Incident Number: nAB1911254304

Release Assessment and Closure

Todd 23 A Federal #029

Unit A, Section 23, Township 23 South, Range 31 East

API: 30-015-31881

County: Eddy

Vertex File Number: 25A-01348

Prepared for:

Devon Energy Production Company, LP

Prepared by:

Vertex Resource Services Inc.

Date:

August 2025

Release Assessment and Closure
Todd 23 A Federal #029
Unit A, Section 23, Township 23 South, Range 31 East
API: 30-015-31881
County: Eddy

Prepared for:
Devon Energy Production Company, LP
5315 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

Katrina Taylor
Katrina Taylor, B.Sc
ENVIRONMENTAL TECHNICIAN, REPORTING

August 13, 2025
Date

Sally Carttar
Sally Carttar, B.A
PROJECT MANAGER, REPORT REVIEW

August 14, 2025
Date

Table of Contents

1.0 Introduction 1
2.0 Incident Description 1
3.0 Site Characteristics 1
4.0 Closure Criteria Determination 2
5.0 Remedial Actions Taken 4
6.0 Reclamation Compliance 5
7.0 Closure Request 5
8.0 References 6
9.0 Limitations 7

In-text Tables

Table 1. Closure Criteria Determination
Table 2. Closure Criteria for Soils to Remediation & Reclamation Standards

List of Figures

Figure 1. Characterization Sampling Site Schematic
Figure 2. Confirmatory Sampling Site Schematic

List of Tables

Table 3. Characterization Sample Field Screen and Laboratory Results – Depth to Groundwater >100 feet bgs
Table 4. Confirmatory Sample Field Screen and Laboratory Results – Depth to Groundwater >100 feet bgs

List of Appendices

Appendix A. Closure Criteria Research Documentation
Appendix B. Daily Field Reports
Appendix C. Laboratory Data Report(s) and Chain of Custody Form(s)
Appendix D. Depth to Groundwater Drilling

1.0 Introduction

Devon Energy Production Company, LP (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a produced water release that occurred on February 3, 2019, at Todd 23 A Federal #029 API 30-015-31881 (hereafter referred to as the "site"). Devon submitted an initial C-141 Release Notification to New Mexico Oil Conservation Division (NMOCD) on February 14, 2019. Incident ID number nAB1911254304 was assigned to this incident. A remediation plan was submitted May 13, 2025, and accepted June 6, 2025.

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

2.0 Incident Description

The release occurred on February 3, 2019, due to a leak in a polyline causing fluid to release into the pasture. The incident was reported on February 14, 2019, and involved the release of approximately 0.2 barrels (bbl.) of produced water into the pasture. Approximately 0 bbl. of free fluid was removed during initial clean-up. Additional details relevant to the release are presented in the C-141 Report.

3.0 Site Characteristics

The site is located approximately 37 miles east of Carlsbad, New Mexico. The legal location for the site is Unit A, Section 23, Township 23 South and Range 31 East in Eddy County, New Mexico. The release area is located on Bureau of Land Management (BLM) property. An aerial photograph and site schematic are presented on Figure 1.

The location is typical of oil and gas exploration and production sites in the Permian Basin and is currently used for oil and gas production and storage. The following sections specifically describe the release area in the pasture on or in proximity to Red Road (Figure 1).

The Geological Map of New Mexico indicates the site's surface geology primarily comprises Qep - Eolian and piedmont deposits (New Mexico Bureau of Geology and Mineral Resources, 2025). The karst geology potential for the site is low (United States Department of the Interior, Bureau of Land Management, 2018). The surrounding landscape is associated with plains and fan piedmonts with elevations ranging between 2,000 and 5,700 feet. The climate is semiarid with average annual precipitation ranging between 6 and 14 inches. Predominant soil textures around the site are well-drained fine sands and fine sandy loams with low runoff potential (United States Department of Agriculture, Natural Resources Conservation Service, 2025). Using information from the United States Department of Agriculture, the dominant vegetation was determined to be grasses interspersed with shrubs and half-shrubs (United States Department of Agriculture, Natural Resources Conservation Service, 2025).

4.0 Closure Criteria Determination

The depth to groundwater was determined by drilling a borehole permitted by the New Mexico Office of the State Engineer (NMOSE) within 0.3 miles north of the site. The borehole was advanced to a depth of 105 feet. The borehole was left to recharge as per the requirements on the WR-07 Application for Permit to Drill a Well with No Water Rights, and an interface probe was utilized to determine whether groundwater was present at the conclusion of the 72-hour recharge period. No water was found to be present at that time. The borehole was plugged and abandoned according to the WR-08 permit, Well Plugging Plan of Operations, filed with NMOSE. Closure criteria research documentation is included in Appendix A. Documentation related to the exploratory borehole is included in Appendix D.

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 2.8 miles northwest of the site (United States Fish and Wildlife Service, 2025).

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

Table 1. Closure Criteria Determination			
Site Name: Todd 23 A Federal #029			
Spill Coordinates: 32.290909,-103.740990		**X: 618547**	**Y: 3573377**
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater (nearest reference)	**>105**	feet
	Distance between release and nearest DTGW reference	**1,601**	feet
		0.30	miles
	Date of nearest DTGW reference measurement	**December 14, 2023**	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	14,788	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	17,828	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	24,840	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**	8,130	feet
	ii) Within 1000 feet of any fresh water well or spring	5,253	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	18,182	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	49,770	feet
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest unstable area	29,404	feet
10	Within a 100-year Floodplain	>500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	35,177	feet
11	Soil Type	Loamy fine sand, fine sandy loam	
12	Ecological Classification	Loamy	
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 to Remediation & Reclamation Standards

Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
0-4 feet bgs (19.15.29.13)	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
DTGW > 100 feet (19.15.29.12)	Chloride	20,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

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
DTGW – depth to groundwater
bgs – below ground surface

5.0 Remedial Actions Taken

Site inspection and characterization of the release area was completed between January 21, 2021, and July 9, 2023. Horizontal delineation was of the site completed to strictest criteria to define the edge of the release; vertical delineation was completed to the standards in Table I of 19.15.29.12 NMAC for a depth to groundwater greater than 100 feet. The impacted area was determined to be approximately 50 feet long, 54 feet wide, and 4 feet deep; the total affected area is 1,826 square feet. The Daily Field Report (DFR) associated with the site inspection is included in Appendix B. The characterization results are presented in Table 3.

Remediation efforts began on July 17, 2025, and were finalized on August 1, 2025. Vertex personnel supervised the excavation of impacted soils. Field screening was completed on a total of 14 sample points and consisted of analysis using Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and silver nitrate titration (chlorides). Field screening results were used to identify areas requiring further remediation. Soils were removed to a depth of 4.1 feet below ground surface. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility as stipulated by the Form C-138 Request for Approval to Accept Solid Waste – New Mexico filed with the NMOCD. Field screening results and DFRs documenting various phases of the remediation are presented in Appendix B.

Confirmatory composite samples were collected from the base and walls of the excavation in 200 square foot increments. A total of 14 confirmation samples and one backfill sample was collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Eurofins Laboratories 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). Confirmatory laboratory results are presented in Table 4, and the laboratory data reports are included in Appendix C. All confirmatory samples collected and analyzed were below closure criteria for the site.

A total of approximately 299 cu yds of contaminated soil was removed from the excavation and hauled off-site to a licensed disposal facility.

6.0 Reclamation Compliance

The release was remediated to strictest criteria, leaving no additional contamination in the top 4 ft, then backfilled with non-waste containing, locally sourced, material (Table 4). The area in which the release occurred is in pastureland adjacent to a decommissioned oil and gas production pad. All 4 ft of the excavation was backfilled with topsoil. The surface was contoured to match the surrounding area and stabilized to minimize erosion. A small section was left open above the pipeline at the request of Plains All American Pipeline (Plains Pipeline) to allow for the maintenance of their line. Plains Pipeline has accepted the responsibility of covering the remainder of their line post-maintenance. The excavation area will be seeded according to landowner guidelines following the approval of this closure and the completion of the backfill by the third party responsible.

7.0 Closure Request

The release area was fully delineated, remediated, and backfilled with local topsoil by August 5th, 2025. Confirmatory samples were analyzed by the laboratory and found to be below allowable concentrations as per the NMAC Closure Criteria for Soils Impacted by a Release locations “greater than 100 feet to groundwater” and NMAC Reclamation Criteria with no contaminates above strictest criteria remaining in the top four feet. Based on these findings, Devon Energy Production Company, LP, requests approval for a remediation and reclamation closure.

Vertex requests that this incident (nAB1911254304,) 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 release at Todd 23 A Federal #029.

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.

8.0 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 Department of Surface Water Quality Bureau. (2025). *Assessed and Impaired Waters of New Mexico*. Retrieved from https://gis.web.env.nm.gov/oem/?map=swqb

New Mexico Energy, Minerals and Natural Resources Department. (2025). *OCD Permitting - Spill Search*. Retrieved from https://wwwapps.emnrd.nm.gov/ocd/ocdpermitting/Data/Spills/Spills.aspx

New Mexico Mining and Minerals Division. (2025). *Coal Mine Resources in New Mexico*. Retrieved from https://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=5f80f3b0faa545e58fe747cc7b037a93

New Mexico Office of the State Engineer. (2025a). *Point of Diversion Location Report - New Mexico Water Rights Reporting System*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/wellSurfaceDiversion.html

New Mexico Office of the State Engineer. (2025b). *Water Column/Average Depth to Water Report - New Mexico Water Rights Reporting System*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html

New Mexico Office of the State Engineer. (2025c). *Well Log/Meter Information Report - New Mexico Water Rights Reporting System*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/meterReport.html

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/

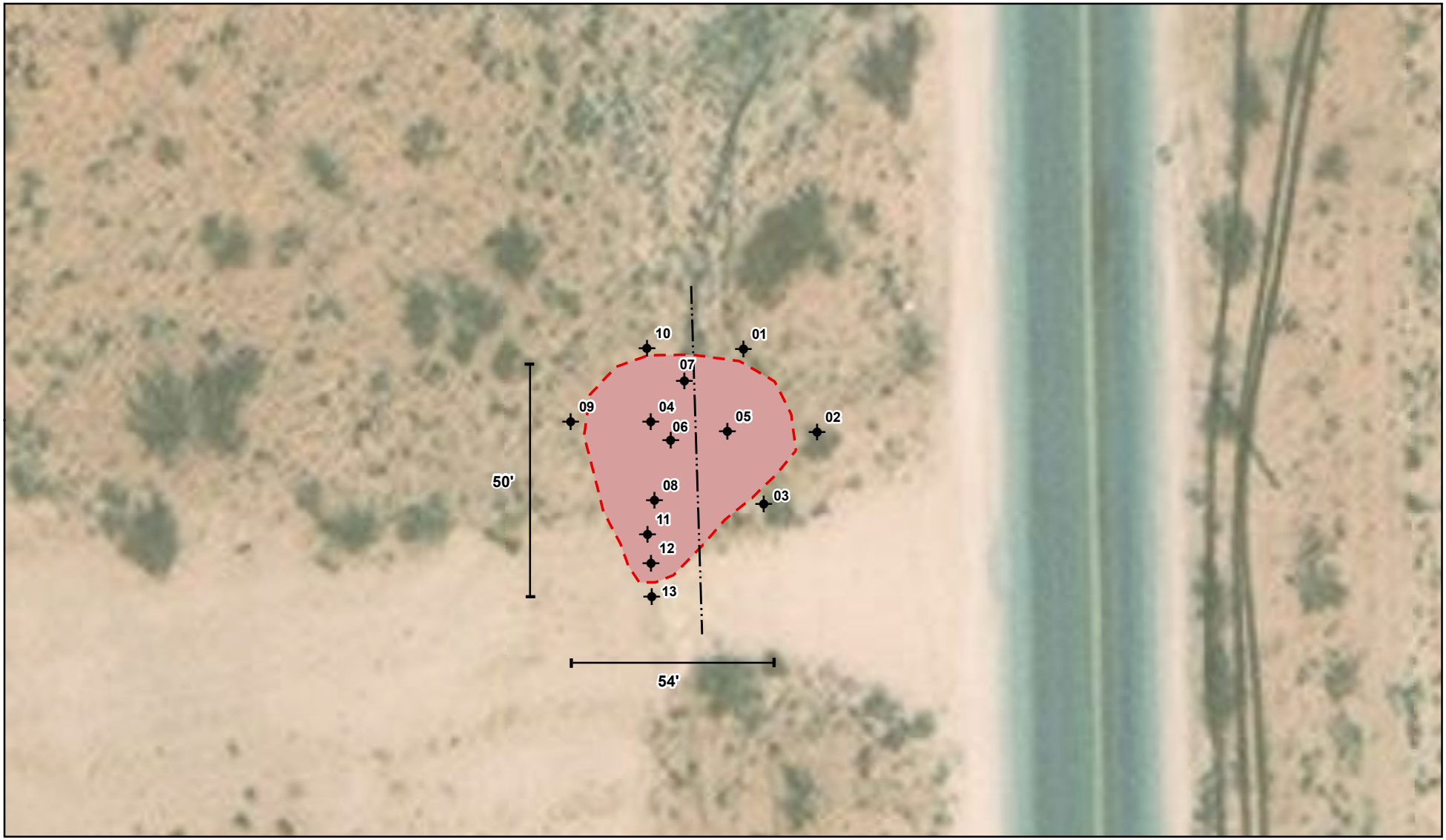
United States Geological Survey. (2025). *National Water Information System: Web Interface*. Retrieved from https://waterdata.usgs.gov/nwis

