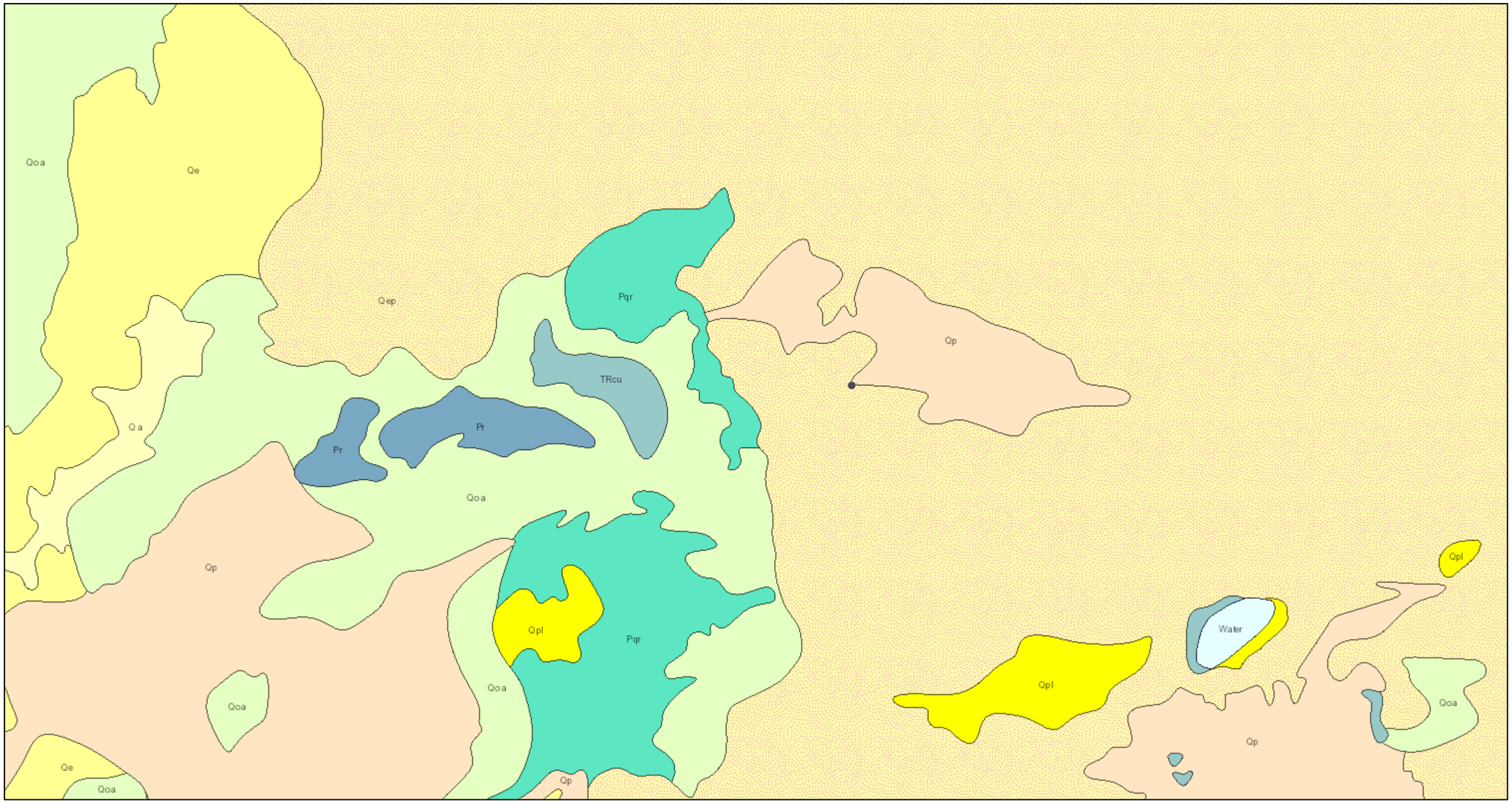
---

16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:**

---

17. **Perennial plant reproductive capability:**

Sirius 17 Federal #006H Geology



8/5/2023, 9:01:02 AM

1:144,448

Lithologic Units

- Playa—Alluvium and evaporite deposits (Holocene)
- Water—Perenial standing water
- Qa—Alluvium (Holocene to upper Pleistocene)
- Ql—Landslide deposits and colluvium (Holocene to Pleistocene) — Landslide deposits on western flanks of Socorro Mountains not shown for clarity
- Qpl—Lacustrine and playa deposits (Holocene) — Includes associated alluvial and eolian deposits of major lake basins
- Qp—Piedmont alluvial deposits (Holocene to lower Pleistocene)
- Qe—Eolian deposits (Holocene to middle Pleistocene)
- Qeg—Gypsiferous eolian deposits (Holocene to middle Pleistocene)

0 1.5 3 6 mi

0 2.25 4.5 9 km

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

ArcGIS Web AppBuilder

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

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APPENDIX B – Daily Field and Sampling Reports

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	9/16/2023
Site Location Name:	Sirius 17 Federal #006H	Report Run Date:	9/16/2023 9:30 PM
Client Contact Name:	Dale Woodall	API #:	30-015-41761
Client Contact Phone #:	405-318-4697		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	9/16/2023 11:15 AM
Departed Site	9/16/2023 2:00 PM

Field Notes

13:22 Completed safety paperwork

13:22 Delineation site assessment

13:29 Obtained Bh23-01 - 05 all at 0 and 2 ft bgs

13:30 BH23-04 stepped out 10 feet west to 05

14:53 Tested samples 1-5 and jarred samples to send to lab

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North

BH23-01

Viewing Direction: Northeast

BH23-02

Viewing Direction: East

H

Viewing Direction: East

BH23-04 step out to 05

Daily Site Visit Report

Viewing Direction: Southeast

Release area

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Alexis Castro

Signature:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	9/17/2023
Site Location Name:	Sirius 17 Federal #006H	Report Run Date:	9/17/2023 10:24 PM
Client Contact Name:	Dale Woodall	API #:	30-015-41761
Client Contact Phone #:	405-318-4697		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	9/17/2023 8:00 AM
Departed Site	9/17/2023 3:15 PM

Field Notes

13:48 Completed safety paperwork on site and initial line locate

13:48 On site to continue delineation

13:50 Obtained:
BH23-03 at 2’
BH23-06 to 15 mainly at 0 and 2’ intervals. Some hitting refusal at 1.5’ bgs.

Next Steps & Recommendations

1 Continue delineation

Daily Site Visit Report

Site Photos

Viewing Direction: East

BH23-03

Viewing Direction: South

BH23-14

Viewing Direction: Southeast

BH23-15

Viewing Direction: Southeast

BH23-06

Daily Site Visit Report

Viewing Direction: South

BH23-07

Viewing Direction: South

BH23-08

Viewing Direction: South

BH23-09

Viewing Direction: Southeast

BH23-10

Daily Site Visit Report

Viewing Direction: Southeast

BH23-11

Viewing Direction: Southeast

BH23-12

Viewing Direction: East

BH23-13

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Austin Harris

Signature: 

Signature

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	9/19/2023
Site Location Name:	Sirius 17 Federal #006H	Report Run Date:	12/13/2023 4:59 PM
Client Contact Name:	Dale Woodall	API #:	30-015-41761
Client Contact Phone #:	405-318-4697		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	9/19/2023 7:30 AM
Departed Site	9/19/2023 3:25 PM

Field Notes

14:57 Completed safety paperwork on site

14:57 Continued delineation

14:59 Obtained BH23-25 to 37 all at 0 and 2’ depths.
BH23-26 refusal at 1’.
BH23-28 refusal at 1.5’.
BH23-35 refusal at 1’.
BH23-36 refusal at 1.5’.
BH24-37 refusal at 1’.

Next Steps & Recommendations

1 Send all samples to lab.

2 Consult pm.

3 Determine DTGW and associated work plan if needed.

Daily Site Visit Report

Site Photos

Viewing Direction: East

BH23-25

Viewing Direction: East

BH23-26

Viewing Direction: East

BH23-27

Viewing Direction: Northeast

BH23-28

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: South
	
BH23-29	BH23-30
Viewing Direction: Southwest	**Viewing Direction**: West
	
BH23-31	BH23-32

Daily Site Visit Report

Viewing Direction: Southwest

BH23-33

Viewing Direction: Southwest

BH23-34

Viewing Direction: Southwest

BH23-35

Viewing Direction: West

BH23-36

Daily Site Visit Report

Viewing Direction: West

BH23-37

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Austin Harris

Signature: 

Signature

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	5/29/2024
Site Location Name:	Sirius 17 Federal #006H	Report Run Date:	5/31/2024 6:49 PM
Client Contact Name:	Shawn McCormick	API #:	30-015-41761
Client Contact Phone #:	575-513-9171		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/29/2024 7:45 AM
Departed Site	5/29/2024 4:25 PM

Field Notes

9:00 Site excavation overwatch

9:54 Excavation started at BG24-07 and BG24-24 @ 1’

16:24 Collected grab samples for BG24-01 to 07 and WS24-01 to 03, BH24-09 and ran chloride titrations

Next Steps & Recommendations

1 Send off BH24-09 to lab for analysis.
Backfill BS24-01 to 05 and BS24-06 to 07

Daily Site Visit Report

Site Photos

Viewing Direction: North

Lealand

Viewing Direction: Southeast

Excavation of WS24-01 to 02. BS24-01 to 05 at @ 1’

Viewing Direction: West

Excavation of WS24-03 and BS24-06 to 07 @ 1’

Viewing Direction: North

Excavation of BH24-09 @ 10.5’. Operators backfilled hole before I could get a photo

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Riley Plogger

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	6/5/2024
Site Location Name:	Sirius 17 Federal #006H	Report Run Date:	6/6/2024 1:10 AM
Client Contact Name:	Jim Raley	API #:	30-015-41761
Client Contact Phone #:	575-748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	6/5/2024 9:10 AM
Departed Site	6/5/2024 4:00 PM

Field Notes

9:11 Arrived on site. Completed safety paperwork and did a site walk through.

9:16 On site to collect confirmation samples on the excavation that began on 05/29/2024.

18:59 Obtained samples BES24-01 through BES24-07 and WES24-01 through WES24-08. 15 confirmation samples in total were collected.

19:01 All samples were field screened for chlorides using silver nitrate titration and TPH using a petroflag. All samples met criteria for the 51'-100' DTGW closure criteria.

19:01 9 samples were jarred and prepped to be sent to Eurofins laboratory.

19:02 No excavation crew was on site today. The two excavated pits still had a protective barrier around them for safety purposes.

19:08 Both excavated pits were measured with a tape measure to ensure accurate mapping in Collector.

Next Steps & Recommendations

1 Send samples to the lab.

Daily Site Visit Report

Site Photos

Viewing Direction: West

North excavation zone. BS24-01 through BS24-05 we're collected in this pit.

Viewing Direction: South

Location of WS24-01 in the northern excavated pit.

Viewing Direction: East

Location of WS24-02 in the northern excavated pit.

Viewing Direction: Northwest

Location of WS24-03 in the northern excavated pit.

Daily Site Visit Report

Viewing Direction: West	**Viewing Direction**: West
	
Location of WS24-04 in the northern excavated pit.	Southern excavation. Location of samples BES24-06 and BES24-07.
Viewing Direction: South	**Viewing Direction**: Southeast
	
Location of WS24-05 in the southern excavated pit.	Location of WS24-06 in the southern excavated pit.

Daily Site Visit Report

Viewing Direction: North

Location of WES24-07 in the southern excavated pit.

Viewing Direction: East

WS24-08 in the southern excavated pit.

Viewing Direction: North

Excavation area.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: John Rewis

Signature:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	6/18/2024
Site Location Name:	Sirius 17 Federal #006H	Report Run Date:	6/18/2024 4:59 PM
Client Contact Name:	Dale Woodall	API #:	30-015-41761
Client Contact Phone #:	405-318-4697		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	6/18/2024 8:55 AM
Departed Site	6/18/2024 9:15 AM

Field Notes

8:59 Arrived on site, examined site for hazards and completed safety assessment for job and documents. Confirming and documenting site is backfilled to grade with like material.

Next Steps & Recommendations

1 Complete closure report

Daily Site Visit Report

Site Photos

Viewing Direction: South

Site information placard

Viewing Direction: East

Excavation area north of pumping unit backfilled and graded

Viewing Direction: East

Excavation area west of pumping unit backfilled and graded

Viewing Direction: Northeast

Excavation areas around pumping unit backfilled and graded

Daily Site Visit Report

Viewing Direction: South

Excavation areas around pumping unit backfilled and graded

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Stephanie McCartyM

Signature:

APPENDIX C – Notifications

OCD Permitting

[NOTIFY] Notification Of Sampling (C-141N) Application

Submission Information

Submission ID:	349925	**Districts:**	Artesia
Operator:	[6137] DEVON ENERGY PRODUCTION COMPANY, LP	**Counties:**	Eddy
Description:	DEVON ENERGY PRODUCTION COMPANY, LP [6137] , SIRIUS 17 FED #6H , nRM2002843138		
Status:	APPROVED		
Status Date:	05/31/2024		
References (2):	30-015-41761, nRM2002843138		

Forms

This application type does not have attachments.

Questions

Prerequisites

Incident ID (n#)	**nRM2002843138**
Incident Name	**NRM2002843138 SIRIUS 17 FED #6H @ 30-015-41761**
Incident Type	**Release Other**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-015-41761] SIRIUS 17 FEDERAL #006H**

Location of Release Source

Site Name	**SIRIUS 17 FED #6H**
Date Release Discovered	**11/24/2019**
Surface Owner	**Federal**

Sampling Event General Information

Please answer all the questions in this group.

What is the sampling surface area in square feet	1,500
What is the estimated number of samples that will be gathered	10
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	06/05/2024
Time sampling will commence	09:00 AM

Warning: Notification can not be less than two business days prior to conducting final sampling.

Please provide any information necessary for observers to contact samplers	Kent Stallings P.G. Vertex Resource Services Inc. P 575.725.5001 ext 706 KStallings@vertex.ca
Please provide any information necessary for navigation to sampling site	From Canyon and 180/62/Greene, take 180 east 15.1 miles to NM 360 N. Take NM 360 north for 5.7 miles to 2 andturn right. Go 9.3 miles to the intersection with Lusk Plant and keep left to stay on 222/Shugart. Continue 0

This submission type does not have acknowledgments, at this time.

Comments

No comments found for this submission.

Conditions

Summary: *wdale (5/31/2024),* Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.

Reasons

No reasons found for this submission.

Go Back

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APPENDIX D – Laboratory Data Reports and Chain of Custody Forms

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 06, 2023

Kent Stallings

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL:
FAX:

RE: Sirius 17 Federal 006H OrderNo.: 2309972

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 8 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 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2309972**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-01 0'
Project: Sirius 17 Federal 006H **Collection Date:** 9/16/2023 9:00:00 AM
Lab ID: 2309972-001 **Matrix:** SOIL **Received Date:** 9/19/2023 7:35:00 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	9/22/2023 2:02:30 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/22/2023 2:02:30 AM
Surr: DNOP	135	69-147		%Rec	1	9/22/2023 2:02:30 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/23/2023 1:25:58 AM
Surr: BFB	92.5	15-244		%Rec	1	9/23/2023 1:25:58 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	9/23/2023 1:25:58 AM
Toluene	ND	0.050		mg/Kg	1	9/23/2023 1:25:58 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/23/2023 1:25:58 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/23/2023 1:25:58 AM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	9/23/2023 1:25:58 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	100	60		mg/Kg	20	9/22/2023 1:03:15 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309972**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-01 1.5'
Project: Sirius 17 Federal 006H **Collection Date:** 9/16/2023 9:10:00 AM
Lab ID: 2309972-002 **Matrix:** SOIL **Received Date:** 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/22/2023 11:00:48 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/22/2023 11:00:48 AM
Surr: DNOP	147	69-147	S	%Rec	1	9/22/2023 11:00:48 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/23/2023 1:49:23 AM
Surr: BFB	94.5	15-244		%Rec	1	9/23/2023 1:49:23 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 1:49:23 AM
Toluene	ND	0.049		mg/Kg	1	9/23/2023 1:49:23 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/23/2023 1:49:23 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/23/2023 1:49:23 AM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/23/2023 1:49:23 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	120	60		mg/Kg	20	9/22/2023 1:15:35 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309972**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-02 0'
Project: Sirius 17 Federal 006H **Collection Date:** 9/16/2023 9:20:00 AM
Lab ID: 2309972-003 **Matrix:** SOIL **Received Date:** 9/19/2023 7:35:00 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	9/22/2023 11:11:27 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/22/2023 11:11:27 AM
Surr: DNOP	146	69-147		%Rec	1	9/22/2023 11:11:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/23/2023 2:12:45 AM
Surr: BFB	95.0	15-244		%Rec	1	9/23/2023 2:12:45 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	9/23/2023 2:12:45 AM
Toluene	ND	0.050		mg/Kg	1	9/23/2023 2:12:45 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/23/2023 2:12:45 AM
Xylenes, Total	ND	0.10		mg/Kg	1	9/23/2023 2:12:45 AM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	9/23/2023 2:12:45 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	9/22/2023 1:27:56 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309972**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-02 2'
Project: Sirius 17 Federal 006H **Collection Date:** 9/16/2023 9:30:00 AM
Lab ID: 2309972-004 **Matrix:** SOIL **Received Date:** 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/22/2023 11:22:06 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/22/2023 11:22:06 AM
Surr: DNOP	150	69-147	S	%Rec	1	9/22/2023 11:22:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/23/2023 2:36:04 AM
Surr: BFB	96.4	15-244		%Rec	1	9/23/2023 2:36:04 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 2:36:04 AM
Toluene	ND	0.047		mg/Kg	1	9/23/2023 2:36:04 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/23/2023 2:36:04 AM
Xylenes, Total	ND	0.094		mg/Kg	1	9/23/2023 2:36:04 AM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/23/2023 2:36:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	9/22/2023 2:04:57 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309972**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-03 0'
Project: Sirius 17 Federal 006H
Collection Date: 9/16/2023 9:40:00 AM
Lab ID: 2309972-005 **Matrix:** SOIL **Received Date:** 9/19/2023 7:35:00 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	9/22/2023 4:29:44 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/22/2023 4:29:44 AM
Surr: DNOP	145	69-147		%Rec	1	9/22/2023 4:29:44 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 2:59:21 AM
Surr: BFB	96.3	15-244		%Rec	1	9/23/2023 2:59:21 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 2:59:21 AM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 2:59:21 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 2:59:21 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/23/2023 2:59:21 AM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/23/2023 2:59:21 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	330	60		mg/Kg	20	9/22/2023 3:06:41 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309972**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-04 0'
Project: Sirius 17 Federal 006H **Collection Date:** 9/16/2023 9:50:00 AM
Lab ID: 2309972-006 **Matrix:** SOIL **Received Date:** 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	79	9.3		mg/Kg	1	9/22/2023 11:32:47 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/22/2023 11:32:47 AM
Surr: DNOP	128	69-147		%Rec	1	9/22/2023 11:32:47 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 3:22:38 AM
Surr: BFB	96.6	15-244		%Rec	1	9/23/2023 3:22:38 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 3:22:38 AM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 3:22:38 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 3:22:38 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/23/2023 3:22:38 AM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/23/2023 3:22:38 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	2700	150		mg/Kg	50	9/30/2023 10:57:24 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309972**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-05 0'
Project: Sirius 17 Federal 006H **Collection Date:** 9/16/2023 10:00:00 AM
Lab ID: 2309972-007 **Matrix:** SOIL **Received Date:** 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	950	95		mg/Kg	10	9/26/2023 10:46:38 AM
Motor Oil Range Organics (MRO)	ND	470	D	mg/Kg	10	9/26/2023 10:46:38 AM
Surr: DNOP	0	69-147	S	%Rec	10	9/26/2023 10:46:38 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 3:45:59 AM
Surr: BFB	92.8	15-244		%Rec	1	9/23/2023 3:45:59 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 3:45:59 AM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 3:45:59 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 3:45:59 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/23/2023 3:45:59 AM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	9/23/2023 3:45:59 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	1100	60		mg/Kg	20	9/22/2023 3:31:23 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309972**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-05 2'
Project: Sirius 17 Federal 006H
Collection Date: 9/16/2023 10:10:00 AM
Lab ID: 2309972-008 **Matrix:** SOIL **Received Date:** 9/19/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/22/2023 5:41:55 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/22/2023 5:41:55 AM
Surr: DNOP	145	69-147		%Rec	1	9/22/2023 5:41:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/23/2023 4:09:29 AM
Surr: BFB	92.7	15-244		%Rec	1	9/23/2023 4:09:29 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	9/23/2023 4:09:29 AM
Toluene	ND	0.050		mg/Kg	1	9/23/2023 4:09:29 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/23/2023 4:09:29 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/23/2023 4:09:29 AM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/23/2023 4:09:29 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	9/22/2023 3:43:44 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 Quanitative 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#: **2309972**

