Incident Number: nRM2027531899

Amended Release Assessment and Closure

North Pure Gold 8 Federal #13

Section 08, Township 23 South, Range 31 East

API: 30-015-37651

County: Eddy

Vertex File Number 25A-01603

Prepared for:

Devon Energy Production Company, LP

Prepared by:

Vertex Resource Services Inc.

Date:

April 2025

Amended Release Assessment and Closure
North Pure Gold 8 Federal #13
Section 08, Township 23 South, Range 31 East
API: 30-015-37651
County: Eddy

Prepared for:
Devon Energy Production Company, LP
5321 Buena Vista Drive
Carlsbad, New Mexico 88220

New Mexico Oil Conservation Division
508 West Texas Avenue
Artesia, New Mexico 88210

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

Lakin Pullman

Lakin Pullman, B.Sc.
ENVIRONMENTAL SPECIALIST, REPORTING

April 24, 2025
Date

Sally Carttar

Sally Carttar, BA
PROJECT MANAGER, REPORT REVIEW

April 24, 2025
Date

Table of Contents

In-text Tables

List of Figures

List of Tables

List of Appendices

1.0 Introduction

Devon Energy Production Company, LP, (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a release of crude oil that occurred on September 22, 2020, from a tank at North Pure Gold 8 Federal #13, API 30-015-37651 (hereafter referred to as "site"). Devon provided notification of the spill to New Mexico Oil Conservation Division (NMOCD) District 2 and the Bureau of Land Management (BLM), who owns the property, on September 22, 2020, via email. An initial C-141 Release Notification (Appendix A) was received by NMOCD on September 30, 2020, and the tracking number assigned to this incident is nRM2027531899. A remediation closure request was submitted to the NMOCD on February 13, 2025, and was denied on February 25, 2025.

This report provides a description of the release assessment 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.

2.0 Incident Description

The release occurred on September 22, 2020, due to a hole developing in the bottom of an oil tank. The incident was reported on September 22, 2020, and involved the release of approximately 39.6 barrels (bbl) of crude oil into lined containment. Approximately 38 bbl of free fluid was removed from the lined containment. The release was contained, and no fluid was released into sensitive areas or waterways. Additional details relevant to the release are presented in the C-141 Report.

3.0 Site Characteristics

The release at the site occurred on federally owned land, N 32.313191, W 103.795908, approximately 18 miles east of Loving, New Mexico. The legal description for the site is Section 08, Township 23 South, Range 31 East, Eddy County, New Mexico. This location is within the Permian Basin, in southeast New Mexico, and has historically been used for oil and gas exploration and production, and rangeland. An aerial image and site schematic are presented on Figure 1.

The surrounding landscape is associated with alluvial fans and plains at elevations between 3,100 to 4,200 feet above sea level. The climate is semi-arid, with mean annual precipitation ranging between 10 to 14 inches. Historically, the plant community is predominantly dropseed, threeawn, and bluestem grasses with scattered shrubs (United States Department of Agriculture, Natural Resources Conservation Service, 2025). Limited to no vegetation is allowed to grow on the compacted well pad.

The *Geological Map of New Mexico* indicates the surface geology at the site is comprised primarily of Qep – interlayed eolian sands and piedmont-slope deposits from the Holocene to middle Pleistocene ages (New Mexico Bureau of Geology and Mineral Resources, 2025). The National Resources Conservation Service Web Soil Survey characterizes the soil at the site as Kermit-Berino fine sands, characterized by fine sand with deeper layers of fine sandy loam. It tends to be well drained with low runoff and low available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2025). There is low potential for karst geology to be present near

the site (United States Department of the Interior, Bureau of Land Management, 2018).

4.0 Closure Criteria Determination

The nearest active well to the site is used for livestock watering and is located approximately 0.94 miles to the southwest (New Mexico Office of the State Engineer, 2025). There is no surface water located at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 1.2 miles north-northeast of the site (United States Fish and Wildlife Service, 2025). There are no continuously flowing 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 nearest depth to groundwater references to the site are exploratory boreholes C 04712 POD6 and C04776 POD1 which were dry at 55 and 105 feet below ground surface (bgs), respectively. The exploratory boreholes were drilled 0.31 and 0.39 miles from the site on March 9 and December 13, 2025, respectively (New Mexico Office of the State Engineer, 2025). Depth to groundwater at the site was determined to be greater than 105 feet bgs. Information pertaining to the depth to ground water determination is included in Table 1 and Appendix B.

Table 1. Closure Criteria Determination			
Site Name: North Pure Gold 8 Federal #013H			
Spill Coordinates: 32.313191,-103.795908		**X: 613348**	**Y: 3575788**
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater (nearest reference)	**>55**	feet
	Distance between release and nearest DTGW reference	**1,644**	feet
		0.31	miles
	Date of nearest DTGW reference measurement	**March 9, 2023**	
	Depth to Groundwater (next nearest reference)	**>105**	feet
	Distance between release and nearest DTGW reference	**2,034**	feet
		0.39	miles
	Date of nearest DTGW reference measurement	**December 13, 2023**	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	6,368	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	7,329	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	6,145	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**	4,960	feet
	ii) Within 1000 feet of any fresh water well or spring	4,960	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	6,924	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	30,347	feet
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest Critical/High/Medium Karst	5,369	feet
10	Within a 100-year Floodplain	>500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	32,160	feet
11	Soil Type	Fine sands, fine sandy loam	
12	Ecological Classification	Deep sand	
13	Geology	Eolian and piedmont deposits	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	>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
> 100 feet	Chloride	20,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

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

5.1 Characterization and Remediation

On August 31, 2021, Vertex provided 48-hour notification of the liner inspection to NMOCD District 2 and the BLM, as required by Subparagraph (a) of Paragraph (5) of Subsection A 19.15.29.11 NMAC (Appendix D). On September 2, 2021, a visual observation of the liner was completed on all sides and the base of the containment, around equipment, and of all seams in the liner. The inspection confirmed the liner remained intact and had the ability to contain the release. The Daily Field Report and associated photographs of the liner inspection are included in Appendix C.

To confirm that the release was confined within the containment, four sample points were established outside of the lined containment (Figure 1). Surface samples were collected and field screened with a Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and an electroconductivity meter (chloride). The samples were placed into laboratory provided containers, preserved on ice, submitted to Hall Environmental Analysis Laboratory 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).

Sample field screening results and their associated laboratory data were utilized to confirm the release at the site was contained within the lined containment. Sample analytical data are summarized in Table 3. The laboratory data report and chain of custody form are included in Appendix E.

5.2 Closure Denial and Additional Sampling

Devon submitted the initial closure and deferral report to the NMOCD on February 13, 2025. The initial request was denied on February 25, 2025, with following notations:

"*Remediation closure denied. Release was discovered September 22, 2020. However, liner inspection did not occur until August 31, 2021. Multiple liner patches are documented in the submitted liner inspection. It is not known when the liner was repaired. Thus, impacts under the liner may have occurred. Please provide documentation of when each liner repair occurred or sample under the liner at each of the repair locations. Submit a report via the OCD permitting portal by April 25, 2025*."

The initial liner inspection identified four locations on the liner that had potentially been patched. On April 14, 2025, Vertex personnel performed thorough secondary inspection of the liner and identified the four potential patch locations. Three of the locations were confirmed to be patched. The northernmost "patch" along the inside base of the southeast containment wall appeared to be part of the original liner installation rather than a patch.

The liner was cut at each of the four potential patch locations and a hand auger was used to advance boreholes BH25-05, BH25-06, BH25-07, and BH25-08. Soil samples were collected at 0 and 1 feet bgs from each borehole. Sample point locations and corresponding laboratory results are presented on Figure 1 and Table 3. The Daily Field Report describing additional sampling is presented in Appendix C. Laboratory results are presented in Appendix E. The TPH concentration from the sample collected from BH25-05 at 0 feet bgs was 110 mg/kg, indicating the potential for fluid loss prior to the patching of the liner at that location. It is unknown when the original perforation occurred or when the patch was installed. All final characterization samples collected and analyzed were below NMOCD closure criteria for the site.

6.0 Closure Request

Vertex recommends no additional remediation action to address the release at North Pure Gold 8 Federal #13. Additional soil samples were collected under the liner at each of the four potential repair locations. Laboratory analyses of the final confirmatory samples showed constituent of concern concentration levels below NMOCD reclamation closure criteria for areas where depth to groundwater is greater than 100 feet bgs as shown in Table 2. The secondary containment liner was confirmed to be intact at the time of inspection. Laboratory results for the soil samples collected immediately under the previously patched locations met closure criteria. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Vertex requests that incident nRM2027531899 be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. Devon certifies that all information in this report and the attachments is correct and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the September 22, 2020, release at North Pure Gold 8 Federal #13.

Should you have any questions or concerns, please do not hesitate to contact the Project Manager Sally Carttar at 575.361.3561 or SCarttar@vertexresource.com.

7.0 References

Google Inc. (2025). *Google Earth Pro (Version 7.3.3)* [Software]. Retrieved from https://earth.google.com

New Mexico Bureau of Geology and Mineral Resources. (2025). *Interactive Geologic Map*. Retrieved from https://maps.nmt.edu/

New Mexico Office of the State Engineer. (2025). *New Mexico Water Rights Reporting System*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/

New Mexico Oil Conservation Division. (2018). *New Mexico Administrative Code – Natural Resources and Wildlife Oil and Gas Releases*. Santa Fe, New Mexico.

United States Department of Agriculture, Natural Resources Conservation Service. (2025). *Web Soil Survey*. Retrieved from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

United States Department of Homeland Security, Federal Emergency Management Agency. (2025). *FEMA Flood Map Service: Search by Address*. Retrieved from https://msc.fema.gov/portal/search?AddressQuery=malaga%20new%20mexico#searchresultsanchor

United States Department of the Interior, Bureau of Land Management. (2018). *New Mexico Cave/Karst*. Retrieved from https://www.nm.blm.gov/shapeFiles/cfo/carlsbad_spatial_data.html

United States Fish and Wildlife Service. (2025). *National Wetland Inventory - Surface Waters and Wetlands*. Retrieved from https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

United States Geological Survey. (2025). *National Water Information System: Web Interface*. Retrieved from https://waterdata.usgs.gov/nwis

8.0 Limitations

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

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

FIGURES

VERTEX

0 12 24 ft

NAD 1983 StatePlane New Mexico East FIPS 3001 Feet

Map Center:
Lat/Long: 32.313192°N, 103.795925°W

Date: Apr 21/25

N

Characterization Sampling Site Schematic
North Pure Gold 8 Federal #13

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, 2025. Site features from GPS, Vertex, 2025.

VERSATILITY. EXPERTISE.

TABLES

Client Name: Devon Energy Production Company, LP
Site Name: North Pure Gold 8 Federal #13
NMOCD Tracking #: nRM2027531899
Project #: 25A-01603
Lab Reports: 2109220 and 885-23305-1

Table 3. Characterization Sample Laboratory Results - Depth to Groundwater >100 feet bgs

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
SS21-01	0-0.5	September 2, 2021	ND	ND	ND	ND	ND	ND	ND	ND
SS21-02	0-0.5	September 2, 2021	ND	ND	ND	ND	ND	ND	ND	ND
SS21-03	0-0.5	September 2, 2021	ND	ND	ND	13	ND	13	13	ND
SS21-04	0-0.5	September 2, 2021	ND	ND	ND	ND	ND	ND	ND	ND
BH25-05	0	April 14, 2025	ND	ND	ND	110	ND	110	110	96
	1	April 14, 2025	ND	ND	ND	34	ND	34	34	64
BH25-06	0	April 14, 2025	ND	ND	ND	31	ND	31	31	ND
	1	April 14, 2025	ND	ND	ND	ND	ND	ND	ND	ND
BH25-07	0	April 14, 2025	ND	ND	ND	ND	ND	ND	ND	ND
	1	April 14, 2025	ND	ND	ND	ND	ND	ND	ND	ND
BH25-08	0	April 14, 2025	ND	ND	ND	ND	ND	ND	ND	87
	1	April 14, 2025	ND	ND	ND	ND	ND	ND	ND	ND

"ND" not detected at the reporting limit
"-" indicates not analyzed/assessed
Bold and grey shaded indicates exceedance outside of NMOCD Remediation Closure Criteria
Bold and blue shaded indicates exceedance outside of NMOCD Reclamation Closure Criteria

APPENDIX A - NMOCD C-141 Reports

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

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NRM2027531899
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Devon Energy	OGRID 6137
Contact Name Amanda Trujillo Davis	Contact Telephone 575-748-0176
Contact email amanda.davis@dvn.com	Incident # *(assigned by OCD)*
Contact mailing address 6488 Seven Rivers Highway Artesia, NM 88210	

Location of Release Source

Latitude 32.3135109 Longitude -103.7963104
(NAD 83 in decimal degrees to 5 decimal places)

Site Name North Pure Gold 8 Federal #13	Site Type
Date Release Discovered 9/22/2020	API# *(if applicable)* 30-015-37651

Unit Letter	Section	Township	Range	County
O	08	23S	31E	Eddy County

Surface Owner: ☐ State ☑ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☑ Crude Oil	Volume Released (bbls) 39.60 bbls	Volume Recovered (bbls) 38
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: This release occurred due to a hole in the bottom of one of the oil tanks. The release was remained within a lined containment. Please see attached spill calculations.

