Volume calculator

There was no volume calculator prepared when the spill occurred.

Incident Number: nDHR1913430561

Release Assessment and Closure

Gaucho Unit #006H

Unit P, Section 17, Township 22 South, Range 34 East
Facility ID: fDHR1913430264
County: Lea
Vertex File Number: 23E-05499

Prepared for:
Devon Energy Production Company, LP

Prepared by:
Vertex Resource Services Inc.

Date:
August 2024

Release Assessment and Closure
Gaucho Unit #006H
Facility ID: fDHR1913430264
Unit P, Section 17, Township 22 South, Range 34 East
County: Lea

Prepared for:
Devon Energy Production Company, LP
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New Mexico Oil Conservation Division
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Stephanie McCarty, B.Sc.
ENVIRONMENTAL TECHNOLOGIST, REPORTING

7/31/2024
Date

Chad Hensley, B. Sc., GCNR
SENIOR PROJECT MANAGER, REPORT REVIEW

8/2/2024
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 release that occurred on February 10, 2019, at Gaucho Unit #006H (hereafter referred to as the "site"). Devon submitted an initial C-141 Release Notification to New Mexico Oil Conservation Division (NMOCD) District 1 on April 30, 2019. Incident ID number nDHR1913430561 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 closure of this release, with the understanding that reclamation of the release site will be deferred until such time as all oil and gas activities are terminated and the site is reclaimed as per NMAC 19.15.29.13.

2.0 Incident Description

The release occurred on February 10, 2019, when a buried flowline was found leaking, releasing produced water onto the pad. The incident was reported on April 30, 2019, and involved the release of 19 barrels (bbl.) of produced water. During the initial clean-up, 10 bbl. of produced water were recovered.

3.0 Site Characteristics

The site is located approximately 18 miles west of Eunice, New Mexico at, 32.386317° N, -103.485470° W (Google Inc., 2024). The legal location for the site is Unit P, Section 17, Township 22 South and Range 34 East in Lea County, New Mexico. The release area is located on federal property. An aerial photograph and characterization sampling 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. The following sections specifically describe the release area at the site 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 surface geology at the site primarily comprises Qep – Interlayed eolian sands and piedmont-slope deposits (Holocene to middle Pleistocene). The soil at the site is characterized as Kermit soils and Dune land (United States Department of Agriculture, Natural Resources Conservation Service, 2024). Additional soil characteristics include excessively drained soil with very low runoff and low available moisture levels in the soil profile. 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 plains, sand dunes and hillslopes, at elevations of 2,842 to 4,500 feet above sea level. The climate is semi-arid 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 forbs. Sand bluestem *(Andropogon hallii)* and giant dropseed *(Sporobolus giganteus*) with sand shinnery

oak *(Quercus havardii)* and soapweed yucca *(Yucca glauca*) that dominate the historical plant community in this area (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 well within 0.5 mile to the site, C-01963 POD-1, was drilled on March 25, 2024, as a local depth to groundwater reference (New Mexico Office of the State Engineer, 2024d). It is located approximately 0.24 miles southwest of the site.

The depth to groundwater was determined by drilling a borehole permitted by the New Mexico Office of the State Engineer within a 0.5-mile radius of the site. The borehole was advanced to a depth of 55 feet. No water was found to be present at that time. Documentation related to the exploratory borehole 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. It is identified in the National Wetlands Inventory approximately 1 mile east 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. The closure criteria research documentation is included in Appendix A.

Table 1. Closure Criteria Determination			
Site Name: Gaucho Unit #006H CTB			
Spill Coordinates: 32.386317,-103.485470		**X: 642453**	**Y: 3584191**
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater (nearest reference)	**>60**	feet
	Distance between release and nearest DTGW reference	**1,252**	feet
		0.24	miles
	Date of nearest DTGW reference measurement	**March 25, 2024**	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	5,291	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	15,522	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	81,187	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**	4,041	feet
	ii) Within 1000 feet of any fresh water well or spring	4,041	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	8,092	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	**100,688**	feet
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest unstable area	**98,007**	feet
10	Within a 100-year Floodplain	500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	**133,410**	feet
11	Soil Type	**Fine sand**	
12	Ecological Classification	Sandhills	
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 was conducted on December 9, 2020, and characterization was completed on April 27, 2024, which identified the area of the release specified in the initial C-141 Report. During characterization of the site, the impacted area per closure criteria was determined to be approximately 86 feet long and 82 feet wide; the total affected area was 4,886 square feet with a perimeter of 292 feet.

Delineation and remediation efforts began on December 9, 2020, and were finalized on May 17, 2024. Field screening was conducted and consisted of analysis using a Photo Ionization Detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and electroconductivity meter (chlorides). Field screening results identified no areas requiring remediation. Characterization results are summarized in Table 3. Confirmation laboratory results are summarized in Table 4. The characterization and confirmation sampling site schematics are presented on Figures 1 and 2 respectively and together depict the delineated area of release. Sampling and Daily Field Reports (DFRs) documenting various phases of the remediation are included in Appendix B.

Notification that confirmatory samples were being collected was provided to the NMOCD on December 14, 2020, and May 13, 2024, for sampling on December 16, 2020, and May 17, 2024, and respectively (Appendix C). Confirmatory composite samples were collected from the base and walls of the excavation in 200 square foot increments. A total of 34 samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Hall Environmental Analysis Laboratory, now 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 presented in Table 4, and the laboratory data reports are included in Appendix D. All confirmatory samples collected and analyzed were below closure criteria for the site.

6.0 Closure Request

The release area was fully delineated. 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 location where depth to ground water is 51 - 100 feet below ground surface. Based on these findings, Devon requests that this release be closed.

Should you have any questions or concerns, please do not hesitate to contact Chad Hensley at 575.200.6167 or chensley@vertexresource.com.

7.0 References

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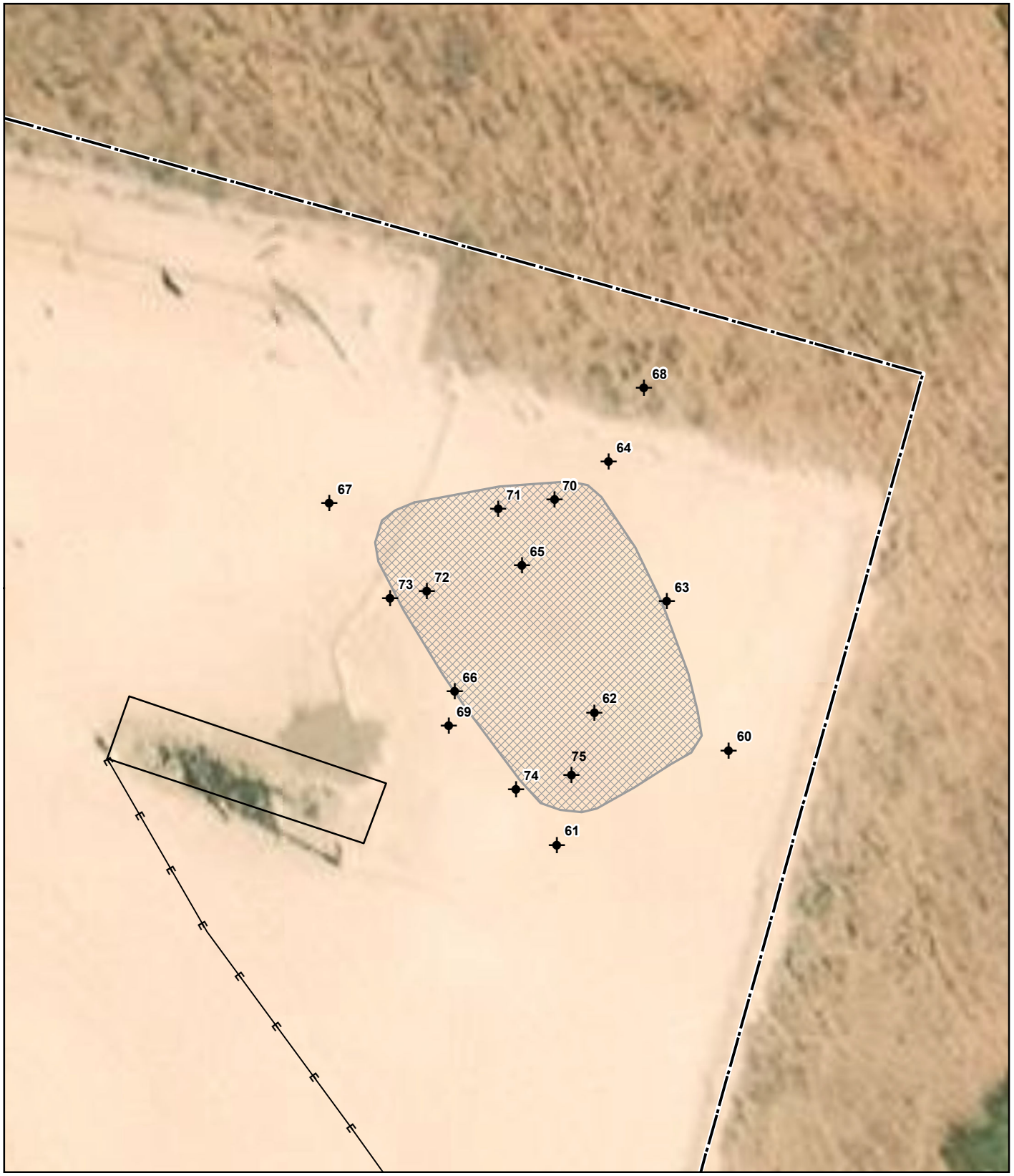
8.0 Limitations

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, except for the New Mexico Oil Conservation Division, 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 damage suffered as a result of the use of this report are the sole responsibility of the user.

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

FIGURES



Borehole (Prefixed by "BH-")

Electrical (Underground)

Approximate Lease Boundary

Approximate Historical Release Area (~4,145 sq. ft.)

Pumpjack and Wellhead

VERTEX

0 5 10 20 ft

NAD 1983 UTM Zone 13N
Date: May 21/24

Map Center:
Lat: 32.386401,
Long:-103.485530

N

Characterization Sampling Site Schematic
Gaucho Unit #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: Georeferenced image from Esri, 2023. Approximate site boundary from imagery by Vertex Professional Services Ltd. (Vertex), 2024. Site features from GPS by Vertex, 2024.

VERSATILITY. EXPERTISE.

Document Path: S:\04 - Geomatics\1-Projects_US PROJECTS\Devon Energy Corporation\2023\23E-05499 - Gaucho Unit #006\Fig1_Char_nDHR1913430561_18471.mxd

● Base Sample (Prefixed by "BS-")

▲ Wall Sample (Prefixed by "WS-")

Electrical (Underground)

Approximate Lease Boundary

Historical Excavation to 0.5 feet bgs (~ 4,886 sq. ft.)

Pumpjack and Wellhead

VERTEX

0 5 10 20 ft

NAD 1983 UTM Zone 13N

Date: May 28/24

Map Center:
Lat: 32.386401,
Long:-103.485530

N

Confirmation Sampling Site Schematic
Gaucho Unit #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, 2023. Approximate site boundary from imagery by Vertex Professional Services Ltd. (Vertex), 2024. Site features from GPS by Vertex, 2024.

VERSATILITY. EXPERTISE.

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TABLES

Client Name: Devon Energy Production Company, LP
Site Name: Gaucho Unit #006
NM OCD Tracking #: nDHR1913430561
Project #: 23E-05499
Lab Reports: 2311275, 2311281 and 885-3597-1

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

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)
BH23-61	0	November 3, 2023	-	20	451	ND	ND	ND	ND	ND	ND	ND	250
	2	November 3, 2023	-	6	113	ND	ND	ND	ND	ND	ND	ND	240
BH23-62	0	November 3, 2023	-	5	134	ND	ND	ND	ND	ND	ND	ND	ND
	2	November 3, 2023	-	107	126	ND	ND	ND	ND	ND	ND	ND	ND
	4	November 4, 2023	0	42	67	ND	ND	ND	ND	ND	ND	ND	ND
BH23-63	0	November 3, 2023	-	15	277	ND	ND	ND	ND	ND	ND	ND	79
	2	November 3, 2023	-	9	196	ND	ND	ND	ND	ND	ND	ND	85
BH23-64	0	November 3, 2023	-	161	278	ND	ND	ND	ND	ND	ND	ND	89
	2	November 3, 2023	-	228	57	ND	ND	ND	ND	ND	ND	ND	ND
	4	November 4, 2023	0	33	105	ND	ND	ND	ND	ND	ND	ND	ND
BH23-65	0	November 3, 2023	-	45	132	ND	ND	ND	ND	ND	ND	ND	ND
	2	November 3, 2023	-	44	170	ND	ND	ND	ND	ND	ND	ND	ND
BH23-66	0	November 3, 2023	-	49	**850**	ND	ND	ND	ND	ND	ND	ND	470
	2	November 3, 2023	-	56	77	ND	ND	ND	ND	ND	ND	ND	ND
BH23-67	0	November 3, 2023	-	60	168	ND	ND	ND	ND	ND	ND	ND	ND
	2	November 3, 2023	-	40	59	ND	ND	ND	ND	ND	ND	ND	ND
BH23-68	0	November 4, 2023	0	42	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	November 4, 2023	0	18	49	ND	ND	ND	ND	ND	ND	ND	ND
BH23-69	0	November 4, 2023	0	7	220	ND	ND	ND	ND	ND	ND	ND	180
	2	November 4, 2023	0	52	121	ND	ND	ND	ND	ND	ND	ND	ND
BH24-70	0	April 27, 2024	-	38	ND	ND	ND	ND	ND	ND	ND	ND	24
	2	April 27, 2024	-	37	ND	ND	ND	ND	ND	ND	ND	ND	14
BH24-71	0	April 27, 2024	-	49	76	ND	ND	ND	ND	ND	ND	ND	130
	2	April 27, 2024	-	35	ND	ND	ND	ND	ND	ND	ND	ND	52
BH24-72	0	April 27, 2024	-	43	64	ND	ND	ND	ND	ND	ND	ND	170
	2	April 27, 2024	-	29	ND	ND	ND	ND	ND	ND	ND	ND	96
BH24-73	0	April 27, 2024	-	33	ND	ND	ND	ND	ND	ND	ND	ND	26
	2	April 27, 2024	-	34	ND	ND	ND	ND	ND	ND	ND	ND	94
BH24-74	0	April 27, 2024	-	27	ND	ND	ND	ND	ND	ND	ND	ND	29
	2	April 27, 2024	-	42	ND	ND	ND	ND	ND	ND	ND	ND	9.2
BH24-75	0	April 27, 2024	-	41	ND	ND	ND	ND	ND	ND	ND	ND	39
	2	April 27, 2024	-	39	ND	ND	ND	ND	ND	ND	ND	ND	16

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

VERTEX

Client Name: Devon Energy Production Company, LP
Site Name: Gaucho Unit 6H CTB
NM OCD Tracking #: nDHR1913430561
Project #: 23E-05499
Lab Reports: 2012932 and 885-4827-8

Table 4. Confirmation Sample Field Screen and Laboratory Results - Depth to Groundwater 51 - 100 feet bgs

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)
BS20-01	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
BS20-02	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
BS20-03	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	1,400	960	**1,400**	**2,360**	2,800
	0.5	May 17, 2024	0	21	31	ND	ND	ND	ND	ND	ND	ND	ND
BS20-04	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	63	150
BS20-05	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
BS20-06	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
BS20-07	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	1,500	1,700	**1,500**	**3,200**	1,100
	0.5	May 17, 2024	0	81	1,064	ND	ND	ND	ND	ND	ND	ND	1,300
BS20-08	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	14	45	14	59	1,700
	0.5	May 17, 2024	0	102	630	ND	ND	ND	17	ND	17	17	1,100
BS20-09	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	79	17	96	100
BS20-10	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
BS20-11	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
BS20-12	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	ND	68
BS20-13	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
BS20-14	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
BS20-15	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
BS20-16	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	81	ND	81	ND
BS20-17	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	500	ND	500	170
	0.5	May 17, 2024	0	0	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS20-18	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	590	ND	590	120
	0.5	May 17, 2024	0	0	42	ND	ND	ND	ND	ND	ND	ND	ND
BS24-19	0.5	May 17, 2024	0	0	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS24-20	0.5	May 17, 2024	0	0	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS24-21	0.5	May 17, 2024	0	0	745	ND	ND	ND	ND	ND	ND	ND	790
BS24-22	0.5	May 17, 2024	0	0	374	ND	ND	ND	ND	ND	ND	ND	300
BS24-23	0.5	May 17, 2024	0	0	73	ND	ND	ND	ND	ND	ND	ND	ND
BS24-24	0.5	May 17, 2024	0	0	48	ND	ND	ND	ND	ND	ND	ND	ND
BS24-25	0.5	May 17, 2024	0	15	34	ND	ND	ND	ND	ND	ND	ND	ND
WS20-01	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
WS20-02	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
WS20-03	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	ND	ND	ND	ND	170
WS20-04	0-0.5	December 16, 2020	-	-	-	ND	ND	ND	58	120	58	178	60

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

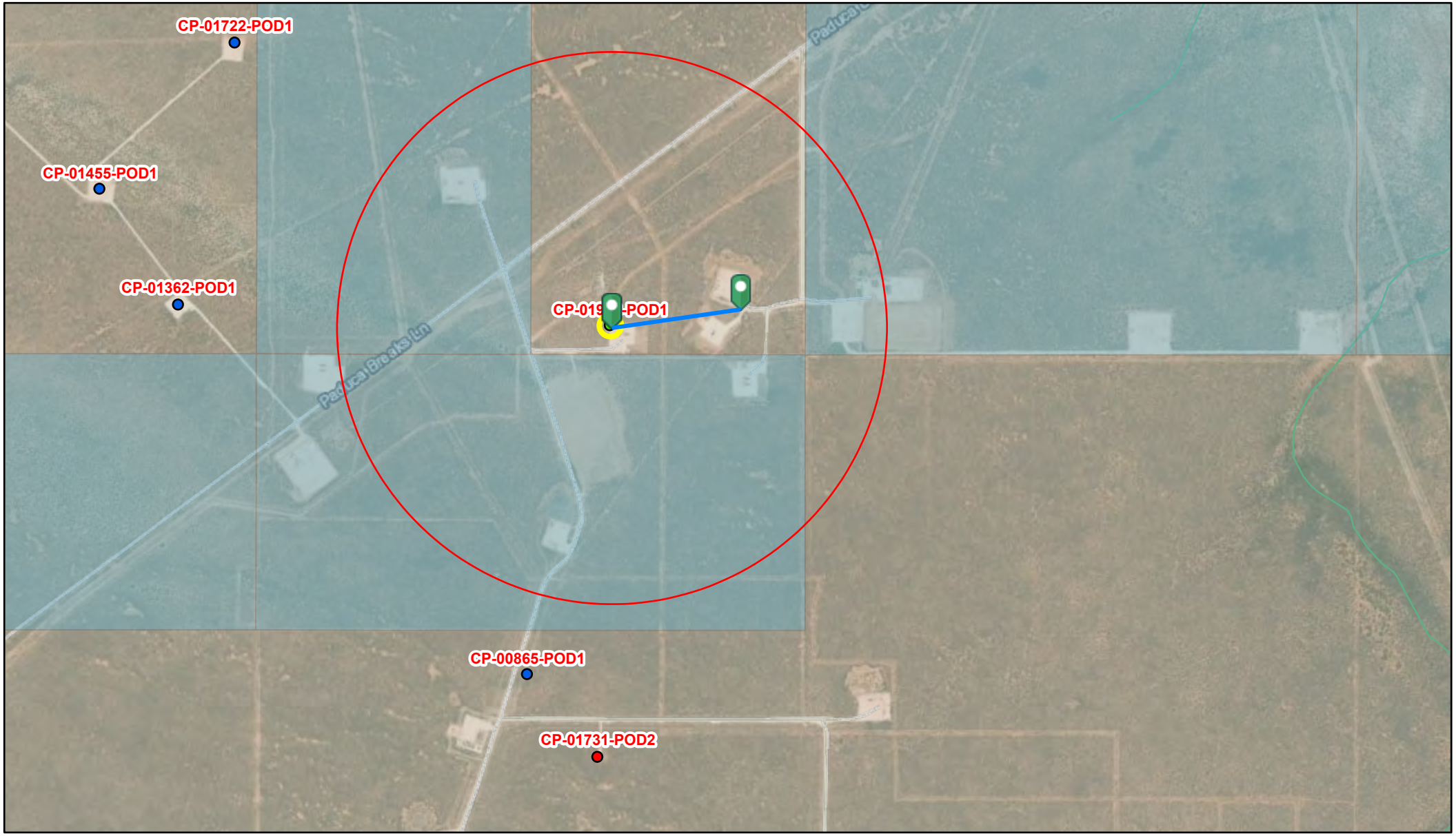
VERTEX

APPENDIX A - Closure Criteria Research Documentation

Closure Criteria Determination			
Site Name: Gaucho Unit #006H CTB			
Spill Coordinates: 32.386317, -103.485470		X: 642453	Y: 3584191
Site Specific Conditions		Value	Unit
1	Depth to Groundwater (nearest reference)	**>60**	feet
	Distance between release and nearest DTGW reference	**1,252**	feet
		0.24	miles
	Date of nearest DTGW reference measurement	**March 25, 2024**	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	5,291	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	15,522	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	81,187	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**	4,041	feet
	ii) Within 1000 feet of any fresh water well or spring	4,041	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	8,092	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	**100,688**	feet
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest unstable area	**98,007**	feet
10	Within a 100-year Floodplain	500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	**133,410**	feet
11	Soil Type	**Fine sand**	
12	Ecological Classification	Sandhills	
13	Geology	Qep	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	51-100'	<50' 51-100' >100'

OSE POD Location Map

CP-01963-POD1: 0.24 miles away (1252')



2/21/2024, 11:11:07 AM

Override 1

GIS WATERS PODs

Active

Pending

Plugged

OSE District Boundary

Water Right Regulations

Closure Area

Artesian Planning Area

New Mexico State Trust Lands

Both Estates

NHD Flowlines

Stream River

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 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

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	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00865 POD1		CP	LE	2	2	3	20	22S	34E	641845	3583118	1232	885	605	280
CP 01362 POD1		CP	LE	3	4	4	18	22S	34E	640809	3584182	1644	1032	613	419
CP 01722 POD1		CP	LE	4	4	2	18	22S	34E	640964	3584949	1671	1122	785	337
CP 01455 POD1		CP	LE	4	1	4	18	22S	34E	640574	3584515	1906	1033	615	418

Average Depth to Water: **654 feet**
Minimum Depth: **605 feet**
Maximum Depth: **785 feet**

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 642453 **Northing (Y):** 3584191 **Radius:** 2000

11/7/23 12:42 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q 64	q 16	q 4	Sec	Twn	Rng	X	Y	Distance
CP 01963	CP	MON	0	DEVON ENERGY	LE	CP 01963 POD1	NA				4	3	4	17	22S	34E	642073	3584138	383
CP 00865	CP	COM	100	MERCHANT LIVESTOCK CO	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1232
CP 01046	CP	PRO	0	YATES PETROLEUM	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1232
CP 01047	CP	PRO	0	NOVA MUD	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1232
CP 01048	CP	PRO	0	GLENN'S WATER WELL SERVICE	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1232
CP 01085	CP	PRO	0	GLENN'S WATER WELL SRVC., INC.	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1232
CP 01086	CP	PRO	0	TD WATER SERVICES	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1232
CP 01087	CP	PRO	0	TONYA'S PERMIT SERVICE	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1232
CP 01291	CP	COM	100	MERCHANT LIVESTOCK CO	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1232
CP 01731	CP	COM	450	ROY TAYLOR	LE	CP 01731 POD2	20C94				3	1	4	20	22S	34E	642053	3582883	1367
CP 01362	CP	EXP	0	MERCHANT LIVESTOCK CO	LE	CP 01362 POD1				Artesian	3	4	4	18	22S	34E	640808	3584182	1644
CP 01363	CP	COM	100	MERCHANT LIVESTOCK CO	LE	CP 01362 POD1				Artesian	3	4	4	18	22S	34E	640808	3584182	1644
CP 01453	CP	COM	100	ATKINS ENGR ASSOC INC	LE	CP 01362 POD1				Artesian	3	4	4	18	22S	34E	640808	3584182	1644
CP 01456	CP	PRO	0	COG OPERATING	LE	CP 01362 POD1				Artesian	3	4	4	18	22S	34E	640808	3584182	1644
CP 01457	CP	PRO	0	COG OPERATING	LE	CP 01362 POD1				Artesian	3	4	4	18	22S	34E	640808	3584182	1644
CP 01458	CP	PRO	0	COG OPERATING	LE	CP 01362 POD1				Artesian	3	4	4	18	22S	34E	640808	3584182	1644
CP 01731	CP	COM	450	ROY TAYLOR	LE	CP 01731 POD3	20C93				4	4	4	20	22S	34E	642631	3582544	1656
CP 01722	CP	COM	100	MERCHANT LIVESTOCK CO/GWWS INC	LE	CP 01722 POD1	NA			Artesian	4	4	2	18	22S	34E	640963	3584949	1671
CP 01731	CP	COM	450	ROY TAYLOR	LE	CP 01731 POD1	20C95				4	4	3	20	22S	34E	641803	3582573	1743
CP 01630	CP	EXP	0	S2W CONTRACTING, LLC	LE	CP 01630 POD2					3	4	3	21	22S	34E	643130	3582496	1824
CP 01454	CP	COM	200	MERCHANT LIVESTOCK CO	LE	CP 01455 POD1				Artesian	4	1	4	18	22S	34E	640574	3584515	1906
CP 01455	CP	EXP	0	ATKINS ENGR ASSOC INC	LE	CP 01455 POD1				Artesian	4	1	4	18	22S	34E	640574	3584515	1906
CP 01494	CP	PRO	0	COG OPERATING	LE	CP 01455 POD1				Artesian	4	1	4	18	22S	34E	640574	3584515	1906
CP 01495	CP	PRO	0	COG OPERATING	LE	CP 01455 POD1				Artesian	4	1	4	18	22S	34E	640574	3584515	1906
CP 01496	CP	PRO	0	COG OPERATING	LE	CP 01455 POD1				Artesian	4	1	4	18	22S	34E	640574	3584515	1906

Record Count: 25

UTMNAD83 Radius Search (in meters):

Easting (X): 642453 **Northing (Y):** 3584191 **Radius:** 2000

Sorted by: Distance

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
		(quarters are 1=NW 2=NE 3=SW 4=SE)						(NAD83 UTM in meters)	
		(quarters are smallest to largest)							
NA	CP 01963 POD1	4	3	4	17	22S	34E	642073	3584138

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: CP 01963 **Subbasin:** CP **Cross Reference:** -

Primary Purpose: MON MONITORING WELL

Primary Status: PMT PERMIT

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

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

Agent: DEVON ENERGY

Contact: DALE WOODALL

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	745230	EXPL	2023-03-30	PMT	PRC	CP-1963 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 01963 POD1	NA		4	3	4	17	22S	34E	642073	3584138	TW-1

U.S. Fish and Wildlife Service

National Wetlands Inventory

Intermittent 5,291 feet

November 8, 2023

Wetlands

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

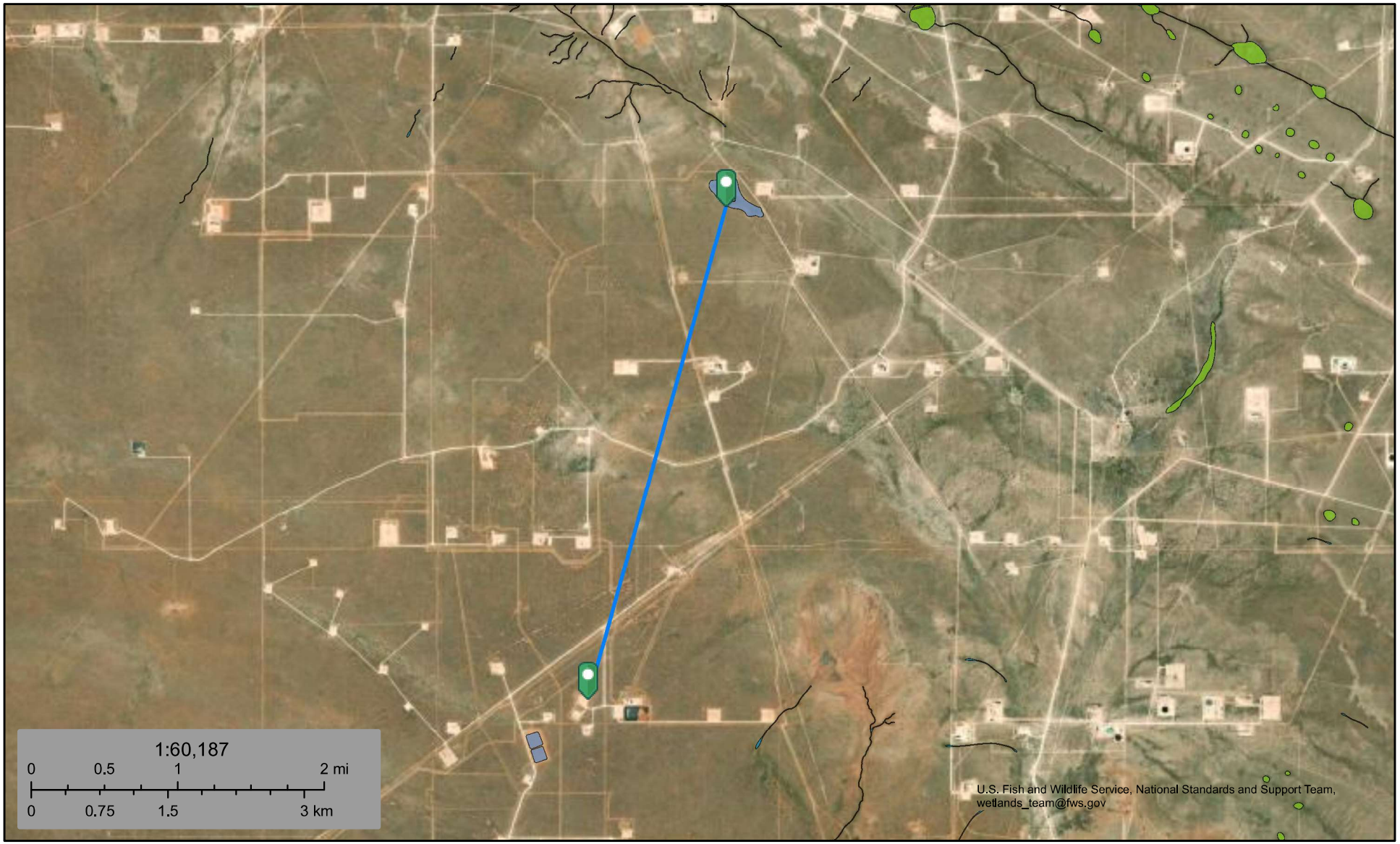
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

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

U.S. Fish and Wildlife Service

National Wetlands Inventory

Pond 15,522 feet



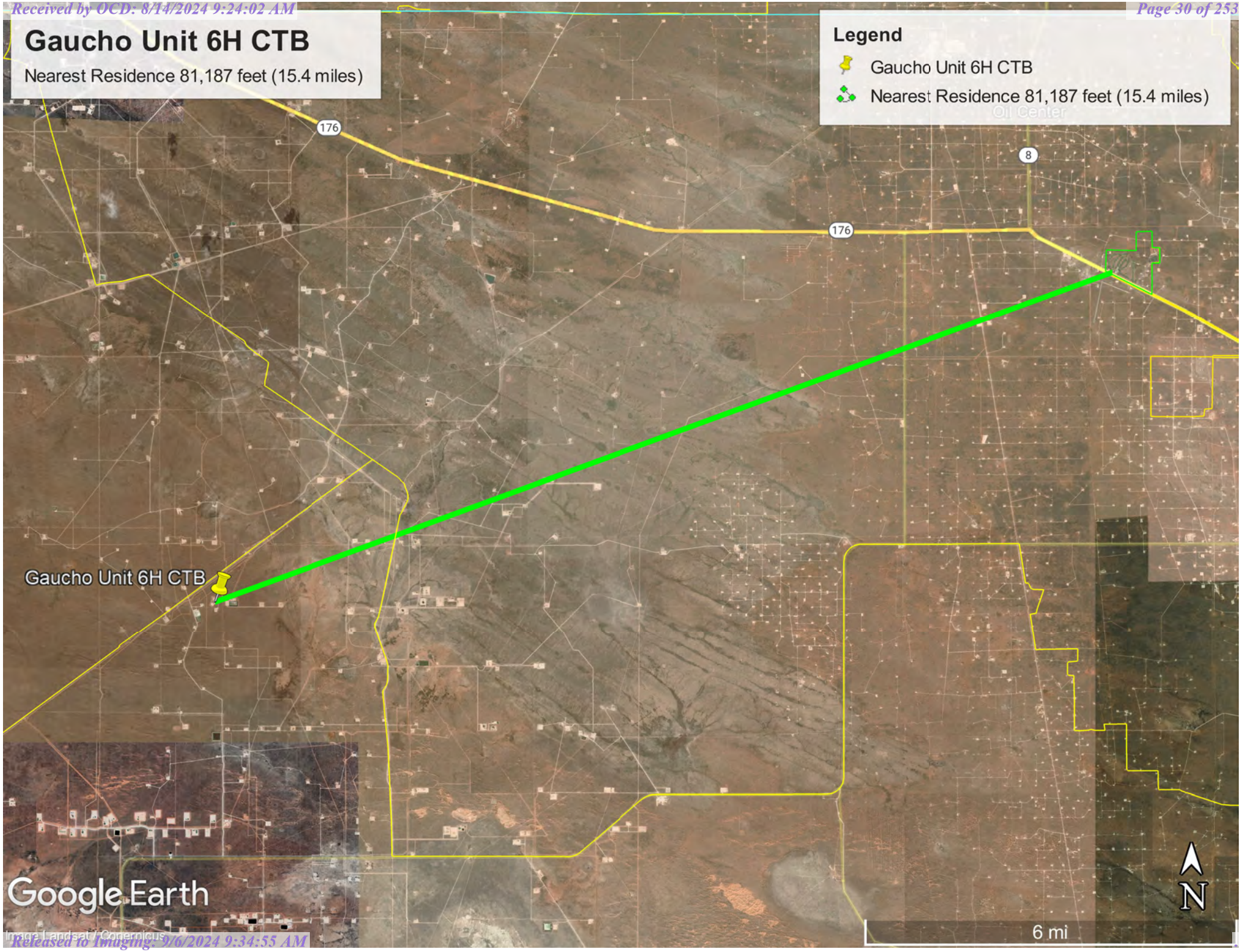
November 8, 2023

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.