06-Oct-23

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **MB-77700**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **PBS**	Batch ID: **77700**	RunNo: **99932**								
Prep Date: **9/22/2023**	Analysis Date: **9/22/2023**	SeqNo: **3654691**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77700**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **LCSS**	Batch ID: **77700**	RunNo: **99932**								
Prep Date: **9/22/2023**	Analysis Date: **9/22/2023**	SeqNo: **3654692**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.4	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 Quanitative 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#: **2309972**

06-Oct-23

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **MB-77647** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **77647** RunNo: **99915**

Prep Date: **9/20/2023** Analysis Date: **9/22/2023** SeqNo: **3654242** 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	14		10.00		138	69	147			

Sample ID: **LCS-77647** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **77647** RunNo: **99915**

Prep Date: **9/20/2023** Analysis Date: **9/22/2023** SeqNo: **3654243** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	115	61.9	130			
Surr: DNOP	5.9		5.000		119	69	147			

Sample ID: **2309972-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **BH23-01 0'** Batch ID: **77647** RunNo: **99927**

Prep Date: **9/20/2023** Analysis Date: **9/22/2023** SeqNo: **3655884** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	68	9.8	49.12	0	139	54.2	135			S
Surr: DNOP	7.4		4.912		150	69	147			S

Sample ID: **2309972-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **BH23-01 0'** Batch ID: **77647** RunNo: **99927**

Prep Date: **9/20/2023** Analysis Date: **9/22/2023** SeqNo: **3655885** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	72	10	50.00	0	144	54.2	135	5.39	29.2	S
Surr: DNOP	7.8		5.000		156	69	147	0	0	S

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 Quanitative 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#: **2309972**

06-Oct-23

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **lcs-77620**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77620**	RunNo: **99922**
Prep Date: **9/19/2023**	Analysis Date: **9/22/2023**	SeqNo: **3655351** Units: **mg/Kg**

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: **MB-77620**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77620**	RunNo: **99922**
Prep Date: **9/19/2023**	Analysis Date: **9/22/2023**	SeqNo: **3655353** 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	960		1000		95.6	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 Quanitative 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#: **2309972**

06-Oct-23

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **LCS-77620** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **77620** RunNo: **99922**

Prep Date: **9/19/2023** Analysis Date: **9/22/2023** SeqNo: **3655471** Units: **mg/Kg**

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: **MB-77620** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **77620** RunNo: **99922**

Prep Date: **9/19/2023** Analysis Date: **9/22/2023** SeqNo: **3655474** 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	1.0		1.000		104	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: Vertex Resources Services, Inc.

Work Order Number: 2309972

RcptNo: 1

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

Completed By: Tracy Casarrubias 9/19/2023 8:25:16 AM

Reviewed By: 9-19-23

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 ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted) Adjusted?
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 ☐	Checked by: mnaha/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		

Received by OCD: 8/7/2024 9:29:30 AM

Released to Imaging: 8/30/2024 2:04:50 PM

Chain-of-Custody Record

Client: Vertex (Devon)

Mailing Address: on file

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: Sirius 17 Federal #006H

Project #: 23E-04723

Project Manager: Kent Stallings

Sampler: Zach Englebert

On Ice: ☐ Yes ☐ No

# of Coolers: 1 Yogi

Cooler Temp(including CF): 2.3+0.1=2.4 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2309972	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_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9-16-23	9 00	soil	BH23-01 0'	1 jar	ice	001										
	9 10		BH23-01 1.5'			002										
	9 20		BH23-02 0'			003										
	9 30		BH23-02 2'			004										
	9 40		BH23-03 0'			005										
	9 50		BH23-04 0'			006										
	10 00		BH23-05 0'			007										
	10 10		BH23-05 2'			008										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
			Acumm		9/18/23	1000
Date: 9/18/23	Time: 1900	Relinquished by: Acumm	Received by:	Via: Courier	Date 9/19/23	Time 7:35

Remarks: Direct Bill to Devon
cc Kstallings@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

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

October 11, 2023

Kent Stallings

Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (505) 350-1336
FAX:

RE: Sirius 17 Federal 006H OrderNo.: 2309A67

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 22 sample(s) on 9/20/2023 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 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-001 **Matrix:** SOIL

Client Sample ID: BH23-03 1.5'
Collection Date: 9/17/2023 9:00:00 AM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/22/2023 10:06:32 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/22/2023 10:06:32 PM
Surr: DNOP	114	69-147		%Rec	1	9/22/2023 10:06:32 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 3:31:07 PM
Surr: BFB	95.0	15-244		%Rec	1	9/23/2023 3:31:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 3:31:07 PM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 3:31:07 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 3:31:07 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/23/2023 3:31:07 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	9/23/2023 3:31:07 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	65	60		mg/Kg	20	9/23/2023 11:32:57 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-06 0.0'
Project: Sirius 17 Federal 006H
Collection Date: 9/17/2023 9:10:00 AM
Lab ID: 2309A67-002 **Matrix:** SOIL **Received Date:** 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	57	9.5		mg/Kg	1	9/22/2023 10:31:00 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/22/2023 10:31:00 PM
Surr: DNOP	135	69-147		%Rec	1	9/22/2023 10:31:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/23/2023 3:54:28 PM
Surr: BFB	91.8	15-244		%Rec	1	9/23/2023 3:54:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 3:54:28 PM
Toluene	ND	0.047		mg/Kg	1	9/23/2023 3:54:28 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/23/2023 3:54:28 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/23/2023 3:54:28 PM
Surr: 4-Bromofluorobenzene	99.4	39.1-146		%Rec	1	9/23/2023 3:54:28 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	2400	60		mg/Kg	20	9/23/2023 12:10:10 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-06 1.5'
Project: Sirius 17 Federal 006H
Collection Date: 9/17/2023 9:20:00 AM
Lab ID: 2309A67-003 **Matrix:** SOIL **Received Date:** 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	170	8.6		mg/Kg	1	9/22/2023 10:55:21 PM
Motor Oil Range Organics (MRO)	120	43		mg/Kg	1	9/22/2023 10:55:21 PM
Surr: DNOP	129	69-147		%Rec	1	9/22/2023 10:55:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 4:17:51 PM
Surr: BFB	94.3	15-244		%Rec	1	9/23/2023 4:17:51 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 4:17:51 PM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 4:17:51 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 4:17:51 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/23/2023 4:17:51 PM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	9/23/2023 4:17:51 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	200	60		mg/Kg	20	9/23/2023 12:47:23 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-07 0.0'
Project: Sirius 17 Federal 006H
Collection Date: 9/17/2023 9:30:00 AM
Lab ID: 2309A67-004 **Matrix:** SOIL **Received Date:** 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	2500	84		mg/Kg	10	9/22/2023 11:19:41 PM
Motor Oil Range Organics (MRO)	2700	420		mg/Kg	10	9/22/2023 11:19:41 PM
Surr: DNOP	0	69-147	S	%Rec	10	9/22/2023 11:19:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 4:41:22 PM
Surr: BFB	88.5	15-244		%Rec	1	9/23/2023 4:41:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 4:41:22 PM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 4:41:22 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 4:41:22 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/23/2023 4:41:22 PM
Surr: 4-Bromofluorobenzene	95.1	39.1-146		%Rec	1	9/23/2023 4:41:22 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	3500	150		mg/Kg	50	9/26/2023 4:31:28 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-005 **Matrix:** SOIL

Client Sample ID: BH23-07 2.0'
Collection Date: 9/17/2023 9:40:00 AM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/23/2023 12:08:18 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/23/2023 12:08:18 AM
Surr: DNOP	129	69-147		%Rec	1	9/23/2023 12:08:18 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 5:28:33 PM
Surr: BFB	94.1	15-244		%Rec	1	9/23/2023 5:28:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 5:28:33 PM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 5:28:33 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 5:28:33 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/23/2023 5:28:33 PM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/23/2023 5:28:33 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	220	60		mg/Kg	20	9/23/2023 1:37:02 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-006 **Matrix:** SOIL

Client Sample ID: BH23-08 0.0'
Collection Date: 9/17/2023 9:50:00 AM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/23/2023 12:32:35 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/23/2023 12:32:35 AM
Surr: DNOP	89.5	69-147		%Rec	1	9/23/2023 12:32:35 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 5:52:08 PM
Surr: BFB	93.0	15-244		%Rec	1	9/23/2023 5:52:08 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 5:52:08 PM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 5:52:08 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 5:52:08 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/23/2023 5:52:08 PM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	9/23/2023 5:52:08 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	250	60		mg/Kg	20	9/23/2023 1:49:27 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-08 2.0'
Project: Sirius 17 Federal 006H
Collection Date: 9/17/2023 10:00:00 AM
Lab ID: 2309A67-007 **Matrix:** SOIL **Received Date:** 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/23/2023 2:09:46 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/23/2023 2:09:46 AM
Surr: DNOP	136	69-147		%Rec	1	9/23/2023 2:09:46 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/26/2023 11:11:00 AM
Surr: BFB	103	15-244		%Rec	1	9/26/2023 11:11:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/26/2023 11:11:00 AM
Toluene	ND	0.049		mg/Kg	1	9/26/2023 11:11:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/26/2023 11:11:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/26/2023 11:11:00 AM
Surr: 4-Bromofluorobenzene	91.0	39.1-146		%Rec	1	9/26/2023 11:11:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	120	60		mg/Kg	20	9/23/2023 2:01:52 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-008 **Matrix:** SOIL

Client Sample ID: BH23-09 0.0'
Collection Date: 9/17/2023 10:10:00 AM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/23/2023 3:22:41 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/23/2023 3:22:41 AM
Surr: DNOP	103	69-147		%Rec	1	9/23/2023 3:22:41 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/26/2023 12:16:00 PM
Surr: BFB	100	15-244		%Rec	1	9/26/2023 12:16:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/26/2023 12:16:00 PM
Toluene	ND	0.047		mg/Kg	1	9/26/2023 12:16:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/26/2023 12:16:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/26/2023 12:16:00 PM
Surr: 4-Bromofluorobenzene	91.4	39.1-146		%Rec	1	9/26/2023 12:16:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	5600	150		mg/Kg	50	9/26/2023 4:43:53 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-009 **Matrix:** SOIL

Client Sample ID: BH23-09 2.0'
Collection Date: 9/17/2023 10:20:00 AM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/23/2023 3:46:59 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/23/2023 3:46:59 AM
Surr: DNOP	102	69-147		%Rec	1	9/23/2023 3:46:59 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/26/2023 1:21:00 PM
Surr: BFB	102	15-244		%Rec	1	9/26/2023 1:21:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	9/26/2023 1:21:00 PM
Toluene	ND	0.046		mg/Kg	1	9/26/2023 1:21:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	9/26/2023 1:21:00 PM
Xylenes, Total	ND	0.092		mg/Kg	1	9/26/2023 1:21:00 PM
Surr: 4-Bromofluorobenzene	88.7	39.1-146		%Rec	1	9/26/2023 1:21:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	1300	60		mg/Kg	20	9/23/2023 2:26:40 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-010 **Matrix:** SOIL

Client Sample ID: BH23-10 0.0'
Collection Date: 9/17/2023 10:30:00 AM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/23/2023 4:11:14 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/23/2023 4:11:14 AM
Surr: DNOP	128	69-147		%Rec	1	9/23/2023 4:11:14 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/26/2023 1:42:00 PM
Surr: BFB	95.7	15-244		%Rec	1	9/26/2023 1:42:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	9/26/2023 1:42:00 PM
Toluene	ND	0.047		mg/Kg	1	9/26/2023 1:42:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/26/2023 1:42:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	9/26/2023 1:42:00 PM
Surr: 4-Bromofluorobenzene	88.8	39.1-146		%Rec	1	9/26/2023 1:42:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	2500	150		mg/Kg	50	9/26/2023 4:56:18 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-011 **Matrix:** SOIL

Client Sample ID: BH23-10 2.0'
Collection Date: 9/17/2023 10:40:00 AM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/23/2023 4:35:31 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/23/2023 4:35:31 AM
Surr: DNOP	142	69-147		%Rec	1	9/23/2023 4:35:31 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/26/2023 2:04:00 PM
Surr: BFB	103	15-244		%Rec	1	9/26/2023 2:04:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	9/26/2023 2:04:00 PM
Toluene	ND	0.046		mg/Kg	1	9/26/2023 2:04:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	9/26/2023 2:04:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	9/26/2023 2:04:00 PM
Surr: 4-Bromofluorobenzene	91.2	39.1-146		%Rec	1	9/26/2023 2:04:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	560	60		mg/Kg	20	9/23/2023 2:51:29 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-012 **Matrix:** SOIL

Client Sample ID: BH23-11 0.0'
Collection Date: 9/17/2023 10:50:00 AM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	9/23/2023 4:59:48 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/23/2023 4:59:48 AM
Surr: DNOP	127	69-147		%Rec	1	9/23/2023 4:59:48 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/26/2023 2:26:00 PM
Surr: BFB	103	15-244		%Rec	1	9/26/2023 2:26:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/26/2023 2:26:00 PM
Toluene	ND	0.047		mg/Kg	1	9/26/2023 2:26:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/26/2023 2:26:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	9/26/2023 2:26:00 PM
Surr: 4-Bromofluorobenzene	89.3	39.1-146		%Rec	1	9/26/2023 2:26:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	6100	300		mg/Kg	100	9/26/2023 5:08:43 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-013 **Matrix:** SOIL

Client Sample ID: BH23-11 2.0'
Collection Date: 9/17/2023 11:00:00 AM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/23/2023 5:24:11 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/23/2023 5:24:11 AM
Surr: DNOP	136	69-147		%Rec	1	9/23/2023 5:24:11 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/26/2023 2:48:00 PM
Surr: BFB	99.9	15-244		%Rec	1	9/26/2023 2:48:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	9/26/2023 2:48:00 PM
Toluene	ND	0.047		mg/Kg	1	9/26/2023 2:48:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/26/2023 2:48:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	9/26/2023 2:48:00 PM
Surr: 4-Bromofluorobenzene	89.6	39.1-146		%Rec	1	9/26/2023 2:48:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	210	60		mg/Kg	20	9/23/2023 3:16:18 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-014 **Matrix:** SOIL

Client Sample ID: BH23-12 0.0'
Collection Date: 9/17/2023 11:10:00 AM
Received Date: 9/20/2023

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	9/23/2023 5:48:27 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/23/2023 5:48:27 AM
Surr: DNOP	136	69-147		%Rec	1	9/23/2023 5:48:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/26/2023 3:09:00 PM
Surr: BFB	103	15-244		%Rec	1	9/26/2023 3:09:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/26/2023 3:09:00 PM
Toluene	ND	0.049		mg/Kg	1	9/26/2023 3:09:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/26/2023 3:09:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/26/2023 3:09:00 PM
Surr: 4-Bromofluorobenzene	90.1	39.1-146		%Rec	1	9/26/2023 3:09:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	500	60		mg/Kg	20	9/23/2023 3:28:42 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-12 2.0'
Project: Sirius 17 Federal 006H
Collection Date: 9/17/2023 11:20:00 AM
Lab ID: 2309A67-015 **Matrix:** SOIL **Received Date:** 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/23/2023 6:12:49 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/23/2023 6:12:49 AM
Surr: DNOP	153	69-147	S	%Rec	1	9/23/2023 6:12:49 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/26/2023 3:31:00 PM
Surr: BFB	101	15-244		%Rec	1	9/26/2023 3:31:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/26/2023 3:31:00 PM
Toluene	ND	0.050		mg/Kg	1	9/26/2023 3:31:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/26/2023 3:31:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/26/2023 3:31:00 PM
Surr: 4-Bromofluorobenzene	91.4	39.1-146		%Rec	1	9/26/2023 3:31:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	130	60		mg/Kg	20	9/23/2023 4:05:56 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-016 **Matrix:** SOIL