State of New Mexico
Oil Conservation Division

Incident ID	NRM2027531899
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☑ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Per 19.15.29.7(A) NMAC the release was greater than 25bbls.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Tue, 22 Sep 2020 23:25:32 by email to blm_nm_cfo_spill@blm.gov,Robert.Hamlet@state.nm.us mike.bratcher@state.nm.us Victoria.Venegas@state.nm.us

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.
☑ The impacted area has been secured to protect human health and the environment.
☑ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☑ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Amanda Trujillo Davis Title: Environmental Professional

Signature: Amanda T Davis Date: 9/30/2020

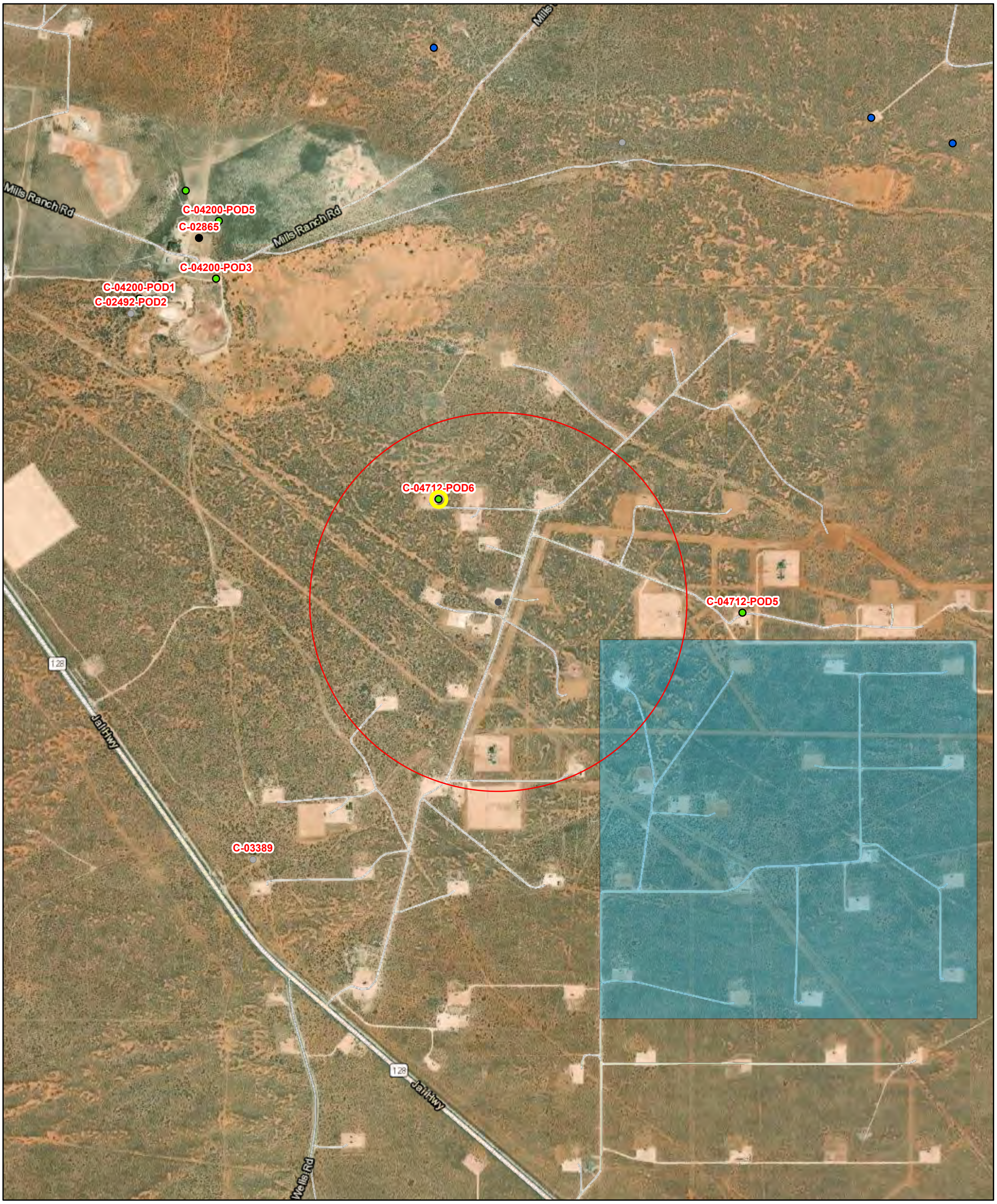
email: amanda.davis@dvn.com Telephone: 575-748-0176

OCD Only

Received by: Ramona Marcus Date: 10/1/2020

APPENDIX B – Closure Criteria Research Documentation

OSE POD 0.5 mile, C 04712 POD6 in Correct Location



4/13/2023, 4:00:45 PM

GIS WATERS PODs
- Active
- Pending
- Inactive

OSE District Boundary

New Mexico State Trust Lands

Both Estates

SiteBoundaries

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

Esri, HERE, iPC, U.S. Department of Energy Office of Legacy Management, Esri, HERE, Garmin, iPC, Maxar

Web Generated Map
Map is generated by web users.

Recent OSE POD Location Map

11/24/2024, 2:43:22 PM

GIS WATERS PODs

- Active
- Plugged
-

OSE District Boundary

Water Right Regulations

Artesian Planning Area

New Mexico State Trust Lands

Both Estates

1:9,028

0 0.07 0.15 0.3 mi

0 0.13 0.25 0.5 km

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

Online web user

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

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 smallest to largest)						(NAD83 UTM in meters)				(In feet)	(In feet)	(In feet)
POD Number	**Code**	**Sub basin**	**County**	**Q64**	**Q16**	**Q4**	**Sec**	**Tws**	**Range**	**X**	**Y**	**Map**	**Distance**	**Well Depth**	**Depth Water**	**Water Column**
C 04712 POD6		CUB	ED	SW	SW	SE	08	23S	31E	613146.6	3575740.1		207	55		
C 04776 POD1		CUB	ED	SW	SW	SW	09	23S	31E	613953.1	3575651.8		620		105	
C 04712 POD5		CUB	ED	SE	SE	SW	09	23S	31E	614392.9	3575754.4		1045	55		
C 02492 POD2		C	ED	SW	NE	NE	07	23S	31E	611767.4	3576996.6		1989	400	125	275

Average Depth to Water: **115 feet**

Minimum Depth: **105 feet**

Maximum Depth: **125 feet**

Record Count: 4

UTM Filters (in meters):
Easting: 613348
Northing: 3575788
Radius: 002000

*** UTM location was derived from PLSS - see Help**

Point of Diversion Summary

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

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
NA	C 04712 POD6	SW	SW	SE	08	23S	31E	613146.6	3575740.1	

*** UTM location was derived from PLSS - see Help**

Driller License:	1833	**Driller Company:**	VISION RESOURCES, INC		
Driller Name:	JASON MALEY				
Drill Start Date:	2023-03-09	**Drill Finish Date:**	2023-03-09	**Plug Date:**	2023-03-14
Log File Date:	2023-04-04	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	6.00	**Depth Well:**	55	**Depth Water:**	

11/24/24 1:47 PM MST **Point of Diversion Summary**

Water Right Summary

get image list

WR File Number:	C 04712	**Subbasin:**	CUB	**Cross Reference:**
Primary Purpose:	MON MONITORING WELL			
Primary Status:	PMT Permit			
Total Acres:		**Subfile:**		**Header:**
Total Diversion:	0.000	**Cause/Case:**		
Owner:	VERTEX RESOURCES			
Owner:	HARVARD PETROLEUM COMPANY LLC			
Contact:	JUSTIN WARREN			

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
get images	743189	EXPL	2023-02-21	PMT	APR	C 04712 POD1-6	T	0.000	0.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
C 04712 POD1	NA		NW	SE	NW	31	23S	32E	620917.2	3570289.2		SDE
C 04712 POD2	NA		SE	SE	SE	17	23S	32E	623331.9	3574331.5		TOMCAT17
C 04712 POD3	NA		SE	NW	NE	24	23S	31E	619650.7	3573877.9		TODD24
C 04712 POD4	NA		NW	SE	SW	14	23S	31E	617535.4	3574316.2		TODD14
C 04712 POD5	NA		SE	SE	SW	09	23S	31E	614392.9	3575754.4		NPG9
C 04712 POD6	NA		SW	SW	SE	08	23S	31E	613146.6	3575740.1		NPG8

*** UTM location was derived from PLSS - see Help**

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
~~C-04712~~ POD6		C-4712

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Harvard Petroleum Company	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
P.O.Box 936	Roswell	NM	88202

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	18	46.0	N
	LONGITUDE	-103	47	55.0	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

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

Sec 08 23S 31E 3,3,4

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1833	Jason Maley	Vision Resources

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
3-9-2023	3-9-2023	55	55	Dry

COMPLETED WELL IS: ☐ ARTESIAN *add Centralizer info below ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): Dry

DATE STATIC MEASURED: Dry

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

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

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	45	6	2" Sch 40	Thread	2"	Sch 40	—
45	55	6	2" Sch 40	Thread	2"	Sch 40	.02

OSE DIT APR 4 2023 PM 1:23

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL *(if using Centralizers for Artesian wells- indicate the spacing below)	AMOUNT (cubic feet)	METHOD OF PLACEMENT
			None Pulled And Plugged		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO. C-4712-POD 6	POD NO. 6	TRN NO. 743189	
LOCATION Nom 23.31.08.314		WELL TAG ID NO. —	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	4	4	Red Sand	Y (N)	
4	15	11	White Caliche	Y (N)	
15	60	45	Red Sand	Y (N)	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

OSE DIT APR 4 2023 PM1:23

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

Jason Maley

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jason Maley — Jason Maley — 3/24/23

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO. C-4712-POD 6	POD NO. 6	TRN NO. 743189	
LOCATION Mon 23.31.08.314		WELL TAG ID NO. —	PAGE 2 OF 2

Mike A. Hamman, P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 743189
File Nbr: C 04712
Well File Nbr: C 04712 POD6

Apr. 04, 2023

VERTEX RESOURCES
P.O. BOX 936
ROSWELL, NM 88202

Greetings:

The above numbered permit was issued in your name on 02/21/2023.

The Well Record was received in this office on 04/04/2023, stating that it had been completed on 03/09/2023, and was a dry well. The well is to be plugged according to 19.27.4.30 NMAC.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 02/21/2024.

If you have any questions, please feel free to contact us.

Sincerely,

Maret Thompson
(575)622-6521

drywell

Point of Diversion Summary

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

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
NA	C 04776 POD1	SW	SW	SW	09	23S	31E	613953.1	3575651.8	

*** UTM location was derived from PLSS - see Help**

Driller License:	1833	**Driller Company:**	VISION RESOURCES, INC		
Driller Name:	JASON MALEY				
Drill Start Date:	2023-12-13	**Drill Finish Date:**	2023-12-13	**Plug Date:**	2023-12-18
Log File Date:	2024-01-12	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	2.00	**Depth Well:**		**Depth Water:**	105

11/24/24 1:59 PM MST **Point of Diversion Summary**

Water Right Summary

get image list

WR File Number:	C 04776	**Subbasin:**	CUB	**Cross Reference:**
Primary Purpose:	MON MONITORING WELL			
Primary Status:	PMT Permit			
Total Acres:		**Subfile:**		**Header:**
Total Diversion:	0.000	**Cause/Case:**		
Owner:	DEVON ENERGY RESOURCES			
Contact:	DALE WOODALL			

Documents on File

(acre-fee

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion
get images	751180	EXPL	2023-09-19	PMT	APR	C-4776 POD1	T	0.000	0.000

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
C 04776 POD1	NA		SW	SW	SW	09	23S	31E	613953.1	3575651.8		

*** UTM location was derived from PLSS - see Help**

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0.000	0.000		MON		GW	

WELL RECORD & LOG

Kolante 9 Fed

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
~~C-4776~~ Pod1		CO4776

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Devon Energy Resources	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
205 E. Bender Road # 150	Hobbs	NM	88240

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	18	42.84	N
	LONGITUDE	-103	47	22.2	W

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

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

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1833	Jason Maley	Vision Resources

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
12-13-23	12-13-23	105'	105'	Dry hole

COMPLETED WELL IS: ☐ ARTESIAN *add Centralizer info below ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

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

DATE STATIC MEASURED: 12-16-23

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

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

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	95'	6"	2" PVC SCH40	Thread	2"	SCH40	N/A
95'	105'	6"	2" PVC SCH40	Thread	2"	SCH40	.05

OSE DII JAN 12 2024 PM 1:52

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL *(if using Centralizers for Artesian wells- indicate the spacing below)	AMOUNT (cubic feet)	METHOD OF PLACEMENT
			None Pulled and Plugged		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO. C-4776-POD1	POD NO. 1	TRN NO. 751180	
LOCATION Expl 23.31.09.333		WELL TAG ID NO. —	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	5'	5'	Red Sand	Y ✓N	
5'	20'	15'	Tan Fine Sand	Y ✓N	
20'	40'	20'	Tan Fine sand with caliche rock	Y ✓N	
40'	105'	65'	Red sand with medium rock	Y ✓N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY: Dry Hole

TOTAL ESTIMATED WELL YIELD (gpm): 0

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

OSE DIT JAN 12 2024 PM 1:52

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

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

SIGNATURE OF DRILLER / PRINT SIGNEE NAME: Jason Maley — DATE: 1/10/24

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO. C-4776-POD 1	POD NO. 1	TRN NO. 751180	
LOCATION Expl 23.31.09.333		WELL TAG ID NO.	PAGE 2 OF 2

Mike A. Hamman, P.E.
State Engineer

well Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 751180
File Nbr: C 04776
Well File Nbr: C 04776 POD1

Jan. 12, 2024

DALE WOODALL
DEVON ENERGY RESOURCES
205 E BENDER ROAD #150
HOBBS, NM 88240

Greetings:

The above numbered permit was issued in your name on 09/19/2023.

The Well Record was received in this office on 01/12/2024, stating that it had been completed on 12/13/2023, and was a dry well. The well is to be plugged according to 19.27.4.30 NMAC.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 09/18/2024.

If you have any questions, please feel free to contact us.