9.0 Limitations

This report has been prepared for the sole benefit of Devon Energy. 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. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

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

FIGURES



Borehole (Prefixed by "BH23-") Pipeline (Underground) Approximate Release Area (~1,826 sq.ft.)

VERTEX

0 20 40 Ft.

Map Center:
Lat/Long: 32.290912, -103.740984

NAD 1983 UTM Zone 13N
Date: Jul 17/23

N

Characterization Sampling Site Schematic
Todd 23 A Federal #029

FIGURE:
1

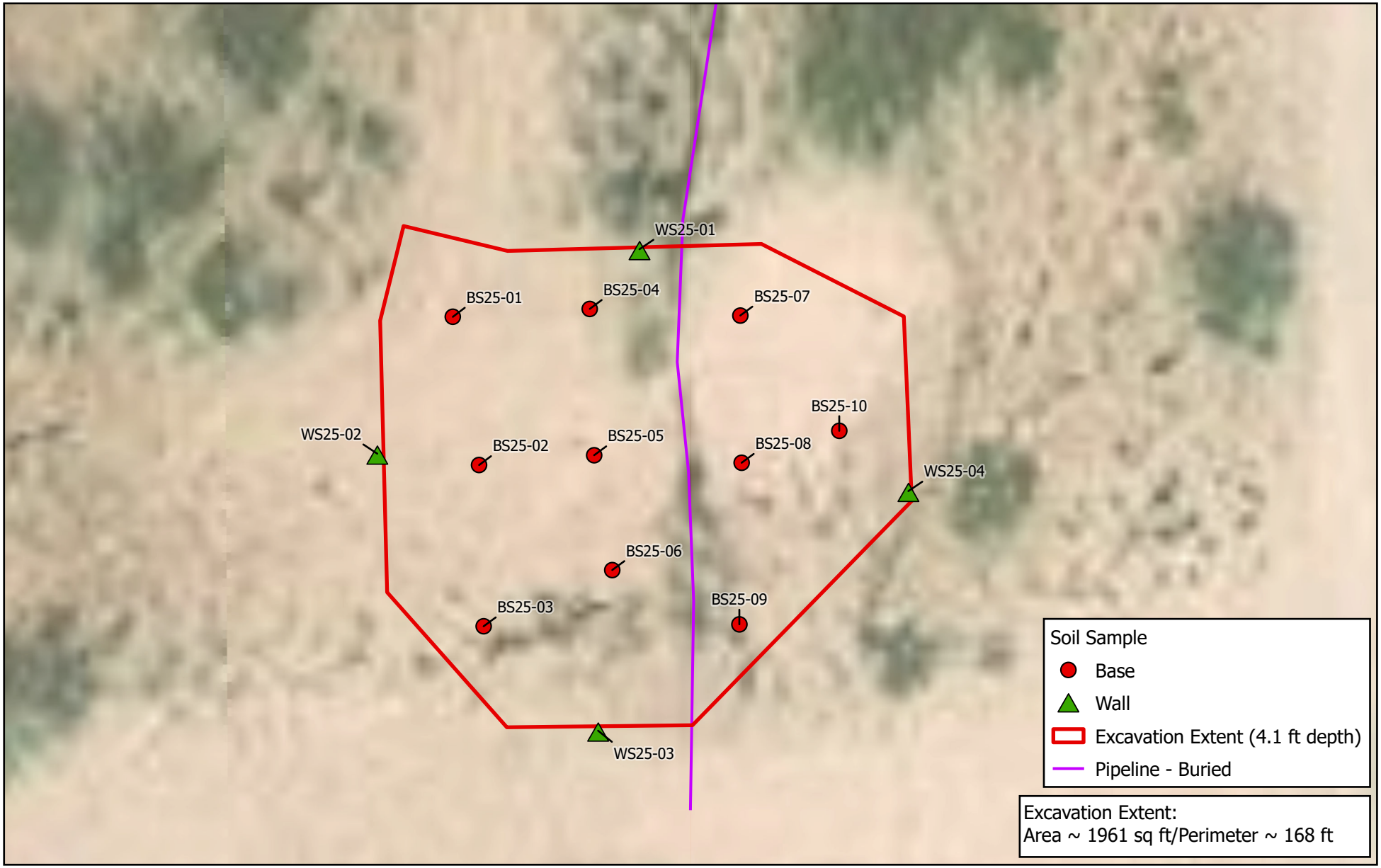
devon

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, 2022. Site features from GPS, Vertex Professional Services Ltd., 2023.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\2021\21E-02816\015- Todd 23 A Federal 29\Figure 1 Characterization Schematic Todd 23 A Federal 29_V2 (21E02816).mxd



VERTEX

0 7.5 15 ft

NAD 1983 StatePlane New Mexico East FIPS 3001 Feet

Map Center:
Lat/Long: 32.290903°N, 103.740997°W

Date: Aug 05/25

N

Confirmation Sampling Schematic
Todd 23A Federal #29

FIGURE:
2

devon

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

Note: Georeferenced image from Esri, 2025. Site features from GPS, Vertex, 2025.

VERSATILITY. EXPERTISE.

TABLES

Client Name: Devon Energy Production Company, LP
Site Name: Todd 23 A Federal #029
NMOCD Tracking #: nAB1911254304, 2RP-5365
Project #: 25A-01348
Lab Reports: 2302931, 2303965 and 2307358

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

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene (mg/kg)	BTEX (Total) (mg/kg)	Gasoline Range Organics (GRO) (mg/kg)	Diesel Range Organics (DRO) (mg/kg)	Motor Oil Range Organics (MRO) (mg/kg)	(GRO + DRO) (mg/kg)	Total Petroleum Hydrocarbons (TPH) (mg/kg)	Chloride Concentration (mg/kg)
BH23-01	0	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-02	0	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-03	0	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-04	0	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	**600**
	4	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	3700
	6	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	4000
BH23-05	4	February 20, 2023	ND	ND	ND	830	500	830	1330	2200
	6	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	5600
	7	February 20, 2023	ND	ND	ND	59	ND	59	59	3000
	8	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	4900
	12	March 16, 2023	ND	ND	ND	22	ND	22	22	7600
	13	March 16, 2023	ND	ND	ND	32	ND	32	32	9600
	14	March 16, 2023	ND	ND	ND	150	140	150	290	5900
	15	March 16, 2023	ND	ND	ND	98	140	98	238	4600
	16	March 16, 2023	ND	ND	ND	190	210	190	400	5300
BH23-06	0	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	**650**
	4	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	7300
	5	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	1900
BH23-07	0	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	530
	4	February 20, 2023	ND	ND	ND	ND	ND	ND	ND	4900
BH23-08	0	July 9, 2023	ND	ND	ND	ND	ND	ND	ND	66
	2	July 9, 2023	ND	ND	ND	ND	ND	ND	ND	**1000**
BH23-09	0	July 9, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	July 9, 2023	ND	ND	ND	ND	ND	ND	ND	91
BH23-10	0	July 9, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	July 9, 2023	ND	ND	ND	ND	ND	ND	ND	230
BH23-11	0	July 9, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	July 9, 2023	ND	ND	ND	ND	ND	ND	ND	**800**
BH23-12	0	July 9, 2023	ND	ND	ND	160	230	**160**	**390**	170
	2	July 9, 2023	ND	ND	ND	15	ND	15	15	67
BH23-13	0	July 9, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	July 9, 2023	ND	ND	ND	ND	ND	ND	ND	ND

"ND" Not Detected at the Reporting Limit

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

VERTEX

Client Name: Devon Energy Production Company, LP
Site Name: Todd 23 A Federal #029
NMOCD Tracking #: nAB1911254304, 2RP-5365
Project #: 25A-01348
Lab Reports: 855-29386-1, 885-30201-1

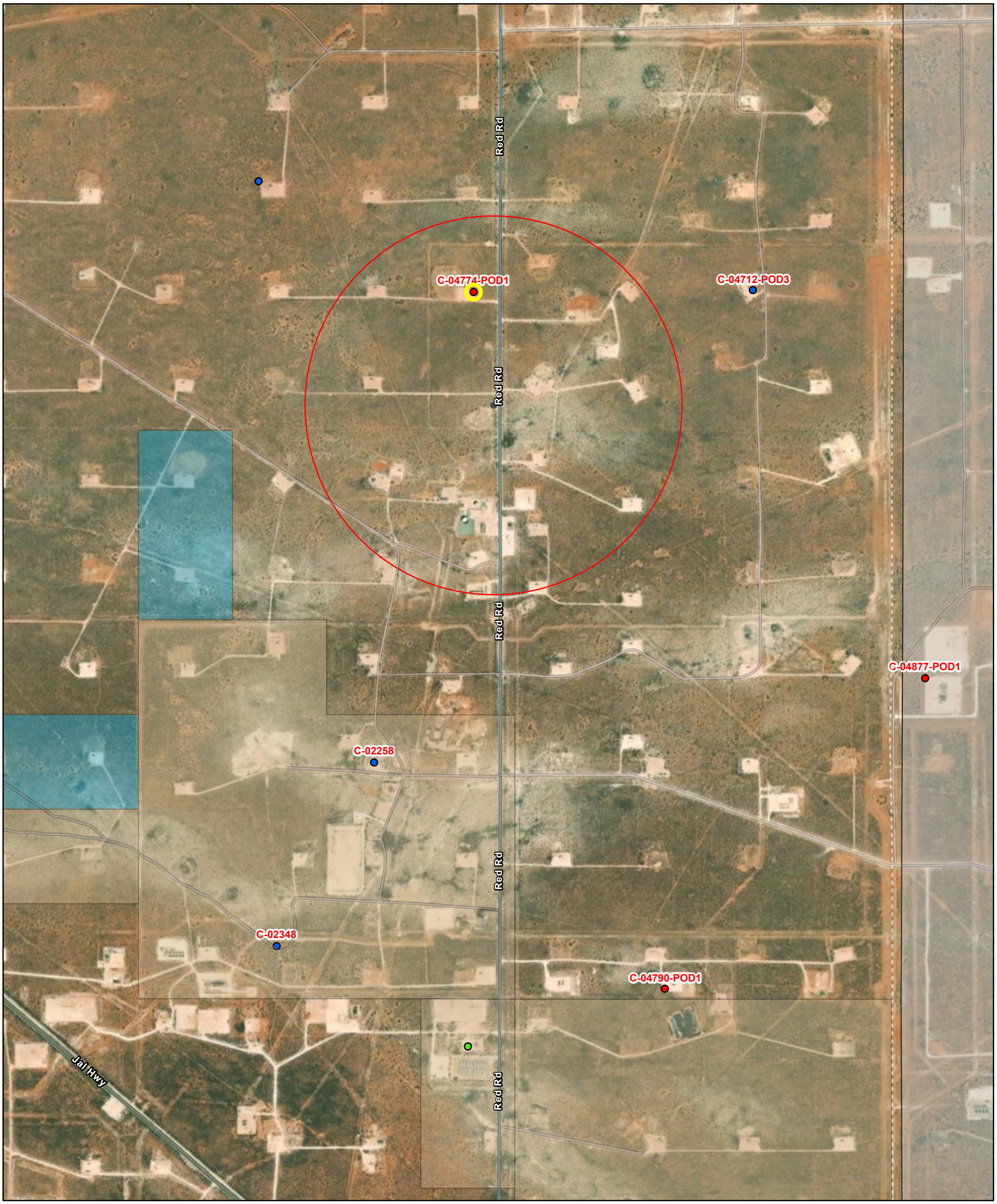
Table 4. Confirmation Laboratory Results - Depth to Groundwater >100 feet bgs