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


Gaucho Unit 6H CTB
Nearest Residence 81,187 feet (15.4 miles)
Legend
Gaucho Unit 6H CTB
Nearest Residence 81,187 feet (15.4 miles)
176
8
Gaucho Unit 6H CTB
Google Earth
Image Landsat / Copernicus
6 mi
N

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	Twn	Rng	X	Y
	CP 00865 POD1	2	2	3	20	22S	34E	641845	3583118

Driller License: 421 **Driller Company:** GLENN'S WATER WELL SERVICE

Driller Name: GLENN, CLARK A."CORKY" (LD)

Drill Start Date:	08/22/1997	**Drill Finish Date:**	08/29/1997	**Plug Date:**	
Log File Date:	09/04/1997	**PCW Rcv Date:**	10/18/2013	**Source:**	Shallow
Pump Type:	SUBMER	**Pipe Discharge Size:**	2.875	**Estimated Yield:**	50 GPM
Casing Size:	6.63	**Depth Well:**	885 feet	**Depth Water:**	605 feet

Water Bearing Stratifications:	Top	Bottom	Description
	738	870	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	734	885

Meter Number:	800	**Meter Make:**	SEAMETRICS
Meter Serial Number:	062018004760	**Meter Multiplier:**	1.0000
Number of Dials:	9	**Meter Type:**	Diversion
Unit of Measure:	Barrels 42 gal.	**Return Flow Percent:**	
Usage Multiplier:		**Reading Frequency:**	Quarterly

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
08/27/1999	1999	12170	A	fm		0	
09/27/1999	1999	18665	A	fm		1.993	
07/10/2000	2000	23573	A	mb	Initial reading Trn# 184947	0	
09/01/2000	2000	792	A	mb	Initial reading Trn# 189706	0	
10/09/2000	2000	3703	A	mb	Final reading Trn# 189706	0.893	
11/02/2000	2000	33323	A	mb	Final reading Trn# 184947	2.992	
07/23/2001	2001	35004	A	jw		9.606	
08/14/2001	2001	35550	A	jw		0.168	
09/16/2003	2004	44365	A	RPT		0	
02/13/2004	2004	54105	A	RPT		2.989	
05/28/2013	2013	301812	A	RPT	Initial reading	0	
10/07/2013	2013	494174	A	RPT		24.794	
11/11/2013	2013	627789	A	RPT		17.222	
01/01/2014	2014	775387	A	ap		1902.439	
04/01/2014	2014	1150295	A	ap		4832.312	
10/01/2014	2014	1395310	A	ap		3158.078	
01/01/2015	2015	2252908	A	ap		11053.861	
03/31/2015	2015	2496573	A	ap		3140.678	
06/01/2015	2015	2602349	A	ap		1363.381	
06/30/2015	2015	2632913	A	ap		393.949	

07/28/2015	2015	2657713	A	ap	319.655
08/31/2015	2015	2675935	A	ap	234.869
09/30/2015	2015	2685784	A	ap	126.947
10/30/2015	2015	2777793	A	ap	1185.934
11/30/2015	2015	2813732	A	ap	463.230
04/30/2016	2015	2902402	A	ap	1142.897
06/01/2016	2016	2949111	A	ap	602.048
07/30/2016	2016	3039470	A	ap	1164.667
09/01/2016	2016	3112223	A	ap	937.737
09/30/2016	2016	3233850	A	ap	1567.690
10/31/2016	2016	3310726	A	ap	990.880
12/01/2016	2016	3400370	A	ap	1155.451
12/31/2016	2016	3504124	A	ap	1337.319
02/01/2017	2017	3505049	A	ap	11.923
03/02/2017	2017	3549664	A	ap	575.057
03/31/2017	2017	3670149	A	ap	1552.971
05/01/2017	2017	3799022	A	ap	1661.086
05/31/2017	2017	3857500	A	ap	753.742
07/31/2017	2017	3902575	A	ap	580.986
10/31/2017	2017	4063882	A	ap	2079.139
11/30/2017	2017	4191565	A	ap	1645.748
12/30/2017	2017	4326964	A	ap	1745.202
01/30/2018	2018	4423832	A	ap	1248.563
02/28/2018	2018	4511456	A	ap	1129.414
03/30/2018	2018	4547266	A	ap	461.567
04/30/2018	2018	4658071	A	ap	1428.202
06/01/2018	2018	4766177	A	ap	1393.414
06/29/2018	2018	4790998	A	ap	319.926
07/31/2018	2018	4790998	A	ap	0
08/13/2018	2018	4791140	A	ap	1.830
08/13/2018	2018	0	A	ap	0
08/30/2018	2018	73947	A	ap	953.127
09/30/2018	2018	201617	A	ap	1645.580
11/30/2018	2018	443361	A	ap	3115.917

**YTD Meter Amounts:	Year	Amount
	1999	1.993
	2000	3.885
	2001	9.774
	2004	2.989
	2013	42.016
	2014	9892.829
	2015	19425.401
	2016	7755.792
	2017	10605.854
	2018	11697.540
	2019	0
	2020	0

Meter Number: 806 **Meter Make:** MASTER

Meter Serial Number: 1746627 **Meter Multiplier:** 100.0000
Number of Dials: 6 **Meter Type:** Diversion
Unit of Measure: Gallons **Return Flow Percent:**
Usage Multiplier: **Reading Frequency:**

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
01/01/1999	1999	12165	A	fm		0	
01/15/1999	1999	21665	A	fm		2.915	

**YTD Meter Amounts:	Year	Amount
	1999	2.915

Meter Number: 807 **Meter Make:** SEAMETRICS
Meter Serial Number: 10 200 191 **Meter Multiplier:** 1.0000
Number of Dials: 8 **Meter Type:** Diversion
Unit of Measure: Barrels 42 gal. **Return Flow Percent:**
Usage Multiplier: **Reading Frequency:** Monthly

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
11/14/1999	1999	19858	A	fm		0	
12/14/1999	1999	21411	A	fm		0.477	
01/02/2019	2018	556195	A	RPT		0	
02/01/2019	2019	604855	A	RPT		6.272	
08/01/2019	2019	949138	A	RPT		44.376	
09/01/2019	2019	1061141	A	RPT		14.436	
09/30/2019	2019	1161966	A	RPT		12.996	
10/31/2019	2019	1259879	A	RPT		12.620	
11/30/2019	2019	1325382	A	RPT		8.443	
12/31/2019	2019	1325382	A	RPT		0	
02/01/2020	2020	1369756	A	RPT		5.720	
03/01/2020	2020	1488098	A	RPT		15.253	
04/01/2020	2020	1488098	A	RPT		0	
05/01/2020	2020	1488098	A	RPT		0	
06/01/2020	2020	1488098	A	RPT		0	
08/01/2020	2020	0	A	RPT		0	
08/01/2020	2020	1488098	A	RPT		0	
09/01/2020	2020	154	A	RPT		0.020	
10/01/2020	2020	154	A	RPT		0	
11/01/2020	2020	26213	A	WEB		3.359	X
12/01/2020	2020	144137	A	WEB		15.200	X
01/01/2021	2020	168842	A	WEB		3.184	X
01/31/2021	2021	204704	A	ad		0	
02/24/2021	2021	250418	A	ad		5.892	
02/24/2021	2021	0	A	ad		0	
02/28/2021	2021	479	A	ad		0.062	
03/31/2021	2021	77494	A	ad		9.927	
04/30/2021	2021	151907	A	ad		9.591	
05/31/2021	2021	260155	A	ad		13.952	

06/30/2021	2021	350984	A	ad	11.707	
07/31/2021	2021	390794	A	ad	5.131	
08/31/2021	2021	465926	A	ad	9.684	
09/30/2021	2021	584055	A	ad	15.226	
10/31/2021	2021	664994	A	ad	10.432	
11/30/2021	2021	756770	A	ad	11.829	
12/21/2021	2021	835364	A	ad	10.130	
01/31/2022	2022	933170	A	ad	12.607	
02/28/2022	2022	933713	A	ad	0.070	
03/31/2022	2022	933713	A	ad	0	
04/30/2022	2022	1158640	A	ad	28.992	
06/01/2022	2022	1158640	A	ad	0	
07/02/2022	2022	1158640	A	ad	0	
08/01/2022	2022	1448406	A	ad	37.349	
09/01/2022	2022	1448406	A	ad	0	
10/01/2022	2022	1458546	A	WEB	1.307	X
11/01/2022	2022	1615601	A	WEB	20.243	X
12/01/2022	2022	1615601	A	WEB	0	X
01/01/2023	2022	1705850	A	WEB	11.632	X
02/01/2023	2023	1705853	A	WEB	0	X
03/01/2023	2023	1778742	A	WEB	9.395	X
04/01/2023	2023	1811954	A	WEB	4.281	X
05/01/2023	2023	1811957	A	WEB	0	X
06/01/2023	2023	1906561	A	WEB	12.194	X
07/01/2023	2023	1954212	A	WEB	6.142	X
08/01/2023	2023	1959853	A	WEB	0.727	X
09/01/2023	2023	2097256	A	WEB	17.710	X
10/01/2023	2023	2097256	A	WEB	0	X

**YTD Meter Amounts:	Year	Amount
	1999	0.477
	2018	0
	2019	99.143
	2020	42.736
	2021	113.563
	2022	112.200
	2023	50.449

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: CP 00865 **Subbasin:** CP **Cross Reference:** -

Primary Purpose: COM COMMERCIAL

Primary Status: PMT PERMIT

Total Acres: 0 **Subfile:** - **Header:** -

Total Diversion: 100 **Cause/Case:** -

Owner: MERCHANT LIVESTOCK CO

Contact: CORKY GLENNS WATER WELL SERVICE

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	540290	APPRO	2013-05-08	PMT	MTR	CP-865	T	0	100	100
get images	476449	72121	2007-01-26	EXP	EXP	CP 00865	T		1	
get images	476438	COWNF	2005-06-16	CHG	PRC	CP 00865	T		0	
get images	476397	72121	2005-04-19	EXP	EXP	CP 00865	T		3	
get images	476395	72121	2004-04-27	EXP	EXP	CP 00865	T		3	
get images	476393	72121	2003-09-18	EXP	EXP	CP 00865	T		3	
get images	476392	72121	2001-07-25	EXP	EXP	CP 00865	T		3	
get images	476388	72121	2000-09-01	EXP	EXP	CP 00865	T		3	
get images	476387	72121	2000-07-10	EXP	EXP	CP 00865	T		3	
get images	476386	72121	1999-12-15	EXP	EXP	CP 00865	T		3	
get images	476369	72121	1999-09-27	EXP	EXP	CP 00865	T		3	
get images	476368	72121	1999-01-15	EXP	EXP	CP 00865	T		3	
get images	476360	72121	1998-11-05	EXP	EXP	CP 00865	T		3	
get images	476357	72121	1998-10-09	EXP	EXP	CP 00865	T		3	
get images	476356	72121	1998-08-07	EXP	EXP	CP 00865	T		3	
get images	476354	72121	1998-07-13	EXP	EXP	CP 00865	T		3	
get images	476353	72121	1997-08-11	PMT	LOG	CP 00865	T		3	

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 00865 POD1		Shallow	2	2	3	20	22S	34E	641845	3583118	

Priority Summary

Priority	Status	Acres	Diversion	Pod Number	
08/28/2012	PMT	0	100	CP 00865 POD1	Shallow

Place of Use

Q 256	Q 64	Q16	Q4	Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
							0	100	100	COM		PMT	NO PLACE OF USE GIVEN

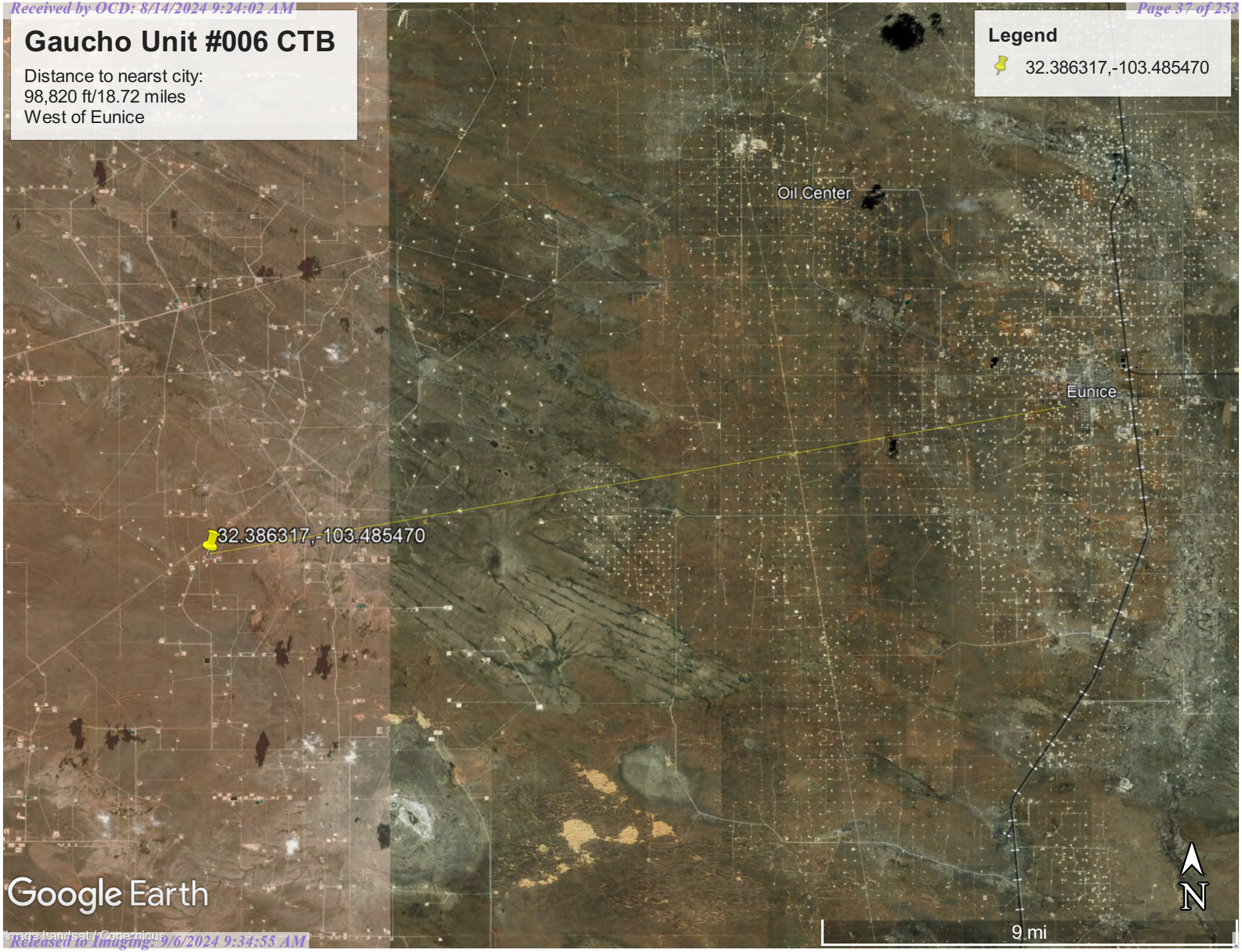
Source

Acres	Diversion	CU	Use	Priority	Source	Description
0	100	100	COM		GW	

11/7/23 1:14 PM WATER RIGHT SUMMARY

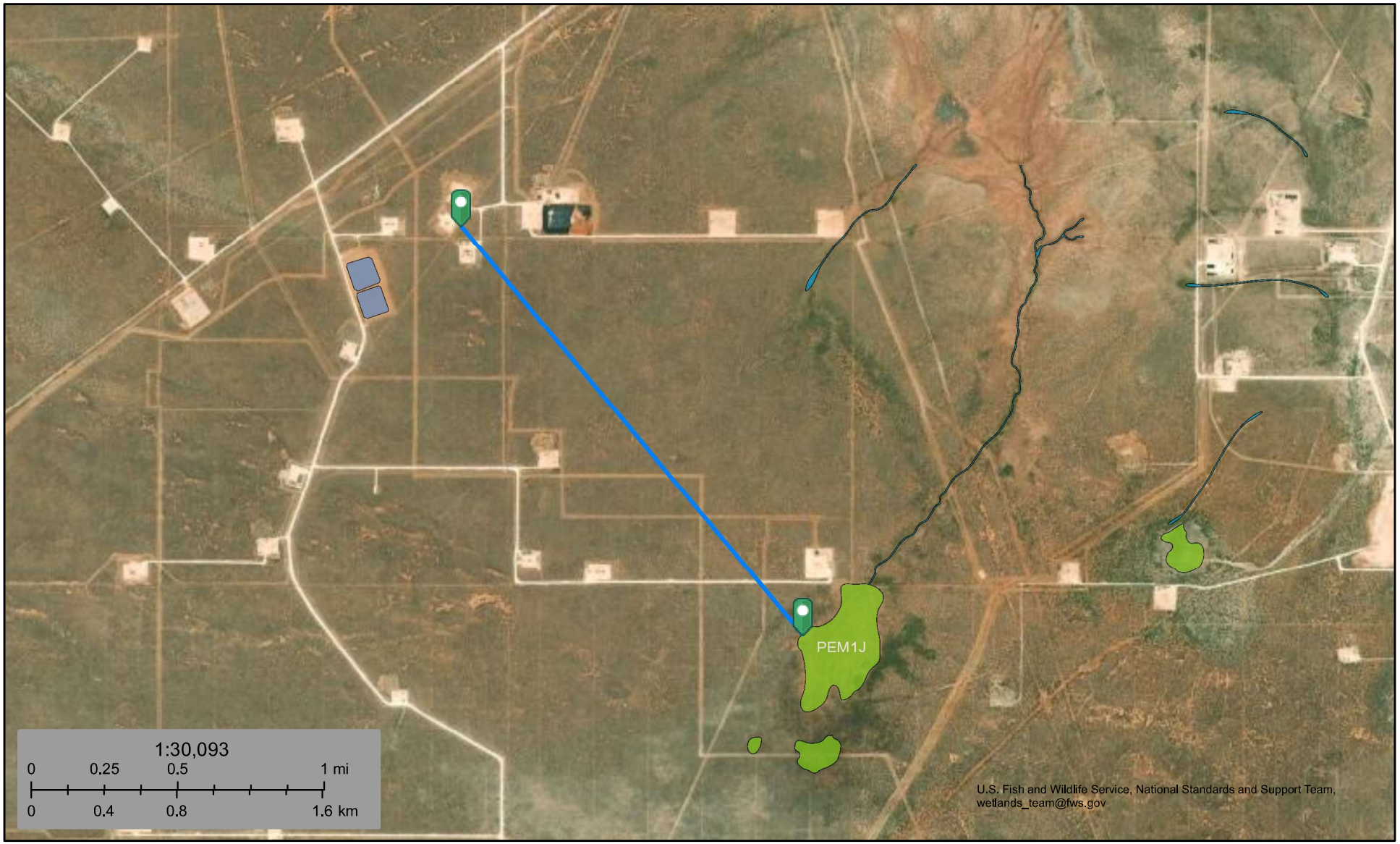
Gaucho Unit #006 CTB

Distance to nearst city:
98,820 ft/18.72 miles
West of Eunice



U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetland 8,092 feet



November 8, 2023

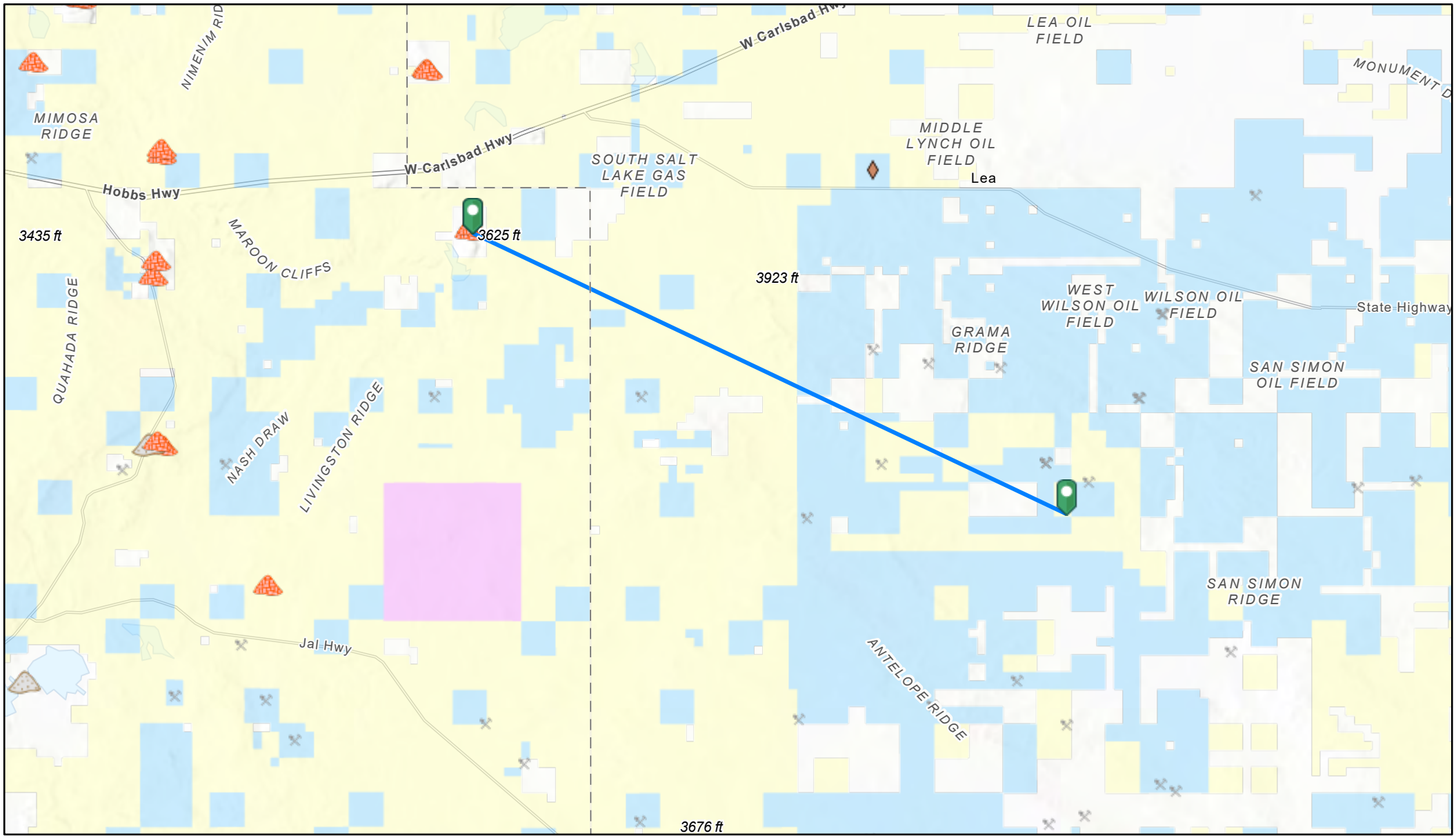
Wetlands

- 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.

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

Nearest Subsurface Mine: 19 miles away (100,688')



2/21/2024, 11:21:25 AM

1:288,895

0 2 4 8 mi

0 3.25 6.5 13 km

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

Registered Mines

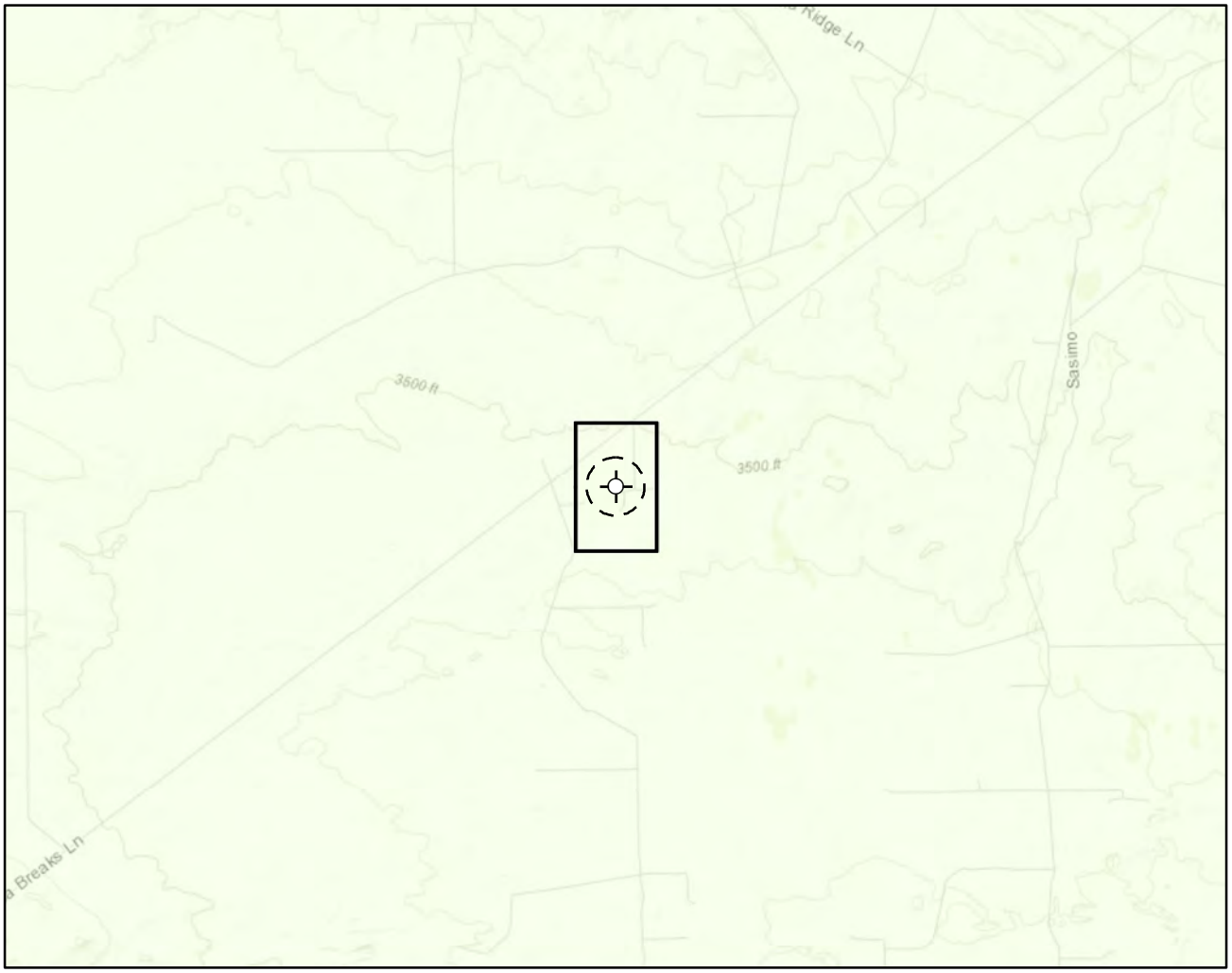
- Aggregate, Stone etc.
- Aggregate, Stone etc.
- Aggregate, Stone etc.
- Industrial Minerals (Other)
- Potash
- Salt

Land Ownership

- BLM
- DOE
- P
- S

EMNRD MMD GIS Coordinator

NM 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: 32.386319, -103.485653

NAD 1983 UTM Zone 13N
Date: Apr 12/22

N

Karst Potential Schematic
Gaucho Unit 6H CTB

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.