Sincerely,

Maret Thompson
(575)622-6521

drywell

U.S. Fish and Wildlife Service
National Wetlands Inventory

Intermittent 6,368 feet

April 13, 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 7,329 feet

April 13, 2023

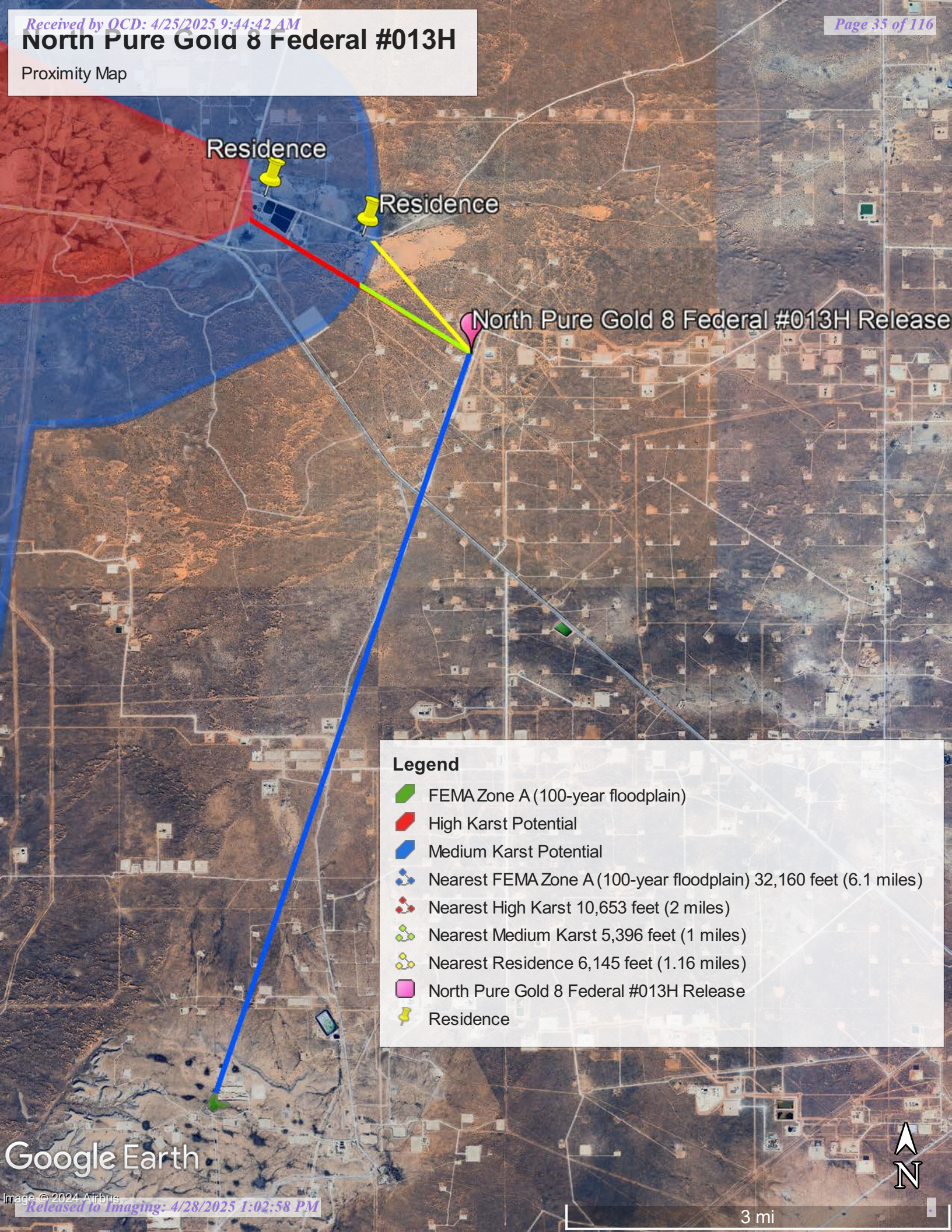
Wetlands

- 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.

North Pure Gold 8 Federal #013H

Proximity Map



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)			(meters)
WR File Nbr	**Sub basin**	**Use**	**Diversion**	**Owner**	**County**	**POD Number**	**Well Tag**	**Code**	**Grant**	**Source**	**q64**	**q16**	**q4**	**Sec**	**Tws**	**Range**	**X**	**Y**	**Map**	**Distance**
C 04712	CUB	MON	0.000	HARVARD PETROLEUM COMPANY LLC	ED	C 04712 POD6	NA				SW	SW	SE	08	23S	31E	613146.6	3575740.1		207.0
C 04776	CUB	MON	0.000	DEVON ENERGY RESOURCES	ED	C 04776 POD1	NA				SW	SW	SW	09	23S	31E	613953.1	3575651.8		620.2
C 04712	CUB	MON	0.000	HARVARD PETROLEUM COMPANY LLC	ED	C 04712 POD5	NA				SE	SE	SW	09	23S	31E	614392.9	3575754.4		1,045.4
C 03389	C	STK	3.000	JIMMY MILLS 2005 GST TRUST	ED	C 03389					NW	NW	SW	17	23S	31E	612316.0	3574683.0		1,512.0
C 03394	C	PUB	0.000	JAMES HAMILTON CONSTRUCTION CO	ED	C 03389					NW	NW	SW	17	23S	31E	612316.0	3574683.0		1,512.0
C 04200	CUB	EXP	0.000	JIMMY MILLS GST TRUST	ED	C 04200 POD3	NA					NE	NE	07	23S	31E	612130.3	3577147.3		1,825.0
					ED	C 04200 POD2	NA					NE	NE	07	23S	31E	611893.1	3577123.1		1,974.6
C 03668	C	STK	3.000	J T MILLS 2005 GST TRUST	ED	C 02492 POD2				Shallow	SW	NE	NE	07	23S	31E	611767.4	3576996.6		1,989.7

Record Count: 8

Filters Applied:

UTM Filters (in meters):
Easting: 613348
Northing: 3575788
Radius: 002000

Sorted By: Distance

*** UTM location was derived from PLSS - see Help**

Water Right Summary

get image list

WR File Number:	C 03389	**Subbasin:**	C	**Cross Reference:**
Primary Purpose:	STK 72-12-1 LIVESTOCK WATERING			
Primary Status:	PMT Permit			
Total Acres:		**Subfile:**		**Header:**
Total Diversion:	3.000	**Cause/Case:**		
Owner:	JIMMY MILLS 2005 GST TRUST			
Contact:	STACY MILLS			
Owner:	BUREAU OF LAND MANAGEMENT			
Contact:	SUSAN BRITT			

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
get images	469691	COWNF	2009-02-02	CHG	PRC	C 03389	T		0.000	
get images	469688	72121	2008-09-04	PMT	APR	C 03389	T		3.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
C 03389			NW	NW	SW	17	23S	31E	612316.0	3574683.0		SE1/4

*** UTM location was derived from PLSS - see Help**

11/24/24 2:24 PM MST **Water Rights Summary**

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetland 6,924 feet

April 13, 2023

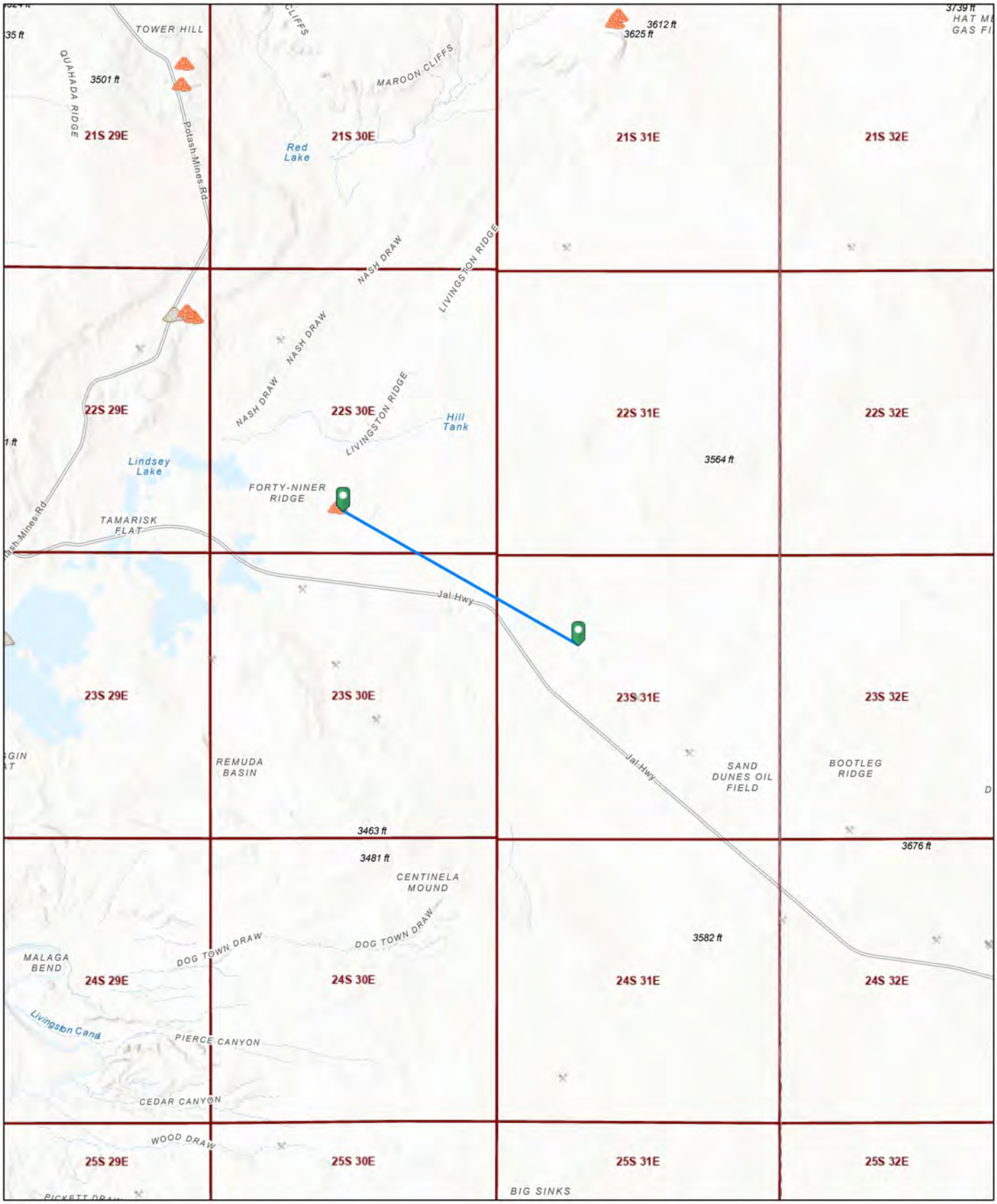
Wetlands

- 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

Potash Mine, 30,347 feet



11/24/2024, 1:27:30 PM

Registered Mines

- Aggregate, Stone etc.
- Aggregate, Stone etc.
- Potash
- Salt
- PLSS Townships

1:144,448

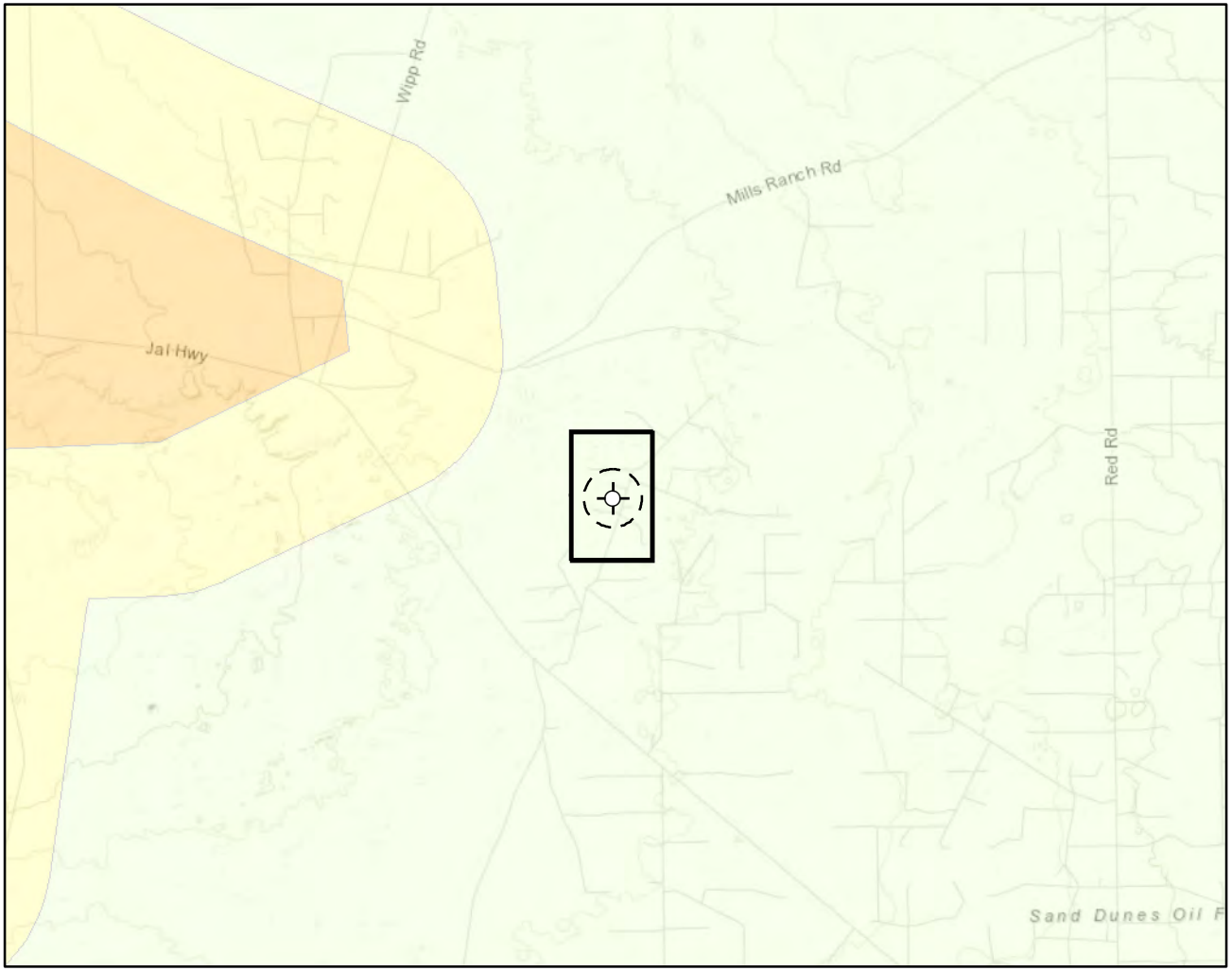
0 1.25 2.5 5 mi

0 2.25 4.5 9 km

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

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: 32.314313, -103.796505

NAD 1983 UTM Zone 13N
Date: Sep 23/21

N

Karst Potential Map
North Pure Gold 8 Federal 13H

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 2020; Overview Map: ESRI World Topographic. United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