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)
Backfill	-	August 1, 2025	ND	ND	ND	ND	ND	ND	ND	ND
BS25-01	4.1	July 21, 2025	ND	ND	ND	17	ND	17	17	2900
BS25-02	4.1	July 21, 2025	ND	ND	ND	ND	ND	ND	ND	4200
BS25-03	4.1	July 21, 2025	ND	ND	ND	ND	ND	ND	ND	4500
BS25-04	4.1	July 21, 2025	ND	ND	ND	300	260	300	560	3300
BS25-05	4.1	July 21, 2025	ND	ND	ND	ND	ND	ND	ND	4200
BS25-06	4.1	July 21, 2025	ND	ND	ND	ND	ND	ND	ND	8500
BS25-07	4.1	July 21, 2025	ND	ND	ND	22	ND	22	22	3500
BS25-08	4.1	July 21, 2025	ND	ND	ND	ND	ND	ND	ND	2500
BS25-09	4.1	July 21, 2025	ND	ND	ND	22	ND	22	22	3400
BS25-10	4.1	July 21, 2025	ND	ND	ND	47	ND	47	47	2300
WS25-01	0-4.1	July 21, 2025	ND	ND	ND	ND	ND	ND	ND	180
WS25-02	0-4.1	July 21, 2025	ND	ND	ND	ND	ND	ND	ND	71
WS25-03	0-4.1	July 21, 2025	ND	ND	ND	15	ND	15	15	150
WS25-04	0-4.1	July 21, 2025	ND	ND	ND	ND	ND	ND	ND	120

"ND" Not Detected at the Reporting Limit
Bold and green shaded indicates exceedance outside of NMOCD Reclamation Closure Criteria

APPENDIX A - Closure Criteria Research

OSE POD 0.5 miles



4/6/2025, 3:37:23 PM

GIS WATERS PODs

- Active
- Pending
- Plugged
- OSE District Boundary

Water Right Regulations

- Closure Area

New Mexico State Trust Lands

- Subsurface Estate
- Both Estates

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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 04774 POD1		CUB	ED	SE	NE	NE	23	23S	31E	618456.0	3573856.4		487	105		
C 04712 POD3		CUB	ED	SE	NW	NE	24	23S	31E	619650.7	3573877.9		1212	55		
C 04712 POD4		CUB	ED	NW	SE	SW	14	23S	31E	617535.4	3574316.2		1380	55		
C 02258		C	ED		SW	NE	26	23S	31E	618055.0	3571853.0 *		1601	662		
C 04877 POD1		CUB	LE	SE	NW	NW	30	23S	32E	620404.8	3572240.0		2178	105		
C 04704 POD1		CUB	ED	SW	NE	NE	13	23S	31E	619854.4	3575363.5		2378			
C 02348		C	ED	NW	SE	SW	26	23S	31E	617647.5	3571068.0		2478	700	430	270
C 04790 POD1		CUB	ED	SE	SE	SW	25	23S	31E	619309.4	3570904.8		2587	55		
C 02777		CUB	ED	SE	SE	SE	10	23S	31E	616973.8	3575662.1		2774	890		
C 03749 POD1		CUB	ED		NE	NE	15	23S	31E	616973.8	3575662.1		2774	865	639	226
C 04855 POD1		CUB	ED	NE	SW	SW	11	23S	31E	617417.6	3575936.7		2797	105		
C 04709 POD1		CUB	ED	SW	NW	NW	15	23S	31E	615508.8	3575262.4		3575			
C 04712 POD1		CUB	LE	NW	SE	NW	31	23S	32E	620917.2	3570289.2		3892	55		
C 04746 POD1		CUB	ED	SW	SE	SW	36	23S	31E	619225.7	3569417.8		4016	105		
C 03851 POD1		CUB	LE	SW	SW	SE	20	23S	32E	622879.6	3572660.0		4391	1392	713	679
C 03529 POD1		C	LE	NE	SE	SW	29	23S	32E	622651.2	3571212.5		4639	550		
C 04815 POD1		CUB	LE	NW	SE	SW	08	23S	32E	622391.9	3576025.7		4668	55		
C 04712 POD5		CUB	ED	SE	SE	SW	09	23S	31E	614392.9	3575754.4		4786	55		
C 02405		CUB	ED		SE	NW	02	24S	31E	617690.0	3568631.0 *		4822	275	160	115
C 04712 POD2		CUB	LE	SE	SE	SE	17	23S	32E	623331.9	3574331.5		4879	55		
C 02464		C	ED	NE	SW	NW	02	24S	31E	617644.7	3568581.6		4879	320	205	115

Average Depth to Water: **429 fe**

Minimum Depth: **160 feet**

Maximum Depth: **713 feet**

Record Count: 21

UTM Filters (in meters):

Easting: 618547

Northing: 3573377

Radius: 005000

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

4/6/25 2:48 PM MST **Water Column/Average Depth to Water**

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 04774 POD1	SE	NE	NE	23	23S	31E	618456.0	3573856.4	

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

Driller License:	1833	**Driller Company:**	VISION RESOURCES, INC		
Driller Name:	JASON MALEY				
Drill Start Date:	2023-12-14	**Drill Finish Date:**	2023-12-14	**Plug Date:**	2023-12-20
Log File Date:	2024-01-12	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	2.00	**Depth Well:**	105	**Depth Water:**	

Water Right Summary

get image list

WR File Number:	C 04774	**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 ENGERGY RESOURCES	**Owner Class:**	Owner		
Contact:	DALE WOODALL				

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
get images	751178	EXPL	2023-09-19	PMT	APR	C-4774 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 04774 POD1	NA		SE	NE	NE	23	23S	31E	618456.0	3573856.4		

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

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0.000	0.000		MON		GW	

U.S. Fish and Wildlife Service
National Wetlands Inventory

Todd 23A Fed 029, Intermittent 14788 feet

August 20, 2021

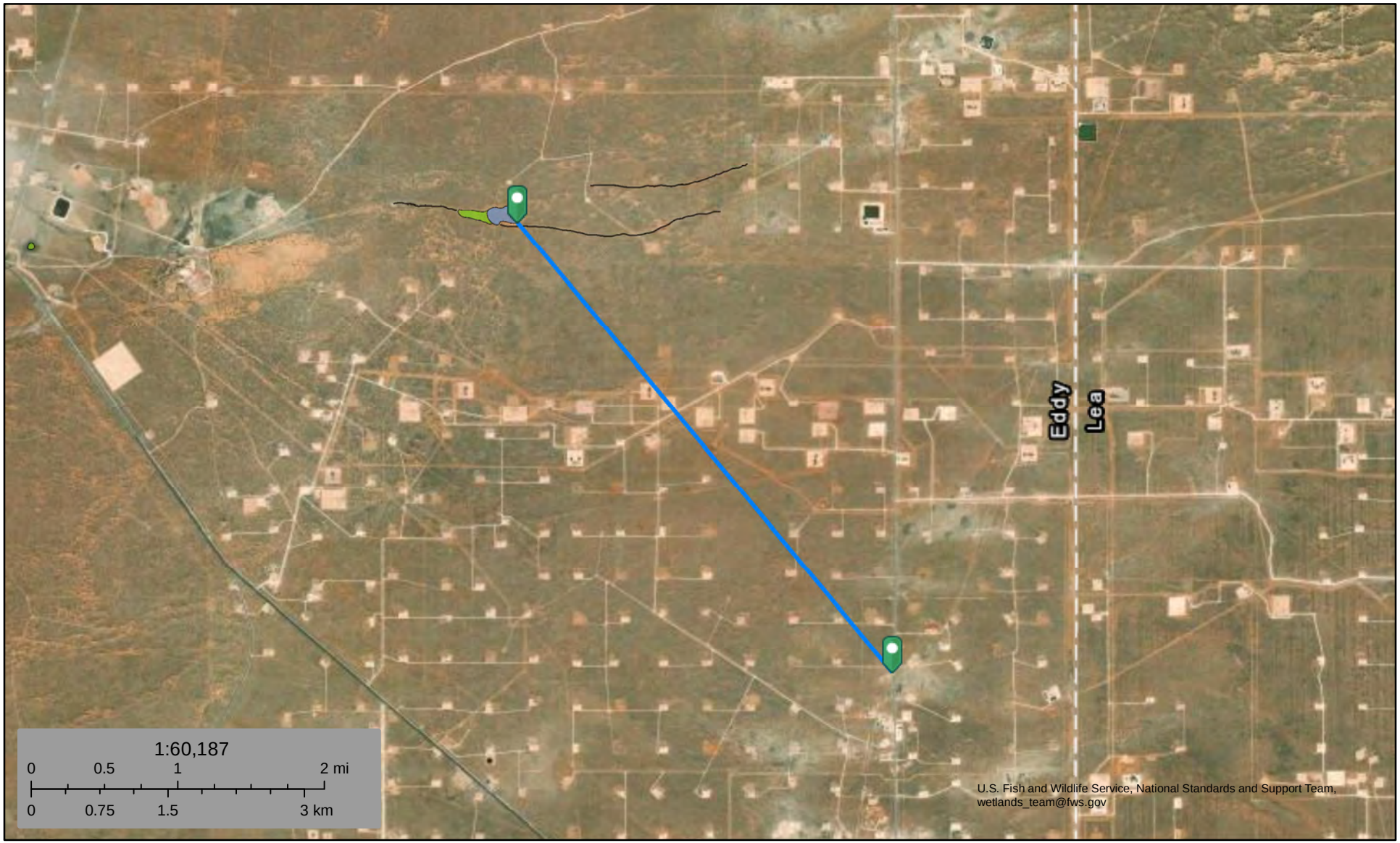
Wetlands

- 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.