Client Sample ID: BH23-13 0.0'
Collection Date: 9/17/2023 11:30:00 AM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	430	94		mg/Kg	10	9/26/2023 9:33:27 PM
Motor Oil Range Organics (MRO)	550	470		mg/Kg	10	9/26/2023 9:33:27 PM
Surr: DNOP	0	69-147	S	%Rec	10	9/26/2023 9:33:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/26/2023 3:53:00 PM
Surr: BFB	98.0	15-244		%Rec	1	9/26/2023 3:53:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/26/2023 3:53:00 PM
Toluene	ND	0.049		mg/Kg	1	9/26/2023 3:53:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/26/2023 3:53:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/26/2023 3:53:00 PM
Surr: 4-Bromofluorobenzene	88.5	39.1-146		%Rec	1	9/26/2023 3:53:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	80	60		mg/Kg	20	9/23/2023 4:18:20 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-017 **Matrix:** SOIL

Client Sample ID: BH23-13 2.0'
Collection Date: 9/17/2023 11:40:00 AM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	190	9.4		mg/Kg	1	9/27/2023 10:44:24 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/27/2023 10:44:24 AM
Surr: DNOP	102	69-147		%Rec	1	9/27/2023 10:44:24 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/26/2023 4:36:00 PM
Surr: BFB	107	15-244		%Rec	1	9/26/2023 4:36:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	9/26/2023 4:36:00 PM
Toluene	ND	0.046		mg/Kg	1	9/26/2023 4:36:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	9/26/2023 4:36:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	9/26/2023 4:36:00 PM
Surr: 4-Bromofluorobenzene	87.2	39.1-146		%Rec	1	9/26/2023 4:36:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	110	60		mg/Kg	20	9/23/2023 4:30:45 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-018 **Matrix:** SOIL

Client Sample ID: BH23-14 0.0'
Collection Date: 9/17/2023 11:50:00 AM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/23/2023 7:50:00 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/23/2023 7:50:00 AM
Surr: DNOP	158	69-147	S	%Rec	1	9/23/2023 7:50:00 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/26/2023 4:58:00 PM
Surr: BFB	95.0	15-244		%Rec	1	9/26/2023 4:58:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/26/2023 4:58:00 PM
Toluene	ND	0.048		mg/Kg	1	9/26/2023 4:58:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/26/2023 4:58:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/26/2023 4:58:00 PM
Surr: 4-Bromofluorobenzene	87.1	39.1-146		%Rec	1	9/26/2023 4:58:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	1300	60		mg/Kg	20	9/23/2023 4:43:09 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-019 **Matrix:** SOIL

Client Sample ID: BH23-14 2.0'
Collection Date: 9/17/2023 12:00:00 PM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/23/2023 8:14:21 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/23/2023 8:14:21 AM
Surr: DNOP	143	69-147		%Rec	1	9/23/2023 8:14:21 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/26/2023 5:20:00 PM
Surr: BFB	98.9	15-244		%Rec	1	9/26/2023 5:20:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	9/26/2023 5:20:00 PM
Toluene	ND	0.046		mg/Kg	1	9/26/2023 5:20:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	9/26/2023 5:20:00 PM
Xylenes, Total	ND	0.091		mg/Kg	1	9/26/2023 5:20:00 PM
Surr: 4-Bromofluorobenzene	87.9	39.1-146		%Rec	1	9/26/2023 5:20:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	320	60		mg/Kg	20	9/23/2023 4:55:34 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-020 **Matrix:** SOIL

Client Sample ID: BH23-15 0.0'
Collection Date: 9/17/2023 12:10:00 PM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/23/2023 8:38:43 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/23/2023 8:38:43 AM
Surr: DNOP	125	69-147		%Rec	1	9/23/2023 8:38:43 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/26/2023 5:41:00 PM
Surr: BFB	101	15-244		%Rec	1	9/26/2023 5:41:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/26/2023 5:41:00 PM
Toluene	ND	0.050		mg/Kg	1	9/26/2023 5:41:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/26/2023 5:41:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/26/2023 5:41:00 PM
Surr: 4-Bromofluorobenzene	88.1	39.1-146		%Rec	1	9/26/2023 5:41:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	650	60		mg/Kg	20	9/23/2023 5:07:58 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-021 **Matrix:** SOIL

Client Sample ID: BH23-15 2.0'
Collection Date: 9/17/2023 12:20:00 PM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/23/2023 9:03:06 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/23/2023 9:03:06 AM
Surr: DNOP	132	69-147		%Rec	1	9/23/2023 9:03:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/26/2023 6:03:00 PM
Surr: BFB	101	15-244		%Rec	1	9/26/2023 6:03:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	9/26/2023 6:03:00 PM
Toluene	ND	0.047		mg/Kg	1	9/26/2023 6:03:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/26/2023 6:03:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	9/26/2023 6:03:00 PM
Surr: 4-Bromofluorobenzene	90.2	39.1-146		%Rec	1	9/26/2023 6:03:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	160	60		mg/Kg	20	9/25/2023 2:31:15 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A67**
Date Reported: **10/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309A67-022 **Matrix:** SOIL

Client Sample ID: BH23-07 3.0'
Collection Date: 9/17/2023 12:30:00 PM
Received Date: 9/20/2023

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/23/2023 9:27:27 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/23/2023 9:27:27 AM
Surr: DNOP	99.1	69-147		%Rec	1	9/23/2023 9:27:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/26/2023 6:25:00 PM
Surr: BFB	101	15-244		%Rec	1	9/26/2023 6:25:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/26/2023 6:25:00 PM
Toluene	ND	0.048		mg/Kg	1	9/26/2023 6:25:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/26/2023 6:25:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/26/2023 6:25:00 PM
Surr: 4-Bromofluorobenzene	89.7	39.1-146		%Rec	1	9/26/2023 6:25:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	160	60		mg/Kg	20	9/26/2023 9:32:14 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 Quanitative 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#: **2309A67**

11-Oct-23

Client: Devon Energy

Project: Sirius 17 Federal 006H

Sample ID: **MB-77718**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **PBS**	Batch ID: **77718**	RunNo: **99943**								
Prep Date: **9/22/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655807**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77718**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **LCSS**	Batch ID: **77718**	RunNo: **99943**								
Prep Date: **9/22/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655808**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.5	90	110			

Sample ID: **MB-77733**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **PBS**	Batch ID: **77733**	RunNo: **99968**								
Prep Date: **9/25/2023**	Analysis Date: **9/25/2023**	SeqNo: **3657007**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77733**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **LCSS**	Batch ID: **77733**	RunNo: **99968**								
Prep Date: **9/25/2023**	Analysis Date: **9/25/2023**	SeqNo: **3657009**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.6	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 Quanitative 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#: **2309A67**

11-Oct-23

Client: Devon Energy

Project: Sirius 17 Federal 006H

Sample ID: **MB-77676**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77676**	RunNo: **99923**
Prep Date: **9/21/2023**	Analysis Date: **9/22/2023**	SeqNo: **3655970** 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		117	69	147			

Sample ID: **LCS-77676**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77676**	RunNo: **99923**
Prep Date: **9/21/2023**	Analysis Date: **9/22/2023**	SeqNo: **3655971** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	63	10	50.00	0	126	61.9	130			
Surr: DNOP	5.9		5.000		118	69	147			

Sample ID: **MB-77675**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77675**	RunNo: **99923**
Prep Date: **9/21/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655994** 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		123	69	147			

Sample ID: **LCS-77675**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77675**	RunNo: **99923**
Prep Date: **9/21/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655995** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	67	10	50.00	0	134	61.9	130			S
Surr: DNOP	6.6		5.000		131	69	147			

Sample ID: **2309A67-007AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-08 2.0'**	Batch ID: **77675**	RunNo: **99923**
Prep Date: **9/21/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655997** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	58	9.9	49.31	0	117	54.2	135			
Surr: DNOP	5.7		4.931		116	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 Quanitative 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#: **2309A67**

11-Oct-23

Client: Devon Energy

Project: Sirius 17 Federal 006H

Sample ID: **2309A67-007AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-08 2.0'**	Batch ID: **77675**	RunNo: **99923**
Prep Date: **9/21/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655998** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	65	10	49.75	0	130	54.2	135	11.6	29.2	
Surr: DNOP	6.4		4.975		128	69	147	0	0	

Sample ID: **MB-77760**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77760**	RunNo: **99989**
Prep Date: **9/26/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658802** 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	10		10.00		99.8	69	147			

Sample ID: **LCS-77760**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77760**	RunNo: **99989**
Prep Date: **9/26/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658803** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.7	61.9	130			
Surr: DNOP	5.1		5.000		101	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 Quanitative 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#: **2309A67**

11-Oct-23

Client: Devon Energy

Project: Sirius 17 Federal 006H

Sample ID: **lcs-77650**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77650**	RunNo: **99922**
Prep Date: **9/20/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655352** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	82.8	70	130			
Surr: BFB	1900		1000		194	15	244			

Sample ID: **mb-77650**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77650**	RunNo: **99922**
Prep Date: **9/20/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655355** 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	970		1000		96.7	15	244			

Sample ID: **lcs-77668**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77668**	RunNo: **100014**
Prep Date: **9/21/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658936** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	70	130			
Surr: BFB	2300		1000		230	15	244			

Sample ID: **mb-77668**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77668**	RunNo: **100014**
Prep Date: **9/21/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658937** 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	1000		1000		99.9	15	244			

Sample ID: **2309A67-007ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-08 2.0'**	Batch ID: **77668**	RunNo: **100014**
Prep Date: **9/21/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658939** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	24.18	0	94.6	70	130			
Surr: BFB	2200		967.1		225	15	244			

Sample ID: **2309A67-007amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-08 2.0'**	Batch ID: **77668**	RunNo: **100014**
Prep Date: **9/21/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658940** Units: **mg/Kg**

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 Quanitative 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#: **2309A67**

11-Oct-23

Client: Devon Energy

Project: Sirius 17 Federal 006H

Sample ID: **2309A67-007amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-08 2.0'**	Batch ID: **77668**	RunNo: **100014**
Prep Date: **9/21/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658940** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	24.11	0	90.6	70	130	4.52	20	
Surr: BFB	2100		964.3		218	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 Quanitative 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#: **2309A67**

11-Oct-23

Client: Devon Energy

Project: Sirius 17 Federal 006H

Sample ID: **LCS-77650**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77650**	RunNo: **99922**
Prep Date: **9/20/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655473** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	102	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Ethylbenzene	1.0	0.050	1.000	0	102	70	130			
Xylenes, Total	3.1	0.10	3.000	0	102	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		105	39.1	146			

Sample ID: **mb-77650**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77650**	RunNo: **99922**
Prep Date: **9/20/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655477** 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	1.1		1.000		105	39.1	146			

Sample ID: **lcs-77668**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77668**	RunNo: **100014**
Prep Date: **9/21/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658984** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	86.2	70	130			
Toluene	0.86	0.050	1.000	0	86.1	70	130			
Ethylbenzene	0.90	0.050	1.000	0	89.5	70	130			
Xylenes, Total	2.7	0.10	3.000	0	89.5	70	130			
Surr: 4-Bromofluorobenzene	0.89		1.000		89.0	39.1	146			

Sample ID: **mb-77668**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77668**	RunNo: **100014**
Prep Date: **9/21/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658985** 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	0.90		1.000		89.5	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 Quanitative 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#: **2309A67**

11-Oct-23

Client: Devon Energy

Project: Sirius 17 Federal 006H

Sample ID: **2309A67-008ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-09 0.0'**	Batch ID: **77668**	RunNo: **100014**
Prep Date: **9/21/2023**	Analysis Date: **9/26/2023**	SeqNo: **3659094** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.024	0.9461	0	86.8	70	130			
Toluene	0.83	0.047	0.9461	0	88.2	70	130			
Ethylbenzene	0.85	0.047	0.9461	0	90.2	70	130			
Xylenes, Total	2.6	0.095	2.838	0	90.0	70	130			
Surr: 4-Bromofluorobenzene	0.86		0.9461		90.5	39.1	146			

Sample ID: **2309A67-008amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-09 0.0'**	Batch ID: **77668**	RunNo: **100014**
Prep Date: **9/21/2023**	Analysis Date: **9/26/2023**	SeqNo: **3659095** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.024	0.9479	0	87.5	70	130	0.982	20	
Toluene	0.85	0.047	0.9479	0	89.5	70	130	1.74	20	
Ethylbenzene	0.87	0.047	0.9479	0	92.3	70	130	2.46	20	
Xylenes, Total	2.6	0.095	2.844	0	92.1	70	130	2.56	20	
Surr: 4-Bromofluorobenzene	0.84		0.9479		88.7	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 Quanitative 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

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: 2309A67 RcptNo: 1

Received By: Tracy Casarrubias 9/20/2023

Completed By: Tracy Casarrubias 9/20/2023 9:04:06 AM

Reviewed By: 9-20-23

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 ☐	# of preserved bottles checked for pH: (<2 or >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? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: TMC 9/20/23

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 9/27/23

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	1.0	Good	Yes	Yogi		

Received by OCD: 8/7/2024 9:29:30 AM

Released to Imaging: 8/30/2024 2:04:50 PM

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: Sirius 17 Federal #006H

Project #: 23E-04732

Project Manager: Kent Stallings

Sampler: ZE

On Ice: ☑ Yes ☐ No 4091

# of Coolers: 1

Cooler Temp(Including CF): 1.1 - 0.1 = 1.0 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2309A107	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	F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9-17-23	0900	Soil	BH23-03 1.5'	4 oz	ICE	001										
	0910		BH23-06 0.0'			002										
	0920		BH23-06 1.5'			003										
	0930		BH23-07 0.0'			004										
	0940		BH23-07 2.0'			005										
	0950		BH23-08 0.0'			006										
	1000		BH23-08 2.0'			007										
	1010		BH23-09 0.0'			008										
	1020		BH23-09 2.0'			009										
	1030		BH23-10 0.0'			010										
	1040		BH23-10 2.0'			011										
	1050		BH23-11 0.0'			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date Time
					9/19/23 830
Date: 9/19/23	Time: 1900	Relinquished by:	Received by:	Via: Courier	Date Time 9/20/23 8:00

Remarks: CC: Kstallings@vertex.ca
aharris@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.

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: Sirius 17 Federal #006H

Project #: 23E-04732

Project Manager: Kent Stallings

Sampler: ZE

On Ice: ☒ Yes ☐ No yoji

# of Coolers: 1

Cooler Temp(including CF): 1.1 -0.1 = 1.0 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2309A607
9-17-23	1100	Soil	BH23-11 2.0'	4 oz	ICE	013
	1110		BH23-12 0.0'			014
	1120		BH23-12 2.0'			015
	1130		BH23-13 0.0'			016
	1140		BH23-13 2.0'			017
	1150		BH23-14 0.0'			018
	1200		BH23-14 2.0'			019
	1210		BH23-15 0.0'			020
	1220		BH23-15 2.0'			021
	1230		BH23-07 3.0'			022

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_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
✓	✓					✓			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
					9/19/23	830
9/19/23	1900			courier	9/20/23	8:00

Remarks: CC: Kstallings@vertex.ca

aharris@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

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

October 06, 2023

Kent Stallings

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL:
FAX:

RE: Sirius 17 Federal 006H OrderNo.: 2309A65

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 18 sample(s) on 9/20/2023 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 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-16 0'
Project: Sirius 17 Federal 006H
Collection Date: 9/18/2023 9:00:00 AM
Lab ID: 2309A65-001 **Matrix:** SOIL
Received Date: 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/22/2023 11:06:36 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/22/2023 11:06:36 PM
Surr: DNOP	117	69-147		%Rec	1	9/22/2023 11:06:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/21/2023 9:07:58 PM
Surr: BFB	109	15-244		%Rec	1	9/21/2023 9:07:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	9/21/2023 9:07:58 PM
Toluene	ND	0.049		mg/Kg	1	9/21/2023 9:07:58 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/21/2023 9:07:58 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/21/2023 9:07:58 PM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	9/21/2023 9:07:58 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	1500	60		mg/Kg	20	9/23/2023 5:41:05 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-16 2'
Project: Sirius 17 Federal 006H **Collection Date:** 9/18/2023 9:10:00 AM
Lab ID: 2309A65-002 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 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	9/22/2023 11:17:34 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/22/2023 11:17:34 PM
Surr: DNOP	108	69-147		%Rec	1	9/22/2023 11:17:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/21/2023 10:18:11 PM
Surr: BFB	93.7	15-244		%Rec	1	9/21/2023 10:18:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/21/2023 10:18:11 PM
Toluene	ND	0.048		mg/Kg	1	9/21/2023 10:18:11 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/21/2023 10:18:11 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/21/2023 10:18:11 PM
Surr: 4-Bromofluorobenzene	98.8	39.1-146		%Rec	1	9/21/2023 10:18:11 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	170	60		mg/Kg	20	9/23/2023 5:53:29 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-17 0'
Project: Sirius 17 Federal 006H **Collection Date:** 9/18/2023 9:20:00 AM
Lab ID: 2309A65-003 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/22/2023 11:28:33 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/22/2023 11:28:33 PM
Surr: DNOP	113	69-147		%Rec	1	9/22/2023 11:28:33 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/21/2023 10:41:31 PM
Surr: BFB	94.3	15-244		%Rec	1	9/21/2023 10:41:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	9/21/2023 10:41:31 PM
Toluene	ND	0.050		mg/Kg	1	9/21/2023 10:41:31 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/21/2023 10:41:31 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/21/2023 10:41:31 PM
Surr: 4-Bromofluorobenzene	99.5	39.1-146		%Rec	1	9/21/2023 10:41:31 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	810	60		mg/Kg	20	9/22/2023 6:48:55 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-17 2'
Project: Sirius 17 Federal 006H **Collection Date:** 9/18/2023 9:30:00 AM
Lab ID: 2309A65-004 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 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	9/22/2023 11:39:31 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/22/2023 11:39:31 PM
Surr: DNOP	108	69-147		%Rec	1	9/22/2023 11:39:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/21/2023 11:04:55 PM
Surr: BFB	94.7	15-244		%Rec	1	9/21/2023 11:04:55 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/21/2023 11:04:55 PM
Toluene	ND	0.048		mg/Kg	1	9/21/2023 11:04:55 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/21/2023 11:04:55 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/21/2023 11:04:55 PM
Surr: 4-Bromofluorobenzene	100	39.1-146		%Rec	1	9/21/2023 11:04:55 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	310	60		mg/Kg	20	9/22/2023 7:01:16 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-18 0'
Project: Sirius 17 Federal 006H **Collection Date:** 9/18/2023 9:40:00 AM
Lab ID: 2309A65-005 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	9/22/2023 2:44:29 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/22/2023 2:44:29 PM
Surr: DNOP	107	69-147		%Rec	1	9/22/2023 2:44:29 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 8:04:20 AM
Surr: BFB	94.5	15-244		%Rec	1	9/23/2023 8:04:20 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 8:04:20 AM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 8:04:20 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 8:04:20 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/23/2023 8:04:20 AM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/23/2023 8:04:20 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	9/22/2023 8:27:40 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-18 2'
Project: Sirius 17 Federal 006H **Collection Date:** 9/18/2023 9:50:00 AM
Lab ID: 2309A65-006 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/22/2023 3:57:55 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/22/2023 3:57:55 PM
Surr: DNOP	119	69-147		%Rec	1	9/22/2023 3:57:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 9:14:59 AM
Surr: BFB	96.3	15-244		%Rec	1	9/23/2023 9:14:59 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 9:14:59 AM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 9:14:59 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 9:14:59 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/23/2023 9:14:59 AM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	9/23/2023 9:14:59 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	64	60		mg/Kg	20	9/22/2023 8:40:01 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-19 0'
Project: Sirius 17 Federal 006H **Collection Date:** 9/18/2023 10:00:00 AM
Lab ID: 2309A65-007 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	9/22/2023 4:22:26 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/22/2023 4:22:26 PM
Surr: DNOP	144	69-147		%Rec	1	9/22/2023 4:22:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/23/2023 10:25:06 AM
Surr: BFB	94.2	15-244		%Rec	1	9/23/2023 10:25:06 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	9/23/2023 10:25:06 AM
Toluene	ND	0.050		mg/Kg	1	9/23/2023 10:25:06 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/23/2023 10:25:06 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/23/2023 10:25:06 AM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/23/2023 10:25:06 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	560	60		mg/Kg	20	9/22/2023 8:52:21 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-19 2'
Project: Sirius 17 Federal 006H
Collection Date: 9/18/2023 10:10:00 AM
Lab ID: 2309A65-008 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	9/22/2023 4:46:52 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/22/2023 4:46:52 PM
Surr: DNOP	92.5	69-147		%Rec	1	9/22/2023 4:46:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 10:48:44 AM
Surr: BFB	95.5	15-244		%Rec	1	9/23/2023 10:48:44 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 10:48:44 AM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 10:48:44 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 10:48:44 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/23/2023 10:48:44 AM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	9/23/2023 10:48:44 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	140	60		mg/Kg	20	9/22/2023 9:04:42 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-20 0'
Project: Sirius 17 Federal 006H
Collection Date: 9/18/2023 10:20:00 AM
Lab ID: 2309A65-009 **Matrix:** SOIL
Received Date: 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/22/2023 5:11:21 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/22/2023 5:11:21 PM
Surr: DNOP	71.5	69-147		%Rec	1	9/22/2023 5:11:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/23/2023 11:12:20 AM
Surr: BFB	93.3	15-244		%Rec	1	9/23/2023 11:12:20 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 11:12:20 AM
Toluene	ND	0.047		mg/Kg	1	9/23/2023 11:12:20 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/23/2023 11:12:20 AM
Xylenes, Total	ND	0.095		mg/Kg	1	9/23/2023 11:12:20 AM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	9/23/2023 11:12:20 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	530	60		mg/Kg	20	9/22/2023 9:17:03 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-20 2'
Project: Sirius 17 Federal 006H **Collection Date:** 9/18/2023 10:30:00 AM
Lab ID: 2309A65-010 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/22/2023 5:36:01 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/22/2023 5:36:01 PM
Surr: DNOP	101	69-147		%Rec	1	9/22/2023 5:36:01 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/23/2023 11:36:01 AM
Surr: BFB	95.1	15-244		%Rec	1	9/23/2023 11:36:01 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 11:36:01 AM
Toluene	ND	0.049		mg/Kg	1	9/23/2023 11:36:01 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/23/2023 11:36:01 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/23/2023 11:36:01 AM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/23/2023 11:36:01 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	220	60		mg/Kg	20	9/22/2023 9:29:24 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-21 0'
Project: Sirius 17 Federal 006H
Collection Date: 9/18/2023 10:40:00 AM
Lab ID: 2309A65-011 **Matrix:** SOIL
Received Date: 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	3200	93		mg/Kg	10	9/25/2023 8:47:32 AM
Motor Oil Range Organics (MRO)	ND	470	D	mg/Kg	10	9/25/2023 8:47:32 AM
Surr: DNOP	0	69-147	S	%Rec	10	9/25/2023 8:47:32 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/23/2023 11:59:42 AM
Surr: BFB	91.0	15-244		%Rec	1	9/23/2023 11:59:42 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	9/23/2023 11:59:42 AM
Toluene	ND	0.050		mg/Kg	1	9/23/2023 11:59:42 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/23/2023 11:59:42 AM
Xylenes, Total	ND	0.10		mg/Kg	1	9/23/2023 11:59:42 AM
Surr: 4-Bromofluorobenzene	98.3	39.1-146		%Rec	1	9/23/2023 11:59:42 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	560	60		mg/Kg	20	9/22/2023 10:06:26 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-21 2'
Project: Sirius 17 Federal 006H **Collection Date:** 9/18/2023 10:50:00 AM
Lab ID: 2309A65-012 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	13	8.5		mg/Kg	1	9/22/2023 6:50:00 PM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	9/22/2023 6:50:00 PM
Surr: DNOP	143	69-147		%Rec	1	9/22/2023 6:50:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 12:23:27 PM
Surr: BFB	93.2	15-244		%Rec	1	9/23/2023 12:23:27 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 12:23:27 PM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 12:23:27 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 12:23:27 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/23/2023 12:23:27 PM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	9/23/2023 12:23:27 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	9/22/2023 10:18:47 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-22 0'
Project: Sirius 17 Federal 006H **Collection Date:** 9/18/2023 11:00:00 AM
Lab ID: 2309A65-013 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	9/22/2023 7:39:19 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/22/2023 7:39:19 PM
Surr: DNOP	93.8	69-147		%Rec	1	9/22/2023 7:39:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 12:47:11 PM
Surr: BFB	94.2	15-244		%Rec	1	9/23/2023 12:47:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 12:47:11 PM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 12:47:11 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 12:47:11 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/23/2023 12:47:11 PM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	9/23/2023 12:47:11 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	390	60		mg/Kg	20	9/22/2023 10:31:08 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-22 2'
Project: Sirius 17 Federal 006H **Collection Date:** 9/18/2023 11:10:00 AM
Lab ID: 2309A65-014 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/22/2023 8:03:55 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/22/2023 8:03:55 PM
Surr: DNOP	141	69-147		%Rec	1	9/22/2023 8:03:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 1:10:48 PM
Surr: BFB	96.7	15-244		%Rec	1	9/23/2023 1:10:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 1:10:48 PM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 1:10:48 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 1:10:48 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/23/2023 1:10:48 PM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/23/2023 1:10:48 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	160	60		mg/Kg	20	9/22/2023 10:43:30 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-23 0'
Project: Sirius 17 Federal 006H
Collection Date: 9/18/2023 11:20:00 AM
Lab ID: 2309A65-015 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 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	9/22/2023 8:28:34 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/22/2023 8:28:34 PM
Surr: DNOP	111	69-147		%Rec	1	9/22/2023 8:28:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 1:57:43 PM
Surr: BFB	94.2	15-244		%Rec	1	9/23/2023 1:57:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 1:57:43 PM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 1:57:43 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 1:57:43 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/23/2023 1:57:43 PM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/23/2023 1:57:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	3600	150		mg/Kg	50	9/30/2023 10:32:42 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-23 2'
Project: Sirius 17 Federal 006H
Collection Date: 9/18/2023 11:30:00 AM
Lab ID: 2309A65-016 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/22/2023 8:53:04 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/22/2023 8:53:04 PM
Surr: DNOP	99.2	69-147		%Rec	1	9/22/2023 8:53:04 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/23/2023 2:21:04 PM
Surr: BFB	94.1	15-244		%Rec	1	9/23/2023 2:21:04 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	9/23/2023 2:21:04 PM
Toluene	ND	0.049		mg/Kg	1	9/23/2023 2:21:04 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/23/2023 2:21:04 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/23/2023 2:21:04 PM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/23/2023 2:21:04 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	690	60		mg/Kg	20	9/22/2023 11:08:11 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-24 0'
Project: Sirius 17 Federal 006H
Collection Date: 9/18/2023 11:40:00 AM
Lab ID: 2309A65-017 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	11	8.8		mg/Kg	1	9/22/2023 9:17:41 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/22/2023 9:17:41 PM
Surr: DNOP	104	69-147		%Rec	1	9/22/2023 9:17:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/23/2023 2:44:32 PM
Surr: BFB	95.0	15-244		%Rec	1	9/23/2023 2:44:32 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	9/23/2023 2:44:32 PM
Toluene	ND	0.049		mg/Kg	1	9/23/2023 2:44:32 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/23/2023 2:44:32 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/23/2023 2:44:32 PM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	9/23/2023 2:44:32 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	13000	600		mg/Kg	200	9/30/2023 10:45:03 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309A65**
Date Reported: **10/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-24 2'
Project: Sirius 17 Federal 006H **Collection Date:** 9/18/2023 11:50:00 AM
Lab ID: 2309A65-018 **Matrix:** SOIL **Received Date:** 9/20/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/22/2023 9:42:07 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/22/2023 9:42:07 PM
Surr: DNOP	103	69-147		%Rec	1	9/22/2023 9:42:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2023 3:07:51 PM
Surr: BFB	95.1	15-244		%Rec	1	9/23/2023 3:07:51 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/23/2023 3:07:51 PM
Toluene	ND	0.048		mg/Kg	1	9/23/2023 3:07:51 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2023 3:07:51 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/23/2023 3:07:51 PM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/23/2023 3:07:51 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	830	60		mg/Kg	20	9/22/2023 11:32:52 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 Quanitative 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#: **2309A65**

06-Oct-23

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **MB-77707**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **PBS**	Batch ID: **77707**	RunNo: **99929**								
Prep Date: **9/22/2023**	Analysis Date: **9/22/2023**	SeqNo: **3654631**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77707**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **LCSS**	Batch ID: **77707**	RunNo: **99929**								
Prep Date: **9/22/2023**	Analysis Date: **9/22/2023**	SeqNo: **3654632**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Sample ID: **MB-77706**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **PBS**	Batch ID: **77706**	RunNo: **99939**								
Prep Date: **9/22/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655035**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77706**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **LCSS**	Batch ID: **77706**	RunNo: **99939**								
Prep Date: **9/22/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655036**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.6	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 Quanitative 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#: **2309A65**

06-Oct-23

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **LCS-77674**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77674**	RunNo: **99927**
Prep Date: **9/21/2023**	Analysis Date: **9/22/2023**	SeqNo: **3655925** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	61.9	130			
Surr: DNOP	5.2		5.000		104	69	147			

Sample ID: **MB-77674**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77674**	RunNo: **99927**
Prep Date: **9/21/2023**	Analysis Date: **9/22/2023**	SeqNo: **3655927** 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	9.8		10.00		97.9	69	147			

Sample ID: **MB-77676**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77676**	RunNo: **99923**
Prep Date: **9/21/2023**	Analysis Date: **9/22/2023**	SeqNo: **3655970** 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		117	69	147			

Sample ID: **LCS-77676**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77676**	RunNo: **99923**
Prep Date: **9/21/2023**	Analysis Date: **9/22/2023**	SeqNo: **3655971** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	63	10	50.00	0	126	61.9	130			
Surr: DNOP	5.9		5.000		118	69	147			

Sample ID: **2309A65-005AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-18 0'**	Batch ID: **77676**	RunNo: **99923**
Prep Date: **9/21/2023**	Analysis Date: **9/22/2023**	SeqNo: **3655973** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	8.5	42.48	0	101	54.2	135			
Surr: DNOP	4.2		4.248		97.8	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 Quanitative 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#: **2309A65**

06-Oct-23

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **2309A65-005AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-18 0'**	Batch ID: **77676**	RunNo: **99923**
Prep Date: **9/21/2023**	Analysis Date: **9/22/2023**	SeqNo: **3655974** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.2	45.83	0	99.8	54.2	135	5.94	29.2	
Surr: DNOP	4.3		4.583		93.4	69	147	0	0	

Sample ID: **MB-77734**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77734**	RunNo: **99951**
Prep Date: **9/25/2023**	Analysis Date: **9/25/2023**	SeqNo: **3656255** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		92.9	69	147			

Sample ID: **LCS-77734**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77734**	RunNo: **99951**
Prep Date: **9/25/2023**	Analysis Date: **9/25/2023**	SeqNo: **3656260** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		98.6	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 Quanitative 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#: **2309A65**

06-Oct-23

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **lcs-77644**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77644**	RunNo: **99886**
Prep Date: **9/20/2023**	Analysis Date: **9/21/2023**	SeqNo: **3652636** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	86.8	70	130			
Surr: BFB	2000		1000		195	15	244			

Sample ID: **mb-77644**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77644**	RunNo: **99886**
Prep Date: **9/20/2023**	Analysis Date: **9/21/2023**	SeqNo: **3652637** 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	950		1000		95.0	15	244			

Sample ID: **lcs-77650**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77650**	RunNo: **99922**
Prep Date: **9/20/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655352** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	82.8	70	130			
Surr: BFB	1900		1000		194	15	244			

Sample ID: **mb-77650**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77650**	RunNo: **99922**
Prep Date: **9/20/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655355** 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	970		1000		96.7	15	244			

Sample ID: **2309a65-005ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-18 0'**	Batch ID: **77650**	RunNo: **99922**
Prep Date: **9/20/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655732** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.8	24.08	0	79.8	70	130			
Surr: BFB	1800		963.4		191	15	244			

Sample ID: **2309a65-005amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-18 0'**	Batch ID: **77650**	RunNo: **99922**
Prep Date: **9/20/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655733** Units: **mg/Kg**

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 Quanitative 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#: **2309A65**

06-Oct-23

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **2309a65-005amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-18 0'**	Batch ID: **77650**	RunNo: **99922**
Prep Date: **9/20/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655733** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.8	23.92	0	84.9	70	130	5.60	20	
Surr: BFB	1900		956.9		196	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 Quanitative 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#: **2309A65**

06-Oct-23

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **LCS-77644**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77644**	RunNo: **99886**
Prep Date: **9/20/2023**	Analysis Date: **9/21/2023**	SeqNo: **3652639** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	103	70	130			
Toluene	1.0	0.050	1.000	0	104	70	130			
Ethylbenzene	1.1	0.050	1.000	0	106	70	130			
Xylenes, Total	3.2	0.10	3.000	0	107	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	39.1	146			

Sample ID: **mb-77644**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77644**	RunNo: **99886**
Prep Date: **9/20/2023**	Analysis Date: **9/21/2023**	SeqNo: **3652640** 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	1.0		1.000		103	39.1	146			

Sample ID: **LCS-77650**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77650**	RunNo: **99922**
Prep Date: **9/20/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655473** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	102	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Ethylbenzene	1.0	0.050	1.000	0	102	70	130			
Xylenes, Total	3.1	0.10	3.000	0	102	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		105	39.1	146			

Sample ID: **mb-77650**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77650**	RunNo: **99922**
Prep Date: **9/20/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655477** 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	1.1		1.000		105	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 Quanitative 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#: **2309A65**

06-Oct-23

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **2309a65-006ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-18 2'**	Batch ID: **77650**	RunNo: **99922**
Prep Date: **9/20/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655774** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.024	0.9569	0	102	70	130			
Toluene	0.99	0.048	0.9569	0	103	70	130			
Ethylbenzene	0.99	0.048	0.9569	0	104	70	130			
Xylenes, Total	3.0	0.096	2.871	0	104	70	130			
Surr: 4-Bromofluorobenzene	1.0		0.9569		108	39.1	146			

Sample ID: **2309a65-006amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-18 2'**	Batch ID: **77650**	RunNo: **99922**
Prep Date: **9/20/2023**	Analysis Date: **9/23/2023**	SeqNo: **3655775** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.024	0.9588	0	94.8	70	130	7.24	20	
Toluene	0.92	0.048	0.9588	0	95.6	70	130	7.32	20	
Ethylbenzene	0.93	0.048	0.9588	0	96.9	70	130	6.60	20	
Xylenes, Total	2.8	0.096	2.876	0	97.5	70	130	6.64	20	
Surr: 4-Bromofluorobenzene	1.0		0.9588		107	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 Quanitative 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

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: Vertex Resources Services, Inc. Work Order Number: 2309A65 RcptNo: 1

Received By: Tracy Casarrubias 9/20/2023 8:00:00 AM

Completed By: Tracy Casarrubias 9/20/2023 8:39:42 AM

Reviewed By: 9-20-23

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: (<2 or >12 unless noted)
Adjusted?
Checked by: TMC 9/20/23

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 9/20/23

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	3.2	Good	Yes	Yogi		

Received by OCD: 8/7/2024 9:29:30 AM

Released to Imaging: 8/30/2024 2:04:50 PM

Chain-of-Custody Record

Client: Vertex (Deron)

Mailing Address: on file

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: Sirius 17 Federal #006H

Project #: 23E-04732

Project Manager: Kent Stallings

Sampler: Zach Erdebert

On Ice: ☒ Yes ☐ No 4 oz

# of Coolers: 1

Cooler Temp(including CF): 3.3-0.1 = 3.2 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2309A65	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_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9-18-23	900	soil	BH23-16 0'	1 jar 4oz.	ice	001										
	910		BH23-16 2'			002										
	920		BH23-17 0'			003										
	930		BH23-17 2'			004										
	940		BH23-18 0'			005										
	950		BH23-18 2'			006										
	1000		BH23-19 0'			007										
	1010		BH23-19 2'			008										
	1020		BH23-20 0'			009										
	1030		BH23-20 2'			010										
	1040		BH23-21 0'			011										
	1050		BH23-21 2'			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					9/19/23	830
Date: 9/19/23	Time: 1900	Relinquished by:	Received by:	Via: Courier	Date 9/20/23	Time 8:00

Remarks: Direct Bill to Deron
cc KStallings @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.