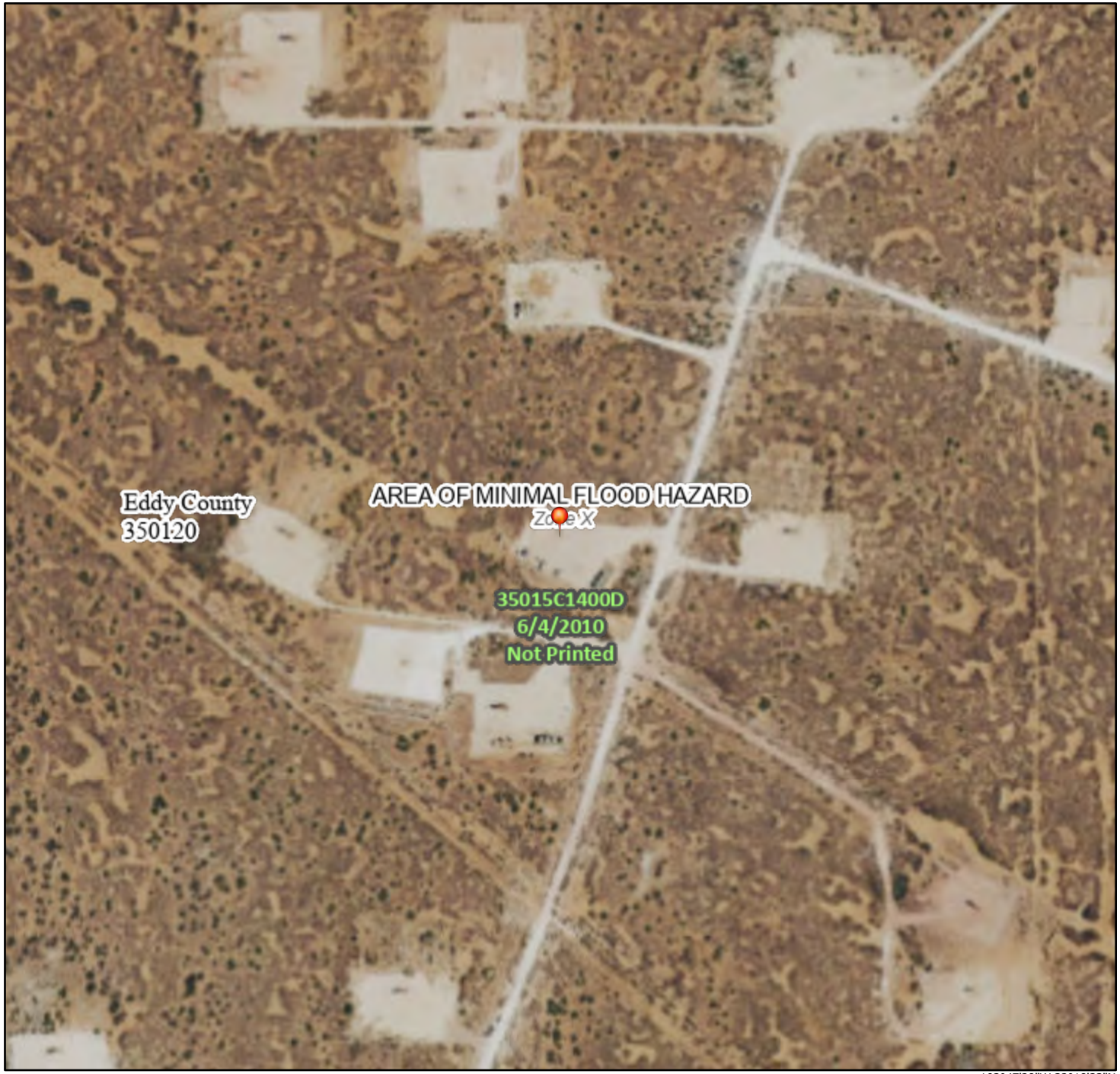
VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\21E-02816\031- North Pure Gold 8 Federal 13H\Figure x Karst Potential Map North Pure Gold Federal 13H.mxd

National Flood Hazard Layer FIRMette

FEMA

103°48'5"W 32°19'4"N



103°47'28"W 32°18'33"N

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

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/14/2021 at 1:45 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 Eddy Area, New Mexico

August 14, 2021

Custom Soil Resource Report
Soil Map

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 16, Jun 8, 2020

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-Berino fine sands, 0 to 3 percent slopes	1.5	100.0%
Totals for Area of Interest		**1.5**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Eddy Area, New Mexico

KM—Kermit-Berino fine sands, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w4q
Elevation: 3,100 to 4,200 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 190 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Kermit and similar soils: 50 percent
Berino and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kermit

Setting

Landform: Alluvial fans, plains
Landform position (three-dimensional): Rise, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 7 inches: fine sand
H2 - 7 to 60 inches: fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
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
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
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: R042XC005NM - Deep Sand
Hydric soil rating: No

Description of Berino

Setting

Landform: Fan piedmonts, plains
Landform position (three-dimensional): Riser

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 17 inches: fine sand
H2 - 17 to 50 inches: fine sandy loam
H3 - 50 to 58 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Active dune land

Percent of map unit: 15 percent
Hydric soil rating: No

USDA Natural Resources Conservation Service

Ecological site R042XC005NM
Deep Sand

Accessed: 07/28/2021

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 terraces, Piedmonts, dunes fields, or upland plains. Parent material consists of eolian deposits and alluvium derived from sandstone. Slopes range from 0 to 15 percent, usually less than 5 percent. Low, stabilized hummocks or dunes frequently occur. Elevations range from 2,842 to 4,500 feet.

Table 2. Representative physiographic features

Landforms	(1) Dune (2) Parna dune (3) Terrace
Flooding frequency	None
Ponding frequency	None
Elevation	2,842–4,500 ft

Slope	0–15%
Aspect	Aspect is not a significant factor

Climatic features

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common. Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity – short duration thunderstorms.
Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer.
The average frost-free season is 207 to 220 days. The last killing frost is in late March or early April, and the first killing frost is in late October or early November.
Both temperature and moisture favor warm season perennial plant growth. During years of abundant winter and early spring moisture, cool season growth and annual forbs, make up an important component of this site. Strong winds blow from the west from January through June, which accelerates soil drying during a critical period for cool season plant growth.

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

Table 3. Representative climatic features

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

Influencing water features

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

Soil features

Soils are deep or very deep. Surface textures are sand loam, fine sand or loamy fine sand, Underlying material textures are loamy fine sand, fine sand, sand or fine sandy loam. Because of the coarse textures and rapid drying of the surface, the soil, if unprotected by plant cover and organic residue, becomes windblown and low hummocks or dunes are formed around shrubs.

Characteristic soils are:
Anthony
Aguena
Kermit
Likes
Pintura
Bluepoint

Table 4. Representative soil features

Surface texture	(1) Sand (2) Fine sand (3) Loamy fine sand
Family particle size	(1) Sandy
Drainage class	Well drained to excessively drained

Permeability class	Moderate to very rapid
Soil depth	60–72 in
Surface fragment cover <=3"	0–5%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	3–5 in
Calcium carbonate equivalent (0-40in)	5–15%
Electrical conductivity (0-40in)	0–4 mmhos/cm
Sodium adsorption ratio (0-40in)	0–2
Soil reaction (1:1 water) (0-40in)	6.6–7.8
Subsurface fragment volume <=3" (Depth not specified)	5–10%
Subsurface fragment volume >3" (Depth not specified)	0%

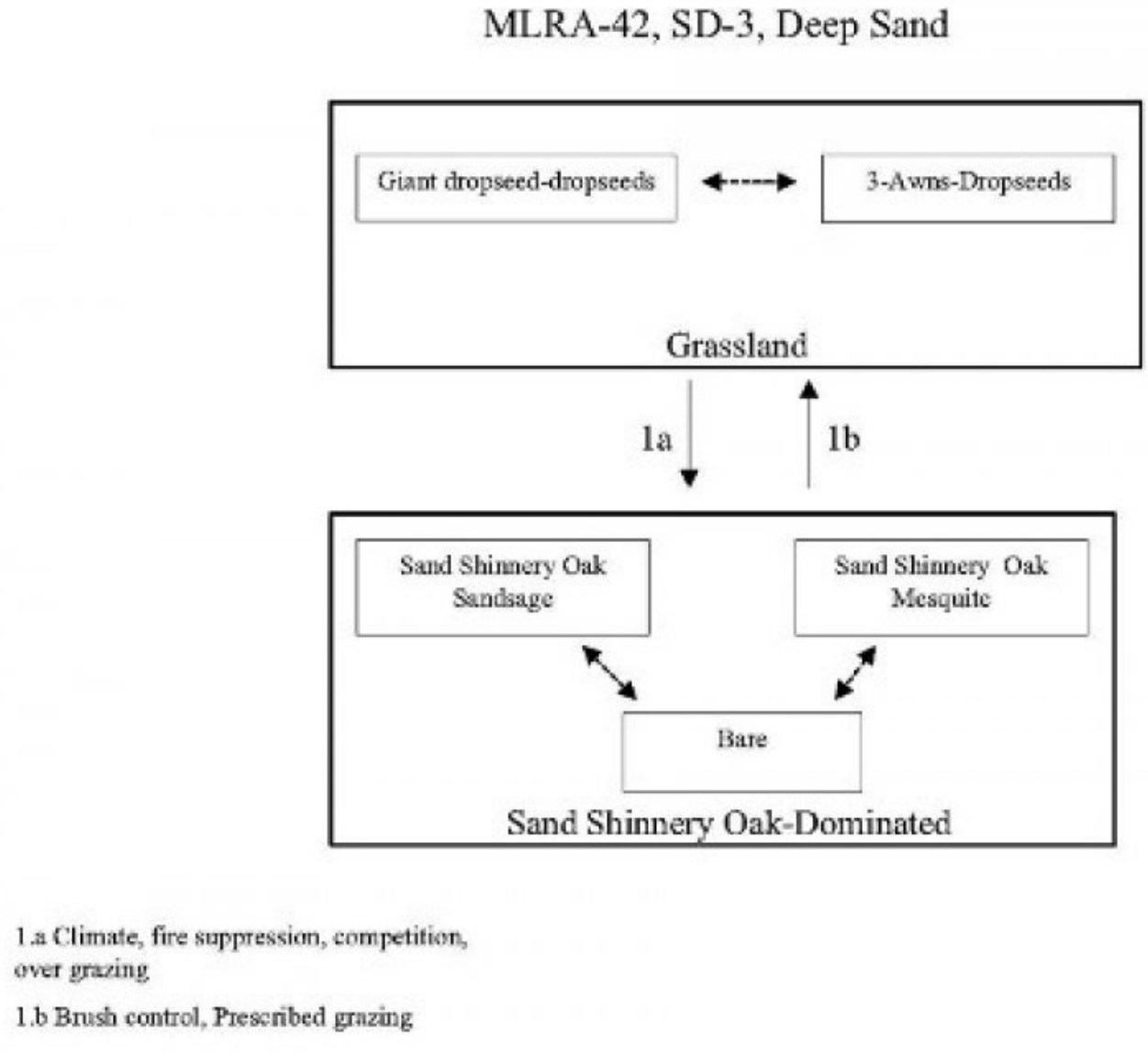
Ecological dynamics

Overview

The Deep Sand site occurs adjacent to and/or intergraded with the Sandhills and Sandy sites (SD-3). The Deep Sand site can be distinguished by slopes less than eight percent (approximately five percent) and textural changes at depths greater than 40 inches. The Deep Sand site has well drained soils with a surface texture of sand or loamy fine sand. The Sandhills site has slopes greater than eight percent and textural depths greater than 60 inches. Conversely, the Sandy site has slopes less than five percent and depths to textural change commonly around 20 inches. The historic plant community of the Deep Sand site is dominated primarily by giant dropseed (*Sporobolus giganteus*) and other dropseeds (*S. flexuosus*, *S. contractus*, *S. cryptandrus*), with scattered shinnery oak (*Quercus havardii*) and soapweed yucca (*Yucca glauca*). Other herbaceous species include threeawns (Aristida spp.), bluestems (*Schizachyrium scoparium* and *Andropogon hallii*), and annual and perennial forbs distributed relative to precipitation occurrences. Bare ground and litter compose a significant proportion of ground cover while grasses are the remainder. Shinnery oak will increase with an associated decrease in dropseed and bluestem abundance possibly due to climatic change, fire suppression, interspecific competition, and excessive grazing. Continued grass cover loss may result in a transition to a shinnery oak dominated state with increases in sand sage (*Artemisia filifolia*) and honey mesquite (*Prosopis glandulosa*). However, brush management may restore the grassland component and reverse the shinnery oak state back toward the historic plant community.

State and transition model

Plant Communities and Transitional Pathways (diagram)



1.a Climate, fire suppression, competition, over grazing

1.b Brush control, Prescribed grazing

Figure 4.

State 1

Historic Climax Plant Community

Community 1.1
Historic Climax Plant Community

State Containing Historic Plant Community

Grassland: The historic plant community is dominated by giant dropseed, other dropseeds, threeawns, and bluestems. Dominant woody plants include shinnery oak and soapweed yucca. Forb abundance and distribution varies and is dependent on annual rainfall. The Deep Sand site typically exists in sandy plains and dunes (Sosebee 1983). Grass dominance stabilizes the potentially erosive sandy soils. Historical fire suppression, however, may have contributed to increased woody plant abundance, which has reduced grass species. Further, drought conditions compounded with excessive grazing likely has driven most grass species out of competition with shrubs which has resulted in a shinnery oak dominated state with sand sage and mesquite (Young et al. 1948).

Diagnosis: Grassland dominated by dropseeds, threeawns, and bluestems. Small shrubs, such as shinnery oak and soapweed yucca, and subshrubs are dispersed throughout the grassland.

Other grasses that could appear on this site would include: flatsedge, almejita signalgrass, big bluestem, Indiangrass, fall witchgrass, hairy grama and red lovegrass

Other shrubs include: fourwing saltbush, mesquite, ephedra and broom snakeweed.

Other forbs include: wooly and scarlet gaura, wooly dalea, phlox heliotrope, scorpionweed, deerstongue, fleabane, nama, hoffmanseggia, lemon beebalm and stickleaf.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	396	858	1320
Shrub/Vine	108	234	360
Forb	96	208	320
Total	**600**	**1300**	**2000**

Table 6. Ground cover

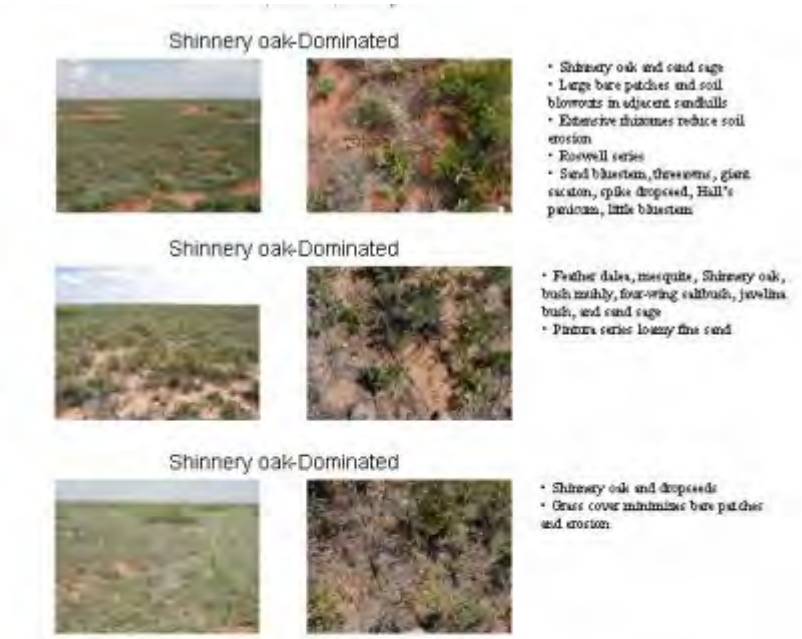
Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	15-20%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	35-40%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	35-40%

Figure 6. Plant community growth curve (percent production by month). NM2805, HCPC. SD-3 Deep Sand - Warm season plant community .