U.S. Fish and Wildlife Service
National Wetlands Inventory

Pond 17,828 feet



July 6, 2023

Wetlands

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

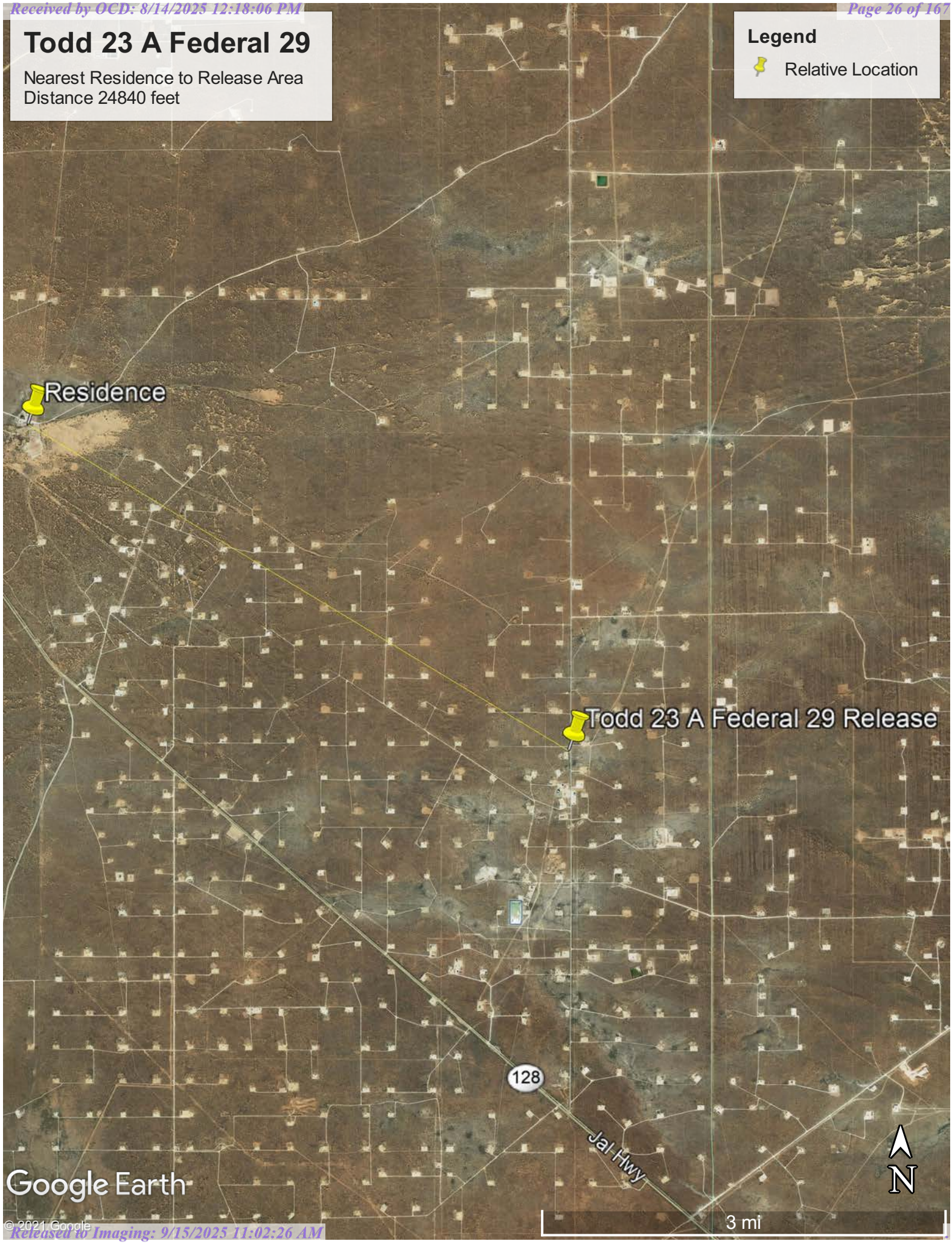
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Todd 23 A Federal 29

Nearest Residence to Release Area
Distance 24840 feet

Legend

Relative Location



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 04774	CUB	MON	0.000	DEVON ENGERGY RESOURCES	ED	C 04774 POD1	NA				SE	NE	NE	23	23S	31E	618456.0	3573856.4		488.0
C 04712	CUB	MON	0.000	HARVARD PETROLEUM COMPANY LLC	ED	C 04712 POD3	NA				SE	NW	NE	24	23S	31E	619650.7	3573877.9		1,212.0
					ED	C 04712 POD4	NA				NW	SE	SW	14	23S	31E	617535.4	3574316.2		1,380.4
C 02258	C	PRO	0.000	DEVON ENERGY CORP. (NEVADA)	ED	C 02258						SW	NE	26	23S	31E	618055.0	3571853.0 *		1,601.4
C 04877	CUB	EXP	0.000	DEVON ENERGY CORP	LE	C 04877 POD1	NA				SE	NW	NW	30	23S	32E	620404.8	3572240.0		2,178.1
C 04704	CUB	MON	0.000	DEVON ENERGY	ED	C 04704 POD1	NA				SW	NE	NE	13	23S	31E	619854.4	3575363.5		2,378.1
C 02348	C	STK	3.000	NGL NORTH RANCH LLC A TX LLC	ED	C 02348				Shallow	NW	SE	SW	26	23S	31E	617647.5	3571068.0		2,478.0
C 04790	CUB	MON	0.000	DEVON ENERGY RESOURCES	ED	C 04790 POD1	NA				SE	SE	SW	25	23S	31E	619309.4	3570904.8		2,587.1
C 02602	C	SAN	0.000	POGO PRODUCING COMPANY	ED	C 02602						NE	NE	35	23S	31E	618471.0	3570650.0 *		2,728.1
C 02777	CUB	MON	0.000	US DEPT OF ENERGY WIPP	ED	C 02777					SE	SE	SE	10	23S	31E	616973.8	3575662.1		2,774.3
C 03749	CUB	MON	0.000	US DEPARTMENT OF ENERGY	ED	C 03749 POD1				Shallow		NE	NE	15	23S	31E	616973.8	3575662.1		2,774.3
C 04855	CUB	MON	0.000	DEVON ENERGY PRODUCTION	ED	C 04855 POD1	NA				NE	SW	SW	11	23S	31E	617417.6	3575936.7		2,797.8
C 04709	CUB	MON	0.000	DEVON ENERGY	ED	C 04709 POD1	NA				SW	NW	NW	15	23S	31E	615508.8	3575262.4		3,575.7
C 04770	CUB	MON	0.000	FOUNDATION ENERGY MANAGEMENT	LE	C 04770 POD1	NA				NE	SE	NE	18	23S	32E	621778.3	3575132.8		3,677.5
C 04724	CUB	MON	0.000	DEVON ENERGY	ED	C 04724 POD1	NA				SE	SW	SW	10	23S	31E	615709.7	3575738.3		3,691.3
C 04712	CUB	MON	0.000	HARVARD PETROLEUM COMPANY LLC	LE	C 04712 POD1	NA				NW	SE	NW	31	23S	32E	620917.2	3570289.2		3,892.6
C 04746	CUB	MON	0.000	DEVON ENERGY RESOURCES	ED	C 04746 POD1	NA				SW	SE	SW	36	23S	31E	619225.7	3569417.8		4,017.0
C 04897	CUB	MON	0.000	OXY USA INC.	ED	C 04897 POD1	NA				NW	NE	SW	21	23S	31E	614374.0	3573036.6		4,186.9
C 03851	CUB	MON	0.000	US DEPARTMENT OF ENERGY	LE	C 03851 POD1				Artesian	SW	SW	SE	20	23S	32E	622879.6	3572660.0		4,391.5
C 03529	C	STK	0.000	U.S. DEPT. OF INTERIOR--BLM	LE	C 03529 POD1					NE	SE	SW	29	23S	32E	622651.2	3571212.5		4,640.0
C 04815	CUB	MON	0.000	DEVON ENERGY RESOURCES	LE	C 04815 POD1	NA				NW	SE	SW	08	23S	32E	622391.9	3576025.7		4,668.9
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		4,786.3
C 00225 A	CUB	IRR	8.400	GREGORY ROCKHOUSE RANCH	ED	C 02405				Shallow		SE	NW	02	24S	31E	617690.0	3568631.0 *		4,822.8
C 01246 AO	CUB	IRR	47.820	CATHLEEN MC INTIRE	ED	C 02405				Shallow		SE	NW	02	24S	31E	617690.0	3568631.0 *		4,822.8
C 02405	C	PRO	0.000	TEXACO EXPLORATION & PROD. IND	ED	C 02405				Shallow		SE	NW	02	24S	31E	617690.0	3568631.0 *		4,822.8
C 02452	C	PRO	0.000	TEXACO EXPLORATION & PROD INC.	ED	C 02405				Shallow		SE	NW	02	24S	31E	617690.0	3568631.0 *		4,822.8
					ED	C 02452						SE	NW	02	24S	31E	617690.0	3568631.0 *		4,822.8
C 02576	C	PRO	0.000	SONAT EXPLORATION COMPANY	ED	C 02405				Shallow		SE	NW	02	24S	31E	617690.0	3568631.0 *		4,822.8
C 04712	CUB	MON	0.000	HARVARD PETROLEUM COMPANY LLC	LE	C 04712 POD2	NA				SE	SE	SE	17	23S	32E	623331.9	3574331.5		4,879.2
C 02464	C	PRO	0.000	COMMISSIONER OF PUBLIC LANDS	ED	C 02464				Shallow	NE	SW	NW	02	24S	31E	617644.7	3568581.6		4,879.5
C 02901	C	PUB	0.000	B & H MAINTENANCE & CONST.	ED	C 02901	NA				SW	SE	NW	02	24S	31E	617585.7	3568531.4		4,940.0

(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 04859	CUB	MON	0.000	BUREAU OF LAND MANAGEMENT	ED	C 02901	NA				SW	SE	NW	02	24S	31E	617585.7	3568531.4		4,940.0
C 04942	CUB	MON	0.000	DEVON ENERGY PRODUCTION CO. LP	LE	C 04942 POD1	NA				NW	NE	NE	07	23S	32E	621622.2	3577279.8		4,968.8

Record Count: 33

Filters Applied:

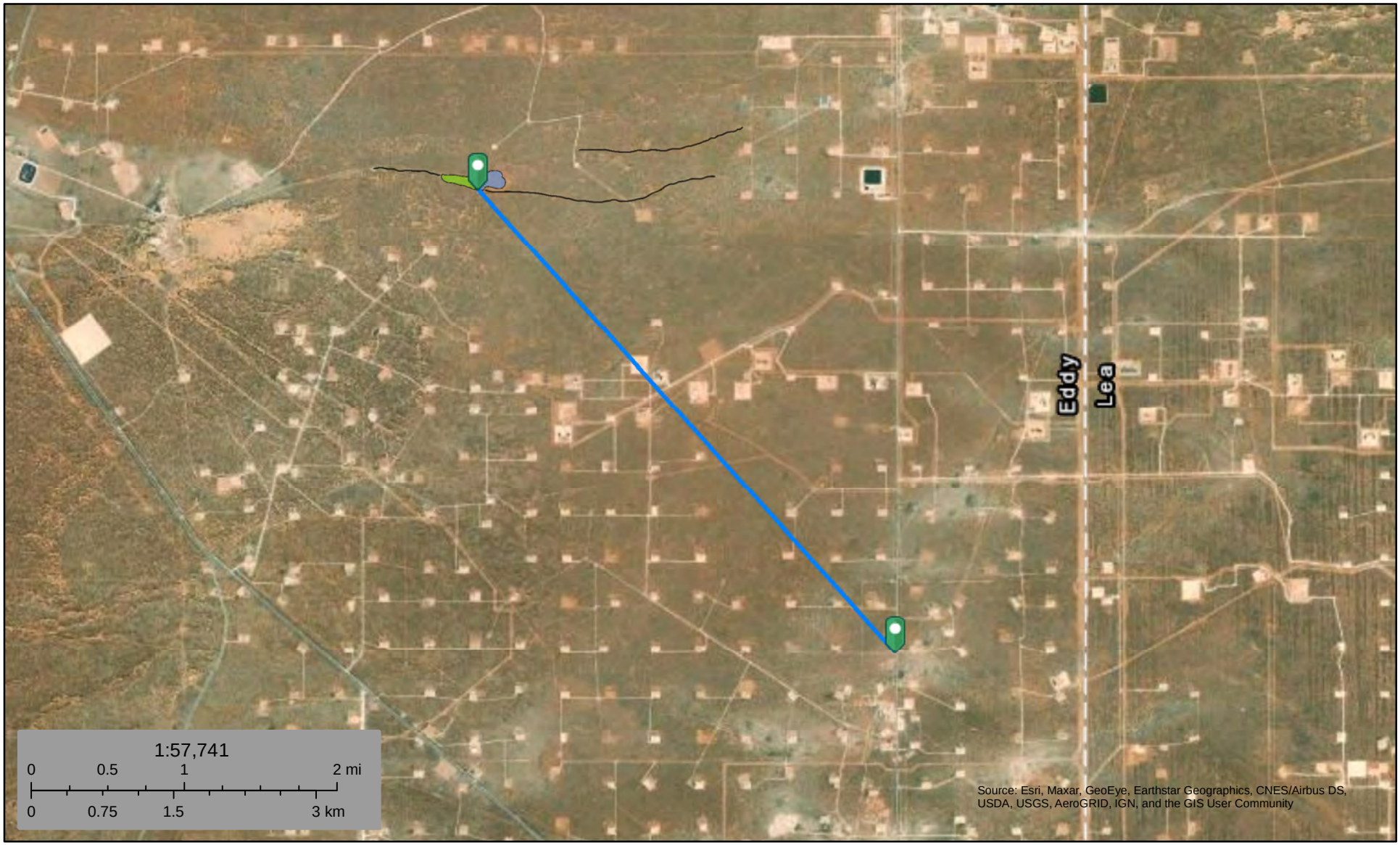
UTM Filters (in meters):
Easting: 618547
Northing: 3573377
Radius: 005000

Sorted By: Distance

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Todd 23A Fed 029, Wetland 18182 feet



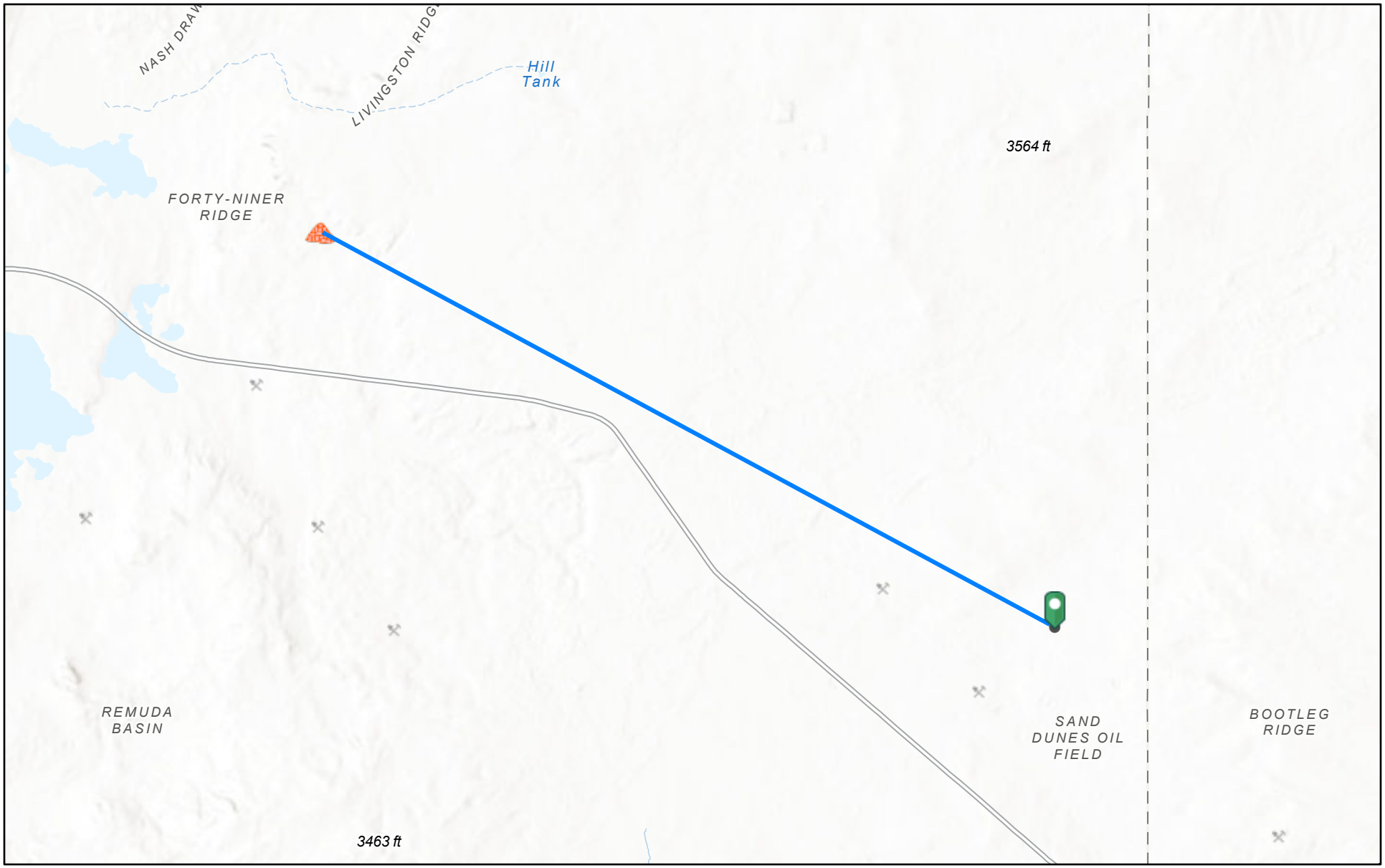
August 20, 2021

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.

Todd 23 A Federal #029 - 49,770 feet from mine



1/26/2024, 10:28:32 AM

1:116,988

0 0.75 1.5 3 mi

0 1.25 2.5 5 km

Registered Mines

Aggregate, Stone etc.

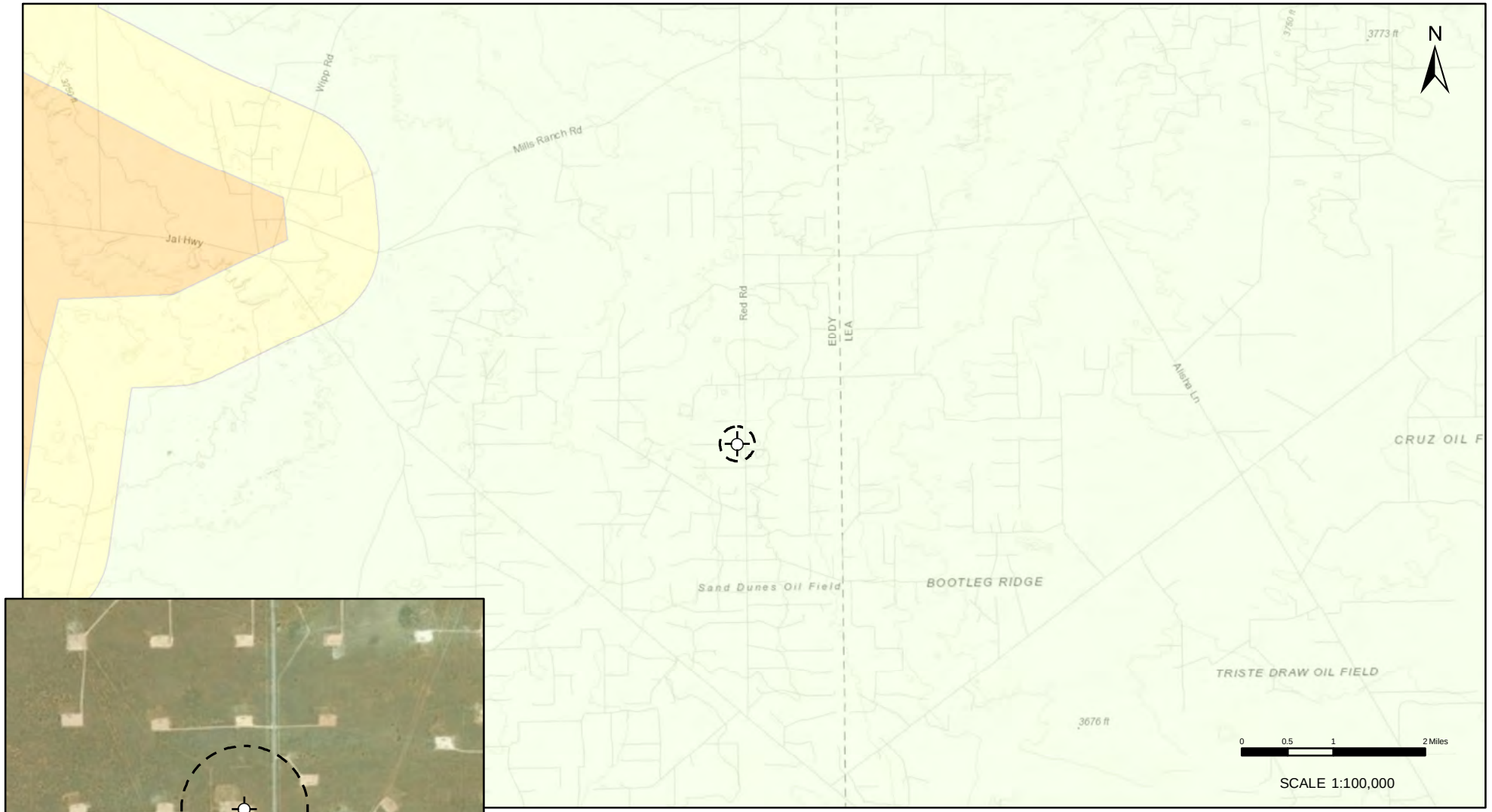
Aggregate, Stone etc.