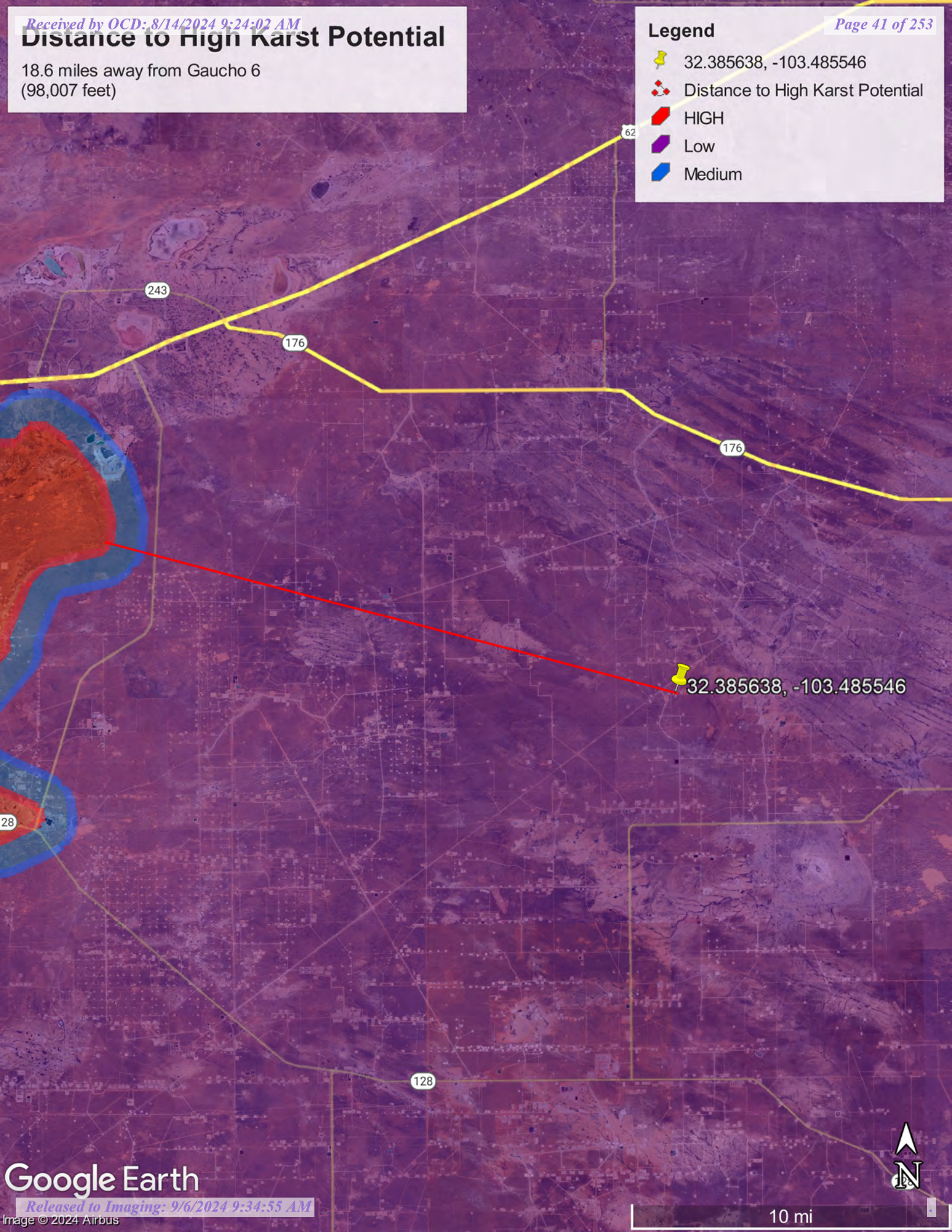
Note: Inset Map, ESRI 2021; Overview Map: ESRI World Topographic. Karst potential data sourced from Rosswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\2022\22E-01101 - Gaucho Unit 6H CTB\GIS\Figure X Karst Potential Schematic Gaucho Unit 6H CTB (22E-01101).mxd

Distance to High Karst Potential

18.6 miles away from Gaucho 6
(98,007 feet)



National Flood Hazard Layer FIRMette

FEMA

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*
- 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*

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

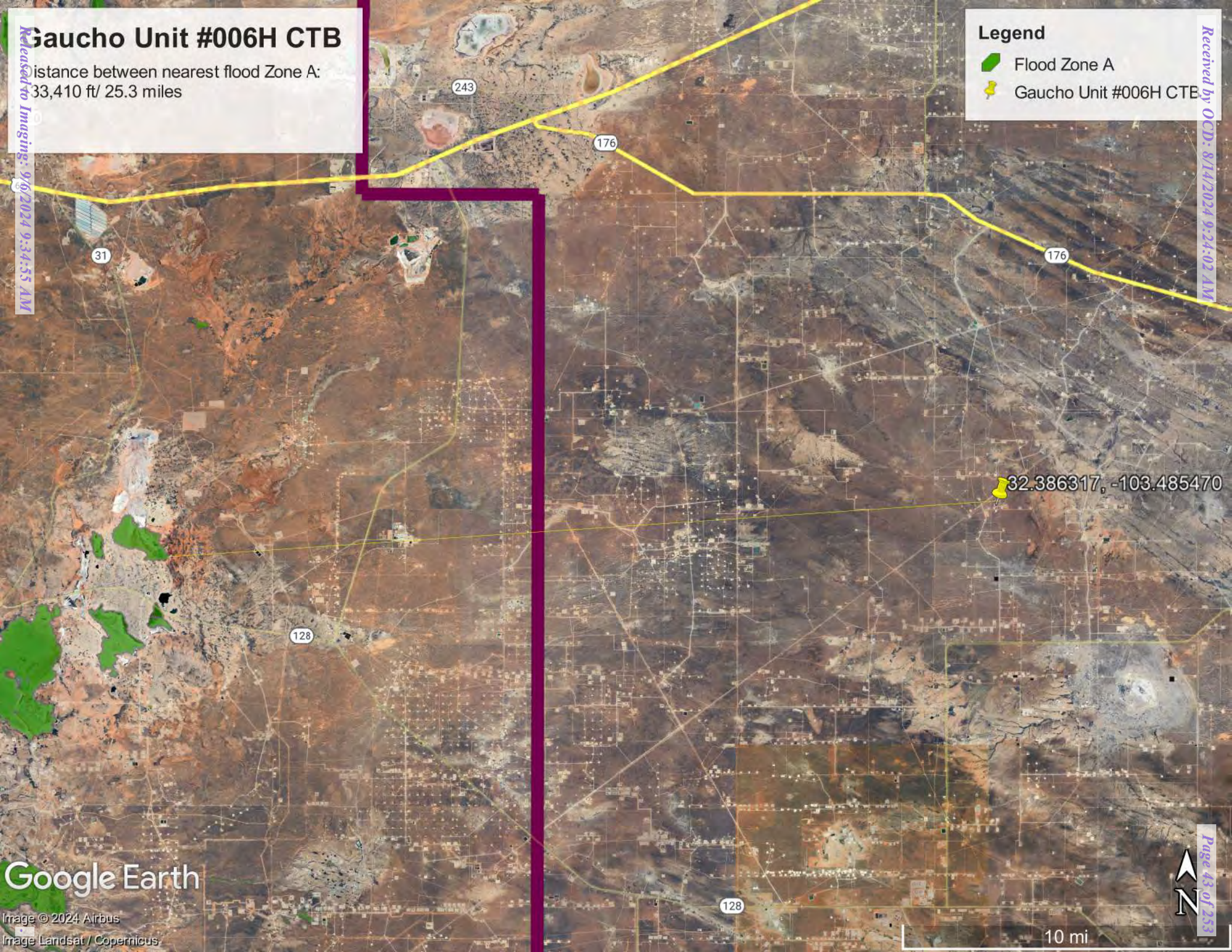
N

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 11/7/2023 at 8:30 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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



United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Lea County, New Mexico

November 7, 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

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 Scale: 1:1,820 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 20, Sep 6, 2023

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
KM	Kermit soils and Dune land, 0 to 12 percent slopes	14.8	88.7%
PU	Pyote and Maljamar fine sands	1.9	11.3%
Totals for Area of Interest		**16.7**	**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.

Lea County, New Mexico

KM—Kermit soils and Dune land, 0 to 12 percent slopes

Map Unit Setting

National map unit symbol: dmpx
Elevation: 3,000 to 4,400 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Kermit and similar soils: 46 percent
Dune land: 44 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kermit

Setting

Landform: Dunes
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex
Parent material: Calcareous sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 8 inches: fine sand
C - 8 to 60 inches: fine sand

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 3 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R070BC022NM - Sandhills
Hydric soil rating: No

Description of Dune Land

Setting

Landform: Dunes
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex
Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 6 inches: fine sand
C - 6 to 60 inches: fine sand

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Palomas

Percent of map unit: 3 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Pyote

Percent of map unit: 3 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Wink

Percent of map unit: 2 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Maljamar

Percent of map unit: 2 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

PU—Pyote and Maljamar fine sands

Map Unit Setting

National map unit symbol: dmqq
Elevation: 3,000 to 3,900 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days

Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Pyote

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Description of Maljamar

Setting

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

Typical profile

A - 0 to 24 inches: fine sand
Bt - 24 to 50 inches: sandy clay loam
Bkm - 50 to 60 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 40 to 60 inches to petrocalcic
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Kermit

Percent of map unit: 10 percent
Ecological site: R070BC022NM - Sandhills
Hydric soil rating: No

USDA Natural Resources Conservation Service

Ecological site R070BC022NM
Sandhills

Accessed: 11/08/2023

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.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on plains. The soils are calcareous sandy eolian deposits derived from sedimentary rock. Land form of sand dunes or hillslopes. Slopes average 5 to 35 percent. Slopes are complex as the steeper slopes are shorter in length while the more gentle slopes are longer in length. Direction of slopes vary and is usually not significant. Elevations range from 2,842 to 4,500 feet.

Table 2. Representative physiographic features

Landforms	(1) Plain (2) Hill (3) Dune
Flooding frequency	None
Ponding frequency	None
Elevation	2,842–4,500 ft
Slope	5–35%
Aspect	Aspect is not a significant factor

Climatic features

The climate of the area is “semi-arid continental”. 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 180 to 220 days. The last killing frost is in late March or early April, and the first killing frost is in late 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. Because of the texture of this soil, most rainfall is effective. Strong winds blow from the west and southwest from January through June which accelerates soil drying at a time 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)	220 days
Freeze-free period (average)	240 days
Precipitation total (average)	13 in

Influencing water features

This site is not influenced by wetlands or streams.

Soil features

The soils of this site are deep and very deep. Surface textures are fine sand or loamy fine sand. Subsoilis a fine sand or loamy fine sand to a depth of 60 inches or more. These soils have less than 10 percent clay content. These soils are subject to severe wind erosion if vegetative cover is not adequate.

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

Characteristic Soils Are:
Kermit
Aguena

Table 4. Representative soil features

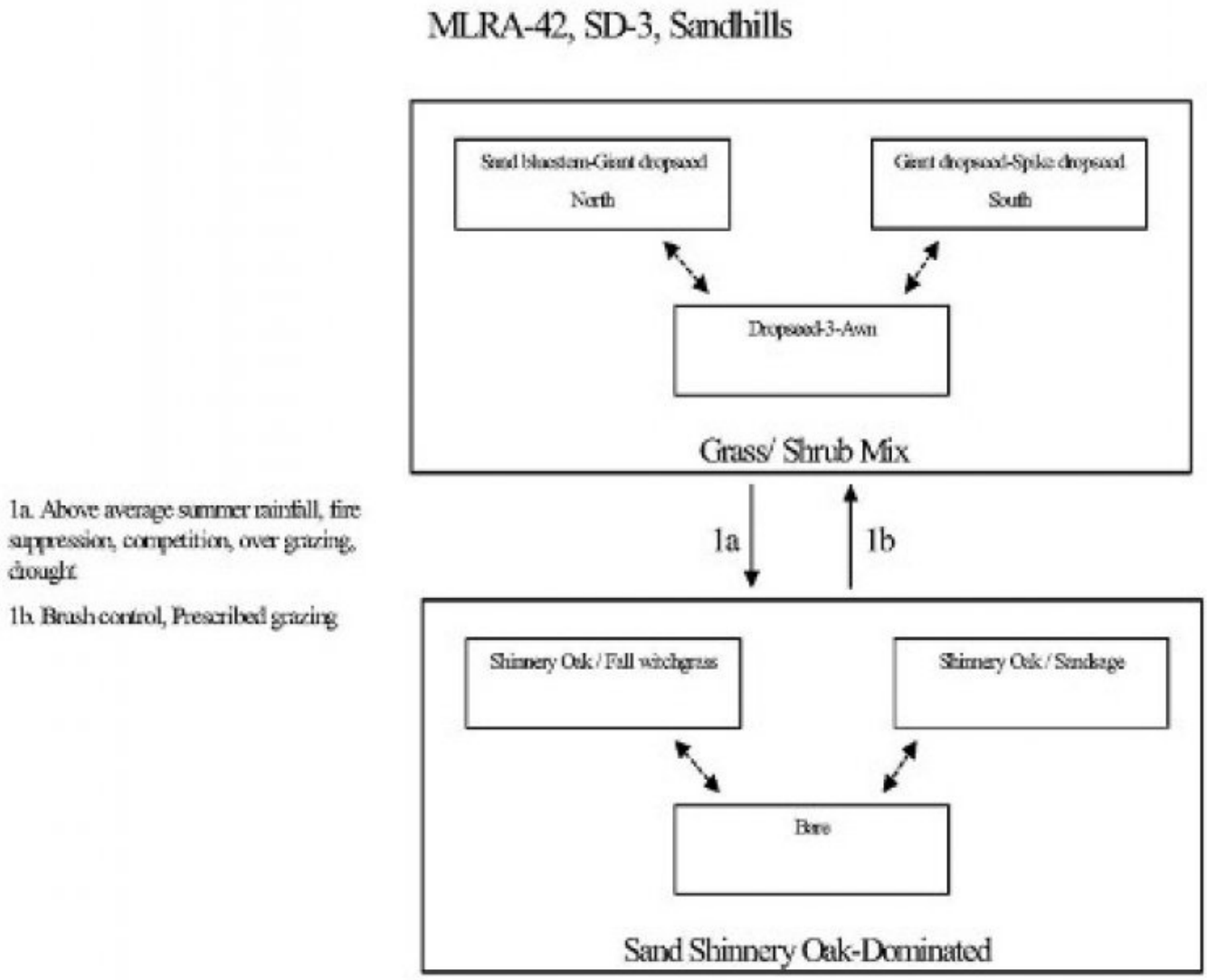
Surface texture	(1) Fine sand (2) Loamy fine sand (3) Loamy sand
Family particle size	(1) Sandy
Drainage class	Well drained to excessively drained
Permeability class	Rapid to very rapid
Soil depth	60–72 in
Surface fragment cover <=3"	0–5%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	3–9 in
Calcium carbonate equivalent (0-40in)	0–7%
Electrical conductivity (0-40in)	0–2 mmhos/cm
Sodium adsorption ratio (0-40in)	0–1
Soil reaction (1:1 water) (0-40in)	7.4–8.4
Subsurface fragment volume <=3" (Depth not specified)	0–5%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

Overview:
The Sandhills site occurs adjacent to or intergrades with the Deep Sand site. The Sandhills site is differentiated from deep sand sites by a steeper average slope, and an increased depth to a soil texture change. Sandhills slopes are usually greater than eight percent, and the soil profile is a fine sand or loamy fine sand to a depth greater than 60 inches. Deep Sand sites have slopes less than eight percent and a textural change can occur at less than 60 inches. The historic plant community of the Sandhills site is a mixture of grasses, shrubs and forbs, with tall grasses dominating in aspect. During years of abundant spring moisture, tall growing forbs occasionally reach aspect dominance. Sand bluestem and giant dropseed are the dominant grasses, with Havard panicum and dropseeds as sub-dominants. Sand shinnery oak and soapweed yucca are the dominant shrubs. Drought favors shinnery by impacting grasses more severly. Shinnery oak's ability to store water and carbohydrates, and its strong negetive leaf water potential enable it to out compete grasses during drought conditions. Changes in historical fire regimes, competition by shrubs, and overgrazing may contribute to this site becoming dominated by sand shinnery oak.

State and transition model

Plant Communities and Transitional Pathways (diagram)



State 1
Grass/Shrub Mix

Community 1.1
Grass/Shrub Mix

Grass/Shrub Mix: The historic plant community in the northern part of the resource area (SD-3) is dominated by sand bluestem and giant dropseed, with Havard panicum as a sub-dominant. Primary grass dominance may gradually shift moving south across the resource area to a community dominated by giant dropseed and spike dropseed, with mesa dropseed as the sub-dominant grass species. Throughout the resource area sand shinnery oak and soapweed yucca are the dominant shrubs with sand sagebrush as the sub-dominant. As retrogression within this state occurs, plants such as sand bluestem, giant dropseed, Havard panicum, plains bristlegrass, sand paspalum, and fourwing saltbush decrease. This results in an increase in spike dropseed, sand dropseed, mesa dropseed, threeawns sand shinnery oak, and sand sagebrush. Continued loss of grass cover may result in a transition to a sand shinnery oak dominated state. Diagnosis: Sand bluestem or giant dropseed are dominant or present in substantial amounts. Spike dropseed, sand dropseed or mesa dropseed may be dominant in some instances. Grass cover is variable, shifting sands and large irregular dunes produce considerable variation in the spatial distribution and composition of the plant community. Grass cover is not continuous, but is fairly uniform across the more stable areas. Large natural bare areas or blowouts are a common feature on the less stable portions of the Sandhills site.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	360	585	810
Shrub/Vine	120	195	270
Forb	120	195	270
Total	**600**	**975**	**1350**

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	10-15%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	20-25%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	45-60%

Figure 5. Plant community growth curve (percent production by month). NM2822, R042XC022NM Sandhills HCPC. R042XC022NM Sandhills HCPC warm season plant community.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	1	3	4	10	10	25	30	12	5	0	0

State 2
Sand Shinnery Oak-Dominated

Community 2.1
Sand Shinnery Oak-Dominated

Additional States: Sand Shinnery Oak -Dominated: Sand shinnery oak is the dominant species and in dense stands may reduce forage production by as much as 90 percent.1 It often forms a mosaic of dense thickets interspersed with occasional motts of taller oaks, large areas of bare ground, and concentrations of sand sagebrush. Sand shinnery oak is well suited to deep sandy soils. The height and cover of oak decreases as sand depth decreases or clay content increases. The aggressive nature of fall witchgrass and continued loss of more palatable grasses and threeawn species may result in a sand shinnery oak-fall witchgrass community. Burning may result in a community with very little grass or sand shinnery oak (bare). Sand shinnery oak usually recovers due to its ability to sprout aggressively following fire. Diagnosis: Sand shinnery oak is the dominant species. Grass cover is sparse and patchy. Shrub cover is high. Blowouts and bare areas are common, however, high shrub cover mediates erosion. Transition to Sand Shinnery Oak Dominated (1a): Climate may play a role in facilitating the spread sand shinnery oak. It is best adapted to those areas that receive and average of 16 inches of annual rainfall; it may therefore gain a competitive advantage during cycles of above average precipitation. Sand shinnery oak spreads mainly by elongation of rhizomes, but in some instances will reproduce by seed. The establishment and survival of seedlings is limited to those years with abundant rainfall during the months of July and August. If fire historically played a part in suppressing the density and distribution of shrubs in desert grasslands, then fire suppression may facilitate a shift to shrub dominance.2 Competition for resources between grasses and shrubs may be a factor in increased densities of sand shinnery oak. 1 Sand shinnery oak has an extensive system of underground roots and stems that can uptake and store water for growth during drier periods, allowing it to increase, at times when grasses decrease. Evidence of competitive suppression of grasses is indicated by increases in herbaceous vegetation following chemical control of sand shinnery oak.1 However, this increase may in part be due to a flush of nutrients made available from the decomposing biomass of woody roots and stems. Loss of grass cover due to overgrazing or drought may give a competitive advantage to sand shinnery oak. Key indicators of approach to transition: * A decrease in the tall grass species and the associated increase in threeawns may be indicative of the initial stage of transition to a shrub-dominated state. * Increased cover of sand shinnery oak. Transition back to Grass/Shrub Mix (1b) Chemical brush control is an effective means of controlling sand shinnery oak and sand sagebrush. Where large areas of chemical control are planned, increased erosion and the effect on loss of wildlife habitat should be considered. Prescribed grazing will help ensure an adequate deferment period to allow grass recovery and subsequent proper forage utilization. There have been studies that suggest long term browsing by goats can reduce sand shinnery oak, altering production in favor of grasses.3

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				195–293	
	sand bluestem	ANHA	*Andropogon hallii*	195–293	–
	Havard's panicgrass	PAHA2	*Panicum havardii*	195–293	–
	giant dropseed	SPGI	*Sporobolus giganteus*	195–293	–
2				146–195	
	spike dropseed	SPCO4	*Sporobolus contractus*	146–195	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	146–195	–
	mesa dropseed	SPFL2	*Sporobolus flexuosus*	146–195	–
3				49–98	
	thin paspalum	PASE5	*Paspalum setaceum*	49–98	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	49–98	–
4				29–49	

4				29–49	
	threeawn	ARIST	*Aristida*	29–49	–
	mat sandbur	CELO3	*Cenchrus longispinus*	29–49	–
	flatsedge	CYPER	*Cyperus*	29–49	–
5				29–49	
	Grass, perennial	2GP	*Grass, perennial*	29–49	–
Shrub/Vine					
6				49–98	
	Havard oak	QUHA3	*Quercus havardii*	49–98	–
7				49–98	
	soapweed yucca	YUGL	*Yucca glauca*	49–98	–
8				29–49	
	sand sagebrush	ARFI2	*Artemisia filifolia*	29–49	–
9				20–49	
	fourwing saltbush	ATCA2	*Atriplex canescens*	20–49	–
10				20–49	
	rabbitbrush	CHRYS9	*Chrysothamnus*	20–49	–
11				20–49	
	Shrub (>.5m)	2SHRUB	*Shrub (>.5m)*	20–49	–
Forb					
12				20–49	
	featherplume	DAFO	*Dalea formosa*	20–49	–
13				29–49	
	sundrops	CALYL	*Calylophus*	29–49	–
	phlox heliotrope	HECO5	*Heliotropium convolvulaceum*	29–49	–
	sharpleaf penstemon	PEAC	*Penstemon acuminatus*	29–49	–
14				20–49	
	touristplant	DIWI2	*Dimorphocarpa wislizeni*	20–49	–
	lemon beebalm	MOCI	*Monarda citriodora*	20–49	–
16				29–49	
	hymenopappus	HYMEN4	*Hymenopappus*	29–49	–
	blazingstar	MENTZ	*Mentzelia*	29–49	–
	threadleaf ragwort	SEFLF	*Senecio flaccidus var. flaccidus*	29–49	–
17				20–49	
	sunflower	HELIA3	*Helianthus*	20–49	–
18				20–49	
	buckwheat	ERIOG	*Eriogonum*	20–49	–
19				20–49	
	Forb (herbaceous, not grass nor grass-like)	2FORB	*Forb (herbaceous, not grass nor grass-like)*	20–49	–

Animal community

This site provides habitat which support a resident animal community that is characterized by pronghorn antelope, black-tailed jackrabbit, Ord's kangaroo rat, Northern grasshopper mouse, Southern Plains woodrat, swift fox, roadrunner, meadowlark, lark bunting, ferruginous hawk, lesser prairie chicken, mourning dove, scaled quail, sand

dune lizard, marbled whiptail, ornate box turtle, bullsnake and Western diamondback rattlesnake. Grasshopper and vesper sparrows utilize the site during migration. The ferruginous hawk sometimes nests on dunes associated with the site. White-tailed deer are also sometimes associated with this site (Mescalero Sands). Where mesquite invades, resident species of birds such as white-necked raven, roadrunner, pyrrhuloxia, mourning dove, and Harris hawk nest. Where sand hummocks form around shrubs, rodent populations and their predators increase. Fourwing saltbush, shinnery oak, sand sagebrush, and mesquite provide protective cover for scaled quail. Seed, green herbage, and fruit from a variety of grasses, forbs, and shrubs provide food for a number of birds and mammals, including mourning dove, scaled quail, lessor prairie chicken and antelope.

Hydrological functions

The runoff curve numbers are determined by field investigations using hydrolic cover conditions and hydrologic soil groups.

Hydrologic Interpretations
Soil Series------- Hydrologic Group
Kermit---------- A
Aguena---------- A

Recreational uses

This site offers recreation potential for hiking, horseback riding, nature observation and photography. This site also offers opportunities for hunting of such species as quail, dove and antelope.

Mechanical, off-road vehicle use by dune buggies, four wheelers, or motor bikes is site-destructive, resulting in severe soil movement by wind erosion. Off-road vehicle use should be confined to those areas which are already deterioriated and where intensive management for soil protection can be practiced.

During years of abundant spring moisture, this site desplays a colorful array of wildflowers during May and June. A few showy summer and fall flowers also occur.

Wood products

The plant community associated with this site affords little or no wood products.

Other products

This site is suitable for grazing during all seasons of the year by all kinds and classes of livestock. Where shinnery oak has increased considerably above the amount in the potential plant community cattle loss can occur if grazed during the late bud and early leaf stage. This site responds well to an integrated brush management and grazing management. Brush management is inappropriate in occupied or potential habitat for sand dune lizard. Mismannagement of this site will cause a decrease in Harvard panicum, sand bluestem, giant dropseed, plains bristlegrass, sand paspalum and fourwing saltbush. There will be a corresponding increase in dropseeds, sand sagebrush and shinnery oak. When shinnery oak is not a problem, this site responds best to a system of mangement that rotates the season of use. Grazing management plans should be design to leave adequate residual cover for lesser prairie chicken nesting.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month
Similarity Index----- Ac/AUM
100 - 76---------- 2.0 – 4.0
75 – 51---------- 3.0 – 6.5
50 – 26---------- 5.0 – 12.0
25 – 0---------- 12.0 - +

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 (SD-3) Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: South Chaves, Eddy, Lea and Otero Counties.

Other references

Literature Cited:

1. Sears, W.E., C.M. Britton, D.B. Wester, and R.D. Pettit. 1986. Herbicide conversion of a sand shinnery oak (Quercus havardii) community: effects on biomass. J. Range. Manage. 39: 399-403.

2. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (2002, September). Fire Effects Information System, [Online]. Available: http://www.fs.fed.us/database/feis/ [accessed 1/07/02].

3.Villena, F. and J.A. Pfister. 1990. Sand shinnery oak as forage for Angora and Spanish goats. J. Range. Manage. 43: 116-122.

Contributors

David Trujillo
Don Sylvester

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):**

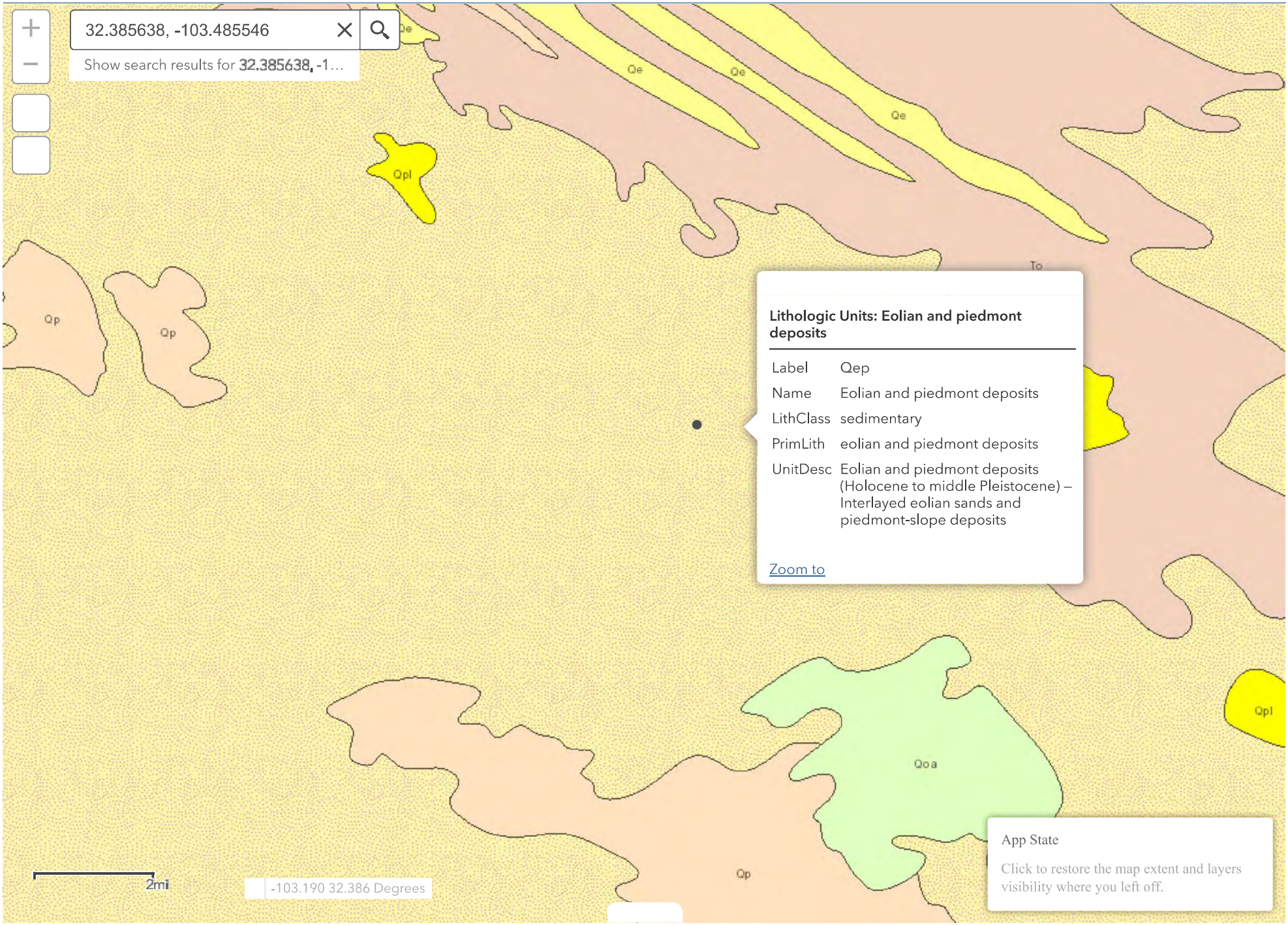
15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

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:**

NMBGMR Interactive Resources Map



APPENDIX B – Daily Field and Sampling Reports

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	12/9/2020
Site Location Name:	Gaucho Unit 006	Report Run Date:	12/13/2020 7:00 PM
Client Contact Name:	Amanda Davis	API #:	30-025-34789
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Gaucho Unit 006	Project Owner:	Tom Bynum
Project Reference #	Liner Inspection 08-12-2018 Release	Project Manager:	Nataile Gordon

Summary of Times

Arrived at Site	12/9/2020 3:30 PM
Departed Site	12/9/2020 5:30 PM

Field Notes

15:56 Area where spill occurred shows no signs of staining. Start delineation horizontally to determine edges of release of any.

Next Steps & Recommendations

1 Move on to confirmation sampling

Daily Site Visit Report

Site Photos

Viewing Direction: North

Area of release

Viewing Direction: West

Area of potential release

Viewing Direction: South

Area of potential release

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	12/16/2020
Site Location Name:	Gaucho Unit 006	Report Run Date:	12/16/2020 11:48 PM
Client Contact Name:	Amanda Davis	API #:	30-025-34789
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Gaucho Unit 006	Project Owner:	Tom Bynum
Project Reference #	Liner Inspection 08-12-2018 Release	Project Manager:	Nataile Gordon

Summary of Times

Arrived at Site	12/16/2020 8:42 AM
Departed Site	12/16/2020 2:31 PM

Field Notes

8:43 Arrived on site and filled out safety paperwork.

Next Steps & Recommendations

1 Send samples to lab.

Daily Site Visit Report

Site Photos

Viewing Direction: North

Confirmation samples.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: John Ramirez

Signature:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	11/3/2023
Site Location Name:	Gaucho Unit 006H	Report Run Date:	11/3/2023 10:49 PM
Client Contact Name:	Dale Woodall	API #:	30-025-34789
Client Contact Phone #:	405-318-4697		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	11/3/2023 8:55 AM
Departed Site	11/3/2023 3:30 PM

Field Notes

9:55 Arrived on site, sign safety paperwork at tailgate meeting

14:56 Obtained BH23-54 at 8 and 10’ for the off pad release. In addition, BH23-60 to 67 at 0 and 2’ were obtained from the NE release on pad.

15:03 All samples were field-screened for Cl- and TPH. BH23-54 is under the restricted closure criteria only for 10’ while for BH23-60 to 67 only BH23-66 was above the restricted closure criteria about 900 Cl- ppm. TPH results shows values above 100 for BH23-62 at 2’ and for BH23-64 at 0 and 2’.

15:03 All samples were jarred and submitted to lab

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North

Facing south. BH23-54 samples at 6, 8, and 10 ft bgs

Viewing Direction: South

Facing North. BH23-60 at 0 and 2 ft bgs

Viewing Direction: North

Facing south. BH23-61 at 0 and 2 ft bgs

Viewing Direction: Southeast

Facing northwest. BH23-62 at 0 and 2 ft bgs

Daily Site Visit Report

Viewing Direction: Northeast	**Viewing Direction**: North
	
Facing southwest. BH23-63 at 0 and 2 ft bgs	Facing south. BH23-64 at 0 and 2 ft bgs
Viewing Direction: Northeast	**Viewing Direction**: Northeast
	
Facing southwest. BH23-65 at 0 and 2 ft bgs	Facing southwest. BH23-66 at 0 and 2 ft bgs

Daily Site Visit Report

Viewing Direction: South

Facing north. BH23-67 at 0 and 2 ft bgs

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Alexis Castro

Signature: 
Signature

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	11/4/2023
Site Location Name:	Gaucho Unit 006H	Report Run Date:	11/4/2023 6:18 PM
Client Contact Name:	Dale Woodall	API #:	30-025-34789
Client Contact Phone #:	405-318-4697		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	11/4/2023 8:20 AM
Departed Site	11/4/2023 12:30 PM

Field Notes

8:36 Arrive on site, fill out safety paperwork, sign

12:03 Vertically deliniated BH23-62 and BH23-64 down to 4 ft bgs

12:05 Complete horizontal deliniation. Step out from BH23-64 and BH23-66 5 ft. Vertically deliniated BH23-68 and BH23-69 to 0 and 2 ft bgs

12:05 Field screened all samples for VOC's, chlorides, and TPH. All samples came back clean for all criteria.