Chain-of-Custody Record

Client: Vertex (Devon)

Mailing Address: on file

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: Sirius 17 Federal #006H

Project #: 23E-04732

Project Manager: Kent Stallings

Sampler: Zach Englebert

On Ice: ☒ Yes ☐ No yogi

# of Coolers: 1

Cooler Temp(including CF): 3.3 - 0.1 = 3.2 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2309A65	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_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9-18-23	11:00	Soil	BH23-22 0'	1 jar 4oz.	ice	013										
	11:10		BH23-22 2'			014										
	11:20		BH23-23 0'			015										
	11:30		BH23-23 2'			016										
	11:40		BH23-24 0'			017										
	11:50		BH23-24 2'			018										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					9/19/23	830
9/19/23	1900			Courier	9/20/23	8:00

Remarks: Direct bill to Devon
cc Kstallings@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

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

October 03, 2023

Kent Stallings

Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (575) 748-0176
FAX:

RE: Sirius 17 Federal 006H OrderNo.: 2309C49

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 26 sample(s) on 9/22/2023 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 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-001 **Matrix:** SOIL

Client Sample ID: BH23-25 0.0
Collection Date: 9/19/2023 9:00:00 AM
Received Date: 9/22/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	88	9.8		mg/Kg	1	9/26/2023 9:10:57 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/26/2023 9:10:57 PM
Surr: DNOP	91.5	69-147		%Rec	1	9/26/2023 9:10:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/25/2023 8:13:00 PM
Surr: BFB	102	15-244		%Rec	1	9/25/2023 8:13:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/25/2023 8:13:00 PM
Toluene	ND	0.050		mg/Kg	1	9/25/2023 8:13:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/25/2023 8:13:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/25/2023 8:13:00 PM
Surr: 4-Bromofluorobenzene	89.2	39.1-146		%Rec	1	9/25/2023 8:13:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	3100	150		mg/Kg	50	9/28/2023 10:03:52 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-002 **Matrix:** SOIL

Client Sample ID: BH23-25 2.0
Collection Date: 9/19/2023 9:10:00 AM
Received Date: 9/22/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	11	9.9		mg/Kg	1	9/26/2023 9:33:14 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/26/2023 9:33:14 PM
Surr: DNOP	93.8	69-147		%Rec	1	9/26/2023 9:33:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/25/2023 8:35:00 PM
Surr: BFB	98.3	15-244		%Rec	1	9/25/2023 8:35:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/25/2023 8:35:00 PM
Toluene	ND	0.049		mg/Kg	1	9/25/2023 8:35:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/25/2023 8:35:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/25/2023 8:35:00 PM
Surr: 4-Bromofluorobenzene	89.0	39.1-146		%Rec	1	9/25/2023 8:35:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	3600	150		mg/Kg	50	9/28/2023 10:16:17 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-003 **Matrix:** SOIL

Client Sample ID: BH23-26 0.0
Collection Date: 9/19/2023 9:20:00 AM
Received Date: 9/22/2023 7:35:00 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	9/26/2023 9:44:22 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/26/2023 9:44:22 PM
Surr: DNOP	93.9	69-147		%Rec	1	9/26/2023 9:44:22 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/25/2023 9:18:00 PM
Surr: BFB	99.3	15-244		%Rec	1	9/25/2023 9:18:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/25/2023 9:18:00 PM
Toluene	ND	0.049		mg/Kg	1	9/25/2023 9:18:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/25/2023 9:18:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/25/2023 9:18:00 PM
Surr: 4-Bromofluorobenzene	89.7	39.1-146		%Rec	1	9/25/2023 9:18:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	9/27/2023 7:11:07 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-004 **Matrix:** SOIL

Client Sample ID: BH23-26 1.0
Collection Date: 9/19/2023 9:30:00 AM
Received Date: 9/22/2023 7:35:00 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	9/26/2023 9:55:34 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/26/2023 9:55:34 PM
Surr: DNOP	92.9	69-147		%Rec	1	9/26/2023 9:55:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/25/2023 9:40:00 PM
Surr: BFB	100	15-244		%Rec	1	9/25/2023 9:40:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/25/2023 9:40:00 PM
Toluene	ND	0.048		mg/Kg	1	9/25/2023 9:40:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/25/2023 9:40:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/25/2023 9:40:00 PM
Surr: 4-Bromofluorobenzene	90.1	39.1-146		%Rec	1	9/25/2023 9:40:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	100	60		mg/Kg	20	9/27/2023 7:23:28 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-005 **Matrix:** SOIL

Client Sample ID: BH23-27 0.0
Collection Date: 9/19/2023 9:40:00 AM
Received Date: 9/22/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/26/2023 10:06:43 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/26/2023 10:06:43 PM
Surr: DNOP	92.1	69-147		%Rec	1	9/26/2023 10:06:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/25/2023 10:01:00 PM
Surr: BFB	97.4	15-244		%Rec	1	9/25/2023 10:01:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/25/2023 10:01:00 PM
Toluene	ND	0.049		mg/Kg	1	9/25/2023 10:01:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/25/2023 10:01:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/25/2023 10:01:00 PM
Surr: 4-Bromofluorobenzene	87.1	39.1-146		%Rec	1	9/25/2023 10:01:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	9/27/2023 7:35:49 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-006 **Matrix:** SOIL

Client Sample ID: BH23-27 2.0
Collection Date: 9/19/2023 9:50:00 AM
Received Date: 9/22/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/26/2023 10:17:53 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/26/2023 10:17:53 PM
Surr: DNOP	92.1	69-147		%Rec	1	9/26/2023 10:17:53 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/25/2023 10:23:00 PM
Surr: BFB	95.0	15-244		%Rec	1	9/25/2023 10:23:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/25/2023 10:23:00 PM
Toluene	ND	0.050		mg/Kg	1	9/25/2023 10:23:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/25/2023 10:23:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/25/2023 10:23:00 PM
Surr: 4-Bromofluorobenzene	85.2	39.1-146		%Rec	1	9/25/2023 10:23:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	9/27/2023 4:11:16 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-007 **Matrix:** SOIL

Client Sample ID: BH23-28 0.0
Collection Date: 9/19/2023 10:00:00 AM
Received Date: 9/22/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/26/2023 10:29:03 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/26/2023 10:29:03 PM
Surr: DNOP	92.1	69-147		%Rec	1	9/26/2023 10:29:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/25/2023 10:45:00 PM
Surr: BFB	101	15-244		%Rec	1	9/25/2023 10:45:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/25/2023 10:45:00 PM
Toluene	ND	0.049		mg/Kg	1	9/25/2023 10:45:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/25/2023 10:45:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/25/2023 10:45:00 PM
Surr: 4-Bromofluorobenzene	88.8	39.1-146		%Rec	1	9/25/2023 10:45:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	9/27/2023 4:48:30 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-008 **Matrix:** SOIL

Client Sample ID: BH23-28 1.5
Collection Date: 9/19/2023 10:10:00 AM
Received Date: 9/22/2023 7:35:00 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	9/26/2023 10:40:13 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/26/2023 10:40:13 PM
Surr: DNOP	93.1	69-147		%Rec	1	9/26/2023 10:40:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/25/2023 11:28:00 PM
Surr: BFB	101	15-244		%Rec	1	9/25/2023 11:28:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/25/2023 11:28:00 PM
Toluene	ND	0.048		mg/Kg	1	9/25/2023 11:28:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/25/2023 11:28:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/25/2023 11:28:00 PM
Surr: 4-Bromofluorobenzene	91.5	39.1-146		%Rec	1	9/25/2023 11:28:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	62	60		mg/Kg	20	9/27/2023 5:50:34 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-009 **Matrix:** SOIL

Client Sample ID: BH23-29 0.0
Collection Date: 9/19/2023 10:20:00 AM
Received Date: 9/22/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/26/2023 10:51:24 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/26/2023 10:51:24 PM
Surr: DNOP	95.5	69-147		%Rec	1	9/26/2023 10:51:24 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/25/2023 11:50:00 PM
Surr: BFB	100	15-244		%Rec	1	9/25/2023 11:50:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	9/25/2023 11:50:00 PM
Toluene	ND	0.047		mg/Kg	1	9/25/2023 11:50:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/25/2023 11:50:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	9/25/2023 11:50:00 PM
Surr: 4-Bromofluorobenzene	89.2	39.1-146		%Rec	1	9/25/2023 11:50:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	2200	150		mg/Kg	50	9/28/2023 10:28:42 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-010 **Matrix:** SOIL

Client Sample ID: BH23-30 0.0
Collection Date: 9/19/2023 10:30:00 AM
Received Date: 9/22/2023 7:35:00 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	9/26/2023 11:02:34 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/26/2023 11:02:34 PM
Surr: DNOP	90.7	69-147		%Rec	1	9/26/2023 11:02:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/26/2023 12:12:00 AM
Surr: BFB	98.8	15-244		%Rec	1	9/26/2023 12:12:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/26/2023 12:12:00 AM
Toluene	ND	0.049		mg/Kg	1	9/26/2023 12:12:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/26/2023 12:12:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/26/2023 12:12:00 AM
Surr: 4-Bromofluorobenzene	89.5	39.1-146		%Rec	1	9/26/2023 12:12:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	720	60		mg/Kg	20	9/27/2023 6:15:23 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-011 **Matrix:** SOIL

Client Sample ID: BH23-30 2.0
Collection Date: 9/19/2023 10:40:00 AM
Received Date: 9/22/2023 7:35:00 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	9/26/2023 11:13:44 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/26/2023 11:13:44 PM
Surr: DNOP	92.1	69-147		%Rec	1	9/26/2023 11:13:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/26/2023 12:34:00 AM
Surr: BFB	95.5	15-244		%Rec	1	9/26/2023 12:34:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/26/2023 12:34:00 AM
Toluene	ND	0.050		mg/Kg	1	9/26/2023 12:34:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/26/2023 12:34:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/26/2023 12:34:00 AM
Surr: 4-Bromofluorobenzene	87.5	39.1-146		%Rec	1	9/26/2023 12:34:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	540	60		mg/Kg	20	9/27/2023 6:27:48 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-012 **Matrix:** SOIL

Client Sample ID: BH23-31 0.0
Collection Date: 9/19/2023 10:50:00 AM
Received Date: 9/22/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/26/2023 11:24:54 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/26/2023 11:24:54 PM
Surr: DNOP	93.6	69-147		%Rec	1	9/26/2023 11:24:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/26/2023 12:55:00 AM
Surr: BFB	97.0	15-244		%Rec	1	9/26/2023 12:55:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	9/26/2023 12:55:00 AM
Toluene	ND	0.046		mg/Kg	1	9/26/2023 12:55:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	9/26/2023 12:55:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	9/26/2023 12:55:00 AM
Surr: 4-Bromofluorobenzene	87.9	39.1-146		%Rec	1	9/26/2023 12:55:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	130	60		mg/Kg	20	9/27/2023 6:40:12 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-013 **Matrix:** SOIL

Client Sample ID: BH23-31 2.0
Collection Date: 9/19/2023 11:00:00 AM
Received Date: 9/22/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/27/2023 4:55:59 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/27/2023 4:55:59 AM
Surr: DNOP	89.3	69-147		%Rec	1	9/27/2023 4:55:59 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/27/2023 1:59:00 PM
Surr: BFB	99.5	15-244		%Rec	1	9/27/2023 1:59:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 1:59:00 PM
Toluene	ND	0.048		mg/Kg	1	9/27/2023 1:59:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/27/2023 1:59:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/27/2023 1:59:00 PM
Surr: 4-Bromofluorobenzene	87.4	39.1-146		%Rec	1	9/27/2023 1:59:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	210	60		mg/Kg	20	9/27/2023 6:52:36 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-014 **Matrix:** SOIL

Client Sample ID: BH23-32 0.0
Collection Date: 9/19/2023 11:10:00 AM
Received Date: 9/22/2023 7:35:00 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	9/27/2023 5:28:26 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/27/2023 5:28:26 AM
Surr: DNOP	125	69-147		%Rec	1	9/27/2023 5:28:26 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/27/2023 2:20:00 PM
Surr: BFB	101	15-244		%Rec	1	9/27/2023 2:20:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 2:20:00 PM
Toluene	ND	0.049		mg/Kg	1	9/27/2023 2:20:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/27/2023 2:20:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/27/2023 2:20:00 PM
Surr: 4-Bromofluorobenzene	88.6	39.1-146		%Rec	1	9/27/2023 2:20:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	580	60		mg/Kg	20	9/27/2023 7:05:01 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-015 **Matrix:** SOIL

Client Sample ID: BH23-32 2.0
Collection Date: 9/19/2023 11:20:00 AM
Received Date: 9/22/2023 7:35:00 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	9/27/2023 5:39:19 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/27/2023 5:39:19 AM
Surr: DNOP	87.9	69-147		%Rec	1	9/27/2023 5:39:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/27/2023 2:42:00 PM
Surr: BFB	102	15-244		%Rec	1	9/27/2023 2:42:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 2:42:00 PM
Toluene	ND	0.048		mg/Kg	1	9/27/2023 2:42:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/27/2023 2:42:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/27/2023 2:42:00 PM
Surr: 4-Bromofluorobenzene	91.0	39.1-146		%Rec	1	9/27/2023 2:42:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	120	60		mg/Kg	20	9/27/2023 7:17:26 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-016 **Matrix:** SOIL

Client Sample ID: BH23-33 0.0
Collection Date: 9/19/2023 11:30:00 AM
Received Date: 9/22/2023 7:35:00 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	9/27/2023 5:50:19 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/27/2023 5:50:19 AM
Surr: DNOP	86.2	69-147		%Rec	1	9/27/2023 5:50:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/27/2023 3:04:00 PM
Surr: BFB	98.1	15-244		%Rec	1	9/27/2023 3:04:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 3:04:00 PM
Toluene	ND	0.048		mg/Kg	1	9/27/2023 3:04:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/27/2023 3:04:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/27/2023 3:04:00 PM
Surr: 4-Bromofluorobenzene	90.3	39.1-146		%Rec	1	9/27/2023 3:04:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	720	60		mg/Kg	20	9/27/2023 7:29:50 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-017 **Matrix:** SOIL

Client Sample ID: BH23-33 2.0
Collection Date: 9/19/2023 11:40:00 AM
Received Date: 9/22/2023 7:35:00 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	9/27/2023 6:01:16 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/27/2023 6:01:16 AM
Surr: DNOP	88.9	69-147		%Rec	1	9/27/2023 6:01:16 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/27/2023 3:26:00 PM
Surr: BFB	102	15-244		%Rec	1	9/27/2023 3:26:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 3:26:00 PM
Toluene	ND	0.048		mg/Kg	1	9/27/2023 3:26:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/27/2023 3:26:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/27/2023 3:26:00 PM
Surr: 4-Bromofluorobenzene	93.5	39.1-146		%Rec	1	9/27/2023 3:26:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	1700	60		mg/Kg	20	9/27/2023 7:42:15 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-018 **Matrix:** SOIL

Client Sample ID: BH23-34 0.0
Collection Date: 9/19/2023 11:50:00 AM
Received Date: 9/22/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/27/2023 6:12:12 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/27/2023 6:12:12 AM
Surr: DNOP	83.8	69-147		%Rec	1	9/27/2023 6:12:12 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/27/2023 4:09:00 PM
Surr: BFB	101	15-244		%Rec	1	9/27/2023 4:09:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 4:09:00 PM
Toluene	ND	0.047		mg/Kg	1	9/27/2023 4:09:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/27/2023 4:09:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/27/2023 4:09:00 PM
Surr: 4-Bromofluorobenzene	89.8	39.1-146		%Rec	1	9/27/2023 4:09:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	360	60		mg/Kg	20	9/27/2023 8:19:28 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-019 **Matrix:** SOIL

Client Sample ID: BH23-34 2.0
Collection Date: 9/19/2023 12:00:00 PM
Received Date: 9/22/2023 7:35:00 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	9/27/2023 6:23:07 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/27/2023 6:23:07 AM
Surr: DNOP	90.3	69-147		%Rec	1	9/27/2023 6:23:07 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/27/2023 4:31:00 PM
Surr: BFB	101	15-244		%Rec	1	9/27/2023 4:31:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 4:31:00 PM
Toluene	ND	0.049		mg/Kg	1	9/27/2023 4:31:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/27/2023 4:31:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/27/2023 4:31:00 PM
Surr: 4-Bromofluorobenzene	89.4	39.1-146		%Rec	1	9/27/2023 4:31:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	690	60		mg/Kg	20	9/27/2023 8:31:53 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-020 **Matrix:** SOIL

Client Sample ID: BH23-09 4.0
Collection Date: 9/19/2023 12:10:00 PM
Received Date: 9/22/2023 7:35:00 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	9/27/2023 6:34:01 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/27/2023 6:34:01 AM
Surr: DNOP	90.3	69-147		%Rec	1	9/27/2023 6:34:01 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/27/2023 4:52:00 PM
Surr: BFB	97.5	15-244		%Rec	1	9/27/2023 4:52:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 4:52:00 PM
Toluene	ND	0.049		mg/Kg	1	9/27/2023 4:52:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/27/2023 4:52:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/27/2023 4:52:00 PM
Surr: 4-Bromofluorobenzene	88.2	39.1-146		%Rec	1	9/27/2023 4:52:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	2100	150		mg/Kg	50	9/28/2023 10:41:06 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-021 **Matrix:** SOIL

Client Sample ID: BH23-35 0.0
Collection Date: 9/19/2023 12:20:00 PM
Received Date: 9/22/2023 7:35:00 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	9/27/2023 6:55:33 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/27/2023 6:55:33 AM
Surr: DNOP	89.1	69-147		%Rec	1	9/27/2023 6:55:33 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/27/2023 5:14:00 PM
Surr: BFB	98.7	15-244		%Rec	1	9/27/2023 5:14:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 5:14:00 PM
Toluene	ND	0.048		mg/Kg	1	9/27/2023 5:14:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/27/2023 5:14:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/27/2023 5:14:00 PM
Surr: 4-Bromofluorobenzene	88.4	39.1-146		%Rec	1	9/27/2023 5:14:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	9/27/2023 8:56:42 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-35 1.0
Project: Sirius 17 Federal 006H
Collection Date: 9/19/2023 12:30:00 PM
Lab ID: 2309C49-022 **Matrix:** SOIL **Received Date:** 9/22/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/27/2023 7:06:24 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/27/2023 7:06:24 AM
Surr: DNOP	90.1	69-147		%Rec	1	9/27/2023 7:06:24 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/27/2023 5:36:00 PM
Surr: BFB	100	15-244		%Rec	1	9/27/2023 5:36:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/27/2023 5:36:00 PM
Toluene	ND	0.050		mg/Kg	1	9/27/2023 5:36:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/27/2023 5:36:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/27/2023 5:36:00 PM
Surr: 4-Bromofluorobenzene	88.8	39.1-146		%Rec	1	9/27/2023 5:36:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	430	60		mg/Kg	20	9/27/2023 9:09:06 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-023 **Matrix:** SOIL