Potash

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

EMNRD MMD GIS Coordinator

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



LEGEND

SITE

1000FT BUFFER

KARST POTENTIAL

CRITICAL

HIGH

MEDIUM

LOW

Notes: Aerial Image from ESRI Digital Globe 2017

devon

Karst Potential
Todd 23 Federal 29
(Wellhead Spill)

VERTEX

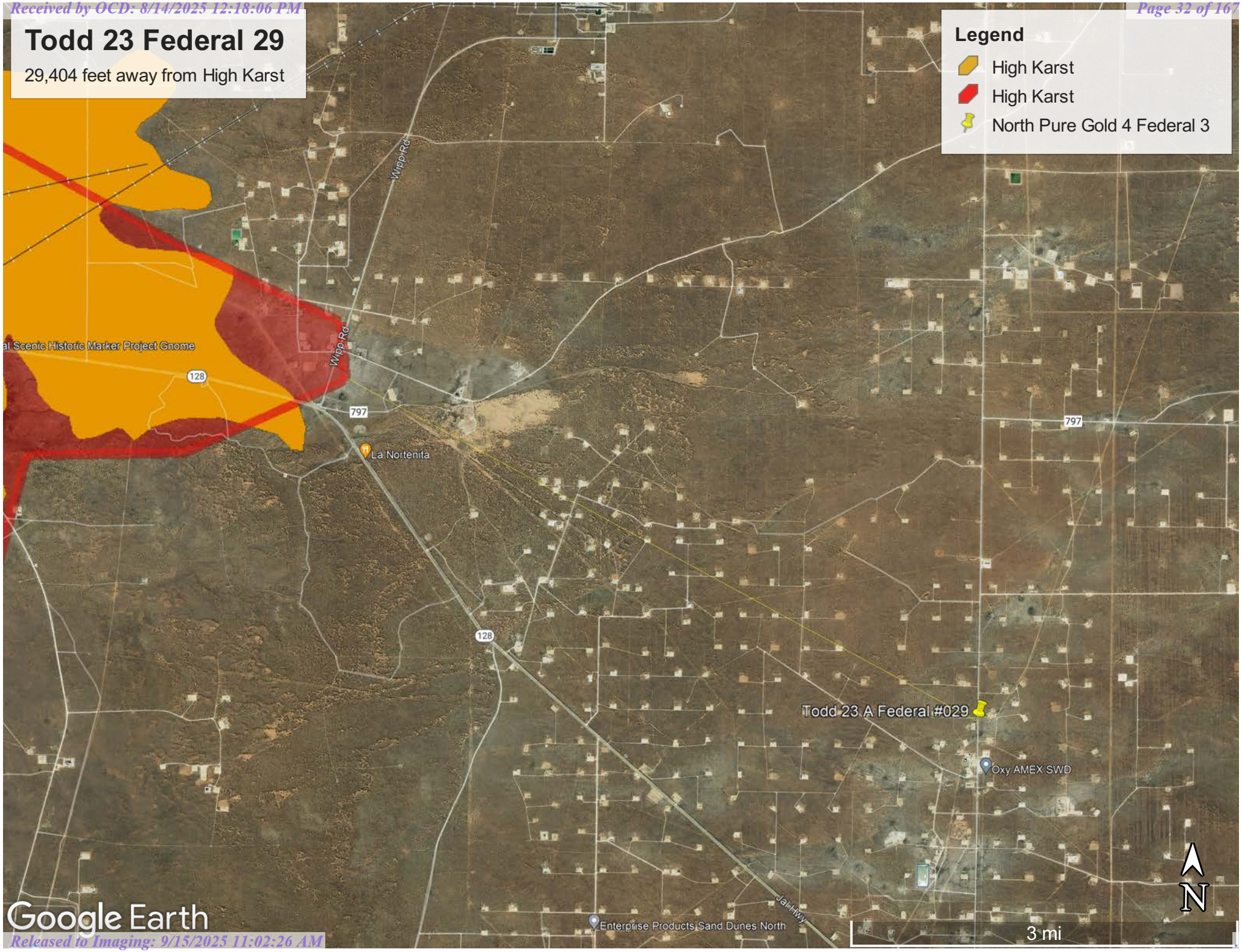
DRAWN:	NM
APPROVED:	RF
DATE:	APR 29/19

FIGURE: 1

VERSATILITY. EXPERTISE.

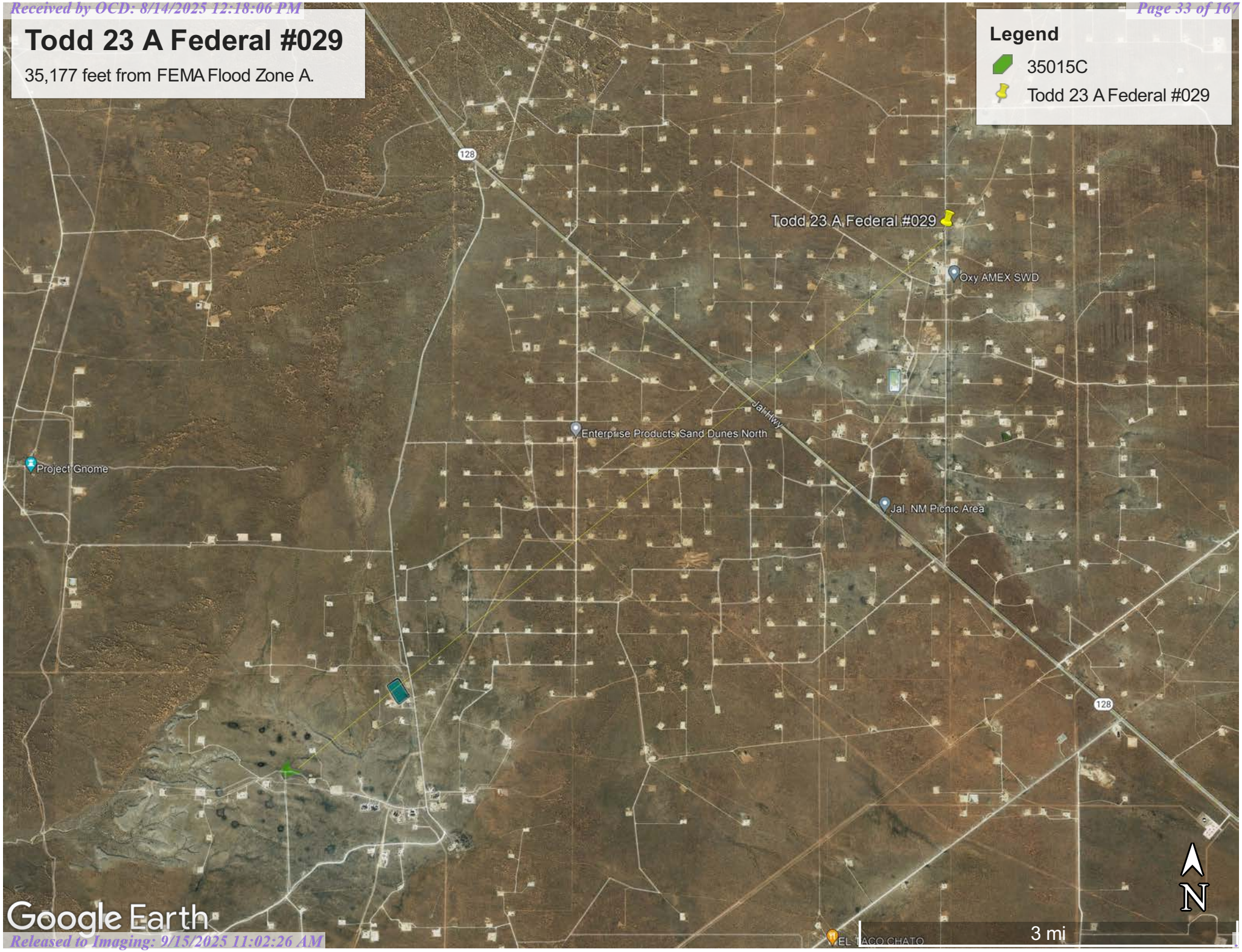
Todd 23 Federal 29

29,404 feet away from High Karst



Todd 23 A Federal #029

35,177 feet from FEMA Flood Zone A.



National Flood Hazard Layer FIRMette

FEMA

32°17'57.93"N

103°44'50.65"W

103°41'13.19"W

32°17'27.51"N

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

1:6,000

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 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- 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 4/28/2019 at 11:33:56 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

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 23, 2021

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

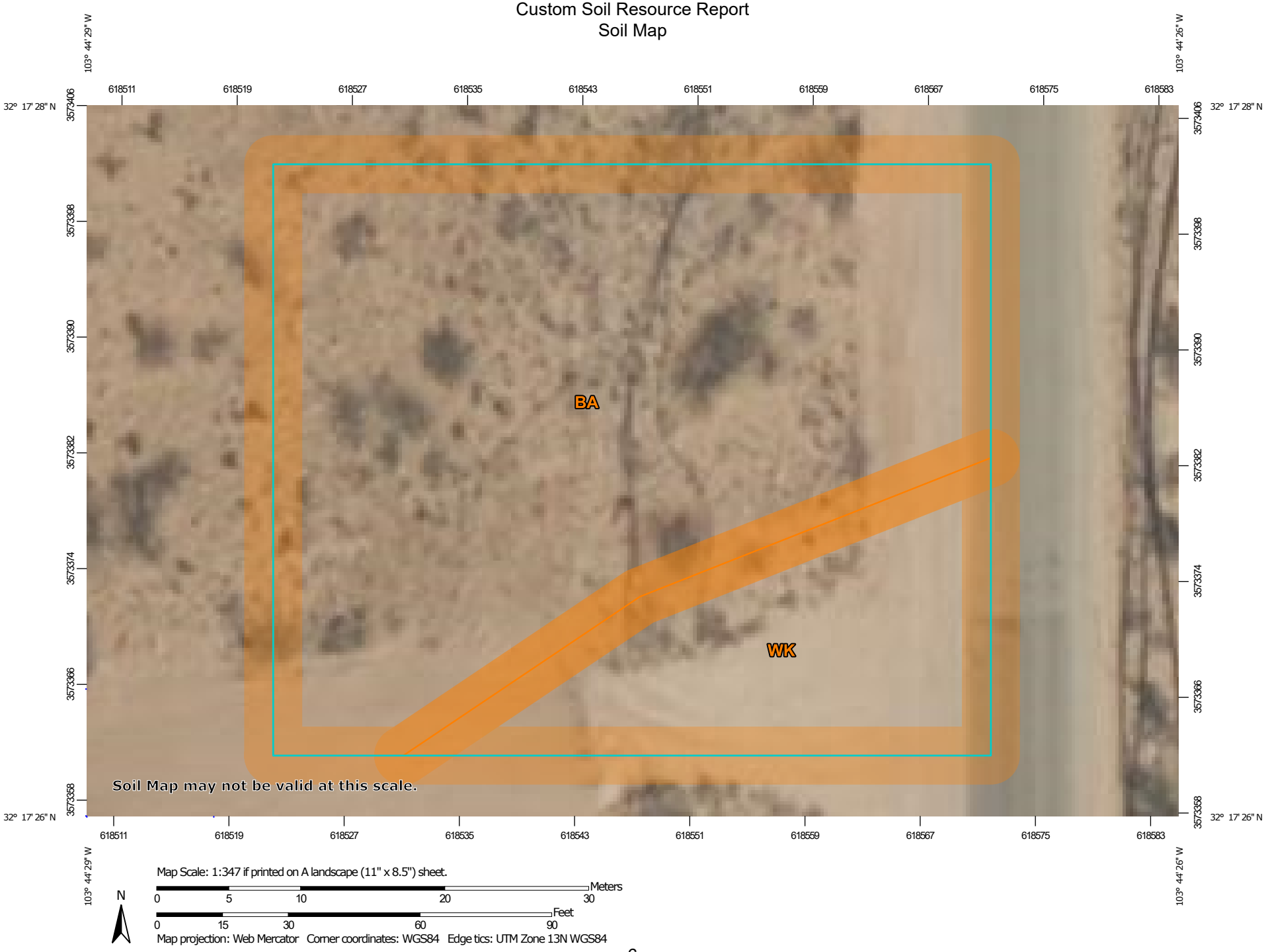
Contents

Preface..... 2
Soil Map..... 5
Soil Map.....6
Legend.....7
Map Unit Legend..... 8
Map Unit Descriptions..... 8
Eddy Area, New Mexico.....10
BA—Berino loamy fine sand, 0 to 3 percent slopes..... 10
WK—Wink loamy fine sand, 0 to 3 percent slopes, eroded..... 11
References.....13

Soil Map

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

Custom Soil Resource Report
Soil Map



MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 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
BA	Berino loamy fine sand, 0 to 3 percent slopes	0.4	76.7%
WK	Wink loamy fine sand, 0 to 3 percent slopes, eroded	0.1	23.3%
Totals for Area of Interest		**0.5**	**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

BA—Berino loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w42
Elevation: 2,000 to 5,700 feet
Mean annual precipitation: 6 to 14 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Berino and similar soils: 99 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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 12 inches: loamy fine sand
H2 - 12 to 58 inches: sandy clay loam
H3 - 58 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
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 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R042XC007NM - Loamy
Hydric soil rating: No

Minor Components

Pajarito

Percent of map unit: 1 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

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

Map Unit Setting

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

Map Unit Composition

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

Description of Wink

Setting

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

Typical profile

H1 - 0 to 8 inches: loamy fine sand
H2 - 8 to 38 inches: fine sandy loam
H3 - 38 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Wink

Percent of map unit: 1 percent
Ecological site: R042XC004NM - Sandy
Hydric soil rating: No

Simona

Percent of map unit: 1 percent
Ecological site: R042XC002NM - Shallow Sandy
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

USDA Natural Resources Conservation Service

Ecological site R042XC007NM
Loamy

Accessed: 08/23/2021

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.