12:05 Jar all samples and submit to lab

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: South

Facing north. Encompasses 2019 spill area where borehole deliniation work is taking place

Viewing Direction: East

Facing west. BH23-62 vertically delineated to 4 ft bgs

Viewing Direction: North

Facing south. BH23-64 deliniated to 4 ft bgs

Viewing Direction: North

Facing south. Stepped out ~5 ft from BH23-64. BH23-68 at 0 and 2 ft bgs

Daily Site Visit Report

Viewing Direction: Southeast

Facing northwest. Stepped out 5 ft from BH23-66. BH23-69 at 0 and 2 ft bgs

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Alexis Castro

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/27/2024
Site Location Name:	Gaucho Unit 006H	Report Run Date:	4/27/2024 10:25 PM
Client Contact Name:	Shawn McCormick	API #:	30-025-34789
Client Contact Phone #:	575-513-9171		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	4/27/2024 9:11 AM
Departed Site	4/27/2024 2:38 PM

Field Notes

13:52 Completed safety paperwork and initial line locate upon arrival to site. On site to continue delineation and collect further characterization samples of release near the northeast portion of pad

13:52 Collected BH24-70 through BH24-75 at 0', and 2' on northeast portion of pad.

13:54 Screened all samples for TPH and CL. All samples passed field screening criteria.

13:55 All samples were jarred in accordance to chain of custody protocol for lab testing.

Next Steps & Recommendations

1 Send samples in for laboratory analysis

Daily Site Visit Report

Site Photos

Viewing Direction: South	**Viewing Direction**: South
	
Sample area	BH24-70 at 0’ and 2’ depth - Dug in an approximate location where BS20-04 was sampled

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: Southwest
	
BH24-71 at 0’ and 2’ depth - Dug in an approximate location where BS20-03 was sampled	BH24-72 at 0’ and 2’ depth - Dug in an approximate location where BS20-08 was sampled
Viewing Direction: South	**Viewing Direction**: West
	
BH24-73 at 0’ and 2’ depth	BH24-74 at 0’ and 2’ depth

Daily Site Visit Report

Viewing Direction: West

BH24-72 at 0’ and 2’ depth - Dug in an approximate location where BS20-17 and BS20 -18 was sampled

Viewing Direction: North

Overview of sampled area of northwest corner of the pad

Viewing Direction: North

FSF

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Andrew Ludvik

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	5/17/2024
Site Location Name:	Gaucho Unit 006H	Report Run Date:	5/18/2024 2:40 AM
Client Contact Name:	Dale Woodall	API #:	30-025-34789
Client Contact Phone #:	405-318-4697		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/17/2024 7:20 AM
Departed Site	5/17/2024 5:35 PM

Field Notes

9:06 Completed JSA on arrival. On site to collect confirmation base samples from historical excavation to 0.5 feet bgs.

9:07 Swept sampling areas with magnetic locator prior to ground disturbance. Conducted safety meeting with other technician.

20:13 Historical excavation occurred in December 2020 and was backfilled the same month. The excavation depth was 0.5 feet and covered 4,888 square feet. Only 18 confirmation samples were collected during the first sampling event in December 2020. Additional samples were required to meet minimum confirmation requirements with respect to square footage.

20:17 Confirmation samples at 0.5 feet bgs were collected by advancing 5 boreholes to 0.5 feet bgs and collecting 5-point confirmation samples from the bases of each group of 5 boreholes.

20:21 Collected excavation base confirmation re-samples of BS20-03, BS20-07, BS20-08, BS20-17, and BS20-18 originally collected in December 2020.

20:22 Collected additional base excavation confirmation samples BS24-19 through BS24-25 to meet square footage requirements for confirmation sampling.

Next Steps & Recommendations

1

Daily Site Visit Report

Daily Site Visit Report

Site Photos

Viewing Direction: Northeast

Southwest of pump jack facing northeast.

Viewing Direction: Southeast

Northwest corner of historical excavation to 0.5 feet bgs facing east-southeast.

Viewing Direction: South

Northeast corner of historical excavation to 0.5 feet bgs facing south.

Viewing Direction: West

Southeast corner of historical excavation to 0.5 feet bgs facing west.

Daily Site Visit Report

Viewing Direction: Northwest	**Viewing Direction**: Southwest
	
Southwest corner of historical excavation to 0.5 feet bgs facing northwest.	Northeast of wellhead facing southwest. Advanced 5 boreholes to re-collect BS20-03.
Viewing Direction: South	**Viewing Direction**: North
	
North-northeast of wellhead facing south. Advanced 5 boreholes to re-collect BS20-07.	Northeast of wellhead facing north. Advanced 5 boreholes to re-collect BS20-08.

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: Southwest
	
North of wellhead facing east. Advanced 5 boreholes to collect BS24-22.	East-northeast of wellhead facing southwest. Advanced 5 boreholes to re-collect BS20-17.
Viewing Direction: Northwest	**Viewing Direction**: Northeast
	
East-northeast of wellhead facing northwest. Advanced 5 boreholes to re-collect BS20-18.	Northeast of wellhead facing northeast. Advanced 5 boreholes to collect BS24-23.

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: South
	
East of wellhead facing north. Advanced 5 boreholes to collect BS24-24.	Northeast of wellhead facing south. Advanced 5 boreholes to collect BS24-25.
Viewing Direction: West	**Viewing Direction**: Southwest
	
Northeast of wellhead facing west. Advanced 5 boreholes to collect BS24-19.	Northeast of wellhead facing southwest. Advanced 5 boreholes to collect BS24-20.

Daily Site Visit Report

Viewing Direction: East

Northeast of wellhead facing east. Advanced 5 boreholes to collect BS24-21.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Lakin Pullman

Signature: 

APPENDIX C – Notifications

From: Dhugal Hanton
To: Enviro, OCD, EMNRD; CFO_Spill, BLM_NM; Amos, James A; Kelsey
Cc: tom.bynum@dvn.com; Lupe.Carrasco@dvn.com; amanda.davis@dvn.com; wesley.mathews@dvn.com
Subject: [EXT] NDHR1913430561: Gaucho Unit 6H CTB - 48-hr Notification of Confirmatory Sampling
Date: Monday, December 14, 2020 4:29:47 PM

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled confirmatory sampling to be conducted at Gaucho Unit #006 for the produced water release that occurred on February 10, 2019, incident tracking #NDHR1913430561.

This work will be completed on behalf of Devon Energy Production Company.

On Wednesday, December 16, 2020 at approximately 12:00 p.m., John Ramirez will be onsite to conduct confirmatory sampling. He can be reached at 575-725-1809. If you need directions to the site, please do not hesitate to contact him. If you have any questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,
Natalie

Natalie Gordon
Project Manager

Vertex Resource Group Ltd.
213 S. Mesa Street
Carlsbad, NM 88220

P 575.725.5001 ext 709
C 505.506.0040
F

www.vertex.ca

OCD Permitting

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

Submission Information

Submission ID:	343929	**Districts:**	Hobbs
Operator:	[6137] DEVON ENERGY PRODUCTION COMPANY, LP	**Counties:**	Lea
Description:	DEVON ENERGY PRODUCTION COMPANY, LP [6137] , GAUCHO UNIT 6H CTB , nDHR1913430561		
Status:	APPROVED		
Status Date:	05/13/2024		
References (2):	fDHR1913430264, nDHR1913430561		

Forms

This application type does not have attachments.

Questions

Prerequisites

Incident ID (n#)	**nDHR1913430561**
Incident Name	**NDHR1913430561 GAUCHO UNIT 6H CTB @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Initial C-141 Approved**
Incident Facility	**[fDHR1913430264] GAUCHO UNIT 6H CTB**

Location of Release Source

Site Name	**GAUCHO UNIT 6H CTB**
Date Release Discovered	**02/10/2019**
Surface Owner	**Federal**

Sampling Event General Information

Please answer all the questions in this group.

What is the sampling surface area in square feet	2,400
What is the estimated number of samples that will be gathered	12
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	05/17/2024
Time sampling will commence	08:00 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	Larkin Pullman 701-495-1722
Please provide any information necessary for navigation to sampling site	32.386317 -103.485471 From Loving, New Mexico: Head north on 285 for approximately 2.3 Miles Sharp Righ NM-31 for approximately 7.7 Miles Turn Right, proceed East on NM-128 for approximately 32.1 Miles Turn Lef

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

Comments

No comments found for this submission.

Conditions

Summary: *wdale (5/13/2024),* 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.

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APPENDIX D – Laboratory Data Reports and Chain of Custody Forms

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

November 17, 2023

Kent Stallings

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

RE: Gaucho Unit 6H OrderNo.: 2311281

Dear Kent Stallings:

Eurofins Environment Testing South Central, LLC received 18 sample(s) on 11/7/2023 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-54 8'
Project: Gaucho Unit 6H
Collection Date: 11/3/2023 10:10:00 AM
Lab ID: 2311281-001 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/13/2023 2:40:55 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/13/2023 2:40:55 PM
Surr: DNOP	95.7	69-147		%Rec	1	11/13/2023 2:40:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/12/2023 2:39:26 AM
Surr: BFB	89.1	15-244		%Rec	1	11/12/2023 2:39:26 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	11/12/2023 2:39:26 AM
Toluene	ND	0.049		mg/Kg	1	11/12/2023 2:39:26 AM
Ethylbenzene	ND	0.049		mg/Kg	1	11/12/2023 2:39:26 AM
Xylenes, Total	ND	0.099		mg/Kg	1	11/12/2023 2:39:26 AM
Surr: 4-Bromofluorobenzene	92.6	39.1-146		%Rec	1	11/12/2023 2:39:26 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	1300	60		mg/Kg	20	11/13/2023 1:53:04 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-54 10'
Project: Gaucho Unit 6H
Collection Date: 11/3/2023 10:15:00 AM
Lab ID: 2311281-002 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/13/2023 3:22:56 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/13/2023 3:22:56 PM
Surr: DNOP	95.9	69-147		%Rec	1	11/13/2023 3:22:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/12/2023 3:02:41 AM
Surr: BFB	87.3	15-244		%Rec	1	11/12/2023 3:02:41 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	11/12/2023 3:02:41 AM
Toluene	ND	0.048		mg/Kg	1	11/12/2023 3:02:41 AM
Ethylbenzene	ND	0.048		mg/Kg	1	11/12/2023 3:02:41 AM
Xylenes, Total	ND	0.096		mg/Kg	1	11/12/2023 3:02:41 AM
Surr: 4-Bromofluorobenzene	90.0	39.1-146		%Rec	1	11/12/2023 3:02:41 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	500	60		mg/Kg	20	11/13/2023 2:05:29 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-60 0'
Project: Gaucho Unit 6H **Collection Date:** 11/3/2023 10:00:00 AM
Lab ID: 2311281-003 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/13/2023 3:33:35 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/13/2023 3:33:35 PM
Surr: DNOP	89.7	69-147		%Rec	1	11/13/2023 3:33:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/12/2023 3:25:57 AM
Surr: BFB	89.0	15-244		%Rec	1	11/12/2023 3:25:57 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	11/12/2023 3:25:57 AM
Toluene	ND	0.046		mg/Kg	1	11/12/2023 3:25:57 AM
Ethylbenzene	ND	0.046		mg/Kg	1	11/12/2023 3:25:57 AM
Xylenes, Total	ND	0.092		mg/Kg	1	11/12/2023 3:25:57 AM
Surr: 4-Bromofluorobenzene	91.8	39.1-146		%Rec	1	11/12/2023 3:25:57 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	61		mg/Kg	20	11/13/2023 2:17:53 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-60 2'
Project: Gaucho Unit 6H **Collection Date:** 11/3/2023 10:03:00 AM
Lab ID: 2311281-004 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	11/13/2023 3:44:13 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/13/2023 3:44:13 PM
Surr: DNOP	89.0	69-147		%Rec	1	11/13/2023 3:44:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/12/2023 3:49:12 AM
Surr: BFB	88.5	15-244		%Rec	1	11/12/2023 3:49:12 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	11/12/2023 3:49:12 AM
Toluene	ND	0.047		mg/Kg	1	11/12/2023 3:49:12 AM
Ethylbenzene	ND	0.047		mg/Kg	1	11/12/2023 3:49:12 AM
Xylenes, Total	ND	0.093		mg/Kg	1	11/12/2023 3:49:12 AM
Surr: 4-Bromofluorobenzene	92.4	39.1-146		%Rec	1	11/12/2023 3:49:12 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	59		mg/Kg	20	11/13/2023 2:30:18 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-61 0'
Project: Gaucho Unit 6H
Collection Date: 11/3/2023 10:12:00 AM
Lab ID: 2311281-005 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/13/2023 3:54:51 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/13/2023 3:54:51 PM
Surr: DNOP	85.9	69-147		%Rec	1	11/13/2023 3:54:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/12/2023 5:45:13 AM
Surr: BFB	89.0	15-244		%Rec	1	11/12/2023 5:45:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	11/12/2023 5:45:13 AM
Toluene	ND	0.049		mg/Kg	1	11/12/2023 5:45:13 AM
Ethylbenzene	ND	0.049		mg/Kg	1	11/12/2023 5:45:13 AM
Xylenes, Total	ND	0.098		mg/Kg	1	11/12/2023 5:45:13 AM
Surr: 4-Bromofluorobenzene	93.8	39.1-146		%Rec	1	11/12/2023 5:45:13 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	250	60		mg/Kg	20	11/13/2023 2:42:42 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-61 2'
Project: Gaucho Unit 6H
Collection Date: 11/3/2023 10:16:00 AM
Lab ID: 2311281-006 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/13/2023 4:05:28 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/13/2023 4:05:28 PM
Surr: DNOP	83.6	69-147		%Rec	1	11/13/2023 4:05:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/12/2023 6:08:24 AM
Surr: BFB	88.0	15-244		%Rec	1	11/12/2023 6:08:24 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	11/12/2023 6:08:24 AM
Toluene	ND	0.049		mg/Kg	1	11/12/2023 6:08:24 AM
Ethylbenzene	ND	0.049		mg/Kg	1	11/12/2023 6:08:24 AM
Xylenes, Total	ND	0.098		mg/Kg	1	11/12/2023 6:08:24 AM
Surr: 4-Bromofluorobenzene	92.3	39.1-146		%Rec	1	11/12/2023 6:08:24 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	240	60		mg/Kg	20	11/13/2023 2:55:06 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-62 0'
Project: Gaucho Unit 6H **Collection Date:** 11/3/2023 10:26:00 AM
Lab ID: 2311281-007 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/13/2023 4:16:03 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/13/2023 4:16:03 PM
Surr: DNOP	90.6	69-147		%Rec	1	11/13/2023 4:16:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/12/2023 6:31:34 AM
Surr: BFB	89.0	15-244		%Rec	1	11/12/2023 6:31:34 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	11/12/2023 6:31:34 AM
Toluene	ND	0.048		mg/Kg	1	11/12/2023 6:31:34 AM
Ethylbenzene	ND	0.048		mg/Kg	1	11/12/2023 6:31:34 AM
Xylenes, Total	ND	0.096		mg/Kg	1	11/12/2023 6:31:34 AM
Surr: 4-Bromofluorobenzene	92.9	39.1-146		%Rec	1	11/12/2023 6:31:34 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	11/13/2023 3:32:20 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-62 2'
Project: Gaucho Unit 6H
Collection Date: 11/3/2023 10:30:00 AM
Lab ID: 2311281-008 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	11/13/2023 4:26:38 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	11/13/2023 4:26:38 PM
Surr: DNOP	86.6	69-147		%Rec	1	11/13/2023 4:26:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/12/2023 6:54:45 AM
Surr: BFB	88.7	15-244		%Rec	1	11/12/2023 6:54:45 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	11/12/2023 6:54:45 AM
Toluene	ND	0.047		mg/Kg	1	11/12/2023 6:54:45 AM
Ethylbenzene	ND	0.047		mg/Kg	1	11/12/2023 6:54:45 AM
Xylenes, Total	ND	0.095		mg/Kg	1	11/12/2023 6:54:45 AM
Surr: 4-Bromofluorobenzene	93.0	39.1-146		%Rec	1	11/12/2023 6:54:45 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	11/13/2023 3:44:45 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-63 0'
Project: Gaucho Unit 6H
Collection Date: 11/3/2023 10:44:00 AM
Lab ID: 2311281-009 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/13/2023 4:48:56 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/13/2023 4:48:56 PM
Surr: DNOP	87.1	69-147		%Rec	1	11/13/2023 4:48:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/12/2023 7:17:56 AM
Surr: BFB	86.8	15-244		%Rec	1	11/12/2023 7:17:56 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	11/12/2023 7:17:56 AM
Toluene	ND	0.048		mg/Kg	1	11/12/2023 7:17:56 AM
Ethylbenzene	ND	0.048		mg/Kg	1	11/12/2023 7:17:56 AM
Xylenes, Total	ND	0.096		mg/Kg	1	11/12/2023 7:17:56 AM
Surr: 4-Bromofluorobenzene	90.7	39.1-146		%Rec	1	11/12/2023 7:17:56 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	79	60		mg/Kg	20	11/13/2023 3:57:10 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-63 2'
Project: Gaucho Unit 6H **Collection Date:** 11/3/2023 10:47:00 AM
Lab ID: 2311281-010 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/13/2023 4:59:36 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/13/2023 4:59:36 PM
Surr: DNOP	85.8	69-147		%Rec	1	11/13/2023 4:59:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/12/2023 7:41:09 AM
Surr: BFB	87.3	15-244		%Rec	1	11/12/2023 7:41:09 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	11/12/2023 7:41:09 AM
Toluene	ND	0.048		mg/Kg	1	11/12/2023 7:41:09 AM
Ethylbenzene	ND	0.048		mg/Kg	1	11/12/2023 7:41:09 AM
Xylenes, Total	ND	0.097		mg/Kg	1	11/12/2023 7:41:09 AM
Surr: 4-Bromofluorobenzene	92.1	39.1-146		%Rec	1	11/12/2023 7:41:09 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	85	59		mg/Kg	20	11/13/2023 4:09:34 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-64 0'
Project: Gaucho Unit 6H **Collection Date:** 11/3/2023 10:51:00 AM
Lab ID: 2311281-011 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/13/2023 5:23:57 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/13/2023 5:23:57 PM
Surr: DNOP	83.3	69-147		%Rec	1	11/13/2023 5:23:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/12/2023 8:27:34 AM
Surr: BFB	87.8	15-244		%Rec	1	11/12/2023 8:27:34 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	11/12/2023 8:27:34 AM
Toluene	ND	0.048		mg/Kg	1	11/12/2023 8:27:34 AM
Ethylbenzene	ND	0.048		mg/Kg	1	11/12/2023 8:27:34 AM
Xylenes, Total	ND	0.097		mg/Kg	1	11/12/2023 8:27:34 AM
Surr: 4-Bromofluorobenzene	91.5	39.1-146		%Rec	1	11/12/2023 8:27:34 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	89	61		mg/Kg	20	11/13/2023 4:21:58 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-64 2'
Project: Gaucho Unit 6H **Collection Date:** 11/3/2023 10:57:00 AM
Lab ID: 2311281-012 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/13/2023 5:34:36 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/13/2023 5:34:36 PM
Surr: DNOP	94.8	69-147		%Rec	1	11/13/2023 5:34:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/12/2023 8:50:46 AM
Surr: BFB	88.6	15-244		%Rec	1	11/12/2023 8:50:46 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	11/12/2023 8:50:46 AM
Toluene	ND	0.047		mg/Kg	1	11/12/2023 8:50:46 AM
Ethylbenzene	ND	0.047		mg/Kg	1	11/12/2023 8:50:46 AM
Xylenes, Total	ND	0.094		mg/Kg	1	11/12/2023 8:50:46 AM
Surr: 4-Bromofluorobenzene	91.9	39.1-146		%Rec	1	11/12/2023 8:50:46 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	11/13/2023 4:34:23 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-65 0'
Project: Gaucho Unit 6H **Collection Date:** 11/3/2023 11:12:00 AM
Lab ID: 2311281-013 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/13/2023 5:45:14 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/13/2023 5:45:14 PM
Surr: DNOP	101	69-147		%Rec	1	11/13/2023 5:45:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/12/2023 9:14:03 AM
Surr: BFB	88.7	15-244		%Rec	1	11/12/2023 9:14:03 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	11/12/2023 9:14:03 AM
Toluene	ND	0.050		mg/Kg	1	11/12/2023 9:14:03 AM
Ethylbenzene	ND	0.050		mg/Kg	1	11/12/2023 9:14:03 AM
Xylenes, Total	ND	0.10		mg/Kg	1	11/12/2023 9:14:03 AM
Surr: 4-Bromofluorobenzene	92.8	39.1-146		%Rec	1	11/12/2023 9:14:03 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	61		mg/Kg	20	11/13/2023 5:11:36 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-65 2'
Project: Gaucho Unit 6H **Collection Date:** 11/3/2023 11:17:00 AM
Lab ID: 2311281-014 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/13/2023 5:55:53 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/13/2023 5:55:53 PM
Surr: DNOP	90.7	69-147		%Rec	1	11/13/2023 5:55:53 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/12/2023 9:37:19 AM
Surr: BFB	89.5	15-244		%Rec	1	11/12/2023 9:37:19 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	11/12/2023 9:37:19 AM
Toluene	ND	0.046		mg/Kg	1	11/12/2023 9:37:19 AM
Ethylbenzene	ND	0.046		mg/Kg	1	11/12/2023 9:37:19 AM
Xylenes, Total	ND	0.093		mg/Kg	1	11/12/2023 9:37:19 AM
Surr: 4-Bromofluorobenzene	93.0	39.1-146		%Rec	1	11/12/2023 9:37:19 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	11/13/2023 5:24:01 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-66 0'
Project: Gaucho Unit 6H
Collection Date: 11/3/2023 11:23:00 AM
Lab ID: 2311281-015 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/13/2023 6:06:31 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/13/2023 6:06:31 PM
Surr: DNOP	90.6	69-147		%Rec	1	11/13/2023 6:06:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/14/2023 12:37:05 PM
Surr: BFB	95.4	15-244		%Rec	1	11/14/2023 12:37:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	11/14/2023 12:37:05 PM
Toluene	ND	0.049		mg/Kg	1	11/14/2023 12:37:05 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/14/2023 12:37:05 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/14/2023 12:37:05 PM
Surr: 4-Bromofluorobenzene	93.8	39.1-146		%Rec	1	11/14/2023 12:37:05 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	470	60		mg/Kg	20	11/13/2023 6:01:14 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-66 2'
Project: Gaucho Unit 6H
Collection Date: 11/3/2023 11:33:00 AM
Lab ID: 2311281-016 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/13/2023 6:17:08 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/13/2023 6:17:08 PM
Surr: DNOP	89.0	69-147		%Rec	1	11/13/2023 6:17:08 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/14/2023 1:00:26 PM
Surr: BFB	96.6	15-244		%Rec	1	11/14/2023 1:00:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	11/14/2023 1:00:26 PM
Toluene	ND	0.047		mg/Kg	1	11/14/2023 1:00:26 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/14/2023 1:00:26 PM
Xylenes, Total	ND	0.093		mg/Kg	1	11/14/2023 1:00:26 PM
Surr: 4-Bromofluorobenzene	94.0	39.1-146		%Rec	1	11/14/2023 1:00:26 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	11/13/2023 6:13:38 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 **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-67 0'
Project: Gaucho Unit 6H
Collection Date: 11/3/2023 11:53:00 AM
Lab ID: 2311281-017 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/13/2023 6:27:44 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/13/2023 6:27:44 PM
Surr: DNOP	83.4	69-147		%Rec	1	11/13/2023 6:27:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/14/2023 1:23:50 PM
Surr: BFB	92.4	15-244		%Rec	1	11/14/2023 1:23:50 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	11/14/2023 1:23:50 PM
Toluene	ND	0.048		mg/Kg	1	11/14/2023 1:23:50 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/14/2023 1:23:50 PM
Xylenes, Total	ND	0.095		mg/Kg	1	11/14/2023 1:23:50 PM
Surr: 4-Bromofluorobenzene	94.1	39.1-146		%Rec	1	11/14/2023 1:23:50 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	59		mg/Kg	20	11/13/2023 6:50:51 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2311281**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-67 2'
Project: Gaucho Unit 6H **Collection Date:** 11/3/2023 11:57:00 AM
Lab ID: 2311281-018 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	11/13/2023 6:38:19 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/13/2023 6:38:19 PM
Surr: DNOP	91.5	69-147		%Rec	1	11/13/2023 6:38:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/14/2023 1:47:23 PM
Surr: BFB	96.5	15-244		%Rec	1	11/14/2023 1:47:23 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	11/14/2023 1:47:23 PM
Toluene	ND	0.049		mg/Kg	1	11/14/2023 1:47:23 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/14/2023 1:47:23 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/14/2023 1:47:23 PM
Surr: 4-Bromofluorobenzene	94.7	39.1-146		%Rec	1	11/14/2023 1:47:23 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	11/13/2023 7:03:16 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.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311281**

17-Nov-23

Client: Vertex Resources Services, Inc.

Project: Gaucho Unit 6H

Sample ID: **MB-78743**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **78743**	RunNo: **101147**
Prep Date: **11/13/2023**	Analysis Date: **11/13/2023**	SeqNo: **3715881** Units: **mg/Kg**

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

Sample ID: **LCS-78743**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **78743**	RunNo: **101147**
Prep Date: **11/13/2023**	Analysis Date: **11/13/2023**	SeqNo: **3715882** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.3	90	110			

Sample ID: **MB-78744**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **78744**	RunNo: **101147**
Prep Date: **11/13/2023**	Analysis Date: **11/13/2023**	SeqNo: **3715883** Units: **mg/Kg**

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

Sample ID: **LCS-78744**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **78744**	RunNo: **101147**
Prep Date: **11/13/2023**	Analysis Date: **11/13/2023**	SeqNo: **3715884** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.9	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#: **2311281**

17-Nov-23

Client: Vertex Resources Services, Inc.

Project: Gaucho Unit 6H

Sample ID: **LCS-78707**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **78707**	RunNo: **101124**
Prep Date: **11/10/2023**	Analysis Date: **11/13/2023**	SeqNo: **3714787** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		89.0	69	147			

Sample ID: **LCS-78749**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **78749**	RunNo: **101124**
Prep Date: **11/13/2023**	Analysis Date: **11/13/2023**	SeqNo: **3714788** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	88.4	61.9	130			
Surr: DNOP	4.6		5.000		91.2	69	147			

Sample ID: **MB-78707**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **78707**	RunNo: **101124**
Prep Date: **11/10/2023**	Analysis Date: **11/13/2023**	SeqNo: **3714789** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.8		10.00		98.5	69	147			

Sample ID: **MB-78749**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **78749**	RunNo: **101124**
Prep Date: **11/13/2023**	Analysis Date: **11/13/2023**	SeqNo: **3714790** 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	8.7		10.00		87.3	69	147			

Sample ID: **2311281-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-54 8'**	Batch ID: **78749**	RunNo: **101124**
Prep Date: **11/13/2023**	Analysis Date: **11/13/2023**	SeqNo: **3715645** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.7	48.64	0	89.9	54.2	135			
Surr: DNOP	4.6		4.864		95.3	69	147			

Sample ID: **2311281-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-54 8'**	Batch ID: **78749**	RunNo: **101124**
Prep Date: **11/13/2023**	Analysis Date: **11/13/2023**	SeqNo: **3715646** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	9.4	47.17	0	76.8	54.2	135	18.7	29.2	

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#: **2311281**

17-Nov-23

Client: Vertex Resources Services, Inc.

Project: Gaucho Unit 6H

Sample ID: **2311281-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-54 8'**	Batch ID: **78749**	RunNo: **101124**
Prep Date: **11/13/2023**	Analysis Date: **11/13/2023**	SeqNo: **3715646** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		4.717		88.5	69	147	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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#: **2311281**

17-Nov-23

Client: Vertex Resources Services, Inc.

Project: Gaucho Unit 6H

Sample ID: **lcs-78714**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **78714**	RunNo: **101125**
Prep Date: **11/10/2023**	Analysis Date: **11/11/2023**	SeqNo: **3713950** 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	98.9	70	130			
Surr: BFB	2000		1000		199	15	244			

Sample ID: **lcs-78716**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **78716**	RunNo: **101125**
Prep Date: **11/10/2023**	Analysis Date: **11/12/2023**	SeqNo: **3713952** 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	89.7	70	130			
Surr: BFB	1900		1000		189	15	244			

Sample ID: **mb-78714**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **78714**	RunNo: **101125**
Prep Date: **11/10/2023**	Analysis Date: **11/11/2023**	SeqNo: **3713956** 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	940		1000		93.9	15	244			

Sample ID: **mb-78716**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **78716**	RunNo: **101125**
Prep Date: **11/10/2023**	Analysis Date: **11/12/2023**	SeqNo: **3713958** 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	880		1000		88.4	15	244			

Sample ID: **2311281-005ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-61 0'**	Batch ID: **78716**	RunNo: **101125**
Prep Date: **11/10/2023**	Analysis Date: **11/12/2023**	SeqNo: **3714049** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.9	24.44	0	101	70	130			
Surr: BFB	2000		977.5		202	15	244			

Sample ID: **2311281-005amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-61 0'**	Batch ID: **78716**	RunNo: **101125**
Prep Date: **11/10/2023**	Analysis Date: **11/12/2023**	SeqNo: **3714050** 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#: **2311281**

17-Nov-23

Client: Vertex Resources Services, Inc.

Project: Gaucho Unit 6H

Sample ID: **2311281-005amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-61 0'**	Batch ID: **78716**	RunNo: **101125**
Prep Date: **11/10/2023**	Analysis Date: **11/12/2023**	SeqNo: **3714050** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.44	0	96.0	70	130	5.31	20	
Surr: BFB	2000		977.5		201	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#: **2311281**

17-Nov-23

Client: Vertex Resources Services, Inc.

Project: Gaucho Unit 6H

Sample ID: **LCS-78714**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **78714**	RunNo: **101125**
Prep Date: **11/10/2023**	Analysis Date: **11/11/2023**	SeqNo: **3714081** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.2	70	130			
Toluene	0.97	0.050	1.000	0	96.6	70	130			
Ethylbenzene	0.98	0.050	1.000	0	97.9	70	130			
Xylenes, Total	3.0	0.10	3.000	0	98.4	70	130			
Surr: 4-Bromofluorobenzene	0.97		1.000		96.8	39.1	146			

Sample ID: **LCS-78716**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **78716**	RunNo: **101125**
Prep Date: **11/10/2023**	Analysis Date: **11/12/2023**	SeqNo: **3714082** 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	101	70	130			
Toluene	1.0	0.050	1.000	0	102	70	130			
Ethylbenzene	1.0	0.050	1.000	0	102	70	130			
Xylenes, Total	3.0	0.10	3.000	0	102	70	130			
Surr: 4-Bromofluorobenzene	0.94		1.000		93.7	39.1	146			

Sample ID: **mb-78714**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **78714**	RunNo: **101125**
Prep Date: **11/10/2023**	Analysis Date: **11/11/2023**	SeqNo: **3714084** 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		97.0	39.1	146			

Sample ID: **mb-78716**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **78716**	RunNo: **101125**
Prep Date: **11/10/2023**	Analysis Date: **11/12/2023**	SeqNo: **3714085** 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	0.94		1.000		93.8	39.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical 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#: **2311281**

17-Nov-23

Client: Vertex Resources Services, Inc.