Client Sample ID: BH23-36 0.0
Collection Date: 9/19/2023 12:40:00 PM
Received Date: 9/22/2023 7:35:00 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	9/27/2023 7:17:12 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/27/2023 7:17:12 AM
Surr: DNOP	91.7	69-147		%Rec	1	9/27/2023 7:17:12 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/27/2023 5:58:00 PM
Surr: BFB	102	15-244		%Rec	1	9/27/2023 5:58:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 5:58:00 PM
Toluene	ND	0.049		mg/Kg	1	9/27/2023 5:58:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/27/2023 5:58:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/27/2023 5:58:00 PM
Surr: 4-Bromofluorobenzene	90.7	39.1-146		%Rec	1	9/27/2023 5:58:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	2200	60		mg/Kg	20	9/27/2023 9:21:31 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-35 1.5
Project: Sirius 17 Federal 006H
Collection Date: 9/19/2023 12:50:00 PM
Lab ID: 2309C49-024 **Matrix:** SOIL **Received Date:** 9/22/2023 7:35:00 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	9/27/2023 7:28:01 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/27/2023 7:28:01 AM
Surr: DNOP	91.1	69-147		%Rec	1	9/27/2023 7:28:01 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/27/2023 6:19:00 PM
Surr: BFB	100	15-244		%Rec	1	9/27/2023 6:19:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/27/2023 6:19:00 PM
Toluene	ND	0.049		mg/Kg	1	9/27/2023 6:19:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/27/2023 6:19:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/27/2023 6:19:00 PM
Surr: 4-Bromofluorobenzene	90.3	39.1-146		%Rec	1	9/27/2023 6:19:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	500	60		mg/Kg	20	9/27/2023 9:33:56 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-025 **Matrix:** SOIL

Client Sample ID: BH23-37 0.0
Collection Date: 9/19/2023 1:00:00 PM
Received Date: 9/22/2023 7:35:00 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	9/27/2023 7:38:57 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/27/2023 7:38:57 AM
Surr: DNOP	90.2	69-147		%Rec	1	9/27/2023 7:38:57 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/27/2023 6:41:00 PM
Surr: BFB	98.5	15-244		%Rec	1	9/27/2023 6:41:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/27/2023 6:41:00 PM
Toluene	ND	0.050		mg/Kg	1	9/27/2023 6:41:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/27/2023 6:41:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/27/2023 6:41:00 PM
Surr: 4-Bromofluorobenzene	88.4	39.1-146		%Rec	1	9/27/2023 6:41:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	95	60		mg/Kg	20	9/27/2023 9:46:20 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309C49**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Sirius 17 Federal 006H
Lab ID: 2309C49-026 **Matrix:** SOIL

Client Sample ID: BH23-37 1.0
Collection Date: 9/19/2023 1:10:00 PM
Received Date: 9/22/2023 7:35:00 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	9/27/2023 7:49:42 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/27/2023 7:49:42 AM
Surr: DNOP	91.0	69-147		%Rec	1	9/27/2023 7:49:42 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/27/2023 7:03:00 PM
Surr: BFB	102	15-244		%Rec	1	9/27/2023 7:03:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/27/2023 7:03:00 PM
Toluene	ND	0.049		mg/Kg	1	9/27/2023 7:03:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/27/2023 7:03:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/27/2023 7:03:00 PM
Surr: 4-Bromofluorobenzene	91.6	39.1-146		%Rec	1	9/27/2023 7:03:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	82	60		mg/Kg	20	9/28/2023 10:53:31 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 Quanitative 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#: **2309C49**

03-Oct-23

Client: Devon Energy

Project: Sirius 17 Federal 006H

Sample ID: **MB-77789**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **PBS**	Batch ID: **77789**	RunNo: **100043**								
Prep Date: **9/27/2023**	Analysis Date: **9/27/2023**	SeqNo: **3660556**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77789**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **LCSS**	Batch ID: **77789**	RunNo: **100043**								
Prep Date: **9/27/2023**	Analysis Date: **9/27/2023**	SeqNo: **3660557**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.6	90	110			

Sample ID: **MB-77802**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **PBS**	Batch ID: **77802**	RunNo: **100055**								
Prep Date: **9/27/2023**	Analysis Date: **9/27/2023**	SeqNo: **3661212**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77802**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **LCSS**	Batch ID: **77802**	RunNo: **100055**								
Prep Date: **9/27/2023**	Analysis Date: **9/27/2023**	SeqNo: **3661213**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.3	90	110			

Sample ID: **MB-77816**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **PBS**	Batch ID: **77816**	RunNo: **100088**								
Prep Date: **9/28/2023**	Analysis Date: **9/28/2023**	SeqNo: **3662812**	Units: **mg/Kg**							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77816**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**								
Client ID: **LCSS**	Batch ID: **77816**	RunNo: **100088**								
Prep Date: **9/28/2023**	Analysis Date: **9/28/2023**	SeqNo: **3662813**	Units: **mg/Kg**							
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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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#: **2309C49**

03-Oct-23

Client: Devon Energy

Project: Sirius 17 Federal 006H

Sample ID: **2309C49-013AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-31 2.0**	Batch ID: **77774**	RunNo: **100003**
Prep Date: **9/26/2023**	Analysis Date: **9/27/2023**	SeqNo: **3658141** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.8	48.83	0	99.1	54.2	135			
Surr: DNOP	4.3		4.883		88.4	69	147			

Sample ID: **2309C49-013AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-31 2.0**	Batch ID: **77774**	RunNo: **100003**
Prep Date: **9/26/2023**	Analysis Date: **9/27/2023**	SeqNo: **3658142** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	49.95	0	105	54.2	135	8.31	29.2	
Surr: DNOP	4.7		4.995		94.0	69	147	0	0	

Sample ID: **LCS-77761**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77761**	RunNo: **100003**
Prep Date: **9/26/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658231** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.6	61.9	130			
Surr: DNOP	4.4		5.000		88.7	69	147			

Sample ID: **LCS-77774**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77774**	RunNo: **100003**
Prep Date: **9/26/2023**	Analysis Date: **9/27/2023**	SeqNo: **3658235** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	61.9	130			
Surr: DNOP	4.8		5.000		96.7	69	147			

Sample ID: **MB-77761**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77761**	RunNo: **100003**
Prep Date: **9/26/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658239** 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	9.2		10.00		91.6	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 Quanitative 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#: **2309C49**

03-Oct-23

Client: Devon Energy

Project: Sirius 17 Federal 006H

Sample ID: **MB-77774**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77774**	RunNo: **100003**
Prep Date: **9/26/2023**	Analysis Date: **9/27/2023**	SeqNo: **3658244** 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	8.5		10.00		84.7	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 Quanitative 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#: **2309C49**

03-Oct-23

Client: Devon Energy

Project: Sirius 17 Federal 006H

Sample ID: **lcs-77709**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77709**	RunNo: **99959**
Prep Date: **9/22/2023**	Analysis Date: **9/25/2023**	SeqNo: **3656340** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.6	70	130			
Surr: BFB	2100		1000		207	15	244			

Sample ID: **mb-77709**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77709**	RunNo: **99959**
Prep Date: **9/22/2023**	Analysis Date: **9/25/2023**	SeqNo: **3656341** 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	1100		1000		107	15	244			

Sample ID: **lcs-77759**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77759**	RunNo: **100002**
Prep Date: **9/26/2023**	Analysis Date: **9/27/2023**	SeqNo: **3660788** Units: **mg/Kg**

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	2300		1000		227	15	244			

Sample ID: **mb-77759**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77759**	RunNo: **100002**
Prep Date: **9/26/2023**	Analysis Date: **9/27/2023**	SeqNo: **3660790** 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	1000		1000		101	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 Quanitative 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#: **2309C49**

03-Oct-23

Client: Devon Energy

Project: Sirius 17 Federal 006H

Sample ID: **lcs-77709**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77709**	RunNo: **99959**
Prep Date: **9/22/2023**	Analysis Date: **9/25/2023**	SeqNo: **3656373** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.1	70	130			
Toluene	0.92	0.050	1.000	0	92.1	70	130			
Ethylbenzene	0.94	0.050	1.000	0	93.8	70	130			
Xylenes, Total	2.8	0.10	3.000	0	93.7	70	130			
Surr: 4-Bromofluorobenzene	0.91		1.000		90.8	39.1	146			

Sample ID: **mb-77709**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77709**	RunNo: **99959**
Prep Date: **9/22/2023**	Analysis Date: **9/25/2023**	SeqNo: **3656374** 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		88.9	39.1	146			

Sample ID: **lcs-77759**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77759**	RunNo: **100002**
Prep Date: **9/26/2023**	Analysis Date: **9/27/2023**	SeqNo: **3660850** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	87.7	70	130			
Toluene	0.88	0.050	1.000	0	88.1	70	130			
Ethylbenzene	0.91	0.050	1.000	0	91.0	70	130			
Xylenes, Total	2.7	0.10	3.000	0	91.4	70	130			
Surr: 4-Bromofluorobenzene	0.94		1.000		93.9	39.1	146			

Sample ID: **mb-77759**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77759**	RunNo: **100002**
Prep Date: **9/26/2023**	Analysis Date: **9/27/2023**	SeqNo: **3660851** 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	0.91		1.000		91.0	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 2309C49 | RcptNo: 1

Received By: Juan Rojas 9/22/2023 7:35:00 AM

Completed By: Cheyenne Cason 9/22/2023 8:08:12 AM

Reviewed By: JR 9-22-23

Chain of Custody

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

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: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: SCM 9/22/23

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: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good	Not Present	Yogi		

Received by OCD: 8/7/2024 9:29:30 AM

Released to Imaging: 8/30/2024 2:04:50 PM

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: Sirius 17 Federal #006H

Project #: 23E-04732

Project Manager: Kent Stallings

Sampler: AH/ZE

On Ice: ☑ Yes ☐ No

# of Coolers: 1 Yoyi

Cooler Temp(Including CF): 3.3-0=3.3 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2309C49	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_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9-19-23	0900	Soil	BH23-25 0.0	4oz	ICE	001										
	0910		BH23-25 2.0			002										
	0920		BH23-26 0.0			003										
	0930		BH23-26 1.0			004										
	0940		BH23-27 0.0			005										
	0950		BH23-27 2.0			006										
	1000		BH23-28 0.0			007										
	1010		BH23-28 1.5			008										
	1020		BH23-29 0.0			009										
	1030		BH23-30 0.0			010										
	1040		BH23-30 2.0			011										
	1050		BH23-31 0.0			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					9/21/23	900
9/21/23	1400			Courier	9/22/23	7:35

Remarks: CC: kstallings@vertex.ca
aharris@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.

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: Sirius 17 Federal #006H

Project #: 23E-04732

Project Manager: Kent Stellings

Sampler: Alt/2E

On Ice: ☑ Yes ☐ No

# of Coolers: 1 Yes

Cooler Temp(including CF): 3.3-0=3.3 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name		Container Type and #	Preservative Type	HEAL No. 2309C49	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_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9-19-23	1100	Soil	BH23-31	2.0	4 oz	ICE	013										
	1110		BH23-32	0.0			~~015~~ 014										
	1120		BH23-32	2.0			~~005~~ 015										
	1130		BH23-33	0.0			016										
	1140		BH23-33	2.0			017										
	1150		BH23-34	0.0			018										
	1200		BH23-34	2.0			019										
	1210		BH23-09	4.0			~~018~~ 020										
	1220		BH23-35	0.0			021										
	1230		BH23-35	1.0			022										
	1240		BH23-36	0.0			023										
	1250		BH23-36	1.5			024										

cmc 9/22/23

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					9/21/23	900
Date: 9/21/23	Time: 1900	Relinquished by:	Received by:	Via:	Date	Time
				courier	9/22/23	7:35

Remarks: CC: kstellings@vertex.ca aharris@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.

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 Days

Project Name:

Sims 17 Federal #006H

Project #:

23E-04732

Project Manager:

Kent Stallings

Sampler: HH/ZE

On Ice: ☑ Yes ☐ No

# of Coolers: 1 Yogi

Cooler Temp(including CF): 3.3-0=3.3 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2309C49
9-19-23	1300	So.	BH23-37 0.0	402	ICE	025
9-19-23	1310	So.	BH23-37 1.0	402	ICE	026

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_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
✓	✓					✓			
✓	✓					✓			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
					9/21/23	900
9/21/23	1900				9/22/23	7:35

Remarks: CC: Kstallings@vertex.ca
aharris@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.

Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 02, 2024

Kent Stallings

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL:
FAX:

RE: Sirius 17 Federal 006H OrderNo.: 2312760

Dear Kent Stallings:

Eurofins Environment Testing South Central, LLC received 2 sample(s) on 12/13/2023 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 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2312760**
Date Reported: **1/2/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-39 0'
Project: Sirius 17 Federal 006H
Collection Date: 12/11/2023 11:15:00 AM
Lab ID: 2312760-001 **Matrix:** SOIL **Received Date:** 12/13/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	310	8.4		mg/Kg	1	12/19/2023 10:30:05 PM
Motor Oil Range Organics (MRO)	560	42		mg/Kg	1	12/19/2023 10:30:05 PM
Surr: DNOP	92.7	69-147		%Rec	1	12/19/2023 10:30:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/19/2023 8:42:18 PM
Surr: BFB	93.2	15-244		%Rec	1	12/19/2023 8:42:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	12/19/2023 8:42:18 PM
Toluene	ND	0.046		mg/Kg	1	12/19/2023 8:42:18 PM
Ethylbenzene	ND	0.046		mg/Kg	1	12/19/2023 8:42:18 PM
Xylenes, Total	ND	0.093		mg/Kg	1	12/19/2023 8:42:18 PM
Surr: 4-Bromofluorobenzene	92.6	39.1-146		%Rec	1	12/19/2023 8:42:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	340	61		mg/Kg	20	12/19/2023 10:28:41 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2312760**
Date Reported: **1/2/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-39 2'
Project: Sirius 17 Federal 006H **Collection Date:** 12/11/2023 11:40:00 AM
Lab ID: 2312760-002 **Matrix:** SOIL **Received Date:** 12/13/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	26	9.3		mg/Kg	1	12/19/2023 1:58:18 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/19/2023 1:58:18 PM
Surr: DNOP	88.2	69-147		%Rec	1	12/19/2023 1:58:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/19/2023 9:05:58 PM
Surr: BFB	94.3	15-244		%Rec	1	12/19/2023 9:05:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	12/19/2023 9:05:58 PM
Toluene	ND	0.048		mg/Kg	1	12/19/2023 9:05:58 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/19/2023 9:05:58 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/19/2023 9:05:58 PM
Surr: 4-Bromofluorobenzene	93.5	39.1-146		%Rec	1	12/19/2023 9:05:58 PM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	240	60		mg/Kg	20	12/19/2023 11:14:49 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 Quanitative 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#: **2312760**

02-Jan-24

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **MB-79505**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **79505**	RunNo: **101979**
Prep Date: **12/19/2023**	Analysis Date: **12/19/2023**	SeqNo: **3762727** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-79505**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **79505**	RunNo: **101979**
Prep Date: **12/19/2023**	Analysis Date: **12/19/2023**	SeqNo: **3762728** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.5	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 Quanitative 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#: **2312760**

02-Jan-24

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **MB-79490**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **79490**	RunNo: **101944**
Prep Date: **12/19/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760434** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.9		10.00		78.7	69	147			

Sample ID: **LCS-79490**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **79490**	RunNo: **101944**
Prep Date: **12/19/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760435** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		86.9	69	147			

Sample ID: **LCS-79486**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **79486**	RunNo: **101937**
Prep Date: **12/19/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760771** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.9	61.9	130			
Surr: DNOP	4.9		5.000		97.5	69	147			

Sample ID: **MB-79486**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **79486**	RunNo: **101937**
Prep Date: **12/19/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760772** 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	8.6		10.00		86.1	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 Quanitative 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#: **2312760**

02-Jan-24

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **lcs-79476**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **79476**	RunNo: **101954**
Prep Date: **12/18/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760774** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.2	70	130			
Surr: BFB	2100		1000		207	15	244			

Sample ID: **mb-79476**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **79476**	RunNo: **101954**
Prep Date: **12/18/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760775** 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	1000		1000		100	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 Quanitative 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#: **2312760**

02-Jan-24

Client: Vertex Resources Services, Inc.