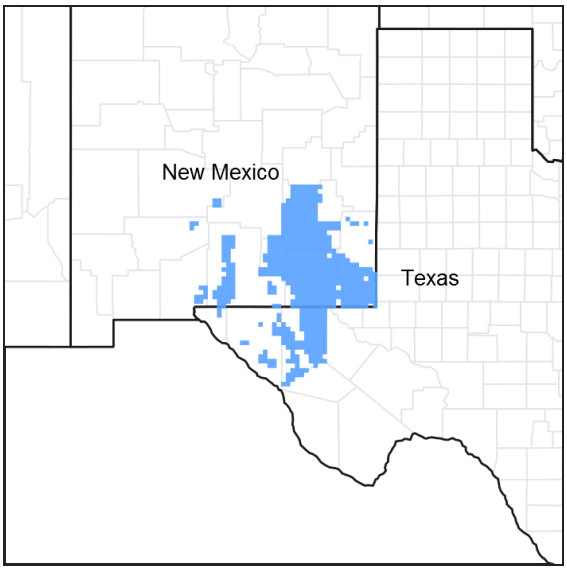


Figure 1. Mapped extent

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 uplands landforms, mainly on hill slopes, ridges, plains, terraces and some fan remnants. Slopes range from 1 to 5 percent and average about 3 percent. Average annual precipitation is about 8 to 14 inches. Elevations range from 2,842 to 5,000 feet.

Table 2. Representative physiographic features

Landforms	(1) Plain (2) Terrace (3) Fan piedmont
Flooding frequency	None
Ponding frequency	None
Elevation	2,842–5,000 ft

Slope	0–5%
Aspect	E, S, W

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

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

Table 3. Representative climatic features

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

Influencing water features

This site is not influenced by wetland or streams.

Soil features

The soils of this site are deep to moderately deep. The moderately deep soils have either a petrocalcic, petrogypsic or gypsum horizon between 30 and 40 inches.

Surface textures are loam, silt loam, very fine sandy loam, or clay loam. Substratum textures are loam, silty clay loam, clay loam, or silt loams. Subsoil textures are silt loam , clay loam silty clay loam, gravelly loam, gravelly clay loam or very gravelly loam. Permeability is moderate to slow and the available water holding capacity is high to moderate. The Atoka, Reeves, Russler, Milner soils may have highr amounts of CaC03, ranging as high as 40 percent in the subsoil. Rock fragments range fro 5 to 50 percent in the subsoil. Reeves, Rusler, Milner, Holloman soils will have 40 to 80 percent gypsum in the underlying material.

Maximum and minimum values listed below represent the characteristic soils for this site.

Characteristic Soils:

Atoka (petrocalcic)
Bigetty
Reagan
Reakor
Reeves (gypsum)
Russler (gypsum)
Largo
Russler (gypsum)
Largo

Berino
Tinney
Midessa
Ratliff
Holloman (gypsum)
Milner (gypsum)

Table 4. Representative soil features

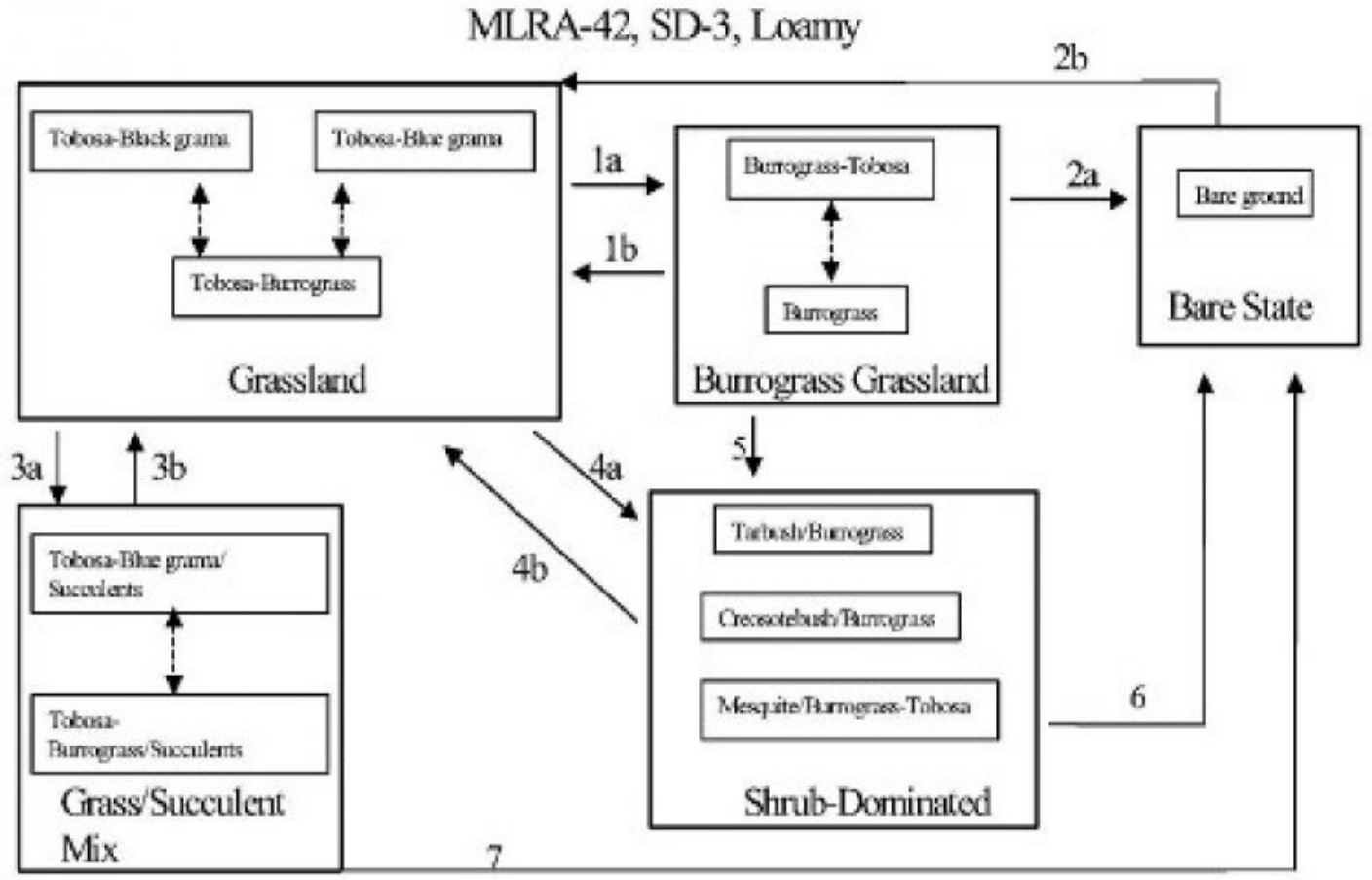
Surface texture	(1) Loam (2) Very fine sandy loam (3) Silt loam
Family particle size	(1) Loamy
Drainage class	Well drained to somewhat excessively drained
Permeability class	Moderate to slow
Soil depth	30–72 in
Surface fragment cover <=3"	0–5%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	5–12 in
Calcium carbonate equivalent (0-40in)	0–10%
Electrical conductivity (0-40in)	0–8 mmhos/cm
Sodium adsorption ratio (0-40in)	0–6
Soil reaction (1:1 water) (0-40in)	6.6–8.4
Subsurface fragment volume <=3" (Depth not specified)	0–5%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

Overview: The Loamy site is associated with the Gyp Upland ecological site with which it intergrades. There is a pronounced increase in alkali sacaton along this interface. The loamy site is also associated with the Gravelly and Shallow ecological sites from which it receives run-on water. The Draw site often dissects Loamy sites and is distinguished from the Loamy site by increased production or greater densities of woody species. The historic plant community has a grassland aspect, dominated by grasses with shrubs and half-shrubs sparse and evenly distributed. Tobosa, black grama and blue grama are the dominant species. Retrogression within this state is characterized by a decrease in black and blue grama and an increase in burrograss. Continuous overgrazing and drought can initiate a transition to a Burrograss- Grassland state. Continued reduction in grass cover and resulting infiltration problems may eventually effect a change to a Bare State, with very little or no remaining grass cover. Alternatively, creosotebush, tarbush or mesquite may expand or invade. Transitions back to a Grassland State from a Bare or Shrub-Dominated state are costly and may not be economically feasible. Decreased fire frequency may play a part in the transition to the Grass/Succulent Mix state with increased amounts of cholla and prickly pear.

State and transition model

Plant Communities and Transitional Pathways (diagram)



1a. Soil drying, overgrazing, drought, soil surface sealing. 1b. Restore natural overland flow, increase infiltration, prescribed grazing.

2a. Severe reduction in cover, soil surface sealing, decreased infiltration, erosion. 2b. Restore hydrology, break up physical crust, range seeding, prescribed grazing.

3a. Lack of fire, overgrazing, hail storms or other physical disturbance, drought. 3b. Prescribed fire, brush control, prescribed grazing.

4a. Seed dispersal of shrubs, persistent loss of grass cover, competition by shrubs, lack of fire. 4b. Brush control, range seeding -dependent on amount of grass (seed bank) remaining.

5. Loss of grass cover, seed dispersal of shrubs, competition by shrubs.

6. & 7. Brush control with continued loss of grass cover, soil sealing, erosion.

Figure 4.

State 1
Historic Climax Plant Community

Community 1.1
Historic Climax Plant Community

State Containing Historic Climax Plant Community
Grassland:

The historic plant community has a grassland aspect, dominated by grasses with shrubs and half-shrubs sparse and evenly distributed. Black grama, blue grama, and tobosa are the dominant grass species. There are a variety of

perennial forbs and their production varies widely by season and year. Globemallow, verbena, groundsels, croton and filaree are forbs commonly found on this site. Fourwing saltbush and winterfat are two of the more palatable shrubs. The Loamy ecological site encompasses a wide variety of soils, with surface textures ranging from sandy loams to clay loams. Soil depths range from shallow to very deep and can include sub surface features such as calcic, petrocalcic, and gypsic horizons. These variations cause differences in plant community composition and dynamics. Black grama is found at highest densities on coarser textured sandy loams, with blue grama preferring finer textured loam and silt loam, and tobosa favoring lower landscape positions and loam to clay loam surface textures. Burrograss may often be the dominant grass species on silty soils, perhaps in part due to the seedlings ability to auger into and establish on physically crusted soils. Gypsum influenced soils typically have greater amounts of tobosa, burrograss, and ephedra. There is greater representation of sideoats and vine mesquite within the tobosa-blue grama community. Retrogression under continuous heavy grazing results in a decrease of black grama, blue grama, sideoats grama, plains bristlegrass, bush muhly, cane bluestem, vine mesquite, winterfat, and fourwing saltbush. Species such as burrograss, threeawns, sand dropseed, sand muhly, and broom snakeweed increase under continuous heavy grazing or prolonged periods of drought. Under continued retrogression burrograss can completely dominate the site. Creosotebush, tarbush, and mesquite, can also dominate. Cholla and prickly pear can increase on areas that are disturbed or overgrazed.