Project: Gaucho Unit 6H

Sample ID: **2311281-006ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-61 2'**	Batch ID: **78716**	RunNo: **101125**
Prep Date: **11/10/2023**	Analysis Date: **11/12/2023**	SeqNo: **3714113** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9699	0	104	70	130			
Toluene	1.0	0.048	0.9699	0	106	70	130			
Ethylbenzene	1.0	0.048	0.9699	0	108	70	130			
Xylenes, Total	3.1	0.097	2.910	0	108	70	130			
Surr: 4-Bromofluorobenzene	0.94		0.9699		97.1	39.1	146			

Sample ID: **2311281-006amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-61 2'**	Batch ID: **78716**	RunNo: **101125**
Prep Date: **11/10/2023**	Analysis Date: **11/12/2023**	SeqNo: **3714114** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	0.9804	0	100	70	130	2.13	20	
Toluene	1.0	0.049	0.9804	0	103	70	130	1.35	20	
Ethylbenzene	1.0	0.049	0.9804	0	105	70	130	1.75	20	
Xylenes, Total	3.1	0.098	2.941	0	105	70	130	2.07	20	
Surr: 4-Bromofluorobenzene	0.96		0.9804		97.9	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

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

Sample Log-In Check List

Client Name: Vertex Resources | Work Order Number: 2311281 | RcptNo: 1

Received By: Juan Rojas 11/7/2023 7:25:00 AM

Completed By: Cheyenne Cason 11/7/2023 8:25:19 AM

Reviewed By: SCM 11/7/23

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: JM 11/7/23

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	0.5	Good	Not Present	Yogi		

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: Gaucho Unit 6H

Project #: 23E-05499

Project Manager: Kent Stalings

Sampler: Devavan Alexis

On Ice: ☒ Yes ☐ No

# of Coolers: 1 Yeti

Cooler Temp(including CF): 0.4+0.1=0.5 (°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. 2311281	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)
11.3.23	10:10	Soil	BH23-54 8'	4oz	Ice	001										
	10:15		BH23-54 10'			002										
	10:40		BH23-60 0'			003										
	10:03		BH23-60 2'			004										
	10:12		BH23-61 0'			005										
	10:16		BH23-61 2'			006										
	10:26		BH23-62 0'			007										
	10:30		BH23-62 2'			008										
	10:44		BH23-63 0'			009										
	10:47		BH23-63 2'			010										
	10:51		BH23-64 0'			011										
	10:57		BH23-64 2'			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
11.3.23	17:05	Devavan Castillo				
11/6/23	1900			courier	11/7/23	7:25

Remarks:
WO 2122677
please cc SMCcontcy@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: Gaucho Unit 6H

Project #: 23E-05499

Project Manager: Kent Stallings

Sampler: Ulleunsavan | Alexis
On Ice: ☒ Yes ☐ No
# of Coolers: 1 yoai
Cooler Temp (including CF): 0.4+0.1=0.5 (°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. 2311281	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)						
11-03-23	11:12	Soil	BH2365 0'	4oz	Ice	013	✓	✓					✓									
↓	11:17	↓	BH2365 2'	↓	↓	014	↓	↓					↓									
↓	11:23	↓	BH23-66 0'	↓	↓	015	↓	↓					↓									
↓	11:33	↓	BH23-66 2'	↓	↓	016	↓	↓					↓									
↓	11:53	↓	BH23-67 0'	↓	↓	017	↓	↓					↓									
↓	11:57	↓	BH23-67 2'	↓	↓	~~00~~ 018	↓	↓					↓									

Date	Time	Relinquished by	Received by	Via	Date	Time
11-03-23	17:05	Ulleunsavan Costafillo	[signature]		11/6/23	1015
11/6/23	1900	[signature]	[signature]	Courier	11/7/23	7:25

Remarks: w/o 21222677
please cc nmccarty@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

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

November 16, 2023

Kent Stallings

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

RE: Gaucho Unit 6H OrderNo.: 2311275

Dear Kent Stallings:

Eurofins Environment Testing South Central, LLC received 6 sample(s) on 11/7/2023 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 **2311275**
Date Reported: **11/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-62 4'
Project: Gaucho Unit 6H **Collection Date:** 11/4/2023 9:20:00 AM
Lab ID: 2311275-001 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/9/2023 4:44:19 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/9/2023 4:44:19 PM
Surr: DNOP	121	69-147		%Rec	1	11/9/2023 4:44:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/12/2023 4:37:00 AM
Surr: BFB	99.6	15-244		%Rec	1	11/12/2023 4:37:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	11/12/2023 4:37:00 AM
Toluene	ND	0.047		mg/Kg	1	11/12/2023 4:37:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	11/12/2023 4:37:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	11/12/2023 4:37:00 AM
Surr: 4-Bromofluorobenzene	96.1	39.1-146		%Rec	1	11/12/2023 4:37:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	11/9/2023 9:01:37 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 **2311275**
Date Reported: **11/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-64 4'
Project: Gaucho Unit 6H **Collection Date:** 11/4/2023 9:30:00 AM
Lab ID: 2311275-002 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/9/2023 5:08:20 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/9/2023 5:08:20 PM
Surr: DNOP	124	69-147		%Rec	1	11/9/2023 5:08:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/12/2023 4:58:00 AM
Surr: BFB	101	15-244		%Rec	1	11/12/2023 4:58:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	11/12/2023 4:58:00 AM
Toluene	ND	0.050		mg/Kg	1	11/12/2023 4:58:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	11/12/2023 4:58:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	11/12/2023 4:58:00 AM
Surr: 4-Bromofluorobenzene	95.4	39.1-146		%Rec	1	11/12/2023 4:58:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	11/9/2023 9:38:52 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 **2311275**
Date Reported: **11/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-68 0'
Project: Gaucho Unit 6H **Collection Date:** 11/4/2023 9:35:00 AM
Lab ID: 2311275-003 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	11/9/2023 5:32:18 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/9/2023 5:32:18 PM
Surr: DNOP	148	69-147	S	%Rec	1	11/9/2023 5:32:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/12/2023 5:41:00 AM
Surr: BFB	98.9	15-244		%Rec	1	11/12/2023 5:41:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	11/12/2023 5:41:00 AM
Toluene	ND	0.050		mg/Kg	1	11/12/2023 5:41:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	11/12/2023 5:41:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	11/12/2023 5:41:00 AM
Surr: 4-Bromofluorobenzene	94.9	39.1-146		%Rec	1	11/12/2023 5:41:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	11/9/2023 9:51:16 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 **2311275**
Date Reported: **11/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-68 2'
Project: Gaucho Unit 6H **Collection Date:** 11/4/2023 9:40:00 AM
Lab ID: 2311275-004 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/9/2023 5:56:11 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/9/2023 5:56:11 PM
Surr: DNOP	127	69-147		%Rec	1	11/9/2023 5:56:11 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/12/2023 6:03:00 AM
Surr: BFB	101	15-244		%Rec	1	11/12/2023 6:03:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	11/12/2023 6:03:00 AM
Toluene	ND	0.048		mg/Kg	1	11/12/2023 6:03:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	11/12/2023 6:03:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	11/12/2023 6:03:00 AM
Surr: 4-Bromofluorobenzene	94.5	39.1-146		%Rec	1	11/12/2023 6:03:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	11/9/2023 10:53:20 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 **2311275**
Date Reported: **11/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-69 0'
Project: Gaucho Unit 6H **Collection Date:** 11/4/2023 9:55:00 AM
Lab ID: 2311275-005 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 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	11/9/2023 6:20:04 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/9/2023 6:20:04 PM
Surr: DNOP	123	69-147		%Rec	1	11/9/2023 6:20:04 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/12/2023 6:24:00 AM
Surr: BFB	100	15-244		%Rec	1	11/12/2023 6:24:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	11/12/2023 6:24:00 AM
Toluene	ND	0.047		mg/Kg	1	11/12/2023 6:24:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	11/12/2023 6:24:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	11/12/2023 6:24:00 AM
Surr: 4-Bromofluorobenzene	95.0	39.1-146		%Rec	1	11/12/2023 6:24:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	180	60		mg/Kg	20	11/9/2023 11:05:45 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 **2311275**
Date Reported: **11/16/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-69 2'
Project: Gaucho Unit 6H **Collection Date:** 11/4/2023 10:00:00 AM
Lab ID: 2311275-006 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/10/2023 12:12:05 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/10/2023 12:12:05 PM
Surr: DNOP	101	69-147		%Rec	1	11/10/2023 12:12:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/11/2023 8:25:18 PM
Surr: BFB	92.5	15-244		%Rec	1	11/11/2023 8:25:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	11/11/2023 8:25:18 PM
Toluene	ND	0.049		mg/Kg	1	11/11/2023 8:25:18 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/11/2023 8:25:18 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/11/2023 8:25:18 PM
Surr: 4-Bromofluorobenzene	95.5	39.1-146		%Rec	1	11/11/2023 8:25:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	11/9/2023 11:18:10 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.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311275**

16-Nov-23

Client: Vertex Resources Services, Inc.

Project: Gaucho Unit 6H

Sample ID: **MB-78694**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **78694**	RunNo: **101073**
Prep Date: **11/9/2023**	Analysis Date: **11/9/2023**	SeqNo: **3711697** Units: **mg/Kg**

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

Sample ID: **LCS-78694**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **78694**	RunNo: **101073**
Prep Date: **11/9/2023**	Analysis Date: **11/9/2023**	SeqNo: **3711698** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical 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#: **2311275**

16-Nov-23

Client: Vertex Resources Services, Inc.

Project: Gaucho Unit 6H

Sample ID: **MB-78631**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **78631**	RunNo: **101039**
Prep Date: **11/7/2023**	Analysis Date: **11/9/2023**	SeqNo: **3710036** 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	8.1		10.00		81.2	69	147			

Sample ID: **LCS-78631**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **78631**	RunNo: **101039**
Prep Date: **11/7/2023**	Analysis Date: **11/9/2023**	SeqNo: **3710037** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.00	0	111	61.9	130			
Surr: DNOP	3.8		5.000		75.6	69	147			

Sample ID: **LCS-78648**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **78648**	RunNo: **101077**
Prep Date: **11/8/2023**	Analysis Date: **11/9/2023**	SeqNo: **3711226** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.00	0	119	61.9	130			
Surr: DNOP	6.6		5.000		132	69	147			

Sample ID: **MB-78648**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **78648**	RunNo: **101077**
Prep Date: **11/8/2023**	Analysis Date: **11/9/2023**	SeqNo: **3711227** 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		112	69	147			

Sample ID: **2311275-005AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-69 0'**	Batch ID: **78631**	RunNo: **101039**
Prep Date: **11/7/2023**	Analysis Date: **11/9/2023**	SeqNo: **3711486** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	9.5	47.53	0	123	54.2	135			
Surr: DNOP	5.7		4.753		121	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#: **2311275**

16-Nov-23

Client: Vertex Resources Services, Inc.

Project: Gaucho Unit 6H

Sample ID: **2311275-005AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-69 0'**	Batch ID: **78631**	RunNo: **101039**
Prep Date: **11/7/2023**	Analysis Date: **11/9/2023**	SeqNo: **3711487** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.6	47.85	0	105	54.2	135	15.0	29.2	
Surr: DNOP	4.6		4.785		95.2	69	147	0	0	

Sample ID: **MB-78708**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **78708**	RunNo: **101132**
Prep Date: **11/10/2023**	Analysis Date: **11/10/2023**	SeqNo: **3714454** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		102	69	147			

Sample ID: **LCS-78708**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **78708**	RunNo: **101132**
Prep Date: **11/10/2023**	Analysis Date: **11/10/2023**	SeqNo: **3714455** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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#: **2311275**

16-Nov-23

Client: Vertex Resources Services, Inc.

Project: Gaucho Unit 6H

Sample ID: **lcs-78633**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **78633**	RunNo: **101100**
Prep Date: **11/7/2023**	Analysis Date: **11/11/2023**	SeqNo: **3713153** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	5.0	25.00	0	74.1	70	130			
Surr: BFB	1900		1000		191	15	244			

Sample ID: **mb-78633**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **78633**	RunNo: **101100**
Prep Date: **11/7/2023**	Analysis Date: **11/11/2023**	SeqNo: **3713155** 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	930		1000		93.4	15	244			

Sample ID: **lcs-78619**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **78619**	RunNo: **101095**
Prep Date: **11/7/2023**	Analysis Date: **11/11/2023**	SeqNo: **3713277** 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	90.0	70	130			
Surr: BFB	2300		1000		235	15	244			

Sample ID: **mb-78619**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **78619**	RunNo: **101095**
Prep Date: **11/7/2023**	Analysis Date: **11/11/2023**	SeqNo: **3713278** 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		102	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#: **2311275**

16-Nov-23

Client: Vertex Resources Services, Inc.

Project: Gaucho Unit 6H

Sample ID: **LCS-78633**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **78633**	RunNo: **101100**
Prep Date: **11/7/2023**	Analysis Date: **11/11/2023**	SeqNo: **3713202** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.7	70	130			
Toluene	0.95	0.050	1.000	0	94.5	70	130			
Ethylbenzene	0.96	0.050	1.000	0	96.1	70	130			
Xylenes, Total	2.9	0.10	3.000	0	95.8	70	130			
Surr: 4-Bromofluorobenzene	0.96		1.000		96.0	39.1	146			

Sample ID: **mb-78633**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **78633**	RunNo: **101100**
Prep Date: **11/7/2023**	Analysis Date: **11/11/2023**	SeqNo: **3713204** 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	0.96		1.000		96.3	39.1	146			

Sample ID: **lcs-78619**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **78619**	RunNo: **101095**
Prep Date: **11/7/2023**	Analysis Date: **11/11/2023**	SeqNo: **3713318** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	70	130			
Toluene	1.1	0.050	1.000	0	106	70	130			
Ethylbenzene	1.1	0.050	1.000	0	108	70	130			
Xylenes, Total	3.3	0.10	3.000	0	109	70	130			
Surr: 4-Bromofluorobenzene	0.98		1.000		97.9	39.1	146			

Sample ID: **mb-78619**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **78619**	RunNo: **101095**
Prep Date: **11/7/2023**	Analysis Date: **11/11/2023**	SeqNo: **3713319** 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		96.6	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

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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: 2311275 RcptNo: 1

Received By: Juan Rojas 11/7/2023 7:25:00 AM

Completed By: Cheyenne Cason 11/7/2023 7:46:35 AM

Reviewed By: SCM 11/7/23

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: 11/7/23

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	0.5	Good	Not Present	Yogi		

Chain of Custody Record

Client: **Vertex**

(direct bill to Devon, work order 21222677)

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 X **Rush_72-hour rush**

Project Name:

Gaucho Unit 6H

Project #:

23E-05499

Project Manager:

Kent Stallings

kstallings@vertex.ca

Sampler: A. Castro

On Ice: ~~☐ Yes~~ ☐ No

# of Coolers: 1 4oz

Cooler Temp(including CF): 0.4+0.1=0.5

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. 2311275	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	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
11/4/2023	9:20	Soil	BH23-62 4'	1, 4oz jar		001	X	X					X			
11/4/2023	9:30	Soil	BH23-64 4'	1, 4oz jar		002	X	X					X			
11/4/2023	9:35	Soil	BH23-68 0'	1, 4oz jar		003	X	X					X			
11/4/2023	9:40	Soil	BH23-68 2'	1, 4oz jar		004	X	X					X			
11/4/2023	9:55	Soil	BH23-69 0'	1, 4oz jar		005	X	X					X			
11/4/2023	10:00	Soil	BH23-69 2'	1, 4oz jar		006	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
11/4/23	15:30				11/6/23	1045
11/6/23	1900			courier	11/7/23	7:25

Remarks:
Direct bill to Devon work order 21222677 Dale Woodall
cc. KStallings@vertex.ca, SMcCarty@vertex.ca for Final Report

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.

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 5/6/2024 2:33:25 PM

JOB DESCRIPTION

Gaucho Unit 6H

JOB NUMBER

885-3597-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

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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5/6/2024 2:33:25 PM

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

Client: Vertex
Project/Site: Gaucho Unit 6H

Laboratory Job ID: 885-3597-1

Table of Contents

Definitions/Glossary

Client: Vertex Job ID: 885-3597-1
Project/Site: Gaucho Unit 6H

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: Gaucho Unit 6H

Job ID: 885-3597-1

Job ID: 885-3597-1 Eurofins Albuquerque

Job Narrative
885-3597-1

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 4/30/2024 7:47 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 4.6°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
Method 300_ORGFM_28D - Soluble: The Chloride matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-79939 and analytical batch 880-79961 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

BH24-70 0.0' (885-3597-1), BH24-70 2.0' (885-3597-2), BH24-71 0.0' (885-3597-3), BH24-71 2.0' (885-3597-4), BH24-72 0.0' (885-3597-5), BH24-72 2.0' (885-3597-6), BH24-73 0.0' (885-3597-7), BH24-73 2.0' (885-3597-8), (885-3596-B-11-A), (885-3596-B-11-B MS) and (885-3596-B-11-C MSD)

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: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-70 0.0'

Date Collected: 04/27/24 09:30
Date Received: 04/30/24 07:47

Lab Sample ID: 885-3597-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		04/30/24 16:06	05/01/24 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*15 - 244*	*04/30/24 16:06*	*05/01/24 17:11*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		04/30/24 16:06	05/01/24 17:11	1
Ethylbenzene	ND		0.049		mg/Kg		04/30/24 16:06	05/01/24 17:11	1
Toluene	ND		0.049		mg/Kg		04/30/24 16:06	05/01/24 17:11	1
Xylenes, Total	ND		0.099		mg/Kg		04/30/24 16:06	05/01/24 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*39 - 146*	*04/30/24 16:06*	*05/01/24 17:11*	*1*

Method: SW846 8015D - 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		05/02/24 11:24	05/02/24 21:41	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		05/02/24 11:24	05/02/24 21:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*05/02/24 11:24*	*05/02/24 21:41*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**24**		5.0		mg/Kg			05/04/24 06:55	1

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-70 2.0'

Date Collected: 04/27/24 09:40
Date Received: 04/30/24 07:47

Lab Sample ID: 885-3597-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		04/30/24 16:06	05/01/24 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*15 - 244*	*04/30/24 16:06*	*05/01/24 17:34*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/30/24 16:06	05/01/24 17:34	1
Ethylbenzene	ND		0.048		mg/Kg		04/30/24 16:06	05/01/24 17:34	1
Toluene	ND		0.048		mg/Kg		04/30/24 16:06	05/01/24 17:34	1
Xylenes, Total	ND		0.096		mg/Kg		04/30/24 16:06	05/01/24 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*39 - 146*	*04/30/24 16:06*	*05/01/24 17:34*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.5		mg/Kg		05/02/24 11:24	05/02/24 22:05	1
Motor Oil Range Organics [C28-C40]	ND		42		mg/Kg		05/02/24 11:24	05/02/24 22:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*	*05/02/24 11:24*	*05/02/24 22:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14**		5.1		mg/Kg			05/04/24 07:14	1

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-71 0.0'

Date Collected: 04/27/24 09:50
Date Received: 04/30/24 07:47

Lab Sample ID: 885-3597-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		04/30/24 16:06	05/01/24 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 244*	*04/30/24 16:06*	*05/01/24 17:57*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/30/24 16:06	05/01/24 17:57	1
Ethylbenzene	ND		0.048		mg/Kg		04/30/24 16:06	05/01/24 17:57	1
Toluene	ND		0.048		mg/Kg		04/30/24 16:06	05/01/24 17:57	1
Xylenes, Total	ND		0.097		mg/Kg		04/30/24 16:06	05/01/24 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*39 - 146*	*04/30/24 16:06*	*05/01/24 17:57*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.1		mg/Kg		05/02/24 11:24	05/02/24 22:29	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		05/02/24 11:24	05/02/24 22:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*05/02/24 11:24*	*05/02/24 22:29*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**130**		5.0		mg/Kg			05/04/24 07:20	1

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-71 2.0'

Date Collected: 04/27/24 10:00
Date Received: 04/30/24 07:47

Lab Sample ID: 885-3597-4

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		04/30/24 16:06	05/01/24 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*15 - 244*	*04/30/24 16:06*	*05/01/24 18:21*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		04/30/24 16:06	05/01/24 18:21	1
Ethylbenzene	ND		0.050		mg/Kg		04/30/24 16:06	05/01/24 18:21	1
Toluene	ND		0.050		mg/Kg		04/30/24 16:06	05/01/24 18:21	1
Xylenes, Total	ND		0.10		mg/Kg		04/30/24 16:06	05/01/24 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*39 - 146*	*04/30/24 16:06*	*05/01/24 18:21*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		05/02/24 11:24	05/02/24 22:52	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		05/02/24 11:24	05/02/24 22:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*92*		*62 - 134*	*05/02/24 11:24*	*05/02/24 22:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**52**		5.0		mg/Kg			05/04/24 07:27	1

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-72 0.0'

Date Collected: 04/27/24 10:10
Date Received: 04/30/24 07:47

Lab Sample ID: 885-3597-5

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.6		mg/Kg		04/30/24 16:06	05/01/24 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 244*	*04/30/24 16:06*	*05/01/24 18:44*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		04/30/24 16:06	05/01/24 18:44	1
Ethylbenzene	ND		0.046		mg/Kg		04/30/24 16:06	05/01/24 18:44	1
Toluene	ND		0.046		mg/Kg		04/30/24 16:06	05/01/24 18:44	1
Xylenes, Total	ND		0.093		mg/Kg		04/30/24 16:06	05/01/24 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*39 - 146*	*04/30/24 16:06*	*05/01/24 18:44*	*1*

Method: SW846 8015D - 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		05/02/24 11:24	05/02/24 23:16	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		05/02/24 11:24	05/02/24 23:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*92*		*62 - 134*	*05/02/24 11:24*	*05/02/24 23:16*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**170**		5.0		mg/Kg			05/04/24 07:33	1

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-72 2.0'

Date Collected: 04/27/24 10:20
Date Received: 04/30/24 07:47

Lab Sample ID: 885-3597-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		04/30/24 16:06	05/01/24 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 244*	*04/30/24 16:06*	*05/01/24 19:08*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/30/24 16:06	05/01/24 19:08	1
Ethylbenzene	ND		0.048		mg/Kg		04/30/24 16:06	05/01/24 19:08	1
Toluene	ND		0.048		mg/Kg		04/30/24 16:06	05/01/24 19:08	1
Xylenes, Total	ND		0.097		mg/Kg		04/30/24 16:06	05/01/24 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*39 - 146*	*04/30/24 16:06*	*05/01/24 19:08*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.6		mg/Kg		05/02/24 11:24	05/02/24 23:40	1
Motor Oil Range Organics [C28-C40]	ND		43		mg/Kg		05/02/24 11:24	05/02/24 23:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*93*		*62 - 134*	*05/02/24 11:24*	*05/02/24 23:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**96**		5.0		mg/Kg			05/04/24 07:39	1

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-73 0.0'

Date Collected: 04/27/24 10:30
Date Received: 04/30/24 07:47

Lab Sample ID: 885-3597-7

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		04/30/24 16:06	05/01/24 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*15 - 244*	*04/30/24 16:06*	*05/01/24 19:31*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/30/24 16:06	05/01/24 19:31	1
Ethylbenzene	ND		0.048		mg/Kg		04/30/24 16:06	05/01/24 19:31	1
Toluene	ND		0.048		mg/Kg		04/30/24 16:06	05/01/24 19:31	1
Xylenes, Total	ND		0.097		mg/Kg		04/30/24 16:06	05/01/24 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*39 - 146*	*04/30/24 16:06*	*05/01/24 19:31*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.1		mg/Kg		05/02/24 11:24	05/03/24 00:04	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		05/02/24 11:24	05/03/24 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*92*		*62 - 134*	*05/02/24 11:24*	*05/03/24 00:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**26**		5.0		mg/Kg			05/04/24 07:46	1

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-73 2.0'

Date Collected: 04/27/24 10:40
Date Received: 04/30/24 07:47

Lab Sample ID: 885-3597-8

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		05/01/24 16:33	05/02/24 14:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 244*	*05/01/24 16:33*	*05/02/24 14:44*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/01/24 16:33	05/02/24 14:44	1
Ethylbenzene	ND		0.049		mg/Kg		05/01/24 16:33	05/02/24 14:44	1
Toluene	ND		0.049		mg/Kg		05/01/24 16:33	05/02/24 14:44	1
Xylenes, Total	ND		0.099		mg/Kg		05/01/24 16:33	05/02/24 14:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*39 - 146*	*05/01/24 16:33*	*05/02/24 14:44*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2		mg/Kg		05/02/24 11:24	05/03/24 00:27	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		05/02/24 11:24	05/03/24 00:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*	*05/02/24 11:24*	*05/03/24 00:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**94**		5.0		mg/Kg			05/04/24 07:52	1

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-74 0.0'

Date Collected: 04/27/24 10:50
Date Received: 04/30/24 07:47

Lab Sample ID: 885-3597-9

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		05/01/24 16:33	05/02/24 15:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*15 - 244*	*05/01/24 16:33*	*05/02/24 15:49*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/01/24 16:33	05/02/24 15:49	1
Ethylbenzene	ND		0.047		mg/Kg		05/01/24 16:33	05/02/24 15:49	1
Toluene	ND		0.047		mg/Kg		05/01/24 16:33	05/02/24 15:49	1
Xylenes, Total	ND		0.095		mg/Kg		05/01/24 16:33	05/02/24 15:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*39 - 146*	*05/01/24 16:33*	*05/02/24 15:49*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.1		mg/Kg		05/02/24 12:13	05/02/24 17:57	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		05/02/24 12:13	05/02/24 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*89*		*62 - 134*	*05/02/24 12:13*	*05/02/24 17:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**29**		5.0		mg/Kg			05/05/24 01:20	1

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-74 2.0'

Date Collected: 04/27/24 11:00
Date Received: 04/30/24 07:47

Lab Sample ID: 885-3597-10

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		05/01/24 16:33	05/02/24 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*15 - 244*	*05/01/24 16:33*	*05/02/24 16:54*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/01/24 16:33	05/02/24 16:54	1
Ethylbenzene	ND		0.049		mg/Kg		05/01/24 16:33	05/02/24 16:54	1
Toluene	ND		0.049		mg/Kg		05/01/24 16:33	05/02/24 16:54	1
Xylenes, Total	ND		0.099		mg/Kg		05/01/24 16:33	05/02/24 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*39 - 146*	*05/01/24 16:33*	*05/02/24 16:54*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.8		mg/Kg		05/02/24 12:13	05/02/24 18:10	1
Motor Oil Range Organics [C28-C40]	ND		44		mg/Kg		05/02/24 12:13	05/02/24 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*97*		*62 - 134*	*05/02/24 12:13*	*05/02/24 18:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.2**		5.0		mg/Kg			05/05/24 01:39	1

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-75 0.0'

Date Collected: 04/27/24 11:10
Date Received: 04/30/24 07:47

Lab Sample ID: 885-3597-11

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		05/01/24 16:33	05/02/24 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*15 - 244*	*05/01/24 16:33*	*05/02/24 17:16*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/01/24 16:33	05/02/24 17:16	1
Ethylbenzene	ND		0.049		mg/Kg		05/01/24 16:33	05/02/24 17:16	1
Toluene	ND		0.049		mg/Kg		05/01/24 16:33	05/02/24 17:16	1
Xylenes, Total	ND		0.099		mg/Kg		05/01/24 16:33	05/02/24 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*39 - 146*	*05/01/24 16:33*	*05/02/24 17:16*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.6		mg/Kg		05/02/24 12:13	05/02/24 18:22	1
Motor Oil Range Organics [C28-C40]	ND		43		mg/Kg		05/02/24 12:13	05/02/24 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*05/02/24 12:13*	*05/02/24 18:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**39**		5.0		mg/Kg			05/05/24 01:46	1

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-75 2.0'

Date Collected: 04/27/24 11:20
Date Received: 04/30/24 07:47

Lab Sample ID: 885-3597-12

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		05/01/24 16:33	05/02/24 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 244*	*05/01/24 16:33*	*05/02/24 17:38*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/01/24 16:33	05/02/24 17:38	1
Ethylbenzene	ND		0.050		mg/Kg		05/01/24 16:33	05/02/24 17:38	1
Toluene	ND		0.050		mg/Kg		05/01/24 16:33	05/02/24 17:38	1
Xylenes, Total	ND		0.10		mg/Kg		05/01/24 16:33	05/02/24 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*39 - 146*	*05/01/24 16:33*	*05/02/24 17:38*	*1*

Method: SW846 8015D - 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		05/02/24 12:13	05/02/24 18:34	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		05/02/24 12:13	05/02/24 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*94*		*62 - 134*	*05/02/24 12:13*	*05/02/24 18:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16**		5.0		mg/Kg			05/05/24 01:52	1

QC Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

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

Lab Sample ID: MB 885-4138/1-A
Matrix: Solid
Analysis Batch: 4186

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4138

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		04/30/24 16:06	05/01/24 11:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 244*	*04/30/24 16:06*	*05/01/24 11:19*	*1*

Lab Sample ID: LCS 885-4138/2-A
Matrix: Solid
Analysis Batch: 4186

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4138

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	25.5		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*204*		*15 - 244*

Lab Sample ID: MB 885-4219/1-A
Matrix: Solid
Analysis Batch: 4359

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4219

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		05/01/24 16:33	05/02/24 14:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*15 - 244*	*05/01/24 16:33*	*05/02/24 14:22*	*1*

Lab Sample ID: LCS 885-4219/2-A
Matrix: Solid
Analysis Batch: 4359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4219

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*217*		*15 - 244*

Lab Sample ID: 885-3597-8 MS
Matrix: Solid
Analysis Batch: 4359

Client Sample ID: BH24-73 2.0'
Prep Type: Total/NA
Prep Batch: 4219

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		24.7	29.1		mg/Kg		118	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*231*		*15 - 244*

QC Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

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

Lab Sample ID: 885-3597-8 MSD
Matrix: Solid
Analysis Batch: 4359

Client Sample ID: BH24-73 2.0'
Prep Type: Total/NA
Prep Batch: 4219

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		24.6	28.8		mg/Kg		117	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*232*		*15 - 244*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-4138/1-A
Matrix: Solid
Analysis Batch: 4187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4138

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		04/30/24 16:06	05/01/24 11:19	1
Ethylbenzene	ND		0.050		mg/Kg		04/30/24 16:06	05/01/24 11:19	1
Toluene	ND		0.050		mg/Kg		04/30/24 16:06	05/01/24 11:19	1
Xylenes, Total	ND		0.10		mg/Kg		04/30/24 16:06	05/01/24 11:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*39 - 146*	*04/30/24 16:06*	*05/01/24 11:19*	*1*

Lab Sample ID: LCS 885-4138/3-A
Matrix: Solid
Analysis Batch: 4187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4138

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.04		mg/Kg		104	70 - 130		
Ethylbenzene			1.00	0.989		mg/Kg		99	70 - 130		
m,p-Xylene			2.00	2.00		mg/Kg		100	70 - 130		
o-Xylene			1.00	0.984		mg/Kg		98	70 - 130		
Toluene			1.00	0.982		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*39 - 146*

Lab Sample ID: MB 885-4219/1-A
Matrix: Solid
Analysis Batch: 4360

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4219

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/01/24 16:33	05/02/24 14:22	1
Ethylbenzene	ND		0.050		mg/Kg		05/01/24 16:33	05/02/24 14:22	1
Toluene	ND		0.050		mg/Kg		05/01/24 16:33	05/02/24 14:22	1
Xylenes, Total	ND		0.10		mg/Kg		05/01/24 16:33	05/02/24 14:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*39 - 146*	*05/01/24 16:33*	*05/02/24 14:22*	*1*

QC Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

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

Lab Sample ID: LCS 885-4219/3-A
Matrix: Solid
Analysis Batch: 4360

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4219

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		39 - 146

Lab Sample ID: 885-3597-9 MS
Matrix: Solid
Analysis Batch: 4360

Client Sample ID: BH24-74 0.0'
Prep Type: Total/NA
Prep Batch: 4219

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		0.947	0.965		mg/Kg		102	70 - 130
Ethylbenzene	ND		0.947	0.975		mg/Kg		103	70 - 130
m,p-Xylene	ND		1.89	1.94		mg/Kg		103	70 - 130
o-Xylene	ND		0.947	0.969		mg/Kg		102	70 - 130
Toluene	ND		0.947	0.973		mg/Kg		103	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		39 - 146

Lab Sample ID: 885-3597-9 MSD
Matrix: Solid
Analysis Batch: 4360

Client Sample ID: BH24-74 0.0'
Prep Type: Total/NA
Prep Batch: 4219

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.953	0.958		mg/Kg		100	70 - 130	1	20
Ethylbenzene	ND		0.953	0.956		mg/Kg		100	70 - 130	2	20
m,p-Xylene	ND		1.91	1.90		mg/Kg		100	70 - 130	2	20
o-Xylene	ND		0.953	0.951		mg/Kg		100	70 - 130	2	20
Toluene	ND		0.953	0.959		mg/Kg		101	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	89		39 - 146