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

State 2
Shinnery Oak Dominated

Community 2.1
Shinnery Oak Dominated



Shinnery Oak Dominated: This state is dominated by shinnery oak with subdominants of sand sage or mesquite. Bare ground is a significant component in this state as well. shinnery oak is characterized by dense stands in sandy soils; however, as clay percentage increases, shinnery oak decreases. Shinnery oak abundance and distribution increase with disturbances, such as excessive grazing and fire, due to an aggressive rhizome system. As shinnery oak abundance increases, an associated increase of mesquite, sand sage, and soapweed yucca also occurs. Shinnery oak's extensive root system allows the oak to competitively exclude grasses and forbs. Sand sage, however, stabilizes light sandy soils from wind erosion and can co-exist with herbaceous species by protecting them in heavily grazed conditions (Davis and Bonham 1979). Shinnery oak has been found primarily in very deep, excessively drained, and rapidly permeable soils. Shinnery oak is associated with landforms which are gently undulating to rolling uplands, very gently sloping to moderately steep slopes, and upland plains, alluvial fans and valley sideslopes. Shinnery oak and sand sage can be controlled with herbicide if applied in the spring with a subsequent rest from grazing (Herbel et al. 1979, Pettit 1986). In addition, repetitive seasons of goat browsing can also reduce shinnery oak abundance. Patches should be maintained during brush control, however, to prevent erosion and to provide wildlife cover and forage. Further, as shinnery oak and other shrubs increase, bare patches and erosion will increase due to a lack of herbaceous ground cover.

Diagnosis: Shinnery oak dominated with subdominant sand sage, honey mesquite, and soapweed yucca with increasing frequency and size of bare patches.

Transition to Shinnery oak dominated state (1a): The historic plant community begins to shift toward the shinnery oak dominated state as drivers such as climate change, fire suppression, interspecific competition, and excessive grazing contribute to alterations in soil properties and herbaceous cover. Cover loss and surface soil erosion are initial indicators of transition followed by an increase of shrub species abundance and bare patch expansion.

Key indicators of approach to transition:
• Loss of grass and forb cover
• Surface soil erosion
• Bare patch expansion
• Increased shrub species abundance and composition

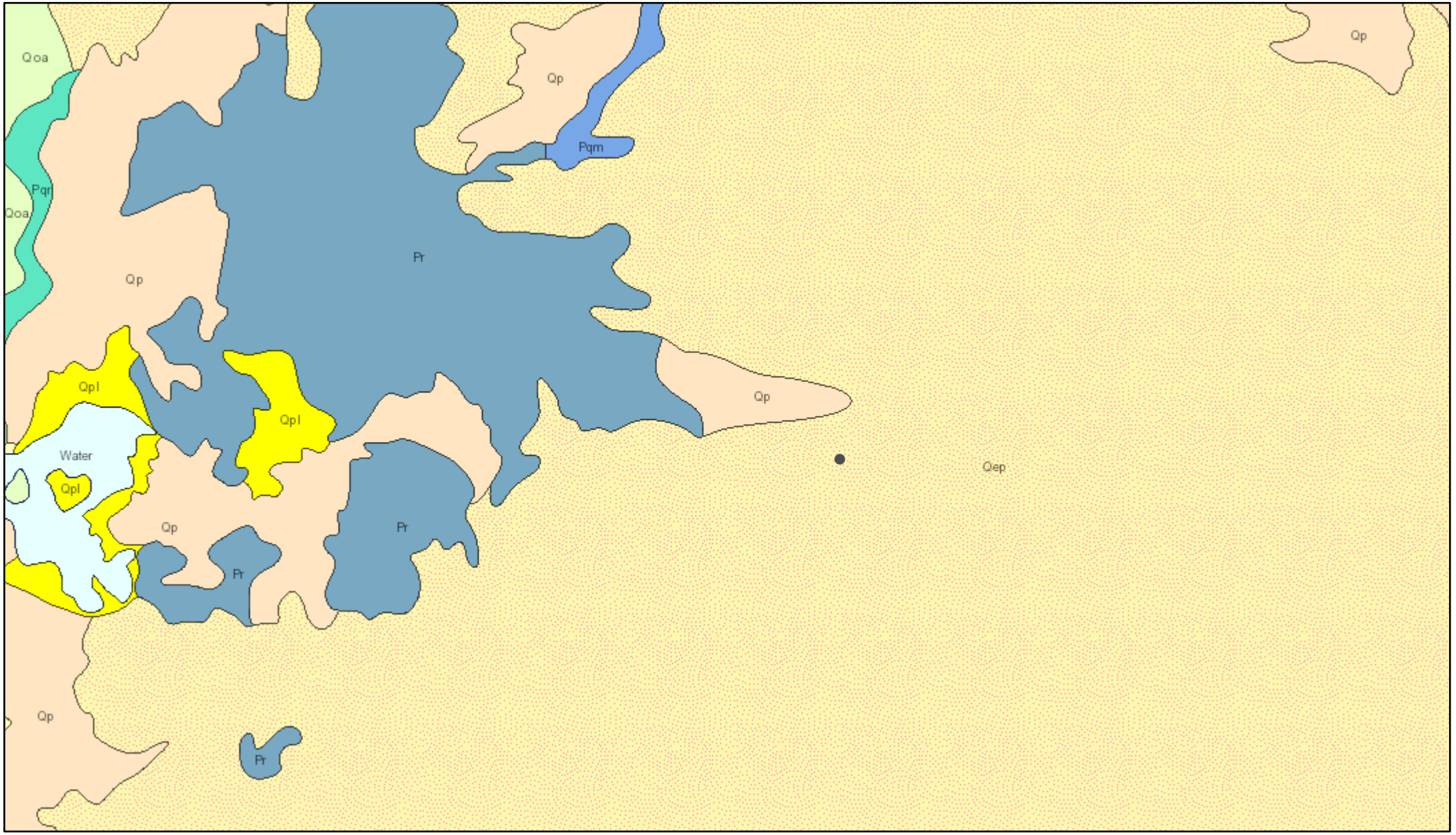
Transition to Historic Plant Community (1b): The shinnery oak dominated state may transition back toward the historic plant community as new drivers are introduced such as prescribed grazing, brush control, and discontinued drought conditions.

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1	**Warm Season**			450–585	
	spike dropseed	SPCO4	*Sporobolus contractus*	450–585	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	450–585	–
	mesa dropseed	SPFL2	*Sporobolus flexuosus*	450–585	–
	giant dropseed	SPGI	*Sporobolus giganteus*	450–585	–
2	**Warm Season**			65–104	
	sand bluestem	ANHA	*Andropogon hallii*	65–104	–
	little bluestem	SCSC	*Schizachyrium scoparium*	65–104	–
3	**Warm Season**			39–91	
	threeawn	ARIST	*Aristida*	39–91	–
4	**Warm Season**			13–39	
	thin paspalum	PASE5	*Paspalum setaceum*	13–39	–
5	**Warm Season**			13–39	
	black grama	BOER4	*Bouteloua eriopoda*	13–39	–
6	**Warm Season**			13–39	
	mat sandbur	CELO3	*Cenchrus longispinus*	13–39	–
7	**Warm Season**			13–39	
	Havard's panicgrass	PAHA2	*Panicum havardii*	13–39	–
8	**Warm Season**			13–65	
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	13–65	–
9	**Other Annual Grasses**			13–65	
	Grass, annual	2GA	*Grass, annual*	13–65	–
Shrub/Vine					
10	**Shrub**			65–130	
	Havard oak	QUHA3	*Quercus havardii*	65–130	–
11	**Shrub**			13–39	

ArcGIS Web Map



7/28/2021, 4:13:38 PM

Lithologic Contacts

- Contact, Exposed
- Contact, Gradational
- Map Boundary

Faults

- Fault, Exposed
- Fault, Intermittent
- Fault, Concealed
- Shere Zone

Dikes

- <all other values>
- Dike
- Dike intruding fault
- Volcanic Vents

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

NMBGMR, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S.

ArcGIS Web AppBuilder

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census

APPENDIX C – Daily Field Reports

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	9/2/2021
Site Location Name:	North Pure Gold 8 Federal 013H	Report Run Date:	9/2/2021 5:01 PM
Client Contact Name:	Wes Matthews	API #:	30-015-37651
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	9/2/2021 7:35 AM
Departed Site	9/2/2021 10:00 AM

Field Notes

7:39 Arrived on site to do a liner inspection and collect 4 samples on the N, E, S, and W side of containment

9:41 The integrity of the liner seems very good. No holes or rips that I can see. I found 4 patch job that have been completed and took photos to show and gave descriptions of the location of them

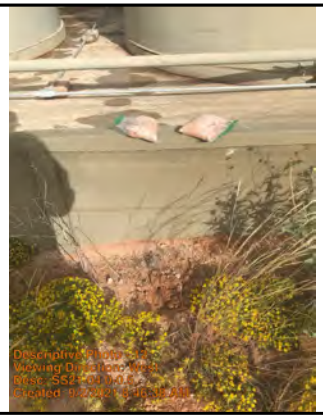
9:40 Collection of 4 sample around the containment to ensure the spill didn't leave the lined containment

Next Steps & Recommendations

1 Submit samples to lab

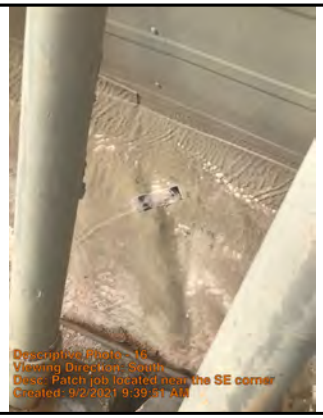
Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: East
	
North side of containment	SS21-02 0-0.5’
Viewing Direction: South	**Viewing Direction**: West
	
SS21-03 0-0.5	SS21-04 0-0.5’

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: North
	
Patch job, located directly east of oil tank serial # 576	Patch job located NE or oil tank serial #576

Viewing Direction: South	**Viewing Direction**: South
	
Patch job, located NW of oil tank serial number #576	Patch job located near the SE corner

Daily Site Visit Report

Viewing Direction: Southeast	**Viewing Direction**: Southwest
	
East, Southeast wall	South wall
Viewing Direction: West	**Viewing Direction**: West
	
Middle of tanks	Middle of tanks

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: South
	
North side of tanks	West side of containment

Viewing Direction: South	**Viewing Direction**: East
	
West side of containment	SS21-01 0-0.5’

Daily Site Visit Report

Daily Site Visit Signature

Inspector: John Ramirez

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/14/2025
Site Location Name:	North Pure Gold 8 Federal 013H	Report Run Date:	4/15/2025 1:38 AM
Client Contact Name:	Jim Raley	API #:	30-015-37651
Client Contact Phone #:	575-748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	4/14/2025 7:11 AM
Departed Site	4/14/2025 4:45 PM

Field Notes

7:56 Completed JSA on arrival. On site to collect soil samples underneath tank battery liner at patch locations.

8:26 Previous Liner Inspection was denied by NMOCD because patches could have been installed after original release. NMOCD requested cutting the liner at the patch locations and collecting soil samples under the liner.

8:39 Identified and confirmed the 4 patch locations based on original liner inspection. Swept sampling areas with magnetic locator prior to ground disturbance.

16:15 The northernmost spot previously described as a “patch” was likely misidentified. The portions of liner blend together in that area smoothly enough that they were different stages of the original installation. The spot was cut and sampled for completeness.

16:18 Cut line at previously identified potential patch locations and used hand auger to advance boreholes BH25-05, BH25-06, BH25-07, and BH25-08 to 1 feet bgs. Collected samples from each borehole at 0 and 1 feet bgs.

16:19 Field screening results for all samples were below strictest criteria for chloride and TPH. Packed samples for laboratory analyses.

16:22 Replaced loose soil and swept liner clean at each borehole. Taped sliced liner at each location to temporarily seal until work crew patch properly.

Daily Site Visit Report

Next Steps & Recommendations

1 Submit samples to laboratory for analyses.

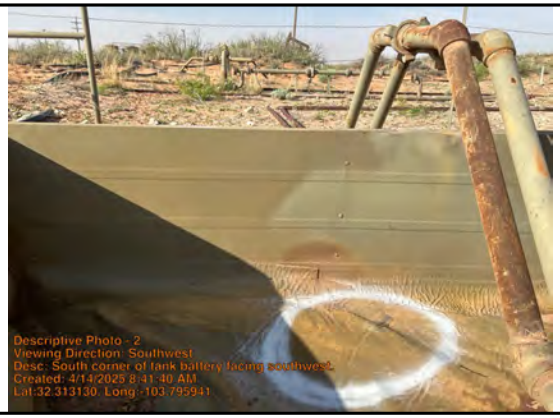
Daily Site Visit Report

Site Photos

Viewing Direction: Northwest

At site entrance facing northwest.

Viewing Direction: Southwest



South corner of tank battery facing southwest. Planned BH25-05 location.

Viewing Direction: Northeast

Southeast edge of tank battery facing northeast. Planned BH25-06 location.

Viewing Direction: Southwest

Southeast edge of tank battery facing southwest. Planned BH25-07 location.

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: Southwest
	
Northwest edge of tank battery facing east. Planned BH25-08 location.	South corner of tank battery facing southwest. BH25-05 at 1’ bgs.
Viewing Direction: Southwest	**Viewing Direction**: Southwest
	
Southeast edge of tank battery facing southwest. BH25-06 at 1’ bgs.	Southeast edge of tank battery facing southwest. BH25-07 at 1’ bgs.