Project: Sirius 17 Federal 006H

Sample ID: **LCS-79476**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **79476**	RunNo: **101954**
Prep Date: **12/18/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760802** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	91.8	70	130			
Toluene	0.94	0.050	1.000	0	93.8	70	130			
Ethylbenzene	0.95	0.050	1.000	0	95.0	70	130			
Xylenes, Total	2.9	0.10	3.000	0	96.9	70	130			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.1	39.1	146			

Sample ID: **mb-79476**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **79476**	RunNo: **101954**
Prep Date: **12/18/2023**	Analysis Date: **12/19/2023**	SeqNo: **3760803** 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	0.97		1.000		97.4	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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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: 2312760 RcptNo: 1

Received By: Tracy Casarrubias 12/13/2023 7:50:00 AM

Completed By: Tracy Casarrubias 12/13/2023 11:33:32 AM

Reviewed By: JN 12/13/23

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 ☐
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: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: TMC 12/13/23

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 and phone number are missing on COC- TMC 12/13/23

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	6.0	Good	Yes	Yogi		

Received by OCD: 8/7/2024 9:29:30 AM

Released to Imaging: 8/30/2024 2:04:50 PM

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: 23127160

www.xenco.com Page _____ of _____

Project Manager:	Kent Stallings	Bill to: (If different)	
Company Name:	Vertex	Company Name:	
Address:	On File	Address:	
City, State ZIP:	↓	City, State ZIP:	
Phone:	Email:		

Work Order Comments

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

Project Name:	Sirius 17 Federal 006H	Turn Around	
Project Number:	23E-04732	☐Routine ☐Rush	
Project Location:		Due Date:	
Sampler's Name:	Bryce Mortimer	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	140gi
Cooler Custody Seals:	Yes No N/A	Correction Factor:	+0.1
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.9
Total Containers:	1	Corrected Temperature:	6.0 °c

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2SO_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	TPH: 8015D (GRO DRO MRO)	Cl		Sample Comments
BH23-39	Soil	12.11.23	11:15	0'				✓	✓	✓	-001	Devon Energy Corporation
BH23-39	Soil	12.11.23	11:40	2'				✓	✓	✓	-002	

cc: KStallings@vertexca
BMortimer@vertex.ca

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Bryce Mortimer		12.11.23	2		12/13/23 7:50
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

eurofins | 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

February 13, 2024

Kent Stallings

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL:
FAX:

RE: Sirivs 17 Federal 006 H OrderNo.: 2402006

Dear Kent Stallings:

Eurofins Environment Testing South Central, LLC received 2 sample(s) on 2/1/2024 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 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2402006**
Date Reported: **2/13/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-09 6'
Project: Sirivs 17 Federal 006 H
Collection Date: 1/29/2024 10:00:00 AM
Lab ID: 2402006-001 **Matrix:** SOIL **Received Date:** 2/1/2024 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/2/2024 10:10:05 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/2/2024 10:10:05 PM
Surr: DNOP	96.5	61.2-134		%Rec	1	2/2/2024 10:10:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/5/2024 7:25:16 PM
Surr: BFB	101	15-244		%Rec	1	2/5/2024 7:25:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	2/5/2024 7:25:16 PM
Toluene	ND	0.047		mg/Kg	1	2/5/2024 7:25:16 PM
Ethylbenzene	ND	0.047		mg/Kg	1	2/5/2024 7:25:16 PM
Xylenes, Total	ND	0.094		mg/Kg	1	2/5/2024 7:25:16 PM
Surr: 4-Bromofluorobenzene	88.6	39.1-146		%Rec	1	2/5/2024 7:25:16 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	630	60		mg/Kg	20	2/3/2024 4:17:22 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2402006**
Date Reported: **2/13/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-13 4'
Project: Sirivs 17 Federal 006 H
Collection Date: 1/29/2024 10:30:00 AM
Lab ID: 2402006-002 **Matrix:** SOIL **Received Date:** 2/1/2024 7:30:00 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	2/2/2024 10:33:26 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/2/2024 10:33:26 PM
Surr: DNOP	144	61.2-134	S	%Rec	1	2/2/2024 10:33:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/5/2024 7:49:06 PM
Surr: BFB	102	15-244		%Rec	1	2/5/2024 7:49:06 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	2/5/2024 7:49:06 PM
Toluene	ND	0.046		mg/Kg	1	2/5/2024 7:49:06 PM
Ethylbenzene	ND	0.046		mg/Kg	1	2/5/2024 7:49:06 PM
Xylenes, Total	ND	0.092		mg/Kg	1	2/5/2024 7:49:06 PM
Surr: 4-Bromofluorobenzene	89.0	39.1-146		%Rec	1	2/5/2024 7:49:06 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	340	60		mg/Kg	20	2/3/2024 4:30:15 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 Quanitative 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#: **2402006**

13-Feb-24

Client: Vertex Resources Services, Inc.

Project: Sirivs 17 Federal 006 H

Sample ID: **MB-80236**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **80236**	RunNo: **102858**							
Prep Date: **2/2/2024**	Analysis Date: **2/3/2024**	SeqNo: **3800520**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-80236**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **80236**	RunNo: **102858**							
Prep Date: **2/2/2024**	Analysis Date: **2/3/2024**	SeqNo: **3800521**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.3	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 Quanitative 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#: **2402006**

13-Feb-24

Client: Vertex Resources Services, Inc.

Project: Sirivs 17 Federal 006 H

Sample ID: **MB-80224**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **80224**	RunNo: **102843**
Prep Date: **2/1/2024**	Analysis Date: **2/2/2024**	SeqNo: **3800103** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		123	61.2	134			

Sample ID: **LCS-80224**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **80224**	RunNo: **102843**
Prep Date: **2/1/2024**	Analysis Date: **2/2/2024**	SeqNo: **3800104** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	6.4		5.000		127	69	147			

Sample ID: **MB-80220**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **80220**	RunNo: **102843**
Prep Date: **2/1/2024**	Analysis Date: **2/2/2024**	SeqNo: **3800108** 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		110	61.2	134			

Sample ID: **LCS-80220**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **80220**	RunNo: **102843**
Prep Date: **2/1/2024**	Analysis Date: **2/2/2024**	SeqNo: **3800109** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	117	61.9	130			
Surr: DNOP	5.9		5.000		119	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 Quanitative 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#: **2402006**

13-Feb-24

Client: Vertex Resources Services, Inc.

Project: Sirivs 17 Federal 006 H

Sample ID: **lcs-80203**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **80203**	RunNo: **102873**
Prep Date: **2/1/2024**	Analysis Date: **2/5/2024**	SeqNo: **3800986** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	70	130			
Surr: BFB	2100		1000		206	15	244			

Sample ID: **mb-80203**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **80203**	RunNo: **102873**
Prep Date: **2/1/2024**	Analysis Date: **2/5/2024**	SeqNo: **3800987** 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		99.1	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 Quanitative 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#: **2402006**

13-Feb-24

Client: Vertex Resources Services, Inc.

Project: Sirivs 17 Federal 006 H

Sample ID: **LCS-80203**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **80203**	RunNo: **102873**
Prep Date: **2/1/2024**	Analysis Date: **2/5/2024**	SeqNo: **3800993** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	84.4	70	130			
Toluene	0.84	0.050	1.000	0	84.2	70	130			
Ethylbenzene	0.85	0.050	1.000	0	85.4	70	130			
Xylenes, Total	2.6	0.10	3.000	0	85.8	70	130			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.1	39.1	146			

Sample ID: **mb-80203**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **80203**	RunNo: **102873**
Prep Date: **2/1/2024**	Analysis Date: **2/5/2024**	SeqNo: **3800994** 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		88.6	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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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: 2402006 RcptNo: 1

Received By: Tracy Casarrubias 2/1/2024 7:30:00 AM

Completed By: Desiree Dominguez 2/1/2024 8:27:03 AM

Reviewed By: 2-1-24

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: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: 2/1/24

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: _____

16. Additional remarks:

Mailing address, phone number and Email/Fax are missing on COC- DAD 2/1/24

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Yes	Yogi		

Received by OCD: 8/7/2024 9:29:30 AM

Released to Imaging: 8/30/2024 2:04:50 PM

Chain-of-Custody Record

Client: Vertex / Devon

Mailing Address: On file

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: Sirius 17 Federal #006H

Project #: 23E-04732

Project Manager: KentStallings

Sampler: ZE

On Ice: ☑ Yes ☐ No Yogi

# of Coolers: 1

Cooler Temp(including CF): 2.1-0.1=2.0 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2402006	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_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
1/29/24	10:00	Soil	BH23-09 6'	4oz jar	Ice	-001	✓	✓					✓			
↓	10:30	↓	BH23-13 4'	↓	↓	-002	↓	↓					↓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
1/29/24	1530				1/31/24	1530
1/31/24	1900			Courier	2/1/24	7:30

Remarks: Direct bill to: Devon
W/O #: 212065 15
C.C. KStallings@vertex.ca
SMcCarty@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.

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Kent Stallings
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 6/6/2024 1:38:46 PM

JOB DESCRIPTION

Sirius 17 Federal #006H

JOB NUMBER

885-5355-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 8/30/2024 2:04:30 PM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

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6/6/2024 1:38:46 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Laboratory Job ID: 885-5355-1

Table of Contents

Definitions/Glossary

Client: Vertex Job ID: 885-5355-1
Project/Site: Sirius 17 Federal #006H

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

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

Case Narrative

Client: Vertex
Project: Sirius 17 Federal #006H

Job ID: 885-5355-1

Job ID: 885-5355-1 Eurofins Albuquerque

Job Narrative
885-5355-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 5/31/2024 7:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C.

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

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

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

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

Client Sample Results

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Job ID: 885-5355-1

Client Sample ID: Backfill-01
Date Collected: 05/29/24 10:21
Date Received: 05/31/24 07:45

Lab Sample ID: 885-5355-1
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.4		mg/Kg		05/31/24 09:35	05/31/24 23:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*35 - 166*	*05/31/24 09:35*	*05/31/24 23:57*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		05/31/24 09:35	05/31/24 23:57	1
Ethylbenzene	ND		0.034		mg/Kg		05/31/24 09:35	05/31/24 23:57	1
Toluene	ND		0.034		mg/Kg		05/31/24 09:35	05/31/24 23:57	1
Xylenes, Total	ND		0.069		mg/Kg		05/31/24 09:35	05/31/24 23:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*48 - 145*	*05/31/24 09:35*	*05/31/24 23:57*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.9		mg/Kg		05/31/24 14:32	05/31/24 23:37	1
Motor Oil Range Organics [C28-C40]	ND		44		mg/Kg		05/31/24 14:32	05/31/24 23:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*89*		*62 - 134*	*05/31/24 14:32*	*05/31/24 23:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**72**		60		mg/Kg		06/01/24 06:49	06/01/24 09:12	20

Client Sample Results

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Job ID: 885-5355-1

Client Sample ID: Backfill-02
Date Collected: 05/29/24 10:23
Date Received: 05/31/24 07:45

Lab Sample ID: 885-5355-2
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.6		mg/Kg		05/31/24 09:35	06/01/24 01:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*05/31/24 09:35*	*06/01/24 01:07*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.018		mg/Kg		05/31/24 09:35	06/01/24 01:07	1
Ethylbenzene	ND		0.036		mg/Kg		05/31/24 09:35	06/01/24 01:07	1
Toluene	ND		0.036		mg/Kg		05/31/24 09:35	06/01/24 01:07	1
Xylenes, Total	ND		0.071		mg/Kg		05/31/24 09:35	06/01/24 01:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*05/31/24 09:35*	*06/01/24 01:07*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		05/31/24 14:32	05/31/24 23:51	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		05/31/24 14:32	05/31/24 23:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*89*		*62 - 134*	*05/31/24 14:32*	*05/31/24 23:51*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**65**		60		mg/Kg		06/01/24 06:49	06/01/24 09:49	20

Client Sample Results

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Job ID: 885-5355-1

Client Sample ID: Backfill-03
Date Collected: 05/29/24 10:28
Date Received: 05/31/24 07:45

Lab Sample ID: 885-5355-3
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		3.4		mg/Kg		05/31/24 09:35	06/01/24 02:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*05/31/24 09:35*	*06/01/24 02:17*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017		mg/Kg		05/31/24 09:35	06/01/24 02:17	1
Ethylbenzene	ND		0.034		mg/Kg		05/31/24 09:35	06/01/24 02:17	1
Toluene	ND		0.034		mg/Kg		05/31/24 09:35	06/01/24 02:17	1
Xylenes, Total	ND		0.068		mg/Kg		05/31/24 09:35	06/01/24 02:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*	*05/31/24 09:35*	*06/01/24 02:17*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		05/31/24 14:32	06/01/24 00:04	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		05/31/24 14:32	06/01/24 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*92*		*62 - 134*	*05/31/24 14:32*	*06/01/24 00:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**72**		61		mg/Kg		06/01/24 06:49	06/01/24 10:50	20

QC Sample Results

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Job ID: 885-5355-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-5933/1-A
Matrix: Solid
Analysis Batch: 5951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5933

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		05/31/24 09:35	05/31/24 23:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*35 - 166*	*05/31/24 09:35*	*05/31/24 23:34*	*1*

Lab Sample ID: LCS 885-5933/2-A
Matrix: Solid
Analysis Batch: 5951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5933

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	24.5		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*204*	*S1+*	*35 - 166*

Lab Sample ID: 885-5355-1 MS
Matrix: Solid
Analysis Batch: 5951

Client Sample ID: Backfill-01
Prep Type: Total/NA
Prep Batch: 5933

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		17.1	16.2		mg/Kg		94	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*197*	*S1+*	*35 - 166*

Lab Sample ID: 885-5355-1 MSD
Matrix: Solid
Analysis Batch: 5951

Client Sample ID: Backfill-01
Prep Type: Total/NA
Prep Batch: 5933

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		17.1	16.4		mg/Kg		96	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*204*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-5933/1-A
Matrix: Solid
Analysis Batch: 5952

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5933

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/31/24 09:35	05/31/24 23:34	1
Ethylbenzene	ND		0.050		mg/Kg		05/31/24 09:35	05/31/24 23:34	1
Toluene	ND		0.050		mg/Kg		05/31/24 09:35	05/31/24 23:34	1

QC Sample Results

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Job ID: 885-5355-1

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

Lab Sample ID: MB 885-5933/1-A
Matrix: Solid
Analysis Batch: 5952

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5933

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		05/31/24 09:35	05/31/24 23:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*48 - 145*	*05/31/24 09:35*	*05/31/24 23:34*	*1*

Lab Sample ID: LCS 885-5933/3-A
Matrix: Solid
Analysis Batch: 5952

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5933

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.949		mg/Kg		95	70 - 130		
Ethylbenzene			1.00	0.882		mg/Kg		88	70 - 130		
m,p-Xylene			2.00	1.80		mg/Kg		90	70 - 130		
o-Xylene			1.00	0.891		mg/Kg		89	70 - 130		
Toluene			1.00	0.894		mg/Kg		89	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*

Lab Sample ID: 885-5355-2 MS
Matrix: Solid
Analysis Batch: 5952

Client Sample ID: Backfill-02
Prep Type: Total/NA
Prep Batch: 5933

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.714	0.646		mg/Kg		91	70 - 130		
Ethylbenzene	ND		0.714	0.612		mg/Kg		86	70 - 130		
m,p-Xylene	ND		1.43	1.25		mg/Kg		86	70 - 130		
o-Xylene	ND		0.714	0.610		mg/Kg		85	70 - 130		
Toluene	ND		0.714	0.609		mg/Kg		85	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*

Lab Sample ID: 885-5355-2 MSD
Matrix: Solid
Analysis Batch: 5952

Client Sample ID: Backfill-02
Prep Type: Total/NA
Prep Batch: 5933

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.714	0.626		mg/Kg		88	70 - 130	3	20
Ethylbenzene	ND		0.714	0.598		mg/Kg		84	70 - 130	2	20
m,p-Xylene	ND		1.43	1.21		mg/Kg		83	70 - 130	4	20
o-Xylene	ND		0.714	0.601		mg/Kg		84	70 - 130	2	20
Toluene	ND		0.714	0.589		mg/Kg		82	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Job ID: 885-5355-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-5955/1-A
Matrix: Solid
Analysis Batch: 5950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5955

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		05/31/24 14:32	05/31/24 20:30	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		05/31/24 14:32	05/31/24 20:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*97*		*62 - 134*	*05/31/24 14:32*	*05/31/24 20:30*	*1*

Lab Sample ID: LCS 885-5955/2-A
Matrix: Solid
Analysis Batch: 5950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5955

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	43.5		mg/Kg		87	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*

Lab Sample ID: 885-5355-3 MS
Matrix: Solid
Analysis Batch: 5950

Client Sample ID: Backfill-03
Prep Type: Total/NA
Prep Batch: 5955

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND		47.0	40.1		mg/Kg		85	44 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*85*		*62 - 134*

Lab Sample ID: 885-5355-3 MSD
Matrix: Solid
Analysis Batch: 5950

Client Sample ID: Backfill-03
Prep Type: Total/NA
Prep Batch: 5955

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		43.9	36.0		mg/Kg		82	44 - 136	11	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*83*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-5975/1-A
Matrix: Solid
Analysis Batch: 5986

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5975

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		06/01/24 06:49	06/01/24 08:10	1

QC Sample Results

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Job ID: 885-5355-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-5975/2-A
Matrix: Solid
Analysis Batch: 5986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5975

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	27.6		mg/Kg		92	90 - 110		

Lab Sample ID: 885-5355-1 MS
Matrix: Solid
Analysis Batch: 5986

Client Sample ID: Backfill-01
Prep Type: Total/NA
Prep Batch: 5975

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	72		29.9	98.5		mg/Kg		88	50 - 150		

Lab Sample ID: 885-5355-1 MSD
Matrix: Solid
Analysis Batch: 5986

Client Sample ID: Backfill-01
Prep Type: Total/NA
Prep Batch: 5975

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	72		30.0	96.9		mg/Kg		82	50 - 150	2	20

Lab Sample ID: 885-5355-2 MS
Matrix: Solid
Analysis Batch: 5986

Client Sample ID: Backfill-02
Prep Type: Total/NA
Prep Batch: 5975

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	65		29.9	84.3		mg/Kg		64	50 - 150		

Lab Sample ID: 885-5355-2 MSD
Matrix: Solid
Analysis Batch: 5986

Client Sample ID: Backfill-02
Prep Type: Total/NA
Prep Batch: 5975

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	65		30.1	93.1		mg/Kg		93	50 - 150	10	20

QC Association Summary

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Job ID: 885-5355-1

GC VOA

Prep Batch: 5933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5355-1	Backfill-01	Total/NA	Solid	5035	
885-5355-2	Backfill-02	Total/NA	Solid	5035	
885-5355-3	Backfill-03	Total/NA	Solid	5035	
MB 885-5933/1-A	Method Blank	Total/NA	Solid	5035	
LCS 885-5933/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 885-5933/3-A	Lab Control Sample	Total/NA	Solid	5035	
885-5355-1 MS	Backfill-01	Total/NA	Solid	5035	
885-5355-1 MSD	Backfill-01	Total/NA	Solid	5035	
885-5355-2 MS	Backfill-02	Total/NA	Solid	5035	
885-5355-2 MSD	Backfill-02	Total/NA	Solid	5035	

Analysis Batch: 5951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5355-1	Backfill-01	Total/NA	Solid	8015M/D	5933
885-5355-2	Backfill-02	Total/NA	Solid	8015M/D	5933
885-5355-3	Backfill-03	Total/NA	Solid	8015M/D	5933
MB 885-5933/1-A	Method Blank	Total/NA	Solid	8015M/D	5933
LCS 885-5933/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5933
885-5355-1 MS	Backfill-01	Total/NA	Solid	8015M/D	5933
885-5355-1 MSD	Backfill-01	Total/NA	Solid	8015M/D	5933