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

Lab Sample ID: MB 885-4253/1-A
Matrix: Solid
Analysis Batch: 4346

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4253

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		05/02/24 11:24	05/02/24 15:45	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		05/02/24 11:24	05/02/24 15:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	95		62 - 134	05/02/24 11:24	05/02/24 15:45	1

QC Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

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

Lab Sample ID: LCS 885-4253/2-A
Matrix: Solid
Analysis Batch: 4346

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4253

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	51.4		mg/Kg		103	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*97*		*62 - 134*

Lab Sample ID: 885-3597-8 MS
Matrix: Solid
Analysis Batch: 4346

Client Sample ID: BH24-73 2.0'
Prep Type: Total/NA
Prep Batch: 4253

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND		49.1	50.4		mg/Kg		103	44 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*94*		*62 - 134*

Lab Sample ID: 885-3597-8 MSD
Matrix: Solid
Analysis Batch: 4346

Client Sample ID: BH24-73 2.0'
Prep Type: Total/NA
Prep Batch: 4253

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		45.5	46.1		mg/Kg		101	44 - 136	9	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*

Lab Sample ID: MB 885-4263/1-A
Matrix: Solid
Analysis Batch: 4310

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4263

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		05/02/24 12:13	05/02/24 17:33	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		05/02/24 12:13	05/02/24 17:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*104*		*62 - 134*	*05/02/24 12:13*	*05/02/24 17:33*	*1*

Lab Sample ID: LCS 885-4263/2-A
Matrix: Solid
Analysis Batch: 4310

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4263

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	44.3		mg/Kg		89	60 - 135		

QC Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

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

Lab Sample ID: LCS 885-4263/2-A
Matrix: Solid
Analysis Batch: 4310

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4263

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	106		62 - 134

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-79938/1-A
Matrix: Solid
Analysis Batch: 79958

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		5.0		mg/Kg			05/05/24 01:02	1

Lab Sample ID: LCS 880-79938/2-A
Matrix: Solid
Analysis Batch: 79958

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	236		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-79938/3-A
Matrix: Solid
Analysis Batch: 79958

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	235		mg/Kg		94	90 - 110	0	20

Lab Sample ID: 885-3597-9 MS
Matrix: Solid
Analysis Batch: 79958

Client Sample ID: BH24-74 0.0'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	29		248	253		mg/Kg		90	90 - 110		

Lab Sample ID: 885-3597-9 MSD
Matrix: Solid
Analysis Batch: 79958

Client Sample ID: BH24-74 0.0'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	29		248	252		mg/Kg		90	90 - 110	0	20

Lab Sample ID: MB 880-79939/1-A
Matrix: Solid
Analysis Batch: 79961

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		5.0		mg/Kg			05/04/24 04:43	1

QC Sample Results

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-79939/2-A
Matrix: Solid
Analysis Batch: 79961

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	234		mg/Kg		94	90 - 110

Lab Sample ID: LCSD 880-79939/3-A
Matrix: Solid
Analysis Batch: 79961

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	234		mg/Kg		94	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

GC VOA

Prep Batch: 4138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-1	BH24-70 0.0'	Total/NA	Solid	5030C	
885-3597-2	BH24-70 2.0'	Total/NA	Solid	5030C	
885-3597-3	BH24-71 0.0'	Total/NA	Solid	5030C	
885-3597-4	BH24-71 2.0'	Total/NA	Solid	5030C	
885-3597-5	BH24-72 0.0'	Total/NA	Solid	5030C	
885-3597-6	BH24-72 2.0'	Total/NA	Solid	5030C	
885-3597-7	BH24-73 0.0'	Total/NA	Solid	5030C	
MB 885-4138/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-4138/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-4138/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 4186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-1	BH24-70 0.0'	Total/NA	Solid	8015D	4138
885-3597-2	BH24-70 2.0'	Total/NA	Solid	8015D	4138
885-3597-3	BH24-71 0.0'	Total/NA	Solid	8015D	4138
885-3597-4	BH24-71 2.0'	Total/NA	Solid	8015D	4138
885-3597-5	BH24-72 0.0'	Total/NA	Solid	8015D	4138
885-3597-6	BH24-72 2.0'	Total/NA	Solid	8015D	4138
885-3597-7	BH24-73 0.0'	Total/NA	Solid	8015D	4138
MB 885-4138/1-A	Method Blank	Total/NA	Solid	8015D	4138
LCS 885-4138/2-A	Lab Control Sample	Total/NA	Solid	8015D	4138

Analysis Batch: 4187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-1	BH24-70 0.0'	Total/NA	Solid	8021B	4138
885-3597-2	BH24-70 2.0'	Total/NA	Solid	8021B	4138
885-3597-3	BH24-71 0.0'	Total/NA	Solid	8021B	4138
885-3597-4	BH24-71 2.0'	Total/NA	Solid	8021B	4138
885-3597-5	BH24-72 0.0'	Total/NA	Solid	8021B	4138
885-3597-6	BH24-72 2.0'	Total/NA	Solid	8021B	4138
885-3597-7	BH24-73 0.0'	Total/NA	Solid	8021B	4138
MB 885-4138/1-A	Method Blank	Total/NA	Solid	8021B	4138
LCS 885-4138/3-A	Lab Control Sample	Total/NA	Solid	8021B	4138

Prep Batch: 4219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-8	BH24-73 2.0'	Total/NA	Solid	5030C	
885-3597-9	BH24-74 0.0'	Total/NA	Solid	5030C	
885-3597-10	BH24-74 2.0'	Total/NA	Solid	5030C	
885-3597-11	BH24-75 0.0'	Total/NA	Solid	5030C	
885-3597-12	BH24-75 2.0'	Total/NA	Solid	5030C	
MB 885-4219/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-4219/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-4219/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-3597-8 MS	BH24-73 2.0'	Total/NA	Solid	5030C	
885-3597-8 MSD	BH24-73 2.0'	Total/NA	Solid	5030C	
885-3597-9 MS	BH24-74 0.0'	Total/NA	Solid	5030C	
885-3597-9 MSD	BH24-74 0.0'	Total/NA	Solid	5030C	

QC Association Summary

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

GC VOA

Analysis Batch: 4359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-8	BH24-73 2.0'	Total/NA	Solid	8015D	4219
885-3597-9	BH24-74 0.0'	Total/NA	Solid	8015D	4219
885-3597-10	BH24-74 2.0'	Total/NA	Solid	8015D	4219
885-3597-11	BH24-75 0.0'	Total/NA	Solid	8015D	4219
885-3597-12	BH24-75 2.0'	Total/NA	Solid	8015D	4219
MB 885-4219/1-A	Method Blank	Total/NA	Solid	8015D	4219
LCS 885-4219/2-A	Lab Control Sample	Total/NA	Solid	8015D	4219
885-3597-8 MS	BH24-73 2.0'	Total/NA	Solid	8015D	4219
885-3597-8 MSD	BH24-73 2.0'	Total/NA	Solid	8015D	4219

Analysis Batch: 4360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-8	BH24-73 2.0'	Total/NA	Solid	8021B	4219
885-3597-9	BH24-74 0.0'	Total/NA	Solid	8021B	4219
885-3597-10	BH24-74 2.0'	Total/NA	Solid	8021B	4219
885-3597-11	BH24-75 0.0'	Total/NA	Solid	8021B	4219
885-3597-12	BH24-75 2.0'	Total/NA	Solid	8021B	4219
MB 885-4219/1-A	Method Blank	Total/NA	Solid	8021B	4219
LCS 885-4219/3-A	Lab Control Sample	Total/NA	Solid	8021B	4219
885-3597-9 MS	BH24-74 0.0'	Total/NA	Solid	8021B	4219
885-3597-9 MSD	BH24-74 0.0'	Total/NA	Solid	8021B	4219

GC Semi VOA

Prep Batch: 4253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-1	BH24-70 0.0'	Total/NA	Solid	SHAKE	
885-3597-2	BH24-70 2.0'	Total/NA	Solid	SHAKE	
885-3597-3	BH24-71 0.0'	Total/NA	Solid	SHAKE	
885-3597-4	BH24-71 2.0'	Total/NA	Solid	SHAKE	
885-3597-5	BH24-72 0.0'	Total/NA	Solid	SHAKE	
885-3597-6	BH24-72 2.0'	Total/NA	Solid	SHAKE	
885-3597-7	BH24-73 0.0'	Total/NA	Solid	SHAKE	
885-3597-8	BH24-73 2.0'	Total/NA	Solid	SHAKE	
MB 885-4253/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-4253/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-3597-8 MS	BH24-73 2.0'	Total/NA	Solid	SHAKE	
885-3597-8 MSD	BH24-73 2.0'	Total/NA	Solid	SHAKE	

Prep Batch: 4263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-9	BH24-74 0.0'	Total/NA	Solid	SHAKE	
885-3597-10	BH24-74 2.0'	Total/NA	Solid	SHAKE	
885-3597-11	BH24-75 0.0'	Total/NA	Solid	SHAKE	
885-3597-12	BH24-75 2.0'	Total/NA	Solid	SHAKE	
MB 885-4263/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-4263/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 4310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-9	BH24-74 0.0'	Total/NA	Solid	8015D	4263

QC Association Summary

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

GC Semi VOA (Continued)

Analysis Batch: 4310 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-10	BH24-74 2.0'	Total/NA	Solid	8015D	4263
885-3597-11	BH24-75 0.0'	Total/NA	Solid	8015D	4263
885-3597-12	BH24-75 2.0'	Total/NA	Solid	8015D	4263
MB 885-4263/1-A	Method Blank	Total/NA	Solid	8015D	4263
LCS 885-4263/2-A	Lab Control Sample	Total/NA	Solid	8015D	4263

Analysis Batch: 4346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-1	BH24-70 0.0'	Total/NA	Solid	8015D	4253
885-3597-2	BH24-70 2.0'	Total/NA	Solid	8015D	4253
885-3597-3	BH24-71 0.0'	Total/NA	Solid	8015D	4253
885-3597-4	BH24-71 2.0'	Total/NA	Solid	8015D	4253
885-3597-5	BH24-72 0.0'	Total/NA	Solid	8015D	4253
885-3597-6	BH24-72 2.0'	Total/NA	Solid	8015D	4253
885-3597-7	BH24-73 0.0'	Total/NA	Solid	8015D	4253
885-3597-8	BH24-73 2.0'	Total/NA	Solid	8015D	4253
MB 885-4253/1-A	Method Blank	Total/NA	Solid	8015D	4253
LCS 885-4253/2-A	Lab Control Sample	Total/NA	Solid	8015D	4253
885-3597-8 MS	BH24-73 2.0'	Total/NA	Solid	8015D	4253
885-3597-8 MSD	BH24-73 2.0'	Total/NA	Solid	8015D	4253

HPLC/IC

Leach Batch: 79938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-9	BH24-74 0.0'	Soluble	Solid	DI Leach	
885-3597-10	BH24-74 2.0'	Soluble	Solid	DI Leach	
885-3597-11	BH24-75 0.0'	Soluble	Solid	DI Leach	
885-3597-12	BH24-75 2.0'	Soluble	Solid	DI Leach	
MB 880-79938/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-79938/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-79938/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
885-3597-9 MS	BH24-74 0.0'	Soluble	Solid	DI Leach	
885-3597-9 MSD	BH24-74 0.0'	Soluble	Solid	DI Leach	

Leach Batch: 79939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-1	BH24-70 0.0'	Soluble	Solid	DI Leach	
885-3597-2	BH24-70 2.0'	Soluble	Solid	DI Leach	
885-3597-3	BH24-71 0.0'	Soluble	Solid	DI Leach	
885-3597-4	BH24-71 2.0'	Soluble	Solid	DI Leach	
885-3597-5	BH24-72 0.0'	Soluble	Solid	DI Leach	
885-3597-6	BH24-72 2.0'	Soluble	Solid	DI Leach	
885-3597-7	BH24-73 0.0'	Soluble	Solid	DI Leach	
885-3597-8	BH24-73 2.0'	Soluble	Solid	DI Leach	
MB 880-79939/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-79939/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-79939/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

HPLC/IC

Analysis Batch: 79958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-9	BH24-74 0.0'	Soluble	Solid	300.0	79938
885-3597-10	BH24-74 2.0'	Soluble	Solid	300.0	79938
885-3597-11	BH24-75 0.0'	Soluble	Solid	300.0	79938
885-3597-12	BH24-75 2.0'	Soluble	Solid	300.0	79938
MB 880-79938/1-A	Method Blank	Soluble	Solid	300.0	79938
LCS 880-79938/2-A	Lab Control Sample	Soluble	Solid	300.0	79938
LCSD 880-79938/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	79938
885-3597-9 MS	BH24-74 0.0'	Soluble	Solid	300.0	79938
885-3597-9 MSD	BH24-74 0.0'	Soluble	Solid	300.0	79938

Analysis Batch: 79961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-3597-1	BH24-70 0.0'	Soluble	Solid	300.0	79939
885-3597-2	BH24-70 2.0'	Soluble	Solid	300.0	79939
885-3597-3	BH24-71 0.0'	Soluble	Solid	300.0	79939
885-3597-4	BH24-71 2.0'	Soluble	Solid	300.0	79939
885-3597-5	BH24-72 0.0'	Soluble	Solid	300.0	79939
885-3597-6	BH24-72 2.0'	Soluble	Solid	300.0	79939
885-3597-7	BH24-73 0.0'	Soluble	Solid	300.0	79939
885-3597-8	BH24-73 2.0'	Soluble	Solid	300.0	79939
MB 880-79939/1-A	Method Blank	Soluble	Solid	300.0	79939
LCS 880-79939/2-A	Lab Control Sample	Soluble	Solid	300.0	79939
LCSD 880-79939/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	79939

Lab Chronicle

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-70 0.0'
Lab Sample ID: 885-3597-1
Date Collected: 04/27/24 09:30
Matrix: Solid
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8015D		1	4186	JP	EET ALB	05/01/24 17:11
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8021B		1	4187	JP	EET ALB	05/01/24 17:11
Total/NA	Prep	SHAKE			4253	JU	EET ALB	05/02/24 11:24
Total/NA	Analysis	8015D		1	4346	JU	EET ALB	05/02/24 21:41
Soluble	Leach	DI Leach			79939	SA	EET MID	05/03/24 13:25
Soluble	Analysis	300.0		1	79961	SMC	EET MID	05/04/24 06:55

Client Sample ID: BH24-70 2.0'
Lab Sample ID: 885-3597-2
Date Collected: 04/27/24 09:40
Matrix: Solid
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8015D		1	4186	JP	EET ALB	05/01/24 17:34
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8021B		1	4187	JP	EET ALB	05/01/24 17:34
Total/NA	Prep	SHAKE			4253	JU	EET ALB	05/02/24 11:24
Total/NA	Analysis	8015D		1	4346	JU	EET ALB	05/02/24 22:05
Soluble	Leach	DI Leach			79939	SA	EET MID	05/03/24 13:25
Soluble	Analysis	300.0		1	79961	SMC	EET MID	05/04/24 07:14

Client Sample ID: BH24-71 0.0'
Lab Sample ID: 885-3597-3
Date Collected: 04/27/24 09:50
Matrix: Solid
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8015D		1	4186	JP	EET ALB	05/01/24 17:57
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8021B		1	4187	JP	EET ALB	05/01/24 17:57
Total/NA	Prep	SHAKE			4253	JU	EET ALB	05/02/24 11:24
Total/NA	Analysis	8015D		1	4346	JU	EET ALB	05/02/24 22:29
Soluble	Leach	DI Leach			79939	SA	EET MID	05/03/24 13:25
Soluble	Analysis	300.0		1	79961	SMC	EET MID	05/04/24 07:20

Client Sample ID: BH24-71 2.0'
Lab Sample ID: 885-3597-4
Date Collected: 04/27/24 10:00
Matrix: Solid
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8015D		1	4186	JP	EET ALB	05/01/24 18:21

Lab Chronicle

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-71 2.0'

Lab Sample ID: 885-3597-4
Matrix: Solid
Date Collected: 04/27/24 10:00
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8021B		1	4187	JP	EET ALB	05/01/24 18:21
Total/NA	Prep	SHAKE			4253	JU	EET ALB	05/02/24 11:24
Total/NA	Analysis	8015D		1	4346	JU	EET ALB	05/02/24 22:52
Soluble	Leach	DI Leach			79939	SA	EET MID	05/03/24 13:25
Soluble	Analysis	300.0		1	79961	SMC	EET MID	05/04/24 07:27

Client Sample ID: BH24-72 0.0'

Lab Sample ID: 885-3597-5
Matrix: Solid
Date Collected: 04/27/24 10:10
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8015D		1	4186	JP	EET ALB	05/01/24 18:44
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8021B		1	4187	JP	EET ALB	05/01/24 18:44
Total/NA	Prep	SHAKE			4253	JU	EET ALB	05/02/24 11:24
Total/NA	Analysis	8015D		1	4346	JU	EET ALB	05/02/24 23:16
Soluble	Leach	DI Leach			79939	SA	EET MID	05/03/24 13:25
Soluble	Analysis	300.0		1	79961	SMC	EET MID	05/04/24 07:33

Client Sample ID: BH24-72 2.0'

Lab Sample ID: 885-3597-6
Matrix: Solid
Date Collected: 04/27/24 10:20
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8015D		1	4186	JP	EET ALB	05/01/24 19:08
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8021B		1	4187	JP	EET ALB	05/01/24 19:08
Total/NA	Prep	SHAKE			4253	JU	EET ALB	05/02/24 11:24
Total/NA	Analysis	8015D		1	4346	JU	EET ALB	05/02/24 23:40
Soluble	Leach	DI Leach			79939	SA	EET MID	05/03/24 13:25
Soluble	Analysis	300.0		1	79961	SMC	EET MID	05/04/24 07:39

Client Sample ID: BH24-73 0.0'

Lab Sample ID: 885-3597-7
Matrix: Solid
Date Collected: 04/27/24 10:30
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8015D		1	4186	JP	EET ALB	05/01/24 19:31
Total/NA	Prep	5030C			4138	JP	EET ALB	04/30/24 16:06
Total/NA	Analysis	8021B		1	4187	JP	EET ALB	05/01/24 19:31

Lab Chronicle

Client: Vertex
Project/Site: Gaucho Unit 6H

Job ID: 885-3597-1

Client Sample ID: BH24-73 0.0'

Lab Sample ID: 885-3597-7
Matrix: Solid
Date Collected: 04/27/24 10:30
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			4253	JU	EET ALB	05/02/24 11:24
Total/NA	Analysis	8015D		1	4346	JU	EET ALB	05/03/24 00:04
Soluble	Leach	DI Leach			79939	SA	EET MID	05/03/24 13:25
Soluble	Analysis	300.0		1	79961	SMC	EET MID	05/04/24 07:46

Client Sample ID: BH24-73 2.0'

Lab Sample ID: 885-3597-8
Matrix: Solid
Date Collected: 04/27/24 10:40
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4219	JP	EET ALB	05/01/24 16:33
Total/NA	Analysis	8015D		1	4359	RA	EET ALB	05/02/24 14:44
Total/NA	Prep	5030C			4219	JP	EET ALB	05/01/24 16:33
Total/NA	Analysis	8021B		1	4360	RA	EET ALB	05/02/24 14:44
Total/NA	Prep	SHAKE			4253	JU	EET ALB	05/02/24 11:24
Total/NA	Analysis	8015D		1	4346	JU	EET ALB	05/03/24 00:27
Soluble	Leach	DI Leach			79939	SA	EET MID	05/03/24 13:25
Soluble	Analysis	300.0		1	79961	SMC	EET MID	05/04/24 07:52

Client Sample ID: BH24-74 0.0'

Lab Sample ID: 885-3597-9
Matrix: Solid
Date Collected: 04/27/24 10:50
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4219	JP	EET ALB	05/01/24 16:33
Total/NA	Analysis	8015D		1	4359	RA	EET ALB	05/02/24 15:49
Total/NA	Prep	5030C			4219	JP	EET ALB	05/01/24 16:33
Total/NA	Analysis	8021B		1	4360	RA	EET ALB	05/02/24 15:49
Total/NA	Prep	SHAKE			4263	JU	EET ALB	05/02/24 12:13
Total/NA	Analysis	8015D		1	4310	JU	EET ALB	05/02/24 17:57
Soluble	Leach	DI Leach			79938	SA	EET MID	05/03/24 13:23
Soluble	Analysis	300.0		1	79958	SMC	EET MID	05/05/24 01:20

Client Sample ID: BH24-74 2.0'

Lab Sample ID: 885-3597-10
Matrix: Solid
Date Collected: 04/27/24 11:00
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4219	JP	EET ALB	05/01/24 16:33
Total/NA	Analysis	8015D		1	4359	RA	EET ALB	05/02/24 16:54
Total/NA	Prep	5030C			4219	JP	EET ALB	05/01/24 16:33
Total/NA	Analysis	8021B		1	4360	RA	EET ALB	05/02/24 16:54
Total/NA	Prep	SHAKE			4263	JU	EET ALB	05/02/24 12:13
Total/NA	Analysis	8015D		1	4310	JU	EET ALB	05/02/24 18:10

Lab Chronicle

Client: Vertex
Job ID: 885-3597-1
Project/Site: Gaucho Unit 6H

Client Sample ID: BH24-74 2.0'
Lab Sample ID: 885-3597-10
Date Collected: 04/27/24 11:00
Matrix: Solid
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Soluble	Leach	DI Leach			79938	SA	EET MID	05/03/24 13:23
Soluble	Analysis	300.0		1	79958	SMC	EET MID	05/05/24 01:39

Client Sample ID: BH24-75 0.0'
Lab Sample ID: 885-3597-11
Date Collected: 04/27/24 11:10
Matrix: Solid
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4219	JP	EET ALB	05/01/24 16:33
Total/NA	Analysis	8015D		1	4359	RA	EET ALB	05/02/24 17:16
Total/NA	Prep	5030C			4219	JP	EET ALB	05/01/24 16:33
Total/NA	Analysis	8021B		1	4360	RA	EET ALB	05/02/24 17:16
Total/NA	Prep	SHAKE			4263	JU	EET ALB	05/02/24 12:13
Total/NA	Analysis	8015D		1	4310	JU	EET ALB	05/02/24 18:22
Soluble	Leach	DI Leach			79938	SA	EET MID	05/03/24 13:23
Soluble	Analysis	300.0		1	79958	SMC	EET MID	05/05/24 01:46

Client Sample ID: BH24-75 2.0'
Lab Sample ID: 885-3597-12
Date Collected: 04/27/24 11:20
Matrix: Solid
Date Received: 04/30/24 07:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4219	JP	EET ALB	05/01/24 16:33
Total/NA	Analysis	8015D		1	4359	RA	EET ALB	05/02/24 17:38
Total/NA	Prep	5030C			4219	JP	EET ALB	05/01/24 16:33
Total/NA	Analysis	8021B		1	4360	RA	EET ALB	05/02/24 17:38
Total/NA	Prep	SHAKE			4263	JU	EET ALB	05/02/24 12:13
Total/NA	Analysis	8015D		1	4310	JU	EET ALB	05/02/24 18:34
Soluble	Leach	DI Leach			79938	SA	EET MID	05/03/24 13:23
Soluble	Analysis	300.0		1	79958	SMC	EET MID	05/05/24 01:52

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

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

Accreditation/Certification Summary

Client: Vertex
Job ID: 885-3597-1
Project/Site: Gaucho Unit 6H

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
8015D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	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

Laboratory: Eurofins Midland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

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: Gaucho Unit 6H

Project #: 23E-05499

Project Manager: Kent Stallings

Sampler: AL/AH

On Ice: ☒ Yes ☐ No many

# of Coolers: 1

Cooler Temp(including CF): 4.6 ± 0 = 4.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 885-3597 COC
Tel. 505-345-3975 Fax 505-345-4107

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)
4-27-24	0930	Soil	BH24-70 0.0'	4oz	ICE											
	0940		BH24-70 2.0'													
	0950		BH24-71 0.0'													
	1000		BH24-71 2.0'													
	1010		BH24-72 0.0'													
	1020		BH24-72 2.0'													
	1030		BH24-73 0.0'													
	1040		BH24-73 2.0'													
	1050		BH24-74 0.0'													
	1100		BH24-74 2.0'													
	1110		BH24-75 0.0'													
↓	1120	↓	BH24-75 2.0'	↓	↓											

Date	Time	Relinquished by	Received by	Via	Date	Time
					4/29/24	945
4/29/24	1400			courier	4/30/24	7:47

Remarks:
cc: KStallings@Vertex.ca
Direct Bill to Devon Energy
WO # 21222677

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: 885-3597-1

Login Number: 3597 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: McQuiston, Steven

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	False	Sample splitting required for subcontract purposes.
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-3597-1

Login Number: 3597 **List Source: Eurofins Midland**
List Number: 2 **List Creation: 05/03/24 11:32 AM**
Creator: Rodriguez, Leticia

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

December 24, 2020

Amanda Davis

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

RE: Gaucho Unit 6H OrderNo.: 2012932

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 22 sample(s) on 12/18/2020 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 **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-001 **Matrix:** SOIL

Client Sample ID: BS20-01
Collection Date: 12/16/2020 12:25:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/21/2020 4:54:59 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/21/2020 4:54:59 PM
Surr: DNOP	120	30.4-154		%Rec	1	12/21/2020 4:54:59 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	12/22/2020 11:25:22 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 2:24:33 AM
Toluene	ND	0.049		mg/Kg	1	12/20/2020 2:24:33 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2020 2:24:33 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/20/2020 2:24:33 AM
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	12/20/2020 2:24:33 AM
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	12/20/2020 2:24:33 AM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	12/20/2020 2:24:33 AM
Surr: Toluene-d8	96.0	70-130		%Rec	1	12/20/2020 2:24:33 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2020 2:24:33 AM
Surr: BFB	104	70-130		%Rec	1	12/20/2020 2:24:33 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-002 **Matrix:** SOIL

Client Sample ID: BS20-02
Collection Date: 12/16/2020 12:30:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/21/2020 5:24:08 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/21/2020 5:24:08 PM
Surr: DNOP	116	30.4-154		%Rec	1	12/21/2020 5:24:08 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	12/23/2020 12:02:36 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 3:49:53 AM
Toluene	ND	0.049		mg/Kg	1	12/20/2020 3:49:53 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2020 3:49:53 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 3:49:53 AM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	12/20/2020 3:49:53 AM
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	12/20/2020 3:49:53 AM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	12/20/2020 3:49:53 AM
Surr: Toluene-d8	95.3	70-130		%Rec	1	12/20/2020 3:49:53 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2020 3:49:53 AM
Surr: BFB	101	70-130		%Rec	1	12/20/2020 3:49:53 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-003 **Matrix:** SOIL

Client Sample ID: BS20-03
Collection Date: 12/16/2020 12:35:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	1400	98		mg/Kg	10	12/22/2020 1:47:03 PM
Motor Oil Range Organics (MRO)	960	490		mg/Kg	10	12/22/2020 1:47:03 PM
Surr: DNOP	0	30.4-154	S	%Rec	10	12/22/2020 1:47:03 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	2800	150		mg/Kg	50	12/23/2020 3:16:46 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	12/20/2020 5:15:48 AM
Toluene	ND	0.049		mg/Kg	1	12/20/2020 5:15:48 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2020 5:15:48 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/20/2020 5:15:48 AM
Surr: 1,2-Dichloroethane-d4	99.0	70-130		%Rec	1	12/20/2020 5:15:48 AM
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	12/20/2020 5:15:48 AM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	12/20/2020 5:15:48 AM
Surr: Toluene-d8	97.2	70-130		%Rec	1	12/20/2020 5:15:48 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2020 5:15:48 AM
Surr: BFB	104	70-130		%Rec	1	12/20/2020 5:15:48 AM

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-04
Project: Gaucho Unit 6H
Collection Date: 12/16/2020 12:40:00 PM
Lab ID: 2012932-004 **Matrix:** SOIL **Received Date:** 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/21/2020 5:43:27 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/21/2020 5:43:27 PM
Surr: DNOP	131	30.4-154		%Rec	1	12/21/2020 5:43:27 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	150	60		mg/Kg	20	12/23/2020 1:17:03 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 5:44:21 AM
Toluene	ND	0.050		mg/Kg	1	12/20/2020 5:44:21 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/20/2020 5:44:21 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/20/2020 5:44:21 AM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	12/20/2020 5:44:21 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/20/2020 5:44:21 AM
Surr: Dibromofluoromethane	109	70-130		%Rec	1	12/20/2020 5:44:21 AM
Surr: Toluene-d8	94.9	70-130		%Rec	1	12/20/2020 5:44:21 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/20/2020 5:44:21 AM
Surr: BFB	104	70-130		%Rec	1	12/20/2020 5:44:21 AM

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-05
Project: Gaucho Unit 6H
Collection Date: 12/16/2020 12:45:00 PM
Lab ID: 2012932-005 **Matrix:** SOIL **Received Date:** 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/21/2020 5:53:05 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/21/2020 5:53:05 PM
Surr: DNOP	108	30.4-154		%Rec	1	12/21/2020 5:53:05 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	12/23/2020 4:28:21 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 6:12:49 AM
Toluene	ND	0.049		mg/Kg	1	12/20/2020 6:12:49 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2020 6:12:49 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 6:12:49 AM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	12/20/2020 6:12:49 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/20/2020 6:12:49 AM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	12/20/2020 6:12:49 AM
Surr: Toluene-d8	96.4	70-130		%Rec	1	12/20/2020 6:12:49 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2020 6:12:49 AM
Surr: BFB	106	70-130		%Rec	1	12/20/2020 6:12:49 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-006 **Matrix:** SOIL

Client Sample ID: BS20-06
Collection Date: 12/16/2020 12:50:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/21/2020 6:02:41 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/21/2020 6:02:41 PM
Surr: DNOP	99.9	30.4-154		%Rec	1	12/21/2020 6:02:41 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	12/23/2020 5:05:35 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 6:41:15 AM
Toluene	ND	0.049		mg/Kg	1	12/20/2020 6:41:15 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2020 6:41:15 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 6:41:15 AM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	12/20/2020 6:41:15 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/20/2020 6:41:15 AM
Surr: Dibromofluoromethane	100	70-130		%Rec	1	12/20/2020 6:41:15 AM
Surr: Toluene-d8	95.0	70-130		%Rec	1	12/20/2020 6:41:15 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2020 6:41:15 AM
Surr: BFB	102	70-130		%Rec	1	12/20/2020 6:41:15 AM

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-007 **Matrix:** SOIL

Client Sample ID: BS20-07
Collection Date: 12/16/2020 12:55:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	1500	96		mg/Kg	10	12/22/2020 1:56:19 PM
Motor Oil Range Organics (MRO)	1700	480		mg/Kg	10	12/22/2020 1:56:19 PM
Surr: DNOP	0	30.4-154	S	%Rec	10	12/22/2020 1:56:19 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	1100	61		mg/Kg	20	12/23/2020 5:17:59 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	12/20/2020 7:09:53 AM
Toluene	ND	0.049		mg/Kg	1	12/20/2020 7:09:53 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2020 7:09:53 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/20/2020 7:09:53 AM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	12/20/2020 7:09:53 AM
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	1	12/20/2020 7:09:53 AM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	12/20/2020 7:09:53 AM
Surr: Toluene-d8	98.2	70-130		%Rec	1	12/20/2020 7:09:53 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2020 7:09:53 AM
Surr: BFB	105	70-130		%Rec	1	12/20/2020 7:09:53 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-008 **Matrix:** SOIL

Client Sample ID: BS20-08
Collection Date: 12/16/2020 1:00:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	12/22/2020 2:05:46 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/22/2020 2:05:46 PM
Surr: DNOP	80.9	30.4-154		%Rec	1	12/22/2020 2:05:46 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	1700	60		mg/Kg	20	12/23/2020 5:30:24 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 7:38:37 AM
Toluene	ND	0.049		mg/Kg	1	12/20/2020 7:38:37 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2020 7:38:37 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 7:38:37 AM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	12/20/2020 7:38:37 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/20/2020 7:38:37 AM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	12/20/2020 7:38:37 AM
Surr: Toluene-d8	97.4	70-130		%Rec	1	12/20/2020 7:38:37 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2020 7:38:37 AM
Surr: BFB	107	70-130		%Rec	1	12/20/2020 7:38:37 AM