Daily Site Visit Report

Viewing Direction: Southwest	**Viewing Direction**: Southwest
	
Northwest edge of tank battery facing southwest. BH25-08 at 1’ bgs.	South corner of tank battery facing southwest. Taped slice in liner at BH25-05.
Viewing Direction: Northeast	**Viewing Direction**: Southwest
	
Southeast edge of tank battery facing northeast. Taped slice in liner at BH25-06.	Southeast edge of tank battery facing southwest. Taped slice in liner at BH25-07.

Daily Site Visit Report

Viewing Direction: Southwest

Northwest edge of tank battery facing southwest. Taped slice in liner at BH25-08.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Lakin Pullman

Signature: 

APPENDIX D – Notifications

Monica Peppin

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Tuesday, August 31, 2021 7:49 AM
To: Monica Peppin
Subject: Fwd: 48 HR Notification Liner Inspection North Pure Gold 8 Federal 13

---------- Forwarded message ---------
From: **Dhugal Hanton** <vertexresourcegroupusa@gmail.com>
Date: Tue, Aug 31, 2021 at 7:43 AM
Subject: 48 HR Notification Liner Inspection North Pure Gold 8 Federal 13
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>, CFO_Spill, BLM_NM <blm_nm_cfo_spill@blm.gov>
Cc: <wesley.mathews@dvn.com>, <bshafer@vertex.ca>

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled a liner inspection to be conducted at for the following releases:

NRM2027531899 DOR: 9/22/2020

This work will be completed on behalf of Harvard Petroleum Company, LLC.

On Thursday, September 2, 2021 at approximately 9:00 a.m., John Ramirez will be onsite to conduct a liner inspection. 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 575-361-9880.

Thank you,

Monica Peppin
Project Manager

Vertex Resource Group Ltd.
3101 Boyd Drive,
Carlsbad, NM 88220

P 575.725.5001 Ext. 711
C 575.361.9880
F

www.vertex.ca

APPENDIX E – Laboratory Data Reports and Chain of Custody Forms

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 14, 2021

Brandon Schafer's

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

RE: North Pure Gold 8 Fed 13 OrderNo.: 2109220

Dear Brandon Schafer's:

Hall Environmental Analysis Laboratory received 4 sample(s) on 9/4/2021 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 **2109220**
Date Reported: **9/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: North Pure Gold 8 Fed 13
Lab ID: 2109220-001 **Matrix:** SOIL

Client Sample ID: SS21-01 0-0.5
Collection Date: 9/2/2021 8:40:00 AM
Received Date: 9/4/2021 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/9/2021 8:24:12 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/9/2021 8:24:12 PM
Surr: DNOP	100	70-130		%Rec	1	9/9/2021 8:24:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/9/2021 4:16:06 PM
Surr: BFB	104	70-130		%Rec	1	9/9/2021 4:16:06 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/9/2021 4:16:06 PM
Toluene	ND	0.049		mg/Kg	1	9/9/2021 4:16:06 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/9/2021 4:16:06 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/9/2021 4:16:06 PM
Surr: 4-Bromofluorobenzene	92.8	70-130		%Rec	1	9/9/2021 4:16:06 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/10/2021 11:44:13 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	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

Analytical Report
Lab Order **2109220**
Date Reported: **9/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: North Pure Gold 8 Fed 13
Lab ID: 2109220-002 **Matrix:** SOIL

Client Sample ID: SS21-02 0-0.5
Collection Date: 9/2/2021 8:45:00 AM
Received Date: 9/4/2021 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/9/2021 8:34:05 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/9/2021 8:34:05 PM
Surr: DNOP	103	70-130		%Rec	1	9/9/2021 8:34:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/9/2021 5:27:57 PM
Surr: BFB	105	70-130		%Rec	1	9/9/2021 5:27:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/9/2021 5:27:57 PM
Toluene	ND	0.048		mg/Kg	1	9/9/2021 5:27:57 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/9/2021 5:27:57 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/9/2021 5:27:57 PM
Surr: 4-Bromofluorobenzene	94.1	70-130		%Rec	1	9/9/2021 5:27:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/10/2021 12:21:26 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	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

Analytical Report
Lab Order **2109220**
Date Reported: **9/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: North Pure Gold 8 Fed 13
Lab ID: 2109220-003 **Matrix:** SOIL

Client Sample ID: SS21-03 0-0.5
Collection Date: 9/2/2021 8:50:00 AM
Received Date: 9/4/2021 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	13	9.3		mg/Kg	1	9/9/2021 8:44:01 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/9/2021 8:44:01 PM
Surr: DNOP	98.5	70-130		%Rec	1	9/9/2021 8:44:01 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/9/2021 6:39:59 PM
Surr: BFB	103	70-130		%Rec	1	9/9/2021 6:39:59 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	9/9/2021 6:39:59 PM
Toluene	ND	0.049		mg/Kg	1	9/9/2021 6:39:59 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/9/2021 6:39:59 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/9/2021 6:39:59 PM
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	9/9/2021 6:39:59 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	9/10/2021 1:23:27 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 **2109220**
Date Reported: **9/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: North Pure Gold 8 Fed 13
Lab ID: 2109220-004 **Matrix:** SOIL

Client Sample ID: SS21-04 0-0.5
Collection Date: 9/2/2021 8:55:00 AM
Received Date: 9/4/2021 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	9/9/2021 8:53:58 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/9/2021 8:53:58 PM
Surr: DNOP	98.1	70-130		%Rec	1	9/9/2021 8:53:58 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/9/2021 7:03:56 PM
Surr: BFB	102	70-130		%Rec	1	9/9/2021 7:03:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	9/9/2021 7:03:56 PM
Toluene	ND	0.047		mg/Kg	1	9/9/2021 7:03:56 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/9/2021 7:03:56 PM
Xylenes, Total	ND	0.094		mg/Kg	1	9/9/2021 7:03:56 PM
Surr: 4-Bromofluorobenzene	91.5	70-130		%Rec	1	9/9/2021 7:03:56 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	61		mg/Kg	20	9/10/2021 1:35:51 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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#: **2109220**
14-Sep-21

Client: Devon Energy
Project: North Pure Gold 8 Fed 13

Sample ID: **MB-62505** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **62505** RunNo: **81175**
Prep Date: **9/10/2021** Analysis Date: **9/10/2021** SeqNo: **2866584** Units: **mg/Kg**

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

Sample ID: **LCS-62505** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **62505** RunNo: **81175**
Prep Date: **9/10/2021** Analysis Date: **9/10/2021** SeqNo: **2866585** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.3	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 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#: **2109220**

14-Sep-21

Client: Devon Energy

Project: North Pure Gold 8 Fed 13

Sample ID: **LCS-62465**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **62465**	RunNo: **81156**							
Prep Date: **9/8/2021**	Analysis Date: **9/9/2021**	SeqNo: **2864692**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		86.2	70	130			

Sample ID: **MB-62465**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **62465**	RunNo: **81156**							
Prep Date: **9/8/2021**	Analysis Date: **9/9/2021**	SeqNo: **2864694**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	14		10.00		135	70	130			S

Sample ID: **LCS-62445**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **62445**	RunNo: **81156**							
Prep Date: **9/8/2021**	Analysis Date: **9/9/2021**	SeqNo: **2865704**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.3	68.9	135			
Surr: DNOP	3.6		5.000		72.6	70	130			

Sample ID: **LCS-62457**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **62457**	RunNo: **81156**							
Prep Date: **9/8/2021**	Analysis Date: **9/9/2021**	SeqNo: **2865705**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		85.8	70	130			

Sample ID: **MB-62445**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **62445**	RunNo: **81156**							
Prep Date: **9/8/2021**	Analysis Date: **9/9/2021**	SeqNo: **2865706**	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	9.0		10.00		90.1	70	130			

Sample ID: **MB-62457**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **62457**	RunNo: **81156**							
Prep Date: **9/8/2021**	Analysis Date: **9/9/2021**	SeqNo: **2865707**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		109	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#: **2109220**

14-Sep-21

Client: Devon Energy

Project: North Pure Gold 8 Fed 13

Sample ID: **mb-62435**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **62435**	RunNo: **81171**
Prep Date: **9/7/2021**	Analysis Date: **9/9/2021**	SeqNo: **2865211** 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		104	70	130			

Sample ID: **lcs-62435**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **62435**	RunNo: **81171**
Prep Date: **9/7/2021**	Analysis Date: **9/9/2021**	SeqNo: **2865212** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	104	78.6	131			
Surr: BFB	1100		1000		110	70	130			

Sample ID: **2109220-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SS21-01 0-0.5**	Batch ID: **62435**	RunNo: **81171**
Prep Date: **9/7/2021**	Analysis Date: **9/9/2021**	SeqNo: **2865215** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.7	23.36	0	106	61.3	114			
Surr: BFB	1100		934.6		113	70	130			

Sample ID: **2109220-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SS21-01 0-0.5**	Batch ID: **62435**	RunNo: **81171**
Prep Date: **9/7/2021**	Analysis Date: **9/9/2021**	SeqNo: **2865216** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.8	23.83	0	106	61.3	114	2.43	20	
Surr: BFB	1100		953.3		112	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#: **2109220**

14-Sep-21

Client: Devon Energy

Project: North Pure Gold 8 Fed 13

Sample ID: **mb-62435** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **62435** RunNo: **81171**

Prep Date: **9/7/2021** Analysis Date: **9/9/2021** SeqNo: **2865252** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.91		1.000		91.2	70	130			

Sample ID: **LCS-62435** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **62435** RunNo: **81171**

Prep Date: **9/7/2021** Analysis Date: **9/9/2021** SeqNo: **2865253** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	88.2	80	120			
Toluene	0.90	0.050	1.000	0	90.0	80	120			
Ethylbenzene	0.90	0.050	1.000	0	89.9	80	120			
Xylenes, Total	2.7	0.10	3.000	0	89.3	80	120			
Surr: 4-Bromofluorobenzene	0.94		1.000		93.6	70	130			

Sample ID: **2109220-002ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **SS21-02 0-0.5** Batch ID: **62435** RunNo: **81171**

Prep Date: **9/7/2021** Analysis Date: **9/9/2021** SeqNo: **2865257** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.024	0.9606	0	86.7	80	120			
Toluene	0.85	0.048	0.9606	0	88.9	80	120			
Ethylbenzene	0.88	0.048	0.9606	0	91.3	80	120			
Xylenes, Total	2.6	0.096	2.882	0	90.1	80	120			
Surr: 4-Bromofluorobenzene	0.92		0.9606		95.5	70	130			

Sample ID: **2109220-002amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **SS21-02 0-0.5** Batch ID: **62435** RunNo: **81171**

Prep Date: **9/7/2021** Analysis Date: **9/9/2021** SeqNo: **2865258** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.024	0.9588	0	88.5	80	120	1.85	20	
Toluene	0.87	0.048	0.9588	0	90.8	80	120	1.93	20	
Ethylbenzene	0.88	0.048	0.9588	0	91.7	80	120	0.169	20	
Xylenes, Total	2.6	0.096	2.876	0	91.8	80	120	1.66	20	
Surr: 4-Bromofluorobenzene	0.92		0.9588		95.9	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: **2109220** RcptNo: **1**

Received By: **Juan Rojas** **9/4/2021 8:30:00 AM**

Completed By: **Cheyenne Cason** **9/4/2021 9:29:42 AM**

Reviewed By: JR 9/7/21

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: KRG 9/7/21

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	0.0	Good				
2	0.4	Good				
3	0.1	Good				

Chain-of-Custody Record

Client: Devon

Mailing Address: Wes Matthews

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: North Park Gold 8 Fed 13

Project #: 2IE-02816

Project Manager: Brandon Schafer

Sampler: J.B

On Ice: ☒ Yes ☐ No

# of Coolers: 3

Cooler Temp(including CF): See Remarks (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2109220
9-2	8:40	Soil	SS21-01 0-0.5	4oz	ice	001
	8:45		SS21-02			002
	8:50		SS21-03			003
	8:55		SS21-04			004

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
✓	✓					✓			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9-3	9:00			9/3/21		900
9/3/21	1900		courier		9/4/21	8:30

Remarks:
0.7-0.2=0.5
0.6-0.2=0.4
0.3-0.2=0.1
CC: Brandon Schafer
Direct Bill Devon

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: Ms. Sally Carttar
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 4/21/2025 11:06:51 AM

JOB DESCRIPTION

North Pure Gold 8 Federal #13

JOB NUMBER

885-23305-1

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

Generated
4/21/2025 11:06:51 AM

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

Client: Vertex
Project/Site: North Pure Gold 8 Federal #13

Laboratory Job ID: 885-23305-1

Table of Contents

Definitions/Glossary

Client: Vertex Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

Qualifiers

GC Semi VOA

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 Job ID: 885-23305-1
Project: North Pure Gold 8 Federal #13

Job ID: 885-23305-1 Eurofins Albuquerque

Job Narrative
885-23305-1

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 and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided 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 4/16/2025 9:00 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
Method 8015D_DRO: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 885-24457 and analytical batch 885-24440 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.