Analysis Batch: 5952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5355-1	Backfill-01	Total/NA	Solid	8021B	5933
885-5355-2	Backfill-02	Total/NA	Solid	8021B	5933
885-5355-3	Backfill-03	Total/NA	Solid	8021B	5933
MB 885-5933/1-A	Method Blank	Total/NA	Solid	8021B	5933
LCS 885-5933/3-A	Lab Control Sample	Total/NA	Solid	8021B	5933
885-5355-2 MS	Backfill-02	Total/NA	Solid	8021B	5933
885-5355-2 MSD	Backfill-02	Total/NA	Solid	8021B	5933

GC Semi VOA

Analysis Batch: 5950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5355-1	Backfill-01	Total/NA	Solid	8015M/D	5955
885-5355-2	Backfill-02	Total/NA	Solid	8015M/D	5955
885-5355-3	Backfill-03	Total/NA	Solid	8015M/D	5955
MB 885-5955/1-A	Method Blank	Total/NA	Solid	8015M/D	5955
LCS 885-5955/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5955
885-5355-3 MS	Backfill-03	Total/NA	Solid	8015M/D	5955
885-5355-3 MSD	Backfill-03	Total/NA	Solid	8015M/D	5955

Prep Batch: 5955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5355-1	Backfill-01	Total/NA	Solid	SHAKE	
885-5355-2	Backfill-02	Total/NA	Solid	SHAKE	
885-5355-3	Backfill-03	Total/NA	Solid	SHAKE	
MB 885-5955/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-5955/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-5355-3 MS	Backfill-03	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Job ID: 885-5355-1

GC Semi VOA (Continued)

Prep Batch: 5955 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5355-3 MSD	Backfill-03	Total/NA	Solid	SHAKE	

HPLC/IC

Prep Batch: 5975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5355-1	Backfill-01	Total/NA	Solid	300_Prep	
885-5355-2	Backfill-02	Total/NA	Solid	300_Prep	
885-5355-3	Backfill-03	Total/NA	Solid	300_Prep	
MB 885-5975/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-5975/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
885-5355-1 MS	Backfill-01	Total/NA	Solid	300_Prep	
885-5355-1 MSD	Backfill-01	Total/NA	Solid	300_Prep	
885-5355-2 MS	Backfill-02	Total/NA	Solid	300_Prep	
885-5355-2 MSD	Backfill-02	Total/NA	Solid	300_Prep	

Analysis Batch: 5986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5355-1	Backfill-01	Total/NA	Solid	300.0	5975
885-5355-2	Backfill-02	Total/NA	Solid	300.0	5975
885-5355-3	Backfill-03	Total/NA	Solid	300.0	5975
MB 885-5975/1-A	Method Blank	Total/NA	Solid	300.0	5975
LCS 885-5975/2-A	Lab Control Sample	Total/NA	Solid	300.0	5975
885-5355-1 MS	Backfill-01	Total/NA	Solid	300.0	5975
885-5355-1 MSD	Backfill-01	Total/NA	Solid	300.0	5975
885-5355-2 MS	Backfill-02	Total/NA	Solid	300.0	5975
885-5355-2 MSD	Backfill-02	Total/NA	Solid	300.0	5975

Lab Chronicle

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Job ID: 885-5355-1

Client Sample ID: Backfill-01
Date Collected: 05/29/24 10:21
Date Received: 05/31/24 07:45

Lab Sample ID: 885-5355-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5933	AT	EET ALB	05/31/24 09:35
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	05/31/24 23:57
Total/NA	Prep	5035			5933	AT	EET ALB	05/31/24 09:35
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	05/31/24 23:57
Total/NA	Prep	SHAKE			5955	JU	EET ALB	05/31/24 14:32
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 23:37
Total/NA	Prep	300_Prep			5975	JT	EET ALB	06/01/24 06:49
Total/NA	Analysis	300.0		20	5986	JT	EET ALB	06/01/24 09:12

Client Sample ID: Backfill-02
Date Collected: 05/29/24 10:23
Date Received: 05/31/24 07:45

Lab Sample ID: 885-5355-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5933	AT	EET ALB	05/31/24 09:35
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	06/01/24 01:07
Total/NA	Prep	5035			5933	AT	EET ALB	05/31/24 09:35
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	06/01/24 01:07
Total/NA	Prep	SHAKE			5955	JU	EET ALB	05/31/24 14:32
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	05/31/24 23:51
Total/NA	Prep	300_Prep			5975	JT	EET ALB	06/01/24 06:49
Total/NA	Analysis	300.0		20	5986	JT	EET ALB	06/01/24 09:49

Client Sample ID: Backfill-03
Date Collected: 05/29/24 10:28
Date Received: 05/31/24 07:45

Lab Sample ID: 885-5355-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			5933	AT	EET ALB	05/31/24 09:35
Total/NA	Analysis	8015M/D		1	5951	JP	EET ALB	06/01/24 02:17
Total/NA	Prep	5035			5933	AT	EET ALB	05/31/24 09:35
Total/NA	Analysis	8021B		1	5952	JP	EET ALB	06/01/24 02:17
Total/NA	Prep	SHAKE			5955	JU	EET ALB	05/31/24 14:32
Total/NA	Analysis	8015M/D		1	5950	JU	EET ALB	06/01/24 00:04
Total/NA	Prep	300_Prep			5975	JT	EET ALB	06/01/24 06:49
Total/NA	Analysis	300.0		20	5986	JT	EET ALB	06/01/24 10:50

Laboratory References:
EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-5355-1
Project/Site: Sirius 17 Federal #006H

Laboratory: Eurofins Albuquerque

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

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

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

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5035	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5035	Solid	Benzene
8021B	5035	Solid	Ethylbenzene
8021B	5035	Solid	Toluene
8021B	5035	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-26-25

Released to Imaging: 8/30/2024 2:04:50 PM
Received by OCD: 8/7/2024 9:29:30 AM

Chain-of-Custody Record

Client: Vertex (Devon)

Mailing Address: On file

Phone #:

email or Fax#:

QA/QC Package.
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
~~SM~~ ☑ Standard ☑ Rush ~~5 da SM~~ 24 hr

Project Name: Sirius 17 Federal #006H

Project #: 23E-04732

Project Manager: Kent Stallings

Sampler: SM

On Ice: ☑ Yes ☐ No

# of Coolers: 1 4oz.

Cooler Temp(including CF): 3.6-0=3.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORA

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

885-5355 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	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_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
5/29/24	10:21	Soil	Backfill-01	4oz jar	Ice	1	✓	✓					✓			
	10:23		Backfill-02			2										
	10:28		Backfill-03			3										

Date	Time	Relinquished by	Received by	Via	Date	Time
5/30/24	1015	Stephanie McClure			5/30/24	1015
5/30/24	1900			Courier	5/31/24	7:45

Remarks: Direct bill to: Devon W/o #: 21206515

SMcclarty@vertex.ca

C.C. KStallings@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.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-5355-1

Login Number: 5355 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Kent Stallings
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 6/10/2024 10:23:29 AM

JOB DESCRIPTION

Sirius 17 Federal #006H

JOB NUMBER

885-5367-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 8/30/2024 2:04:30 PM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

Generated
6/10/2024 10:23:29 AM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Released to Imaging: 8/30/2024 2:04:50 PM

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Laboratory Job ID: 885-5367-1

Table of Contents

Definitions/Glossary

Client: Vertex Job ID: 885-5367-1
Project/Site: Sirius 17 Federal #006H

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

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

Case Narrative

Client: Vertex
Project: Sirius 17 Federal #006H

Job ID: 885-5367-1

Job ID: 885-5367-1 Eurofins Albuquerque

Job Narrative
885-5367-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 5/31/2024 7:45 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C.

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

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

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

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

Client Sample Results

Client: Vertex
Job ID: 885-5367-1
Project/Site: Sirius 17 Federal #006H

Client Sample ID: BH23-09 10.5'
Lab Sample ID: 885-5367-1
Date Collected: 05/29/24 15:33
Matrix: Solid
Date Received: 05/31/24 07:45

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7		mg/Kg		05/31/24 10:35	06/06/24 15:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*35 - 166*	*05/31/24 10:35*	*06/06/24 15:24*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		05/31/24 10:35	06/06/24 15:24	1
Ethylbenzene	ND		0.047		mg/Kg		05/31/24 10:35	06/06/24 15:24	1
Toluene	ND		0.047		mg/Kg		05/31/24 10:35	06/06/24 15:24	1
Xylenes, Total	ND		0.094		mg/Kg		05/31/24 10:35	06/06/24 15:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*05/31/24 10:35*	*06/06/24 15:24*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.7		mg/Kg		05/31/24 15:14	06/04/24 12:56	1
Motor Oil Range Organics [C28-C40]	ND		43		mg/Kg		05/31/24 15:14	06/04/24 12:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*05/31/24 15:14*	*06/04/24 12:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**68**		60		mg/Kg		06/01/24 06:49	06/01/24 11:27	20

QC Sample Results

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Job ID: 885-5367-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-5942/1-A
Matrix: Solid
Analysis Batch: 6304

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5942

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		05/31/24 10:35	06/06/24 15:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*35 - 166*	*05/31/24 10:35*	*06/06/24 15:00*	*1*

Lab Sample ID: LCS 885-5942/2-A
Matrix: Solid
Analysis Batch: 6304

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5942

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			25.0	24.1		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*213*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-5942/1-A
Matrix: Solid
Analysis Batch: 6306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5942

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/31/24 10:35	06/06/24 15:00	1
Ethylbenzene	ND		0.050		mg/Kg		05/31/24 10:35	06/06/24 15:00	1
Toluene	ND		0.050		mg/Kg		05/31/24 10:35	06/06/24 15:00	1
Xylenes, Total	ND		0.10		mg/Kg		05/31/24 10:35	06/06/24 15:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*05/31/24 10:35*	*06/06/24 15:00*	*1*

Lab Sample ID: LCS 885-5942/3-A
Matrix: Solid
Analysis Batch: 6306

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5942

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.942		mg/Kg		94	70 - 130		
Ethylbenzene			1.00	0.897		mg/Kg		90	70 - 130		
m-Xylene & p-Xylene			2.00	1.81		mg/Kg		91	70 - 130		
o-Xylene			1.00	0.887		mg/Kg		89	70 - 130		
Toluene			1.00	0.900		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Job ID: 885-5367-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-5961/1-A
Matrix: Solid
Analysis Batch: 6126

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5961

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		05/31/24 15:13	06/04/24 11:16	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		05/31/24 15:13	06/04/24 11:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*121*		*62 - 134*	*05/31/24 15:13*	*06/04/24 11:16*	*1*

Lab Sample ID: LCS 885-5961/2-A
Matrix: Solid
Analysis Batch: 6126

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5961

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	44.9		mg/Kg		90	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-5975/1-A
Matrix: Solid
Analysis Batch: 5986

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5975

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		06/01/24 06:49	06/01/24 08:10	1

Lab Sample ID: LCS 885-5975/2-A
Matrix: Solid
Analysis Batch: 5986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5975

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	27.6		mg/Kg		92	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: Sirius 17 Federal #006H

Job ID: 885-5367-1

GC VOA

Prep Batch: 5942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5367-1	BH23-09 10.5'	Total/NA	Solid	5030C	
MB 885-5942/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-5942/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-5942/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 6304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5367-1	BH23-09 10.5'	Total/NA	Solid	8015M/D	5942
MB 885-5942/1-A	Method Blank	Total/NA	Solid	8015M/D	5942
LCS 885-5942/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5942

Analysis Batch: 6306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5367-1	BH23-09 10.5'	Total/NA	Solid	8021B	5942
MB 885-5942/1-A	Method Blank	Total/NA	Solid	8021B	5942
LCS 885-5942/3-A	Lab Control Sample	Total/NA	Solid	8021B	5942

GC Semi VOA

Prep Batch: 5961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5367-1	BH23-09 10.5'	Total/NA	Solid	SHAKE	
MB 885-5961/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-5961/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 6126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5367-1	BH23-09 10.5'	Total/NA	Solid	8015M/D	5961
MB 885-5961/1-A	Method Blank	Total/NA	Solid	8015M/D	5961
LCS 885-5961/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	5961

HPLC/IC

Prep Batch: 5975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5367-1	BH23-09 10.5'	Total/NA	Solid	300_Prep	
MB 885-5975/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-5975/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 5986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-5367-1	BH23-09 10.5'	Total/NA	Solid	300.0	5975
MB 885-5975/1-A	Method Blank	Total/NA	Solid	300.0	5975
LCS 885-5975/2-A	Lab Control Sample	Total/NA	Solid	300.0	5975

Lab Chronicle

Client: Vertex
Job ID: 885-5367-1
Project/Site: Sirius 17 Federal #006H

Client Sample ID: BH23-09 10.5'
Lab Sample ID: 885-5367-1

Date Collected: 05/29/24 15:33
Matrix: Solid

Date Received: 05/31/24 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5942	AT	EET ALB	05/31/24 10:35
Total/NA	Analysis	8015M/D		1	6304	JP	EET ALB	06/06/24 15:24
Total/NA	Prep	5030C			5942	AT	EET ALB	05/31/24 10:35
Total/NA	Analysis	8021B		1	6306	JP	EET ALB	06/06/24 15:24
Total/NA	Prep	SHAKE			5961	DH	EET ALB	05/31/24 15:14
Total/NA	Analysis	8015M/D		1	6126	JU	EET ALB	06/04/24 12:56
Total/NA	Prep	300_Prep			5975	JT	EET ALB	06/01/24 06:49
Total/NA	Analysis	300.0		20	5986	JT	EET ALB	06/01/24 11:27

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-5367-1
Project/Site: Sirius 17 Federal #006H

Laboratory: Eurofins Albuquerque

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

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

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

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics (GRO)-C6-C10
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-26-25

Released to Imaging: 8/30/2024 2:04:50 PM
Received by OCD: 8/7/2024 9:29:30 AM

Chain-of-Custody Record

Client: Vertex (Dewn)

Mailing Address: On File

Phone #:

email or Fax#:

QA/QC Package
☐ Standard ☐ Level 4 (Full Validation)

Accreditation. ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5-day
☑ Standard ☐ Rush

Project Name: Sirius 17 Federal #006H

Project #: 23E-04732

Project Manager: Kent Stallings

Sampler: SM / RP

On Ice: ☑ Yes ☐ No

# of Coolers: 1 (4oz)

Cooler Temp(including CF): 3.6-0=3.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORAT
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel 505-345-3975 Fax 505-345-4107

885-5367 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	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	F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
5/29/24	15:33	Soil	BH23-09 10.5'	4oz jar	Ice		✓	✓					✓			

Date	Time	Relinquished by	Received by	Via	Date	Time
5/30/24	1015	Stephanie McCarty				
5/30/24	1200			Courier	5/31/24	7:45

Remarks: Direct bill to: Dewn W/O# 212 06515

SMcCarty@vertex.ca
C-C. KStallings@vertex.ca

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

Released to Imaging: 8/30/2024 2:04:50 PM
Received by OCD: 8/7/2024 9:29:30 AM

Chain-of-Custody Record

Client: Vertex (Devon)

Mailing Address: On file

Phone #:

email or Fax#:

QA/QC Package
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5-day
☑ Standard ☐ Rush

Project Name: Sirius 17 Federal #006 H

Project #: 23E-04732

Project Manager: Kent Stallings

Sampler: SM/RP

On Ice: ☑ Yes ☐ No

# of Coolers: 1 40z

Cooler Temp (including CF): 3.6-0=3.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	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_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
5/29/24	15:33	Soil	B #23-09 10.5'	4oz jar	Ice		✓	✓					✓			

Date	Time	Relinquished by	Received by	Via	Date	Time
5/30/24	1015				5/30/24	1015
5/30/24	1900			courier	5/31/24	7:45

Remarks: Direct Bill to: Devon w/o #: 212065715

smccarty@vertexca

C-C- KStallings@vertexca

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

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-5367-1

Login Number: 5367 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS

Action 370644

QUESTIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 370644
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nRM2002843138**
Incident Name	**NRM2002843138 SIRIUS 17 FED #6H @ 30-015-41761**
Incident Type	**Release Other**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-015-41761] SIRIUS 17 FEDERAL #006H**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	SIRIUS 17 FED #6H
Date Release Discovered	11/24/2019
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Release Other
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: Equipment Failure | Pump | Crude Oil | Released: 3 BBL | Recovered: 0 BBL | Lost: 3 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure | Pump | Produced Water | Released: 10 BBL | Recovered: 2 BBL | Lost: 8 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
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.*

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Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 370644
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
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.	

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	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
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: Dale Woodall Title: EHS Professional Email: Dale.Woodall@dvn.com Date: 08/05/2024

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QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 370644
	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 51 and 75 (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
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 500 and 1000 (ft.)
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	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (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	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 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
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.	
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)	13000
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	5200
GRO+DRO (EPA SW-846 Method 8015M)	3200
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	05/22/2024
On what date will (or did) the final sampling or liner inspection occur	06/05/2024
On what date will (or was) the remediation complete(d)	06/05/2024
What is the estimated surface area (in square feet) that will be reclaimed	1227
What is the estimated volume (in cubic yards) that will be reclaimed	56
What is the estimated surface area (in square feet) that will be remediated	1227
What is the estimated volume (in cubic yards) that will be remediated	56
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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QUESTIONS (continued)

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QUESTIONS

Remediation Plan (continued)	
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.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	R360 ARTESIA LLC LANDFARM [fEEM0112340644]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** 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.*
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 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: Dale Woodall Title: EHS Professional Email: Dale.Woodall@dvn.com Date: 08/05/2024
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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QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 370644
	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 (continued)

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	Action Number: 370644
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**349925**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**06/05/2024**
What was the (estimated) number of samples that were to be gathered	**10**
What was the sampling surface area in square feet	**1500**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
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	1227
What was the total volume (cubic yards) remediated	56
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	1227
What was the total volume (in cubic yards) reclaimed	56
Summarize any additional remediation activities not included by answers (above)	see report

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 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: Dale Woodall Title: EHS Professional Email: Dale.Woodall@dvn.com Date: 08/07/2024

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QUESTIONS (continued)

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	Action Number: 370644
	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 370644

CONDITIONS

Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	6137
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CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NRM2002843138 SIRIUS 17 FED #6H, thank you. This Remediation Closure Report is approved.	8/30/2024