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BS20-09
Project: Gaucho Unit 6H
Collection Date: 12/16/2020 1:09:00 PM
Lab ID: 2012932-009 **Matrix:** SOIL **Received Date:** 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	17	9.3		mg/Kg	1	12/22/2020 2:15:19 PM
Motor Oil Range Organics (MRO)	79	46		mg/Kg	1	12/22/2020 2:15:19 PM
Surr: DNOP	105	30.4-154		%Rec	1	12/22/2020 2:15:19 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	100	60		mg/Kg	20	12/23/2020 5:42:48 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 8:06:58 AM
Toluene	ND	0.050		mg/Kg	1	12/20/2020 8:06:58 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/20/2020 8:06:58 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 8:06:58 AM
Surr: 1,2-Dichloroethane-d4	99.5	70-130		%Rec	1	12/20/2020 8:06:58 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/20/2020 8:06:58 AM
Surr: Dibromofluoromethane	101	70-130		%Rec	1	12/20/2020 8:06:58 AM
Surr: Toluene-d8	97.4	70-130		%Rec	1	12/20/2020 8:06:58 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/20/2020 8:06:58 AM
Surr: BFB	108	70-130		%Rec	1	12/20/2020 8:06:58 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-010 **Matrix:** SOIL

Client Sample ID: BS20-10
Collection Date: 12/16/2020 1:10:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/21/2020 6:40:52 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/21/2020 6:40:52 PM
Surr: DNOP	84.4	30.4-154		%Rec	1	12/21/2020 6:40:52 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	59		mg/Kg	20	12/23/2020 5:55:12 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 8:35:16 AM
Toluene	ND	0.050		mg/Kg	1	12/20/2020 8:35:16 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/20/2020 8:35:16 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 8:35:16 AM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	12/20/2020 8:35:16 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/20/2020 8:35:16 AM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	12/20/2020 8:35:16 AM
Surr: Toluene-d8	94.6	70-130		%Rec	1	12/20/2020 8:35:16 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/20/2020 8:35:16 AM
Surr: BFB	102	70-130		%Rec	1	12/20/2020 8:35:16 AM

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-011 **Matrix:** SOIL

Client Sample ID: BS20-11
Collection Date: 12/16/2020 1:15:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/21/2020 6:50:21 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/21/2020 6:50:21 PM
Surr: DNOP	76.8	30.4-154		%Rec	1	12/21/2020 6:50:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	12/23/2020 6:07:37 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 9:03:34 AM
Toluene	ND	0.050		mg/Kg	1	12/20/2020 9:03:34 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/20/2020 9:03:34 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 9:03:34 AM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	12/20/2020 9:03:34 AM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/20/2020 9:03:34 AM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	12/20/2020 9:03:34 AM
Surr: Toluene-d8	94.6	70-130		%Rec	1	12/20/2020 9:03:34 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/20/2020 9:03:34 AM
Surr: BFB	104	70-130		%Rec	1	12/20/2020 9:03:34 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-012 **Matrix:** SOIL

Client Sample ID: BS20-12
Collection Date: 12/16/2020 1:20:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/21/2020 6:59:50 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/21/2020 6:59:50 PM
Surr: DNOP	83.7	30.4-154		%Rec	1	12/21/2020 6:59:50 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	68	60		mg/Kg	20	12/23/2020 6:20:02 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 9:31:55 AM
Toluene	ND	0.050		mg/Kg	1	12/20/2020 9:31:55 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/20/2020 9:31:55 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 9:31:55 AM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	12/20/2020 9:31:55 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/20/2020 9:31:55 AM
Surr: Dibromofluoromethane	100	70-130		%Rec	1	12/20/2020 9:31:55 AM
Surr: Toluene-d8	94.2	70-130		%Rec	1	12/20/2020 9:31:55 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/20/2020 9:31:55 AM
Surr: BFB	105	70-130		%Rec	1	12/20/2020 9:31:55 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-013 **Matrix:** SOIL

Client Sample ID: BS20-13
Collection Date: 12/16/2020 1:40:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/21/2020 7:09:17 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/21/2020 7:09:17 PM
Surr: DNOP	88.6	30.4-154		%Rec	1	12/21/2020 7:09:17 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	12/23/2020 6:32:26 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 1:34:20 PM
Toluene	ND	0.050		mg/Kg	1	12/20/2020 1:34:20 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/20/2020 1:34:20 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 1:34:20 PM
Surr: 1,2-Dichloroethane-d4	99.7	70-130		%Rec	1	12/20/2020 1:34:20 PM
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	12/20/2020 1:34:20 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	12/20/2020 1:34:20 PM
Surr: Toluene-d8	97.8	70-130		%Rec	1	12/20/2020 1:34:20 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/20/2020 1:34:20 PM
Surr: BFB	104	70-130		%Rec	1	12/20/2020 1:34:20 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-014 **Matrix:** SOIL

Client Sample ID: BS20-14
Collection Date: 12/16/2020 1:45:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	12/21/2020 7:18:43 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/21/2020 7:18:43 PM
Surr: DNOP	77.3	30.4-154		%Rec	1	12/21/2020 7:18:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	12/23/2020 6:44:50 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 2:02:45 PM
Toluene	ND	0.050		mg/Kg	1	12/20/2020 2:02:45 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/20/2020 2:02:45 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 2:02:45 PM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	12/20/2020 2:02:45 PM
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	12/20/2020 2:02:45 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	12/20/2020 2:02:45 PM
Surr: Toluene-d8	96.8	70-130		%Rec	1	12/20/2020 2:02:45 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/20/2020 2:02:45 PM
Surr: BFB	103	70-130		%Rec	1	12/20/2020 2:02:45 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-015 **Matrix:** SOIL

Client Sample ID: BS20-15
Collection Date: 12/16/2020 1:50:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/21/2020 7:28:08 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/21/2020 7:28:08 PM
Surr: DNOP	70.9	30.4-154		%Rec	1	12/21/2020 7:28:08 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	59		mg/Kg	20	12/23/2020 6:57:15 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	12/20/2020 2:31:16 PM
Toluene	ND	0.048		mg/Kg	1	12/20/2020 2:31:16 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/20/2020 2:31:16 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/20/2020 2:31:16 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	12/20/2020 2:31:16 PM
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	12/20/2020 2:31:16 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	12/20/2020 2:31:16 PM
Surr: Toluene-d8	94.8	70-130		%Rec	1	12/20/2020 2:31:16 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/20/2020 2:31:16 PM
Surr: BFB	103	70-130		%Rec	1	12/20/2020 2:31:16 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-016 **Matrix:** SOIL

Client Sample ID: BS20-16
Collection Date: 12/16/2020 1:55:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	25	9.4		mg/Kg	1	12/21/2020 7:37:32 PM
Motor Oil Range Organics (MRO)	81	47		mg/Kg	1	12/21/2020 7:37:32 PM
Surr: DNOP	88.7	30.4-154		%Rec	1	12/21/2020 7:37:32 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	12/23/2020 7:34:29 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 2:59:44 PM
Toluene	ND	0.050		mg/Kg	1	12/20/2020 2:59:44 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/20/2020 2:59:44 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 2:59:44 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	12/20/2020 2:59:44 PM
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	1	12/20/2020 2:59:44 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	12/20/2020 2:59:44 PM
Surr: Toluene-d8	98.4	70-130		%Rec	1	12/20/2020 2:59:44 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/20/2020 2:59:44 PM
Surr: BFB	106	70-130		%Rec	1	12/20/2020 2:59:44 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-017 **Matrix:** SOIL

Client Sample ID: BS20-17
Collection Date: 12/16/2020 2:00:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	240	9.6		mg/Kg	1	12/21/2020 7:46:59 PM
Motor Oil Range Organics (MRO)	500	48		mg/Kg	1	12/21/2020 7:46:59 PM
Surr: DNOP	106	30.4-154		%Rec	1	12/21/2020 7:46:59 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	170	60		mg/Kg	20	12/23/2020 7:46:53 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 3:28:13 PM
Toluene	ND	0.050		mg/Kg	1	12/20/2020 3:28:13 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/20/2020 3:28:13 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 3:28:13 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	12/20/2020 3:28:13 PM
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	12/20/2020 3:28:13 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	12/20/2020 3:28:13 PM
Surr: Toluene-d8	97.0	70-130		%Rec	1	12/20/2020 3:28:13 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/20/2020 3:28:13 PM
Surr: BFB	104	70-130		%Rec	1	12/20/2020 3:28:13 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6H
Lab ID: 2012932-018 **Matrix:** SOIL

Client Sample ID: BS20-18
Collection Date: 12/16/2020 2:10:00 PM
Received Date: 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	290	9.6		mg/Kg	1	12/21/2020 7:56:25 PM
Motor Oil Range Organics (MRO)	590	48		mg/Kg	1	12/21/2020 7:56:25 PM
Surr: DNOP	112	30.4-154		%Rec	1	12/21/2020 7:56:25 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	120	60		mg/Kg	20	12/23/2020 7:59:18 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 3:56:44 PM
Toluene	ND	0.050		mg/Kg	1	12/20/2020 3:56:44 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/20/2020 3:56:44 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/20/2020 3:56:44 PM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	12/20/2020 3:56:44 PM
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	12/20/2020 3:56:44 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	12/20/2020 3:56:44 PM
Surr: Toluene-d8	95.5	70-130		%Rec	1	12/20/2020 3:56:44 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/20/2020 3:56:44 PM
Surr: BFB	102	70-130		%Rec	1	12/20/2020 3:56:44 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-01
Project: Gaucho Unit 6H
Collection Date: 12/16/2020 12:05:00 PM
Lab ID: 2012932-019 **Matrix:** SOIL **Received Date:** 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/21/2020 8:05:48 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/21/2020 8:05:48 PM
Surr: DNOP	50.9	30.4-154		%Rec	1	12/21/2020 8:05:48 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	12/23/2020 8:11:42 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.024		mg/Kg	1	12/20/2020 4:25:17 PM
Toluene	ND	0.049		mg/Kg	1	12/20/2020 4:25:17 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2020 4:25:17 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/20/2020 4:25:17 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	12/20/2020 4:25:17 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/20/2020 4:25:17 PM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	12/20/2020 4:25:17 PM
Surr: Toluene-d8	93.9	70-130		%Rec	1	12/20/2020 4:25:17 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2020 4:25:17 PM
Surr: BFB	104	70-130		%Rec	1	12/20/2020 4:25:17 PM

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-02
Project: Gaucho Unit 6H
Collection Date: 12/16/2020 12:10:00 PM
Lab ID: 2012932-020 **Matrix:** SOIL **Received Date:** 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/21/2020 8:15:11 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/21/2020 8:15:11 PM
Surr: DNOP	52.2	30.4-154		%Rec	1	12/21/2020 8:15:11 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	12/23/2020 8:24:07 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 4:53:48 PM
Toluene	ND	0.049		mg/Kg	1	12/20/2020 4:53:48 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2020 4:53:48 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 4:53:48 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	12/20/2020 4:53:48 PM
Surr: 4-Bromofluorobenzene	99.0	70-130		%Rec	1	12/20/2020 4:53:48 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	12/20/2020 4:53:48 PM
Surr: Toluene-d8	95.2	70-130		%Rec	1	12/20/2020 4:53:48 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2020 4:53:48 PM
Surr: BFB	102	70-130		%Rec	1	12/20/2020 4:53:48 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-03
Project: Gaucho Unit 6H
Collection Date: 12/16/2020 12:15:00 PM
Lab ID: 2012932-021 **Matrix:** SOIL **Received Date:** 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/22/2020 6:55:12 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/22/2020 6:55:12 PM
Surr: DNOP	72.7	30.4-154		%Rec	1	12/22/2020 6:55:12 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	170	60		mg/Kg	20	12/23/2020 8:36:31 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 5:22:16 PM
Toluene	ND	0.049		mg/Kg	1	12/20/2020 5:22:16 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/20/2020 5:22:16 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 5:22:16 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	12/20/2020 5:22:16 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/20/2020 5:22:16 PM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	12/20/2020 5:22:16 PM
Surr: Toluene-d8	95.2	70-130		%Rec	1	12/20/2020 5:22:16 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/20/2020 5:22:16 PM
Surr: BFB	105	70-130		%Rec	1	12/20/2020 5:22:16 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012932**
Date Reported: **12/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WS20-04
Project: Gaucho Unit 6H
Collection Date: 12/16/2020 12:20:00 PM
Lab ID: 2012932-022 **Matrix:** SOIL **Received Date:** 12/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	58	9.4		mg/Kg	1	12/22/2020 7:23:55 PM
Motor Oil Range Organics (MRO)	120	47		mg/Kg	1	12/22/2020 7:23:55 PM
Surr: DNOP	68.3	30.4-154		%Rec	1	12/22/2020 7:23:55 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	12/23/2020 8:48:55 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	0.025		mg/Kg	1	12/20/2020 6:47:46 PM
Toluene	ND	0.050		mg/Kg	1	12/20/2020 6:47:46 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/20/2020 6:47:46 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/20/2020 6:47:46 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	12/20/2020 6:47:46 PM
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	12/20/2020 6:47:46 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	12/20/2020 6:47:46 PM
Surr: Toluene-d8	98.2	70-130		%Rec	1	12/20/2020 6:47:46 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/20/2020 6:47:46 PM
Surr: BFB	106	70-130		%Rec	1	12/20/2020 6:47:46 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	Value above quantitation range
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 range due to dilution or matrix

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012932**
24-Dec-20

Client: Devon Energy
Project: Gaucho Unit 6H

Sample ID: **MB-57163** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **57163** RunNo: **74197**
Prep Date: **12/22/2020** Analysis Date: **12/22/2020** SeqNo: **2619021** Units: **mg/Kg**

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

Sample ID: **LCS-57163** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **57163** RunNo: **74197**
Prep Date: **12/22/2020** Analysis Date: **12/22/2020** SeqNo: **2619022** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

Sample ID: **MB-57200** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **57200** RunNo: **74206**
Prep Date: **12/23/2020** Analysis Date: **12/23/2020** SeqNo: **2619966** Units: **mg/Kg**

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

Sample ID: **LCS-57200** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **57200** RunNo: **74206**
Prep Date: **12/23/2020** Analysis Date: **12/23/2020** SeqNo: **2619967** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012932**
24-Dec-20

Client: Devon Energy
Project: Gaucho Unit 6H

Sample ID: **2012932-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-01** Batch ID: **57122** RunNo: **74169**
Prep Date: **12/21/2020** Analysis Date: **12/21/2020** SeqNo: **2617499** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	49.95	0	99.4	15	184			
Surr: DNOP	5.2		4.995		105	30.4	154			

Sample ID: **2012932-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BS20-01** Batch ID: **57122** RunNo: **74169**
Prep Date: **12/21/2020** Analysis Date: **12/21/2020** SeqNo: **2617500** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	9.6	47.80	0	82.9	15	184	22.5	23.9	
Surr: DNOP	4.0		4.780		83.8	30.4	154	0	0	

Sample ID: **LCS-57122** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **57122** RunNo: **74169**
Prep Date: **12/21/2020** Analysis Date: **12/21/2020** SeqNo: **2617544** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.00	0	120	70	130			
Surr: DNOP	6.4		5.000		128	30.4	154			

Sample ID: **MB-57122** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **57122** RunNo: **74169**
Prep Date: **12/21/2020** Analysis Date: **12/21/2020** SeqNo: **2617547** 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	9.9		10.00		98.8	30.4	154			

Sample ID: **2012932-021AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **WS20-03** Batch ID: **57128** RunNo: **74191**
Prep Date: **12/21/2020** Analysis Date: **12/22/2020** SeqNo: **2618544** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	9.3	46.73	0	86.2	15	184			
Surr: DNOP	3.8		4.673		80.7	30.4	154			

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012932**
24-Dec-20

Client: Devon Energy
Project: Gaucho Unit 6H

Sample ID: **2012932-021AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **WS20-03** Batch ID: **57128** RunNo: **74191**
Prep Date: **12/21/2020** Analysis Date: **12/22/2020** SeqNo: **2618545** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.7	48.36	0	94.6	15	184	12.7	23.9	
Surr: DNOP	4.4		4.836		90.3	30.4	154	0	0	

Sample ID: **LCS-57128** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **57128** RunNo: **74191**
Prep Date: **12/21/2020** Analysis Date: **12/22/2020** SeqNo: **2618632** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.00	0	111	68.9	141			
Surr: DNOP	5.5		5.000		111	30.4	154			

Sample ID: **MB-57128** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **57128** RunNo: **74191**
Prep Date: **12/21/2020** Analysis Date: **12/22/2020** SeqNo: **2618636** 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	9.6		10.00		95.9	30.4	154			

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012932**
24-Dec-20

Client: Devon Energy
Project: Gaucho Unit 6H

Sample ID: **mb-57101** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **57101** RunNo: **74136**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616008** 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: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		97.0	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		107	70	130			
Surr: Toluene-d8	0.49		0.5000		97.6	70	130			

Sample ID: **lcs-57101** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **57101** RunNo: **74136**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616009** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	109	80	120			
Toluene	1.1	0.050	1.000	0	109	80	120			
Ethylbenzene	1.1	0.050	1.000	0	106	80	120			
Xylenes, Total	3.4	0.10	3.000	0	112	80	120			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		101	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		109	70	130			
Surr: Toluene-d8	0.48		0.5000		95.6	70	130			

Sample ID: **2012932-001ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BS20-01** Batch ID: **57101** RunNo: **74136**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616011** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9911	0	105	71.1	115			
Toluene	1.0	0.050	0.9911	0	105	79.6	132			
Ethylbenzene	1.1	0.050	0.9911	0	106	83.8	134			
Xylenes, Total	3.3	0.099	2.973	0	109	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.51		0.4955		102	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.4955		102	70	130			
Surr: Dibromofluoromethane	0.52		0.4955		105	70	130			
Surr: Toluene-d8	0.47		0.4955		95.4	70	130			

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012932**
24-Dec-20

Client: Devon Energy
Project: Gaucho Unit 6H

Sample ID: **2012932-001amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BS20-01** Batch ID: **57101** RunNo: **74136**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616012** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9872	0	115	71.1	115	8.72	20	
Toluene	1.1	0.049	0.9872	0	116	79.6	132	9.89	20	
Ethylbenzene	1.1	0.049	0.9872	0	116	83.8	134	8.52	20	
Xylenes, Total	3.6	0.099	2.962	0	120	82.4	132	8.94	20	
Surr: 1,2-Dichloroethane-d4	0.50		0.4936		101	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.50		0.4936		101	70	130	0	0	
Surr: Dibromofluoromethane	0.53		0.4936		108	70	130	0	0	
Surr: Toluene-d8	0.48		0.4936		96.7	70	130	0	0	

Sample ID: **mb-57108** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **57108** RunNo: **74140**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616257** 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: 1,2-Dichloroethane-d4	0.51		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		106	70	130			
Surr: Toluene-d8	0.48		0.5000		95.9	70	130			

Sample ID: **lcs-57108** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **57108** RunNo: **74140**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616258** 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	104	80	120			
Toluene	1.1	0.050	1.000	0	107	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.3	0.10	3.000	0	111	80	120			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		103	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		105	70	130			
Surr: Toluene-d8	0.48		0.5000		96.0	70	130			

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012932**
24-Dec-20

Client: Devon Energy
Project: Gaucho Unit 6H

Sample ID: **2012932-021ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **WS20-03** Batch ID: **57108** RunNo: **74140**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616260** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9794	0	113	71.1	115			
Toluene	1.1	0.049	0.9794	0	114	79.6	132			
Ethylbenzene	1.1	0.049	0.9794	0	114	83.8	134			
Xylenes, Total	3.5	0.098	2.938	0	118	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.51		0.4897		104	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.4897		99.6	70	130			
Surr: Dibromofluoromethane	0.53		0.4897		108	70	130			
Surr: Toluene-d8	0.48		0.4897		98.1	70	130			

Sample ID: **2012932-021amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **WS20-03** Batch ID: **57108** RunNo: **74140**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616261** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9930	0	108	71.1	115	3.66	20	
Toluene	1.1	0.050	0.9930	0	108	79.6	132	3.51	20	
Ethylbenzene	1.1	0.050	0.9930	0	112	83.8	134	0.0620	20	
Xylenes, Total	3.4	0.099	2.979	0	115	82.4	132	1.10	20	
Surr: 1,2-Dichloroethane-d4	0.49		0.4965		98.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.49		0.4965		98.6	70	130	0	0	
Surr: Dibromofluoromethane	0.52		0.4965		105	70	130	0	0	
Surr: Toluene-d8	0.49		0.4965		97.7	70	130	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012932**
24-Dec-20

Client: Devon Energy
Project: Gaucho Unit 6H

Sample ID: **mb-57101** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **57101** RunNo: **74136**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616049** 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	510		500.0		102	70	130			

Sample ID: **lcs-57101** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **57101** RunNo: **74136**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616050** 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	83.6	70	130			
Surr: BFB	510		500.0		101	70	130			

Sample ID: **2012932-002ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BS20-02** Batch ID: **57101** RunNo: **74136**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616053** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.8	24.15	0	76.9	49.2	122			
Surr: BFB	510		483.1		105	70	130			

Sample ID: **2012932-002amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BS20-02** Batch ID: **57101** RunNo: **74136**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616054** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.9	24.46	0	88.5	49.2	122	15.2	20	
Surr: BFB	520		489.2		105	70	130	0	0	

Sample ID: **mb-57108** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **57108** RunNo: **74140**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616291** 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	520		500.0		103	70	130			

Sample ID: **lcs-57108** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **57108** RunNo: **74140**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616292** 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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012932**
24-Dec-20

Client: Devon Energy
Project: Gaucho Unit 6H

Sample ID: **lcs-57108** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **57108** RunNo: **74140**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616292** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.6	70	130			
Surr: BFB	520		500.0		105	70	130			

Sample ID: **2012932-022ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **WS20-04** Batch ID: **57108** RunNo: **74140**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616295** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	23.97	0	92.2	49.2	122			
Surr: BFB	510		479.4		107	70	130			

Sample ID: **2012932-022amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **WS20-04** Batch ID: **57108** RunNo: **74140**
Prep Date: **12/18/2020** Analysis Date: **12/20/2020** SeqNo: **2616296** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	24.95	0	85.5	49.2	122	3.51	20	
Surr: BFB	520		499.0		104	70	130	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **Devon Energy** Work Order Number: **2012932** RcptNo: 1

Received By: **Emily Mocho** **12/18/2020 8:00:00 AM**

Completed By: **Emily Mocho** **12/18/2020 8:17:04 AM**

Reviewed By: SGL 12/18/20

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 ☐	# 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: JR 12/18/20

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	2.6	Good				

Chain-of-Custody Record

Client: Devon Energy

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: Gaucho Unit 6H

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: J.B

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.3+0.3=2.6 (°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. 2012932	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)
12-10	12:25	soil	BS20-01	4oz	ice	001										
	12:30		BS20-02			002										
	12:35		BS20-03			003										
	12:40		BS20-04			004										
	12:45		BS20-05			005										
	12:50		BS20-06			006										
	12:55		BS20-07			007										
	1:00		BS20-08			008										
	1:05		BS20-09			009										
	1:10		BS20-10			010										
	1:15		BS20-11			011										
	1:20		BS20-12			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
			ACummings		12/17/20	1200
Date: 12/17/20	Time: 1900	Relinquished by: ACummings	Received by:	Via:	Date	Time
			Em	courier	12/18/20	800

Remarks: CC: Natalie Gordon

Work Order: 20715639

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 Energy

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: Gaucho Unit 6H

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: JR

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.3+0.3=2.6 (°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. 2012932	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)
12-16	1:40	soil	BS20-13	4oz	ice	013										
	1:45		BS20-14			014										
	1:50		BS20-15			015										
	1:55		BS20-16			016										
	2:00		BS20-17			017										
	2:10		BS20-18			018										
	12:05		WS20-01			019										
	12:10		WS20-02			020										
	12:15		WS20-03			021										
	12:20		WS20-04			022										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
			[signature]		12/17/20	1200
Date: 12/17/20	Time: 1900	Relinquished by: [signature]	Received by: EM	Via: courier	Date: 12/18/20	Time: 800

Remarks: CC: Natalie Gordon

WO# 207/5639

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 5/29/2024 3:20:16 PM

JOB DESCRIPTION

Gaucho Unit 006 CTB

JOB NUMBER

885-4827-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

my EOL

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
5/29/2024 3:20:16 PM

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

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Laboratory Job ID: 885-4827-1

Table of Contents

Definitions/Glossary

Client: Vertex Job ID: 885-4827-1
Project/Site: Gaucho Unit 006 CTB

Qualifiers

GC VOA

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

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

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: Gaucho Unit 006 CTB

Job ID: 885-4827-1

Job ID: 885-4827-1 Eurofins Albuquerque

Job Narrative
885-4827-1

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 5/21/2024 7:30 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 0.9°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: Gaucho Unit 006 CTB

Job ID: 885-4827-1

Client Sample ID: BS20-03 0.5'

Date Collected: 05/17/24 08:30
Date Received: 05/21/24 07:30

Lab Sample ID: 885-4827-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		05/21/24 14:26	05/25/24 04:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*35 - 166*	*05/21/24 14:26*	*05/25/24 04:38*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/21/24 14:26	05/25/24 04:38	1
Ethylbenzene	ND		0.049		mg/Kg		05/21/24 14:26	05/25/24 04:38	1
Toluene	ND		0.049		mg/Kg		05/21/24 14:26	05/25/24 04:38	1
Xylenes, Total	ND		0.098		mg/Kg		05/21/24 14:26	05/25/24 04:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*48 - 145*	*05/21/24 14:26*	*05/25/24 04:38*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6		mg/Kg		05/22/24 14:43	05/23/24 13:59	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		05/22/24 14:43	05/23/24 13:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*82*		*62 - 134*	*05/22/24 14:43*	*05/23/24 13:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	F1	60		mg/Kg		05/23/24 07:13	05/23/24 08:54	20

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

Client Sample ID: BS20-07 0.5'

Date Collected: 05/17/24 09:15
Date Received: 05/21/24 07:30

Lab Sample ID: 885-4827-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		05/21/24 14:26	05/25/24 05:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*35 - 166*	*05/21/24 14:26*	*05/25/24 05:48*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/21/24 14:26	05/25/24 05:48	1
Ethylbenzene	ND		0.048		mg/Kg		05/21/24 14:26	05/25/24 05:48	1
Toluene	ND		0.048		mg/Kg		05/21/24 14:26	05/25/24 05:48	1
Xylenes, Total	ND		0.097		mg/Kg		05/21/24 14:26	05/25/24 05:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*05/21/24 14:26*	*05/25/24 05:48*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.1		mg/Kg		05/22/24 14:43	05/23/24 14:10	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		05/22/24 14:43	05/23/24 14:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*84*		*62 - 134*	*05/22/24 14:43*	*05/23/24 14:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1300**		60		mg/Kg		05/23/24 07:13	05/23/24 09:31	20

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

Client Sample ID: BS20-08 0.5'

Date Collected: 05/17/24 10:00
Date Received: 05/21/24 07:30

Lab Sample ID: 885-4827-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		05/21/24 14:26	05/25/24 06:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*35 - 166*	*05/21/24 14:26*	*05/25/24 06:58*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/21/24 14:26	05/25/24 06:58	1
Ethylbenzene	ND		0.048		mg/Kg		05/21/24 14:26	05/25/24 06:58	1
Toluene	ND		0.048		mg/Kg		05/21/24 14:26	05/25/24 06:58	1
Xylenes, Total	ND		0.096		mg/Kg		05/21/24 14:26	05/25/24 06:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*48 - 145*	*05/21/24 14:26*	*05/25/24 06:58*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**17**		10		mg/Kg		05/29/24 09:34	05/29/24 11:31	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		05/29/24 09:34	05/29/24 11:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*86*		*62 - 134*	*05/29/24 09:34*	*05/29/24 11:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1100**		60		mg/Kg		05/23/24 07:13	05/23/24 09:43	20

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

Client Sample ID: BS20-17 0.5'

Date Collected: 05/17/24 12:15
Date Received: 05/21/24 07:30

Lab Sample ID: 885-4827-4

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		05/21/24 14:26	05/25/24 07:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*35 - 166*	*05/21/24 14:26*	*05/25/24 07:22*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/21/24 14:26	05/25/24 07:22	1
Ethylbenzene	ND		0.047		mg/Kg		05/21/24 14:26	05/25/24 07:22	1
Toluene	ND		0.047		mg/Kg		05/21/24 14:26	05/25/24 07:22	1
Xylenes, Total	ND		0.095		mg/Kg		05/21/24 14:26	05/25/24 07:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*48 - 145*	*05/21/24 14:26*	*05/25/24 07:22*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.0		mg/Kg		05/22/24 14:43	05/23/24 15:23	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		05/22/24 14:43	05/23/24 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*86*		*62 - 134*	*05/22/24 14:43*	*05/23/24 15:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/23/24 07:13	05/23/24 09:56	20

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

Client Sample ID: BS20-18 0.5'

Date Collected: 05/17/24 12:30
Date Received: 05/21/24 07:30

Lab Sample ID: 885-4827-5

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		05/21/24 14:26	05/25/24 07:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*35 - 166*	*05/21/24 14:26*	*05/25/24 07:46*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/21/24 14:26	05/25/24 07:46	1
Ethylbenzene	ND		0.050		mg/Kg		05/21/24 14:26	05/25/24 07:46	1
Toluene	ND		0.050		mg/Kg		05/21/24 14:26	05/25/24 07:46	1
Xylenes, Total	ND		0.099		mg/Kg		05/21/24 14:26	05/25/24 07:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*48 - 145*	*05/21/24 14:26*	*05/25/24 07:46*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6		mg/Kg		05/22/24 14:43	05/23/24 15:34	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		05/22/24 14:43	05/23/24 15:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*132*		*62 - 134*	*05/22/24 14:43*	*05/23/24 15:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/23/24 07:13	05/23/24 12:00	20

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

Client Sample ID: BS24-19 0.5'

Date Collected: 05/17/24 13:45
Date Received: 05/21/24 07:30

Lab Sample ID: 885-4827-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		05/21/24 14:26	05/25/24 08:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*35 - 166*	*05/21/24 14:26*	*05/25/24 08:09*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/21/24 14:26	05/25/24 08:09	1
Ethylbenzene	ND		0.049		mg/Kg		05/21/24 14:26	05/25/24 08:09	1
Toluene	ND		0.049		mg/Kg		05/21/24 14:26	05/25/24 08:09	1
Xylenes, Total	ND		0.098		mg/Kg		05/21/24 14:26	05/25/24 08:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*48 - 145*	*05/21/24 14:26*	*05/25/24 08:09*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2		mg/Kg		05/22/24 14:43	05/23/24 15:45	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		05/22/24 14:43	05/23/24 15:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*103*		*62 - 134*	*05/22/24 14:43*	*05/23/24 15:45*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		61		mg/Kg		05/23/24 07:13	05/23/24 12:12	20

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

Client Sample ID: BS24-20 0.5'

Date Collected: 05/17/24 14:15
Date Received: 05/21/24 07:30

Lab Sample ID: 885-4827-7

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		05/21/24 14:26	05/25/24 09:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*35 - 166*	*05/21/24 14:26*	*05/25/24 09:20*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/21/24 14:26	05/25/24 09:20	1
Ethylbenzene	ND		0.050		mg/Kg		05/21/24 14:26	05/25/24 09:20	1
Toluene	ND		0.050		mg/Kg		05/21/24 14:26	05/25/24 09:20	1
Xylenes, Total	ND		0.10		mg/Kg		05/21/24 14:26	05/25/24 09:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*48 - 145*	*05/21/24 14:26*	*05/25/24 09:20*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6		mg/Kg		05/22/24 14:43	05/23/24 15:55	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		05/22/24 14:43	05/23/24 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*106*		*62 - 134*	*05/22/24 14:43*	*05/23/24 15:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		61		mg/Kg		05/23/24 07:13	05/23/24 12:25	20

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

Client Sample ID: BS24-21 0.5'