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

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

Client Sample Results

Client: Vertex
Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

Client Sample ID: BH25-05 0'
Lab Sample ID: 885-23305-1
Date Collected: 04/14/25 08:55
Matrix: Solid
Date Received: 04/16/25 09:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9		mg/Kg		04/16/25 15:49	04/17/25 19:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*35 - 166*	*04/16/25 15:49*	*04/17/25 19:03*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		04/16/25 15:49	04/17/25 19:03	1
Ethylbenzene	ND		0.049		mg/Kg		04/16/25 15:49	04/17/25 19:03	1
Toluene	ND		0.049		mg/Kg		04/16/25 15:49	04/17/25 19:03	1
Xylenes, Total	ND		0.099		mg/Kg		04/16/25 15:49	04/17/25 19:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*	*04/16/25 15:49*	*04/17/25 19:03*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**110**	**F1**	9.7		mg/Kg		04/17/25 10:25	04/18/25 05:47	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		04/17/25 10:25	04/18/25 05:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*120*		*62 - 134*	*04/17/25 10:25*	*04/18/25 05:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**96**		61		mg/Kg		04/17/25 09:22	04/17/25 23:43	20

Client Sample Results

Client: Vertex
Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

Client Sample ID: BH25-05 1'
Lab Sample ID: 885-23305-2
Date Collected: 04/14/25 09:20
Matrix: Solid
Date Received: 04/16/25 09:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7		mg/Kg		04/16/25 15:49	04/17/25 20:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*35 - 166*	*04/16/25 15:49*	*04/17/25 20:08*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		04/16/25 15:49	04/17/25 20:08	1
Ethylbenzene	ND		0.047		mg/Kg		04/16/25 15:49	04/17/25 20:08	1
Toluene	ND		0.047		mg/Kg		04/16/25 15:49	04/17/25 20:08	1
Xylenes, Total	ND		0.093		mg/Kg		04/16/25 15:49	04/17/25 20:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*	*04/16/25 15:49*	*04/17/25 20:08*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**34**		9.4		mg/Kg		04/17/25 10:25	04/18/25 06:22	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		04/17/25 10:25	04/18/25 06:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*127*		*62 - 134*	*04/17/25 10:25*	*04/18/25 06:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**64**		60		mg/Kg		04/17/25 09:22	04/17/25 23:57	20

Client Sample Results

Client: Vertex
Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

Client Sample ID: BH25-06 0'
Lab Sample ID: 885-23305-3
Date Collected: 04/14/25 09:40
Matrix: Solid
Date Received: 04/16/25 09:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		04/16/25 15:49	04/17/25 21:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*35 - 166*	*04/16/25 15:49*	*04/17/25 21:13*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		04/16/25 15:49	04/17/25 21:13	1
Ethylbenzene	ND		0.050		mg/Kg		04/16/25 15:49	04/17/25 21:13	1
Toluene	ND		0.050		mg/Kg		04/16/25 15:49	04/17/25 21:13	1
Xylenes, Total	ND		0.099		mg/Kg		04/16/25 15:49	04/17/25 21:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*04/16/25 15:49*	*04/17/25 21:13*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**31**		9.4		mg/Kg		04/17/25 10:25	04/18/25 06:34	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		04/17/25 10:25	04/18/25 06:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*04/17/25 10:25*	*04/18/25 06:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		04/17/25 09:22	04/18/25 00:11	20

Client Sample Results

Client: Vertex
Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

Client Sample ID: BH25-06 1'
Lab Sample ID: 885-23305-4
Date Collected: 04/14/25 10:05
Matrix: Solid
Date Received: 04/16/25 09:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7		mg/Kg		04/16/25 15:49	04/17/25 21:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*04/16/25 15:49*	*04/17/25 21:35*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/16/25 15:49	04/17/25 21:35	1
Ethylbenzene	ND		0.047		mg/Kg		04/16/25 15:49	04/17/25 21:35	1
Toluene	ND		0.047		mg/Kg		04/16/25 15:49	04/17/25 21:35	1
Xylenes, Total	ND		0.094		mg/Kg		04/16/25 15:49	04/17/25 21:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*04/16/25 15:49*	*04/17/25 21:35*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6		mg/Kg		04/17/25 10:25	04/18/25 06:45	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		04/17/25 10:25	04/18/25 06:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*115*		*62 - 134*	*04/17/25 10:25*	*04/18/25 06:45*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		04/17/25 09:22	04/18/25 00:26	20

Client Sample Results

Client: Vertex
Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

Client Sample ID: BH25-07 0'
Lab Sample ID: 885-23305-5
Date Collected: 04/14/25 10:30
Matrix: Solid
Date Received: 04/16/25 09:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7		mg/Kg		04/16/25 15:49	04/17/25 21:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*35 - 166*	*04/16/25 15:49*	*04/17/25 21:56*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/16/25 15:49	04/17/25 21:56	1
Ethylbenzene	ND		0.047		mg/Kg		04/16/25 15:49	04/17/25 21:56	1
Toluene	ND		0.047		mg/Kg		04/16/25 15:49	04/17/25 21:56	1
Xylenes, Total	ND		0.095		mg/Kg		04/16/25 15:49	04/17/25 21:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*04/16/25 15:49*	*04/17/25 21:56*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9		mg/Kg		04/17/25 10:25	04/18/25 06:57	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		04/17/25 10:25	04/18/25 06:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*04/17/25 10:25*	*04/18/25 06:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		04/17/25 09:22	04/18/25 00:40	20

Client Sample Results

Client: Vertex
Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

Client Sample ID: BH25-07 1'
Lab Sample ID: 885-23305-6
Date Collected: 04/14/25 11:00
Matrix: Solid
Date Received: 04/16/25 09:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8		mg/Kg		04/16/25 15:49	04/17/25 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*35 - 166*	*04/16/25 15:49*	*04/17/25 22:18*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/16/25 15:49	04/17/25 22:18	1
Ethylbenzene	ND		0.048		mg/Kg		04/16/25 15:49	04/17/25 22:18	1
Toluene	ND		0.048		mg/Kg		04/16/25 15:49	04/17/25 22:18	1
Xylenes, Total	ND		0.096		mg/Kg		04/16/25 15:49	04/17/25 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*	*04/16/25 15:49*	*04/17/25 22:18*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.1		mg/Kg		04/17/25 10:25	04/18/25 07:08	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		04/17/25 10:25	04/18/25 07:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*04/17/25 10:25*	*04/18/25 07:08*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		04/17/25 09:22	04/18/25 00:54	20

Client Sample Results

Client: Vertex
Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

Client Sample ID: BH25-08 0'
Lab Sample ID: 885-23305-7
Date Collected: 04/14/25 11:10
Matrix: Solid
Date Received: 04/16/25 09:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.6		mg/Kg		04/16/25 15:49	04/17/25 22:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*35 - 166*	*04/16/25 15:49*	*04/17/25 22:40*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		04/16/25 15:49	04/17/25 22:40	1
Ethylbenzene	ND		0.046		mg/Kg		04/16/25 15:49	04/17/25 22:40	1
Toluene	ND		0.046		mg/Kg		04/16/25 15:49	04/17/25 22:40	1
Xylenes, Total	ND		0.092		mg/Kg		04/16/25 15:49	04/17/25 22:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*	*04/16/25 15:49*	*04/17/25 22:40*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		04/17/25 10:25	04/18/25 07:20	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		04/17/25 10:25	04/18/25 07:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*113*		*62 - 134*	*04/17/25 10:25*	*04/18/25 07:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**87**		60		mg/Kg		04/17/25 09:22	04/18/25 01:36	20

Client Sample Results

Client: Vertex
Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

Client Sample ID: BH25-08 1'
Lab Sample ID: 885-23305-8
Date Collected: 04/14/25 11:30
Matrix: Solid
Date Received: 04/16/25 09:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8		mg/Kg		04/16/25 15:49	04/17/25 23:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*35 - 166*	*04/16/25 15:49*	*04/17/25 23:01*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		04/16/25 15:49	04/17/25 23:01	1
Ethylbenzene	ND		0.048		mg/Kg		04/16/25 15:49	04/17/25 23:01	1
Toluene	ND		0.048		mg/Kg		04/16/25 15:49	04/17/25 23:01	1
Xylenes, Total	ND		0.097		mg/Kg		04/16/25 15:49	04/17/25 23:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*04/16/25 15:49*	*04/17/25 23:01*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		04/17/25 10:25	04/18/25 07:31	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		04/17/25 10:25	04/18/25 07:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*107*		*62 - 134*	*04/17/25 10:25*	*04/18/25 07:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		04/17/25 09:22	04/18/25 01:51	20

QC Sample Results

Client: Vertex
Project/Site: North Pure Gold 8 Federal #13

Job ID: 885-23305-1

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

Lab Sample ID: MB 885-24415/1-A
Matrix: Solid
Analysis Batch: 24571

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 24415

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		04/16/25 15:49	04/17/25 18:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*04/16/25 15:49*	*04/17/25 18:41*	*1*

Lab Sample ID: LCS 885-24415/2-A
Matrix: Solid
Analysis Batch: 24571

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 24415

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			25.0	29.2		mg/Kg		117	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*222*		*35 - 166*

Lab Sample ID: 885-23305-1 MS
Matrix: Solid
Analysis Batch: 24571

Client Sample ID: BH25-05 0'
Prep Type: Total/NA
Prep Batch: 24415

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	ND		24.6	29.2		mg/Kg		119	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*220*		*35 - 166*

Lab Sample ID: 885-23305-1 MSD
Matrix: Solid
Analysis Batch: 24571

Client Sample ID: BH25-05 0'
Prep Type: Total/NA
Prep Batch: 24415

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	ND		24.6	28.1		mg/Kg		115	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*217*		*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-24415/1-A
Matrix: Solid
Analysis Batch: 24572

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 24415

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		04/16/25 15:49	04/17/25 18:41	1
Ethylbenzene	ND		0.050		mg/Kg		04/16/25 15:49	04/17/25 18:41	1
Toluene	ND		0.050		mg/Kg		04/16/25 15:49	04/17/25 18:41	1

QC Sample Results

Client: Vertex
Project/Site: North Pure Gold 8 Federal #13

Job ID: 885-23305-1

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

Lab Sample ID: MB 885-24415/1-A
Matrix: Solid
Analysis Batch: 24572

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 24415

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		04/16/25 15:49	04/17/25 18:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*	*04/16/25 15:49*	*04/17/25 18:41*	*1*

Lab Sample ID: LCS 885-24415/3-A
Matrix: Solid
Analysis Batch: 24572

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 24415

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.03		mg/Kg		103	70 - 130		
Ethylbenzene			1.00	1.01		mg/Kg		101	70 - 130		
m-Xylene & p-Xylene			2.00	2.04		mg/Kg		102	70 - 130		
o-Xylene			1.00	1.04		mg/Kg		104	70 - 130		
Toluene			1.00	1.01		mg/Kg		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*

Lab Sample ID: 885-23305-2 MS
Matrix: Solid
Analysis Batch: 24572

Client Sample ID: BH25-05 1'
Prep Type: Total/NA
Prep Batch: 24415

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.941	1.03		mg/Kg		110	70 - 130		
Ethylbenzene	ND		0.941	1.03		mg/Kg		109	70 - 130		
m-Xylene & p-Xylene	ND		1.88	2.05		mg/Kg		109	70 - 130		
o-Xylene	ND		0.941	1.03		mg/Kg		109	70 - 130		
Toluene	ND		0.941	1.01		mg/Kg		107	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*

Lab Sample ID: 885-23305-2 MSD
Matrix: Solid
Analysis Batch: 24572

Client Sample ID: BH25-05 1'
Prep Type: Total/NA
Prep Batch: 24415

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.941	1.06		mg/Kg		112	70 - 130	2	20
Ethylbenzene	ND		0.941	1.04		mg/Kg		111	70 - 130	2	20
m-Xylene & p-Xylene	ND		1.88	2.10		mg/Kg		112	70 - 130	3	20
o-Xylene	ND		0.941	1.06		mg/Kg		113	70 - 130	3	20
Toluene	ND		0.941	1.03		mg/Kg		109	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: North Pure Gold 8 Federal #13

Job ID: 885-23305-1

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

Lab Sample ID: MB 885-24457/1-A
Matrix: Solid
Analysis Batch: 24440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 24457

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		04/17/25 10:25	04/18/25 05:24	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		04/17/25 10:25	04/18/25 05:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*	*04/17/25 10:25*	*04/18/25 05:24*	*1*

Lab Sample ID: LCS 885-24457/2-A
Matrix: Solid
Analysis Batch: 24440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 24457

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	45.9		mg/Kg		92	60 - 135		

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

Lab Sample ID: 885-23305-1 MS
Matrix: Solid
Analysis Batch: 24440

Client Sample ID: BH25-05 0'
Prep Type: Total/NA
Prep Batch: 24457

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	110	F1	45.9	58.1	F1	mg/Kg		-116	44 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*93*		*62 - 134*

Lab Sample ID: 885-23305-1 MSD
Matrix: Solid
Analysis Batch: 24440

Client Sample ID: BH25-05 0'
Prep Type: Total/NA
Prep Batch: 24457

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	110	F1	46.2	57.3	F1	mg/Kg		-117	44 - 136	1	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*98*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-24447/1-A
Matrix: Solid
Analysis Batch: 24448

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 24447

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		04/17/25 09:22	04/17/25 12:10	1

QC Sample Results

Client: Vertex
Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-24447/2-A
Client Sample ID: Lab Control Sample
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 24448
Prep Batch: 24447

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	30.1		mg/Kg		100	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: North Pure Gold 8 Federal #13

Job ID: 885-23305-1

GC VOA

Prep Batch: 24415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-23305-1	BH25-05 0'	Total/NA	Solid	5030C	
885-23305-2	BH25-05 1'	Total/NA	Solid	5030C	
885-23305-3	BH25-06 0'	Total/NA	Solid	5030C	
885-23305-4	BH25-06 1'	Total/NA	Solid	5030C	
885-23305-5	BH25-07 0'	Total/NA	Solid	5030C	
885-23305-6	BH25-07 1'	Total/NA	Solid	5030C	
885-23305-7	BH25-08 0'	Total/NA	Solid	5030C	
885-23305-8	BH25-08 1'	Total/NA	Solid	5030C	
MB 885-24415/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-24415/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-24415/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-23305-1 MS	BH25-05 0'	Total/NA	Solid	5030C	
885-23305-1 MSD	BH25-05 0'	Total/NA	Solid	5030C	
885-23305-2 MS	BH25-05 1'	Total/NA	Solid	5030C	
885-23305-2 MSD	BH25-05 1'	Total/NA	Solid	5030C	

Analysis Batch: 24571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-23305-1	BH25-05 0'	Total/NA	Solid	8015M/D	24415
885-23305-2	BH25-05 1'	Total/NA	Solid	8015M/D	24415
885-23305-3	BH25-06 0'	Total/NA	Solid	8015M/D	24415
885-23305-4	BH25-06 1'	Total/NA	Solid	8015M/D	24415
885-23305-5	BH25-07 0'	Total/NA	Solid	8015M/D	24415
885-23305-6	BH25-07 1'	Total/NA	Solid	8015M/D	24415
885-23305-7	BH25-08 0'	Total/NA	Solid	8015M/D	24415
885-23305-8	BH25-08 1'	Total/NA	Solid	8015M/D	24415
MB 885-24415/1-A	Method Blank	Total/NA	Solid	8015M/D	24415
LCS 885-24415/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	24415
885-23305-1 MS	BH25-05 0'	Total/NA	Solid	8015M/D	24415
885-23305-1 MSD	BH25-05 0'	Total/NA	Solid	8015M/D	24415

Analysis Batch: 24572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-23305-1	BH25-05 0'	Total/NA	Solid	8021B	24415
885-23305-2	BH25-05 1'	Total/NA	Solid	8021B	24415
885-23305-3	BH25-06 0'	Total/NA	Solid	8021B	24415
885-23305-4	BH25-06 1'	Total/NA	Solid	8021B	24415
885-23305-5	BH25-07 0'	Total/NA	Solid	8021B	24415
885-23305-6	BH25-07 1'	Total/NA	Solid	8021B	24415
885-23305-7	BH25-08 0'	Total/NA	Solid	8021B	24415
885-23305-8	BH25-08 1'	Total/NA	Solid	8021B	24415
MB 885-24415/1-A	Method Blank	Total/NA	Solid	8021B	24415
LCS 885-24415/3-A	Lab Control Sample	Total/NA	Solid	8021B	24415
885-23305-2 MS	BH25-05 1'	Total/NA	Solid	8021B	24415
885-23305-2 MSD	BH25-05 1'	Total/NA	Solid	8021B	24415

GC Semi VOA

Analysis Batch: 24440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-23305-1	BH25-05 0'	Total/NA	Solid	8015M/D	24457

QC Association Summary

Client: Vertex Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

GC Semi VOA (Continued)

Analysis Batch: 24440 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-23305-2	BH25-05 1'	Total/NA	Solid	8015M/D	24457
885-23305-3	BH25-06 0'	Total/NA	Solid	8015M/D	24457
885-23305-4	BH25-06 1'	Total/NA	Solid	8015M/D	24457
885-23305-5	BH25-07 0'	Total/NA	Solid	8015M/D	24457
885-23305-6	BH25-07 1'	Total/NA	Solid	8015M/D	24457
885-23305-7	BH25-08 0'	Total/NA	Solid	8015M/D	24457
885-23305-8	BH25-08 1'	Total/NA	Solid	8015M/D	24457
MB 885-24457/1-A	Method Blank	Total/NA	Solid	8015M/D	24457
LCS 885-24457/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	24457
885-23305-1 MS	BH25-05 0'	Total/NA	Solid	8015M/D	24457
885-23305-1 MSD	BH25-05 0'	Total/NA	Solid	8015M/D	24457

Prep Batch: 24457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-23305-1	BH25-05 0'	Total/NA	Solid	SHAKE	
885-23305-2	BH25-05 1'	Total/NA	Solid	SHAKE	
885-23305-3	BH25-06 0'	Total/NA	Solid	SHAKE	
885-23305-4	BH25-06 1'	Total/NA	Solid	SHAKE	
885-23305-5	BH25-07 0'	Total/NA	Solid	SHAKE	
885-23305-6	BH25-07 1'	Total/NA	Solid	SHAKE	
885-23305-7	BH25-08 0'	Total/NA	Solid	SHAKE	
885-23305-8	BH25-08 1'	Total/NA	Solid	SHAKE	
MB 885-24457/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-24457/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-23305-1 MS	BH25-05 0'	Total/NA	Solid	SHAKE	
885-23305-1 MSD	BH25-05 0'	Total/NA	Solid	SHAKE	

HPLC/IC

Prep Batch: 24447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-23305-1	BH25-05 0'	Total/NA	Solid	300_Prep	
885-23305-2	BH25-05 1'	Total/NA	Solid	300_Prep	
885-23305-3	BH25-06 0'	Total/NA	Solid	300_Prep	
885-23305-4	BH25-06 1'	Total/NA	Solid	300_Prep	
885-23305-5	BH25-07 0'	Total/NA	Solid	300_Prep	
885-23305-6	BH25-07 1'	Total/NA	Solid	300_Prep	
885-23305-7	BH25-08 0'	Total/NA	Solid	300_Prep	
885-23305-8	BH25-08 1'	Total/NA	Solid	300_Prep	
MB 885-24447/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-24447/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 24448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-23305-1	BH25-05 0'	Total/NA	Solid	300.0	24447
885-23305-2	BH25-05 1'	Total/NA	Solid	300.0	24447
885-23305-3	BH25-06 0'	Total/NA	Solid	300.0	24447
885-23305-4	BH25-06 1'	Total/NA	Solid	300.0	24447
885-23305-5	BH25-07 0'	Total/NA	Solid	300.0	24447
885-23305-6	BH25-07 1'	Total/NA	Solid	300.0	24447
885-23305-7	BH25-08 0'	Total/NA	Solid	300.0	24447

QC Association Summary

Client: Vertex Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

HPLC/IC (Continued)

Analysis Batch: 24448 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-23305-8	BH25-08 1'	Total/NA	Solid	300.0	24447
MB 885-24447/1-A	Method Blank	Total/NA	Solid	300.0	24447
LCS 885-24447/2-A	Lab Control Sample	Total/NA	Solid	300.0	24447

Lab Chronicle

Client: Vertex
Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

Client Sample ID: BH25-05 0'
Lab Sample ID: 885-23305-1
Date Collected: 04/14/25 08:55
Matrix: Solid
Date Received: 04/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8015M/D		1	24571	AT	EET ALB	04/17/25 19:03
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8021B		1	24572	AT	EET ALB	04/17/25 19:03
Total/NA	Prep	SHAKE			24457	MI	EET ALB	04/17/25 10:25
Total/NA	Analysis	8015M/D		1	24440	EM	EET ALB	04/18/25 05:47
Total/NA	Prep	300_Prep			24447	JT	EET ALB	04/17/25 09:22
Total/NA	Analysis	300.0		20	24448	DL	EET ALB	04/17/25 23:43

Client Sample ID: BH25-05 1'
Lab Sample ID: 885-23305-2
Date Collected: 04/14/25 09:20
Matrix: Solid
Date Received: 04/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8015M/D		1	24571	AT	EET ALB	04/17/25 20:08
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8021B		1	24572	AT	EET ALB	04/17/25 20:08
Total/NA	Prep	SHAKE			24457	MI	EET ALB	04/17/25 10:25
Total/NA	Analysis	8015M/D		1	24440	EM	EET ALB	04/18/25 06:22
Total/NA	Prep	300_Prep			24447	JT	EET ALB	04/17/25 09:22
Total/NA	Analysis	300.0		20	24448	DL	EET ALB	04/17/25 23:57

Client Sample ID: BH25-06 0'
Lab Sample ID: 885-23305-3
Date Collected: 04/14/25 09:40
Matrix: Solid
Date Received: 04/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8015M/D		1	24571	AT	EET ALB	04/17/25 21:13
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8021B		1	24572	AT	EET ALB	04/17/25 21:13
Total/NA	Prep	SHAKE			24457	MI	EET ALB	04/17/25 10:25
Total/NA	Analysis	8015M/D		1	24440	EM	EET ALB	04/18/25 06:34
Total/NA	Prep	300_Prep			24447	JT	EET ALB	04/17/25 09:22
Total/NA	Analysis	300.0		20	24448	DL	EET ALB	04/18/25 00:11

Client Sample ID: BH25-06 1'
Lab Sample ID: 885-23305-4
Date Collected: 04/14/25 10:05
Matrix: Solid
Date Received: 04/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8015M/D		1	24571	AT	EET ALB	04/17/25 21:35

Lab Chronicle

Client: Vertex Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

Client Sample ID: BH25-06 1' Lab Sample ID: 885-23305-4

Date Collected: 04/14/25 10:05 **Matrix: Solid**
Date Received: 04/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8021B		1	24572	AT	EET ALB	04/17/25 21:35
Total/NA	Prep	SHAKE			24457	MI	EET ALB	04/17/25 10:25
Total/NA	Analysis	8015M/D		1	24440	EM	EET ALB	04/18/25 06:45
Total/NA	Prep	300_Prep			24447	JT	EET ALB	04/17/25 09:22
Total/NA	Analysis	300.0		20	24448	DL	EET ALB	04/18/25 00:26

Client Sample ID: BH25-07 0' Lab Sample ID: 885-23305-5

Date Collected: 04/14/25 10:30 **Matrix: Solid**
Date Received: 04/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8015M/D		1	24571	AT	EET ALB	04/17/25 21:56
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8021B		1	24572	AT	EET ALB	04/17/25 21:56
Total/NA	Prep	SHAKE			24457	MI	EET ALB	04/17/25 10:25
Total/NA	Analysis	8015M/D		1	24440	EM	EET ALB	04/18/25 06:57
Total/NA	Prep	300_Prep			24447	JT	EET ALB	04/17/25 09:22
Total/NA	Analysis	300.0		20	24448	DL	EET ALB	04/18/25 00:40

Client Sample ID: BH25-07 1' Lab Sample ID: 885-23305-6

Date Collected: 04/14/25 11:00 **Matrix: Solid**
Date Received: 04/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8015M/D		1	24571	AT	EET ALB	04/17/25 22:18
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8021B		1	24572	AT	EET ALB	04/17/25 22:18
Total/NA	Prep	SHAKE			24457	MI	EET ALB	04/17/25 10:25
Total/NA	Analysis	8015M/D		1	24440	EM	EET ALB	04/18/25 07:08
Total/NA	Prep	300_Prep			24447	JT	EET ALB	04/17/25 09:22
Total/NA	Analysis	300.0		20	24448	DL	EET ALB	04/18/25 00:54

Client Sample ID: BH25-08 0' Lab Sample ID: 885-23305-7

Date Collected: 04/14/25 11:10 **Matrix: Solid**
Date Received: 04/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8015M/D		1	24571	AT	EET ALB	04/17/25 22:40
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8021B		1	24572	AT	EET ALB	04/17/25 22:40

Lab Chronicle

Client: Vertex
Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

Client Sample ID: BH25-08 0'
Lab Sample ID: 885-23305-7
Date Collected: 04/14/25 11:10
Matrix: Solid
Date Received: 04/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			24457	MI	EET ALB	04/17/25 10:25
Total/NA	Analysis	8015M/D		1	24440	EM	EET ALB	04/18/25 07:20
Total/NA	Prep	300_Prep			24447	JT	EET ALB	04/17/25 09:22
Total/NA	Analysis	300.0		20	24448	DL	EET ALB	04/18/25 01:36

Client Sample ID: BH25-08 1'
Lab Sample ID: 885-23305-8
Date Collected: 04/14/25 11:30
Matrix: Solid
Date Received: 04/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8015M/D		1	24571	AT	EET ALB	04/17/25 23:01
Total/NA	Prep	5030C			24415	JP	EET ALB	04/16/25 15:49
Total/NA	Analysis	8021B		1	24572	AT	EET ALB	04/17/25 23:01
Total/NA	Prep	SHAKE			24457	MI	EET ALB	04/17/25 10:25
Total/NA	Analysis	8015M/D		1	24440	EM	EET ALB	04/18/25 07:31
Total/NA	Prep	300_Prep			24447	JT	EET ALB	04/17/25 09:22
Total/NA	Analysis	300.0		20	24448	DL	EET ALB	04/18/25 01:51

Laboratory References:

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

Accreditation/Certification Summary

Client: Vertex Job ID: 885-23305-1
Project/Site: North Pure Gold 8 Federal #13

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	02-27-26

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

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics (GRO)-C6-C10
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-26-26

Chain-of-Custody Record

Client: **Vertex**

(direct bill to Devon, work order 8999999999)

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: X 72-hour Rush

Project Name: **North Pure Gold 8 Federal #13**

Project #: **25A-01603**

Project Manager: Sally Carttar

SCarttar@vertexresource.com

Sampler: L. Pullman

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 4.4+0.2=4.6°C

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

885-23305 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)
04.14.25	8:55	Soil	BH25-05 0'	1, 4oz jar			X	X					X			
04.14.25	9:20	Soil	BH25-05 1'	1, 4oz jar			X	X					X			
04.14.25	9:40	Soil	BH25-06 0'	1, 4oz jar			X	X					X			
04.14.25	10:05	Soil	BH25-06 1'	1, 4oz jar			X	X					X			
04.14.25	10:30	Soil	BH25-07 0'	1, 4oz jar			X	X					X			
04.14.25	11:00	Soil	BH25-07 1'	1, 4oz jar			X	X					X			
04.14.25	11:10	Soil	BH25-08 0'	1, 4oz jar			X	X					X			
04.14.25	11:30	Soil	BH25-08 1'	1, 4oz jar			X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
04-15-25	07:00	Sabr Pullman			4/15/25	700
4/15/25	1900			courier	4/16/25	7:55

Remarks: ATTN Jim Raley
Direct bill to Devon work order 8999999999 Jim Raley
cc. permain@vertexresource.com, SCarttar@vertexresource.com, kstallings@vertexresource.com, SMcCarty@vertexresource.com, and LPullman@vertexresource.com 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: 885-23305-1

Login Number: 23305 **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	

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS

Action 455526

QUESTIONS

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 455526
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nRM2027531899**
Incident Name	**NRM2027531899 NORTH PURE GOLD 8 FEDERAL #13 @ 30-015-37651**
Incident Type	**Oil Release**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-015-37651] NORTH PURE GOLD 8 FEDERAL #013H**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	NORTH PURE GOLD 8 FEDERAL #13
Date Release Discovered	09/22/2020
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Oil Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Corrosion | Tank (Any) | Crude Oil | Released: 40 BBL | Recovered: 38 BBL | Lost: 2 BBL.
Produced Water Released (bbls) Details	*Not answered.*
Is the concentration of chloride in the produced water >10,000 mg/l	*Not answered.*
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 455526
	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	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**
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	Release occurred outside of containment.
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: Roni Kidd Title: Business Manager Email: rkidd@buckhornproduction.com Date: 04/25/2025

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 455526
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
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	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
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	Yes
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	09/02/2021
On what date will (or did) the final sampling or liner inspection occur	09/02/2021
On what date will (or was) the remediation complete(d)	09/02/2021
What is the estimated surface area (in square feet) that will be remediated	0
What is the estimated volume (in cubic yards) that will be remediated	0
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.	

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 455526
	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.)	
Is (or was) there affected material present needing to be removed	No
Is (or was) there a power wash of the lined containment area (to be) performed	Yes
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: Roni Kidd Title: Business Manager Email: rkidd@buckhornproduction.com Date: 04/24/2025
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.	

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 455526
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Liner Inspection Information	
Last liner inspection notification (C-141L) recorded	**431754**
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC	**09/02/2021**
Was all the impacted materials removed from the liner	**Yes**
What was the liner inspection surface area in square feet	**2145**

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	**Yes**
What was the total surface area (in square feet) remediated	0
What was the total volume (cubic yards) remediated	0
Summarize any additional remediation activities not included by answers (above)	As detailed in attached 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: Roni Kidd Title: Business Manager Email: rkidd@buckhornproduction.com Date: 04/24/2025

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 455526
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation closure approved.	4/28/2025
amaxwell	A reclamation report will not be accepted until reclamation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	4/28/2025
amaxwell	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. The OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	4/28/2025