Date Collected: 05/17/24 15:00
Date Received: 05/21/24 07:30

Lab Sample ID: 885-4827-8

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		05/21/24 14:26	05/25/24 09:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*35 - 166*	*05/21/24 14:26*	*05/25/24 09:43*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/21/24 14:26	05/25/24 09:43	1
Ethylbenzene	ND		0.047		mg/Kg		05/21/24 14:26	05/25/24 09:43	1
Toluene	ND		0.047		mg/Kg		05/21/24 14:26	05/25/24 09:43	1
Xylenes, Total	ND		0.095		mg/Kg		05/21/24 14:26	05/25/24 09:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*05/21/24 14:26*	*05/25/24 09:43*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2		mg/Kg		05/22/24 14:43	05/23/24 16:06	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		05/22/24 14:43	05/23/24 16:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*114*		*62 - 134*	*05/22/24 14:43*	*05/23/24 16:06*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**790**		60		mg/Kg		05/23/24 07:13	05/23/24 12:37	20

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

Client Sample ID: BS24-22 0.5'

Date Collected: 05/17/24 10:30
Date Received: 05/21/24 07:30

Lab Sample ID: 885-4827-9

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		05/21/24 14:26	05/25/24 10:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*35 - 166*	*05/21/24 14:26*	*05/25/24 10:07*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/21/24 14:26	05/25/24 10:07	1
Ethylbenzene	ND		0.048		mg/Kg		05/21/24 14:26	05/25/24 10:07	1
Toluene	ND		0.048		mg/Kg		05/21/24 14:26	05/25/24 10:07	1
Xylenes, Total	ND		0.096		mg/Kg		05/21/24 14:26	05/25/24 10:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*05/21/24 14:26*	*05/25/24 10:07*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2		mg/Kg		05/22/24 14:43	05/23/24 16:17	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		05/22/24 14:43	05/23/24 16:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*69*		*62 - 134*	*05/22/24 14:43*	*05/23/24 16:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**300**		60		mg/Kg		05/23/24 07:13	05/23/24 12:49	20

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

Client Sample ID: BS24-23 0.5'

Date Collected: 05/17/24 11:15
Date Received: 05/21/24 07:30

Lab Sample ID: 885-4827-10

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		05/21/24 14:26	05/25/24 10:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*35 - 166*	*05/21/24 14:26*	*05/25/24 10:30*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/21/24 14:26	05/25/24 10:30	1
Ethylbenzene	ND		0.050		mg/Kg		05/21/24 14:26	05/25/24 10:30	1
Toluene	ND		0.050		mg/Kg		05/21/24 14:26	05/25/24 10:30	1
Xylenes, Total	ND		0.10		mg/Kg		05/21/24 14:26	05/25/24 10:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*48 - 145*	*05/21/24 14:26*	*05/25/24 10:30*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.8		mg/Kg		05/22/24 14:43	05/23/24 16:28	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		05/22/24 14:43	05/23/24 16:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*104*		*62 - 134*	*05/22/24 14:43*	*05/23/24 16:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/23/24 07:13	05/23/24 13:02	20

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

Client Sample ID: BS24-24 0.5'

Date Collected: 05/17/24 11:45
Date Received: 05/21/24 07:30

Lab Sample ID: 885-4827-11

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.9		mg/Kg		05/21/24 14:26	05/25/24 10:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*35 - 166*	*05/21/24 14:26*	*05/25/24 10:54*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/21/24 14:26	05/25/24 10:54	1
Ethylbenzene	ND		0.049		mg/Kg		05/21/24 14:26	05/25/24 10:54	1
Toluene	ND		0.049		mg/Kg		05/21/24 14:26	05/25/24 10:54	1
Xylenes, Total	ND		0.097		mg/Kg		05/21/24 14:26	05/25/24 10:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*48 - 145*	*05/21/24 14:26*	*05/25/24 10:54*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.4		mg/Kg		05/22/24 14:43	05/23/24 16:39	1
Motor Oil Range Organics [C28-C40]	ND		42		mg/Kg		05/22/24 14:43	05/23/24 16:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*77*		*62 - 134*	*05/22/24 14:43*	*05/23/24 16:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/23/24 07:13	05/23/24 13:14	20

Client Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

Client Sample ID: BS24-25 0.5'

Date Collected: 05/17/24 10:45
Date Received: 05/21/24 07:30

Lab Sample ID: 885-4827-12

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		05/21/24 14:26	05/25/24 11:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*35 - 166*	*05/21/24 14:26*	*05/25/24 11:17*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/21/24 14:26	05/25/24 11:17	1
Ethylbenzene	ND		0.048		mg/Kg		05/21/24 14:26	05/25/24 11:17	1
Toluene	ND		0.048		mg/Kg		05/21/24 14:26	05/25/24 11:17	1
Xylenes, Total	ND		0.097		mg/Kg		05/21/24 14:26	05/25/24 11:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*48 - 145*	*05/21/24 14:26*	*05/25/24 11:17*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		05/22/24 14:43	05/23/24 16:49	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		05/22/24 14:43	05/23/24 16:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*	*05/22/24 14:43*	*05/23/24 16:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/23/24 07:13	05/23/24 13:27	20

QC Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

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

Lab Sample ID: MB 885-5378/1-A
Matrix: Solid
Analysis Batch: 5644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5378

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		05/21/24 14:26	05/25/24 04:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*35 - 166*	*05/21/24 14:26*	*05/25/24 04:15*	*1*

Lab Sample ID: LCS 885-5378/2-A
Matrix: Solid
Analysis Batch: 5644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5378

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	22.2		mg/Kg		89	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*191*	*S1+*	*35 - 166*

Lab Sample ID: 885-4827-1 MS
Matrix: Solid
Analysis Batch: 5644

Client Sample ID: BS20-03 0.5'
Prep Type: Total/NA
Prep Batch: 5378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		24.5	21.1		mg/Kg		86	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*190*	*S1+*	*35 - 166*

Lab Sample ID: 885-4827-1 MSD
Matrix: Solid
Analysis Batch: 5644

Client Sample ID: BS20-03 0.5'
Prep Type: Total/NA
Prep Batch: 5378

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		24.4	21.9		mg/Kg		90	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*192*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-5378/1-A
Matrix: Solid
Analysis Batch: 5645

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5378

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/21/24 14:26	05/25/24 04:15	1
Ethylbenzene	ND		0.050		mg/Kg		05/21/24 14:26	05/25/24 04:15	1
Toluene	ND		0.050		mg/Kg		05/21/24 14:26	05/25/24 04:15	1

QC Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

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

Lab Sample ID: MB 885-5378/1-A
Matrix: Solid
Analysis Batch: 5645

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5378

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		05/21/24 14:26	05/25/24 04:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*48 - 145*	*05/21/24 14:26*	*05/25/24 04:15*	*1*

Lab Sample ID: LCS 885-5378/3-A
Matrix: Solid
Analysis Batch: 5645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5378

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.875		mg/Kg		87	70 - 130		
Ethylbenzene			1.00	0.841		mg/Kg		84	70 - 130		
m,p-Xylene			2.00	1.70		mg/Kg		85	70 - 130		
o-Xylene			1.00	0.828		mg/Kg		83	70 - 130		
Toluene			1.00	0.832		mg/Kg		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*

Lab Sample ID: 885-4827-2 MS
Matrix: Solid
Analysis Batch: 5645

Client Sample ID: BS20-07 0.5'
Prep Type: Total/NA
Prep Batch: 5378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.997	0.819		mg/Kg		82	70 - 130		
Ethylbenzene	ND		0.997	0.791		mg/Kg		79	70 - 130		
m,p-Xylene	ND		1.99	1.62		mg/Kg		80	70 - 130		
o-Xylene	ND		0.997	0.784		mg/Kg		79	70 - 130		
Toluene	ND		0.997	0.780		mg/Kg		77	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*

Lab Sample ID: 885-4827-2 MSD
Matrix: Solid
Analysis Batch: 5645

Client Sample ID: BS20-07 0.5'
Prep Type: Total/NA
Prep Batch: 5378

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.994	0.842		mg/Kg		85	70 - 130	3	20
Ethylbenzene	ND		0.994	0.816		mg/Kg		82	70 - 130	3	20
m,p-Xylene	ND		1.99	1.66		mg/Kg		82	70 - 130	2	20
o-Xylene	ND		0.994	0.817		mg/Kg		82	70 - 130	4	20
Toluene	ND		0.994	0.806		mg/Kg		80	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*

QC Sample Results

Client: Vertex

Job ID: 885-4827-1

Project/Site: Gaucho Unit 006 CTB

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

Lab Sample ID: MB 885-5470/1-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 5621

Prep Batch: 5470

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		05/22/24 14:43	05/23/24 12:34	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		05/22/24 14:43	05/23/24 12:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*115*		*62 - 134*	*05/22/24 14:43*	*05/23/24 12:34*	*1*

Lab Sample ID: LCS 885-5470/2-A

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 5621

Prep Batch: 5470

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	50.4		mg/Kg		101	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*

Lab Sample ID: MB 885-5770/1-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 5791

Prep Batch: 5770

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		05/29/24 09:34	05/29/24 11:09	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		05/29/24 09:34	05/29/24 11:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*87*		*62 - 134*	*05/29/24 09:34*	*05/29/24 11:09*	*1*

Lab Sample ID: LCS 885-5770/2-A

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 5791

Prep Batch: 5770

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	50.1		mg/Kg		100	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*82*		*62 - 134*

Lab Sample ID: 885-4827-3 MS

Client Sample ID: BS20-08 0.5'

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 5791

Prep Batch: 5770

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	17		49.2	57.8		mg/Kg		83	44 - 136		

QC Sample Results

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

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

Lab Sample ID: 885-4827-3 MS
Matrix: Solid
Analysis Batch: 5791

Client Sample ID: BS20-08 0.5'
Prep Type: Total/NA
Prep Batch: 5770

Surrogate	MS %Recovery	MS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*90*		*62 - 134*

Lab Sample ID: 885-4827-3 MSD
Matrix: Solid
Analysis Batch: 5791

Client Sample ID: BS20-08 0.5'
Prep Type: Total/NA
Prep Batch: 5770

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	17		49.0	57.5		mg/Kg		83	44 - 136	1	32

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Di-n-octyl phthalate (Surr)	*92*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-5491/1-A
Matrix: Solid
Analysis Batch: 5610

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5491

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		05/23/24 07:13	05/23/24 07:55	1

Lab Sample ID: LCS 885-5491/2-A
Matrix: Solid
Analysis Batch: 5610

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5491

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: Gaucho Unit 006 CTB

Job ID: 885-4827-1

GC VOA

Prep Batch: 5378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4827-1	BS20-03 0.5'	Total/NA	Solid	5030C	
885-4827-2	BS20-07 0.5'	Total/NA	Solid	5030C	
885-4827-3	BS20-08 0.5'	Total/NA	Solid	5030C	
885-4827-4	BS20-17 0.5'	Total/NA	Solid	5030C	
885-4827-5	BS20-18 0.5'	Total/NA	Solid	5030C	
885-4827-6	BS24-19 0.5'	Total/NA	Solid	5030C	
885-4827-7	BS24-20 0.5'	Total/NA	Solid	5030C	
885-4827-8	BS24-21 0.5'	Total/NA	Solid	5030C	
885-4827-9	BS24-22 0.5'	Total/NA	Solid	5030C	
885-4827-10	BS24-23 0.5'	Total/NA	Solid	5030C	
885-4827-11	BS24-24 0.5'	Total/NA	Solid	5030C	
885-4827-12	BS24-25 0.5'	Total/NA	Solid	5030C	
MB 885-5378/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-5378/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-5378/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-4827-1 MS	BS20-03 0.5'	Total/NA	Solid	5030C	
885-4827-1 MSD	BS20-03 0.5'	Total/NA	Solid	5030C	
885-4827-2 MS	BS20-07 0.5'	Total/NA	Solid	5030C	
885-4827-2 MSD	BS20-07 0.5'	Total/NA	Solid	5030C	

Analysis Batch: 5644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4827-1	BS20-03 0.5'	Total/NA	Solid	8015D	5378
885-4827-2	BS20-07 0.5'	Total/NA	Solid	8015D	5378
885-4827-3	BS20-08 0.5'	Total/NA	Solid	8015D	5378
885-4827-4	BS20-17 0.5'	Total/NA	Solid	8015D	5378
885-4827-5	BS20-18 0.5'	Total/NA	Solid	8015D	5378
885-4827-6	BS24-19 0.5'	Total/NA	Solid	8015D	5378
885-4827-7	BS24-20 0.5'	Total/NA	Solid	8015D	5378
885-4827-8	BS24-21 0.5'	Total/NA	Solid	8015D	5378
885-4827-9	BS24-22 0.5'	Total/NA	Solid	8015D	5378
885-4827-10	BS24-23 0.5'	Total/NA	Solid	8015D	5378
885-4827-11	BS24-24 0.5'	Total/NA	Solid	8015D	5378
885-4827-12	BS24-25 0.5'	Total/NA	Solid	8015D	5378
MB 885-5378/1-A	Method Blank	Total/NA	Solid	8015D	5378
LCS 885-5378/2-A	Lab Control Sample	Total/NA	Solid	8015D	5378
885-4827-1 MS	BS20-03 0.5'	Total/NA	Solid	8015D	5378
885-4827-1 MSD	BS20-03 0.5'	Total/NA	Solid	8015D	5378

Analysis Batch: 5645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4827-1	BS20-03 0.5'	Total/NA	Solid	8021B	5378
885-4827-2	BS20-07 0.5'	Total/NA	Solid	8021B	5378
885-4827-3	BS20-08 0.5'	Total/NA	Solid	8021B	5378
885-4827-4	BS20-17 0.5'	Total/NA	Solid	8021B	5378
885-4827-5	BS20-18 0.5'	Total/NA	Solid	8021B	5378
885-4827-6	BS24-19 0.5'	Total/NA	Solid	8021B	5378
885-4827-7	BS24-20 0.5'	Total/NA	Solid	8021B	5378
885-4827-8	BS24-21 0.5'	Total/NA	Solid	8021B	5378
885-4827-9	BS24-22 0.5'	Total/NA	Solid	8021B	5378
885-4827-10	BS24-23 0.5'	Total/NA	Solid	8021B	5378

QC Association Summary

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

GC VOA (Continued)

Analysis Batch: 5645 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4827-11	BS24-24 0.5'	Total/NA	Solid	8021B	5378
885-4827-12	BS24-25 0.5'	Total/NA	Solid	8021B	5378
MB 885-5378/1-A	Method Blank	Total/NA	Solid	8021B	5378
LCS 885-5378/3-A	Lab Control Sample	Total/NA	Solid	8021B	5378
885-4827-2 MS	BS20-07 0.5'	Total/NA	Solid	8021B	5378
885-4827-2 MSD	BS20-07 0.5'	Total/NA	Solid	8021B	5378

GC Semi VOA

Prep Batch: 5470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4827-1	BS20-03 0.5'	Total/NA	Solid	SHAKE	
885-4827-2	BS20-07 0.5'	Total/NA	Solid	SHAKE	
885-4827-4	BS20-17 0.5'	Total/NA	Solid	SHAKE	
885-4827-5	BS20-18 0.5'	Total/NA	Solid	SHAKE	
885-4827-6	BS24-19 0.5'	Total/NA	Solid	SHAKE	
885-4827-7	BS24-20 0.5'	Total/NA	Solid	SHAKE	
885-4827-8	BS24-21 0.5'	Total/NA	Solid	SHAKE	
885-4827-9	BS24-22 0.5'	Total/NA	Solid	SHAKE	
885-4827-10	BS24-23 0.5'	Total/NA	Solid	SHAKE	
885-4827-11	BS24-24 0.5'	Total/NA	Solid	SHAKE	
885-4827-12	BS24-25 0.5'	Total/NA	Solid	SHAKE	
MB 885-5470/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-5470/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 5621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4827-1	BS20-03 0.5'	Total/NA	Solid	8015D	5470
885-4827-2	BS20-07 0.5'	Total/NA	Solid	8015D	5470
885-4827-4	BS20-17 0.5'	Total/NA	Solid	8015D	5470
885-4827-5	BS20-18 0.5'	Total/NA	Solid	8015D	5470
885-4827-6	BS24-19 0.5'	Total/NA	Solid	8015D	5470
885-4827-7	BS24-20 0.5'	Total/NA	Solid	8015D	5470
885-4827-8	BS24-21 0.5'	Total/NA	Solid	8015D	5470
885-4827-9	BS24-22 0.5'	Total/NA	Solid	8015D	5470
885-4827-10	BS24-23 0.5'	Total/NA	Solid	8015D	5470
885-4827-11	BS24-24 0.5'	Total/NA	Solid	8015D	5470
885-4827-12	BS24-25 0.5'	Total/NA	Solid	8015D	5470
MB 885-5470/1-A	Method Blank	Total/NA	Solid	8015D	5470
LCS 885-5470/2-A	Lab Control Sample	Total/NA	Solid	8015D	5470

Prep Batch: 5770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4827-3	BS20-08 0.5'	Total/NA	Solid	SHAKE	
MB 885-5770/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-5770/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-4827-3 MS	BS20-08 0.5'	Total/NA	Solid	SHAKE	
885-4827-3 MSD	BS20-08 0.5'	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex
Project/Site: Gaucho Unit 006 CTB

Job ID: 885-4827-1

GC Semi VOA

Analysis Batch: 5791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4827-3	BS20-08 0.5'	Total/NA	Solid	8015D	5770
MB 885-5770/1-A	Method Blank	Total/NA	Solid	8015D	5770
LCS 885-5770/2-A	Lab Control Sample	Total/NA	Solid	8015D	5770
885-4827-3 MS	BS20-08 0.5'	Total/NA	Solid	8015D	5770
885-4827-3 MSD	BS20-08 0.5'	Total/NA	Solid	8015D	5770

HPLC/IC

Prep Batch: 5491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4827-1	BS20-03 0.5'	Total/NA	Solid	300_Prep	
885-4827-2	BS20-07 0.5'	Total/NA	Solid	300_Prep	
885-4827-3	BS20-08 0.5'	Total/NA	Solid	300_Prep	
885-4827-4	BS20-17 0.5'	Total/NA	Solid	300_Prep	
885-4827-5	BS20-18 0.5'	Total/NA	Solid	300_Prep	
885-4827-6	BS24-19 0.5'	Total/NA	Solid	300_Prep	
885-4827-7	BS24-20 0.5'	Total/NA	Solid	300_Prep	
885-4827-8	BS24-21 0.5'	Total/NA	Solid	300_Prep	
885-4827-9	BS24-22 0.5'	Total/NA	Solid	300_Prep	
885-4827-10	BS24-23 0.5'	Total/NA	Solid	300_Prep	
885-4827-11	BS24-24 0.5'	Total/NA	Solid	300_Prep	
885-4827-12	BS24-25 0.5'	Total/NA	Solid	300_Prep	
MB 885-5491/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-5491/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 5610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4827-1	BS20-03 0.5'	Total/NA	Solid	300.0	5491
885-4827-2	BS20-07 0.5'	Total/NA	Solid	300.0	5491
885-4827-3	BS20-08 0.5'	Total/NA	Solid	300.0	5491
885-4827-4	BS20-17 0.5'	Total/NA	Solid	300.0	5491
885-4827-5	BS20-18 0.5'	Total/NA	Solid	300.0	5491
885-4827-6	BS24-19 0.5'	Total/NA	Solid	300.0	5491
885-4827-7	BS24-20 0.5'	Total/NA	Solid	300.0	5491
885-4827-8	BS24-21 0.5'	Total/NA	Solid	300.0	5491
885-4827-9	BS24-22 0.5'	Total/NA	Solid	300.0	5491
885-4827-10	BS24-23 0.5'	Total/NA	Solid	300.0	5491
885-4827-11	BS24-24 0.5'	Total/NA	Solid	300.0	5491
885-4827-12	BS24-25 0.5'	Total/NA	Solid	300.0	5491
MB 885-5491/1-A	Method Blank	Total/NA	Solid	300.0	5491
LCS 885-5491/2-A	Lab Control Sample	Total/NA	Solid	300.0	5491

Lab Chronicle

Client: Vertex
Job ID: 885-4827-1
Project/Site: Gaucho Unit 006 CTB

Client Sample ID: BS20-03 0.5'
Lab Sample ID: 885-4827-1
Date Collected: 05/17/24 08:30
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8015D		1	5644	JP	EET ALB	05/25/24 04:38
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8021B		1	5645	JP	EET ALB	05/25/24 04:38
Total/NA	Prep	SHAKE			5470	JU	EET ALB	05/22/24 14:43
Total/NA	Analysis	8015D		1	5621	JU	EET ALB	05/23/24 13:59
Total/NA	Prep	300_Prep			5491	JT	EET ALB	05/23/24 07:13
Total/NA	Analysis	300.0		20	5610	RC	EET ALB	05/23/24 08:54

Client Sample ID: BS20-07 0.5'
Lab Sample ID: 885-4827-2
Date Collected: 05/17/24 09:15
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8015D		1	5644	JP	EET ALB	05/25/24 05:48
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8021B		1	5645	JP	EET ALB	05/25/24 05:48
Total/NA	Prep	SHAKE			5470	JU	EET ALB	05/22/24 14:43
Total/NA	Analysis	8015D		1	5621	JU	EET ALB	05/23/24 14:10
Total/NA	Prep	300_Prep			5491	JT	EET ALB	05/23/24 07:13
Total/NA	Analysis	300.0		20	5610	RC	EET ALB	05/23/24 09:31

Client Sample ID: BS20-08 0.5'
Lab Sample ID: 885-4827-3
Date Collected: 05/17/24 10:00
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8015D		1	5644	JP	EET ALB	05/25/24 06:58
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8021B		1	5645	JP	EET ALB	05/25/24 06:58
Total/NA	Prep	SHAKE			5770	JU	EET ALB	05/29/24 09:34
Total/NA	Analysis	8015D		1	5791	JU	EET ALB	05/29/24 11:31
Total/NA	Prep	300_Prep			5491	JT	EET ALB	05/23/24 07:13
Total/NA	Analysis	300.0		20	5610	RC	EET ALB	05/23/24 09:43

Client Sample ID: BS20-17 0.5'
Lab Sample ID: 885-4827-4
Date Collected: 05/17/24 12:15
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8015D		1	5644	JP	EET ALB	05/25/24 07:22

Lab Chronicle

Client: Vertex
Job ID: 885-4827-1
Project/Site: Gaucho Unit 006 CTB

Client Sample ID: BS20-17 0.5'
Lab Sample ID: 885-4827-4
Date Collected: 05/17/24 12:15
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8021B		1	5645	JP	EET ALB	05/25/24 07:22
Total/NA	Prep	SHAKE			5470	JU	EET ALB	05/22/24 14:43
Total/NA	Analysis	8015D		1	5621	JU	EET ALB	05/23/24 15:23
Total/NA	Prep	300_Prep			5491	JT	EET ALB	05/23/24 07:13
Total/NA	Analysis	300.0		20	5610	RC	EET ALB	05/23/24 09:56

Client Sample ID: BS20-18 0.5'
Lab Sample ID: 885-4827-5
Date Collected: 05/17/24 12:30
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8015D		1	5644	JP	EET ALB	05/25/24 07:46
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8021B		1	5645	JP	EET ALB	05/25/24 07:46
Total/NA	Prep	SHAKE			5470	JU	EET ALB	05/22/24 14:43
Total/NA	Analysis	8015D		1	5621	JU	EET ALB	05/23/24 15:34
Total/NA	Prep	300_Prep			5491	JT	EET ALB	05/23/24 07:13
Total/NA	Analysis	300.0		20	5610	RC	EET ALB	05/23/24 12:00

Client Sample ID: BS24-19 0.5'
Lab Sample ID: 885-4827-6
Date Collected: 05/17/24 13:45
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8015D		1	5644	JP	EET ALB	05/25/24 08:09
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8021B		1	5645	JP	EET ALB	05/25/24 08:09
Total/NA	Prep	SHAKE			5470	JU	EET ALB	05/22/24 14:43
Total/NA	Analysis	8015D		1	5621	JU	EET ALB	05/23/24 15:45
Total/NA	Prep	300_Prep			5491	JT	EET ALB	05/23/24 07:13
Total/NA	Analysis	300.0		20	5610	RC	EET ALB	05/23/24 12:12

Client Sample ID: BS24-20 0.5'
Lab Sample ID: 885-4827-7
Date Collected: 05/17/24 14:15
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8015D		1	5644	JP	EET ALB	05/25/24 09:20
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8021B		1	5645	JP	EET ALB	05/25/24 09:20

Lab Chronicle

Client: Vertex
Job ID: 885-4827-1
Project/Site: Gaucho Unit 006 CTB

Client Sample ID: BS24-20 0.5'
Lab Sample ID: 885-4827-7
Date Collected: 05/17/24 14:15
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			5470	JU	EET ALB	05/22/24 14:43
Total/NA	Analysis	8015D		1	5621	JU	EET ALB	05/23/24 15:55
Total/NA	Prep	300_Prep			5491	JT	EET ALB	05/23/24 07:13
Total/NA	Analysis	300.0		20	5610	RC	EET ALB	05/23/24 12:25

Client Sample ID: BS24-21 0.5'
Lab Sample ID: 885-4827-8
Date Collected: 05/17/24 15:00
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8015D		1	5644	JP	EET ALB	05/25/24 09:43
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8021B		1	5645	JP	EET ALB	05/25/24 09:43
Total/NA	Prep	SHAKE			5470	JU	EET ALB	05/22/24 14:43
Total/NA	Analysis	8015D		1	5621	JU	EET ALB	05/23/24 16:06
Total/NA	Prep	300_Prep			5491	JT	EET ALB	05/23/24 07:13
Total/NA	Analysis	300.0		20	5610	RC	EET ALB	05/23/24 12:37

Client Sample ID: BS24-22 0.5'
Lab Sample ID: 885-4827-9
Date Collected: 05/17/24 10:30
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8015D		1	5644	JP	EET ALB	05/25/24 10:07
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8021B		1	5645	JP	EET ALB	05/25/24 10:07
Total/NA	Prep	SHAKE			5470	JU	EET ALB	05/22/24 14:43
Total/NA	Analysis	8015D		1	5621	JU	EET ALB	05/23/24 16:17
Total/NA	Prep	300_Prep			5491	JT	EET ALB	05/23/24 07:13
Total/NA	Analysis	300.0		20	5610	RC	EET ALB	05/23/24 12:49

Client Sample ID: BS24-23 0.5'
Lab Sample ID: 885-4827-10
Date Collected: 05/17/24 11:15
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8015D		1	5644	JP	EET ALB	05/25/24 10:30
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8021B		1	5645	JP	EET ALB	05/25/24 10:30
Total/NA	Prep	SHAKE			5470	JU	EET ALB	05/22/24 14:43
Total/NA	Analysis	8015D		1	5621	JU	EET ALB	05/23/24 16:28

Lab Chronicle

Client: Vertex
Job ID: 885-4827-1
Project/Site: Gaucho Unit 006 CTB

Client Sample ID: BS24-23 0.5'
Lab Sample ID: 885-4827-10
Date Collected: 05/17/24 11:15
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			5491	JT	EET ALB	05/23/24 07:13
Total/NA	Analysis	300.0		20	5610	RC	EET ALB	05/23/24 13:02

Client Sample ID: BS24-24 0.5'
Lab Sample ID: 885-4827-11
Date Collected: 05/17/24 11:45
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8015D		1	5644	JP	EET ALB	05/25/24 10:54
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8021B		1	5645	JP	EET ALB	05/25/24 10:54
Total/NA	Prep	SHAKE			5470	JU	EET ALB	05/22/24 14:43
Total/NA	Analysis	8015D		1	5621	JU	EET ALB	05/23/24 16:39
Total/NA	Prep	300_Prep			5491	JT	EET ALB	05/23/24 07:13
Total/NA	Analysis	300.0		20	5610	RC	EET ALB	05/23/24 13:14

Client Sample ID: BS24-25 0.5'
Lab Sample ID: 885-4827-12
Date Collected: 05/17/24 10:45
Matrix: Solid
Date Received: 05/21/24 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8015D		1	5644	JP	EET ALB	05/25/24 11:17
Total/NA	Prep	5030C			5378	AT	EET ALB	05/21/24 14:26
Total/NA	Analysis	8021B		1	5645	JP	EET ALB	05/25/24 11:17
Total/NA	Prep	SHAKE			5470	JU	EET ALB	05/22/24 14:43
Total/NA	Analysis	8015D		1	5621	JU	EET ALB	05/23/24 16:49
Total/NA	Prep	300_Prep			5491	JT	EET ALB	05/23/24 07:13
Total/NA	Analysis	300.0		20	5610	RC	EET ALB	05/23/24 13:27

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-4827-1
Project/Site: Gaucho Unit 006 CTB

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
8015D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	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

Chain-of-Custody Record

Client: **Vertex**

(direct bill to Devon, work order 21222677)

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 X **Rush_5-day rush**

Project Name:

Gaucho Unit 006 CTB

Project #:

23E-05499

Project Manager:

Kent Stallings

kstallings@vertex.ca

Sampler: L. Pullman

On Ice: ☑ Yes ☐ No

# of Coolers: 1 Mo.ty

Cooler Temp(including CF): 6.8+0.1=6.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87

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

885-4827 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)						
05.17.24	8:30	Soil	BS20-03 0.5'	1, 4oz jar		1	X	X					X									
05.17.24	9:15	Soil	BS20-07 0.5'	1, 4oz jar		2	X	X					X									
05.17.24	10:00	Soil	BS20-08 0.5'	1, 4oz jar		3	X	X					X									
05.17.24	12:15	Soil	BS20-17 0.5'	1, 4oz jar		4	X	X					X									
05.17.24	12:30	Soil	BS20-18 0.5'	1, 4oz jar		5	X	X					X									
05.17.24	13:45	Soil	BS24-19 0.5'	1, 4oz jar		6	X	X					X									
05.17.24	14:15	Soil	BS24-20 0.5'	1, 4oz jar		7	X	X					X									
05.17.24	15:00	Soil	BS24-21 0.5'	1, 4oz jar		8	X	X					X									
05.17.24	10:30	Soil	BS24-22 0.5'	1, 4oz jar		9	X	X					X									
05.17.24	11:15	Soil	BS24-23 0.5'	1, 4oz jar		10	X	X					X									
05.17.24	11:45	Soil	BS24-24 0.5'	1, 4oz jar		11	X	X					X									
05.17.24	10:45	Soil	BS24-25 0.5'	1, 4oz jar		12	X	X					X									

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
5-20-24	07:00	Luke Pullman			5/20/24	0700
5/20/24	1900			courier	5/21/24	7:40

Remarks:

Direct bill to Devon work order 21222677 Dale Woodall

cc. KStallings@vertex.ca, SMcCarty@vertex.ca for Final Report

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: 885-4827-1

Login Number: 4827 **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	

APPENDIX F – Depth to Groundwater Drilling

District I
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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

Action 373572

QUESTIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 373572
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nDHR1913430561**
Incident Name	**NDHR1913430561 GAUCHO UNIT 6H CTB @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Facility	**[fDHR1913430264] GAUCHO UNIT 6H CTB**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	GAUCHO UNIT 6H CTB
Date Release Discovered	02/10/2019
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Equipment Failure | Flow Line - Production | Produced Water | Released: 19 BBL | Recovered: 10 BBL | Lost: 9 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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QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 373572
	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: 08/13/2024

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QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 373572
	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	Direct Measurement
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 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	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	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

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)	2800
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	3200
GRO+DRO	(EPA SW-846 Method 8015M)	1500
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		12/14/2020
On what date will (or did) the final sampling or liner inspection occur		05/17/2024
On what date will (or was) the remediation complete(d)		05/17/2024
What is the estimated surface area (in square feet) that will be reclaimed		4074
What is the estimated volume (in cubic yards) that will be reclaimed		163
What is the estimated surface area (in square feet) that will be remediated		4074
What is the estimated volume (in cubic yards) that will be remediated		163
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)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 373572
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

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: 08/14/2024
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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District II
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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 (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 373572
	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)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 373572
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**343929**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**05/17/2024**
What was the (estimated) number of samples that were to be gathered	**12**
What was the sampling surface area in square feet	**2400**

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	4074
What was the total volume (cubic yards) remediated	163
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	4074
What was the total volume (in cubic yards) reclaimed	163
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: 08/14/2024

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QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 373572
	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 373572

CONDITIONS

Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	6137
	Action Number: 373572
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NDHR1913430561 GAUCHO UNIT 6H CTB, thank you. This Remediation Closure Report is approved.	9/6/2024