Diagnosis: Tobosa, black grama, and blue grama are the dominant species. Grass cover is uniformly distributed with few large bare areas. Shrubs are sparse and evenly distributed. Slopes range from level to gently sloping and usually display limited evidence of active rills and gully formation if plant cover remains intact. Litter movement associated with overland flow is limited to smaller size class litter and short distances.

Other shrubs include: yucca, mesquite, tarbush, cholla and creosote bush.

Other forbs include: desert holly, scorpionweed, bladderpod, flax, nama, fleabane, Indianwheat, Indian blanket flower, groundcherry, deerstongue, and rayless goldenrod.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	585	833	1080
Forb	39	55	72
Shrub/Vine	26	37	48
Total	**650**	**925**	**1200**

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	15-30%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	25-30%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	40-50%

Figure 6. Plant community growth curve (percent production by month).

NM2807, R042XC007NM Loamy HCPC. R042XC007NM Loamy HCPC Warm Season Plant Community..

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	10	10	25	30	15	5	0	0

State 2
Burrograss-Grassland

Community 2.1
Burrograss-Grassland

Burrograss-Grassland: Changes in hydrology resulting in decreased available soil moisture, reduces grass cover and increases bare ground. Burrograss is the dominant grass. Tobosa cover is variable and can range from sizeable areas to small patches occupying only depressions or the lowest and wettest positions within the site. Threeawns, ear muhly, sand muhly, and fluffgrass occur at increased densities compared to the grassland state. Shrub densities may increase especially mesquite, creosotebush or tarbush. Retrogression within this state is characterized by a further decrease in grass cover and increased bare ground. Further deterioration of this site can result in the transition to a bare state or becoming shrub dominated.

Diagnosis: Burrograss is the dominant species. Grass cover is no longer uniformly distributed, instead tending to be patchy with large areas of bare ground present. Physical crusts are present in bare areas reducing infiltration and suppressing seedling establishment by any grass species other than burrograss.

Transition to Burrograss-Grassland (1a): Transitions from grassland to a burrograss-grassland state may occur due to changes in hydrology. Gullies, roads or obstructions that alter natural water flow patterns may cause this transition. Changes in surface hydrology may also occur due to overgrazing or drought. The reduction in grass cover promotes increased soil physical crusts and reduces infiltration. 5

Key indicators of approach to transition:
? Diversion of overland flow resulting in decreased soil moisture.
? Increase in amount of burrograss cover
? Reduction in grass cover and increase in size and frequency of bare patches.
? Formation of physical crusts—indicating reduced infiltration.
? Evidence of litter movement—indicating loss or redistribution of organic matter.

Transition back to Grassland (1b) The natural hydrology of the site must be returned. Culverts, turnouts, or rerouting roads may help re-establish natural overland flow, if roads or trails have altered the hydrology. Erosion control structures or shaping and filling gullies may help regain natural flow patterns and establish vegetation if the flow has been channeled. Breaking up physical crusts by soil disturbance may promote infiltration and seedling emergence. Allow natural revegetation to take place. Prescribed grazing will help ensure proper forage utilization and reduce grass loss due to grazing.

State 3
Bare State

Community 3.1
Bare State

Bare State: Extremely low ground cover, soil degradation and erosion characterize this state. Very little vegetation remains. Burrograss is the dominant grass and cover is extremely patchy. Physical soil crusts are extensive. Erosion and resource depletion increase as site degrades.

Diagnosis: Very little cover remains. Erosion is evident by soil sealing, water flow patterns, pedestals or terracettes. Rills and gullies may be present and active.

Transition to Bare State (2a): Extended drought, continuous heavy grazing, or other disturbance that severely

depletes grass cover can effect this transition. As grass cover decreases, sheet flow and erosion increase, and physical soil crusts form, thereby further reducing infiltration.

Key indicators of approach to transition:
? Continued reduction in grass cover.
? Increased soil surface sealing.
? Increased erosion.
? Reduced aggregate stability in bare areas.

Transition back to Grassland (2b) Restore the hydrology, see (1a). With the extent of grass loss range seeding may be necessary. Utilizing livestock or mechanical means to break up the physical crusts may increase infiltration and aid seedling establishment. Prescribed grazing will help ensure adequate deferment period following seeding, and proper forage utilization once the grass stand is well established. The degree to which this site is capable of recovery depends on the restoration of hydrology, extent of degradation to soil resources, and adequate rainfall necessary to establish grasses.

State 4
Grass/Succulent Mix

Community 4.1
Grass/Succulent Mix

Grass / Succulent Mix: Increased representations of succulents characterize this site. Increased densities of cholla or pricklypear is recognized as a management concern, but their impact on grass production is unclear. Light to medium cholla or prickly pear infestation doesn't seem to greatly reduce grass production, however it limits access to palatable grasses and interferes with livestock movement and handling. Tobosa and blue grama are the dominant species on this site. Retrogression within this site is characterized by a decrease in blue grama and an increase in succulents, tobosa and burrograss.

Diagnosis: Cholla or prickly pear is found at increased densities. Grass cover is variable ranging from uniformly distributed to patchy with frequent areas of bare ground present. Tobosa or blue grama is the dominant grass species.

Transition to Grass/Succulent Mix (3a): If fire was historically a part of desert grassland ecosystem and played a role in suppressing seedlings of shrubs and succulents, then fire suppression may favor the increase of succulents.1 Heavy grazing by livestock or other physical disturbances may help disseminate seed and increase the establishment of succulents. Areas historically overgrazed by sheep are sometimes associated with higher densities of Succulents. Intense hailstorms can spread pricklypear by breaking off joints causing new plants to take root.3 During severe drought perennial grass cover can decline significantly, leaving resources available for use by more drought tolerant succulents. Cholla and pricklypear are both adapted to and favored by drought due to the ability of their shallow, wide spreading root systems to absorb and store water.4

Key indicators of approach to transition:
? Decrease or change in distribution of grass cover.
? Increase in amount of succulent seedlings.
? Increased cover of succulents.

Transition back to Grassland (3b) Fire is an effective means of controlling cholla and prickly pear if adequate grass cover remains to carry fire.2 Cholla greater than two feet tall or pricklypear with a large amount of pads (>15-20) are harder to kill. Chemical control is effective in controlling prickly pear and cholla; apply when growth starts in May. Hand grubbing is also effective if cholla or pricklypear is severed 2-4 inches below ground and care is taken not to let broken joints or pads take root. Stacking and burning piles and grubbing during winter or drought help keeps broken joints and pads from rooting. Prescribed grazing will help ensure proper forage utilization and sustain grass cover.

State 5
Shrub Dominated

Community 5.1
Shrub Dominated

Shrub Dominated: Increased shrub cover characterizes this state. Mesquite, creosotebush, and/or tarbush are the dominant shrub species. Burrograss or tobosa is the dominant grass species. Grass cover is decreased, typically patchy with large bare areas present; however, sometimes grass cover can remain relatively high for extended periods when associated with light to moderate infestations of mesquite. Variations in soil characteristics play a part in determining which shrub species increase. Mesquite is well adapted to a wide range of soil types, but increases more often on deep soils low in carbonates, that have a sandy surface overlying finer textured soils. Tarbush prefers finer textured, calcareous soils, usually in lower positions that receive some extra water. Creosotebush is less tolerant of fine textured soils, preferring sandy, calcareous soils that have some gravel. Creosotebush also does well on soils that are shallow over caliche. Retrogression within this state is characterized by a decrease in tobosa, and an increase in burrograss. As the site continues to degrade shrub cover continues to increase and grass cover is severely reduced.

Diagnosis: Mesquite, Creosotebush, and/or tarbush are the dominant shrubs. Blue grama and black grama cover is low or absent. Burrograss or tobosa are the dominant grasses. Typically grass cover is patchy with large interconnected bare areas present. Physical soil crusts are present, especially on silt loam surface soils.

Transition to Shrub Dominated (4a): Wildlife and livestock consume and disperse mesquite seeds. Flood events may wash creosote or tarbush seeds off adjacent gravelly sites onto the loamy site and supply adequate moisture for germination. Persistent loss of grass cover due to overgrazing or drought can cause large bare patches, providing competition free areas for shrub seedling establishment. As shrub cover increases, competition for soil resources, especially water, becomes a major factor in further reducing grass cover. Reduction of fire, due to either fire suppression policy or loss of adequate fine fuels may increase the probability of shrub encroachment. Increased soil surface physical crusts and associated decreased infiltration, may prevent the establishment of grass seedlings.

Transition to Shrub Dominated (5): The dispersal of creosotebush, tarbush or mesquite seed, combined with loss of grass cover and resource competition by shrubs may cause this transition.

Key indicators of approach to transition:
? Decreased grass and litter cover.
? Increased bare patch size.
? Increased physical soil crusts.
? Increased amount of mesquite, creosotebush, or tarbush seedlings.
? Increased shrub cover.

Transition back to Grassland (4b) Brush control will be necessary to remove shrubs and eliminate competition for resources necessary for grass establishment or reproduction. Seeding may be necessary on those sites where desired grass species are absent or very limited. Pitting and seeding may increase the chances of successful grass establishment. Prescribed grazing will help ensure adequate time is elapsed before grazing seeded area is allowed and proper forage utilization following seeding establishment.

Transition to Bare State (6): If grass cover on the shrub-dominated state is severely limited and shrubs are removed a bare state may result. This transition will depend on amount of grasses or seed remaining, whether site is seeded, or if seeding is successful.

Transition to Bare State (7): Removal of succulents and continued overgrazing or drought may cause loss of remaining grasses and erosion. Soil surface physical crusting may also be an important factor in inhibiting grass seedling establishment

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					

Grass/Grasslike					
1	**Warm Season**			278–324	
	tobosagrass	PLMU3	*Pleuraphis mutica*	278–324	–
2	**Warm Season**			9–46	
	burrograss	SCBR2	*Scleropogon brevifolius*	9–46	–
3	**Warm Season**			231–278	
	black grama	BOER4	*Bouteloua eriopoda*	231–278	–
	blue grama	BOGR2	*Bouteloua gracilis*	231–278	–
4	**Warm Season**			28–46	
	sideoats grama	BOCU	*Bouteloua curtipendula*	28–46	–
5	**Warm Season**			46–93	
	bush muhly	MUPO2	*Muhlenbergia porteri*	46–93	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	46–93	–
6	**Warm Season**			9–28	
	Arizona cottontop	DICA8	*Digitaria californica*	9–28	–
7	**Warm Season**			46–93	
	threeawn	ARIST	*Aristida*	46–93	–
	muhly	MUHLE	*Muhlenbergia*	46–93	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	46–93	–
8	**Warm Season**			28–46	
	Graminoid (grass or grass-like)	2GRAM	*Graminoid (grass or grass-like)*	28–46	–
Shrub/Vine					
9	**Shrub**			9–28	
	fourwing saltbush	ATCA2	*Atriplex canescens*	9–28	–
	jointfir	EPHED	*Ephedra*	9–28	–
	winterfat	KRLA2	*Krascheninnikovia lanata*	9–28	–
	cane bluestem	BOBA3	*Bothriochloa barbinodis*	5–24	–
	Arizona cottontop	DICA8	*Digitaria californica*	5–24	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	5–24	–
10	**Shrub**			9–28	
	javelina bush	COER5	*Condalia ericoides*	9–28	–
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	9–28	–
	Grass, annual	2GA	*Grass, annual*	5–15	–
11	**Shrubs**			9–28	
	Shrub (>.5m)	2SHRUB	*Shrub (>.5m)*	9–28	–
Forb					
12	**Forb**			9–46	
	threadleaf ragwort	SEFLF	*Senecio flaccidus var. flaccidus*	9–46	–
	globemallow	SPHAE	*Sphaeralcea*	9–46	–
	verbena	VEPO4	*Verbena polystachya*	9–46	–
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	5–15	–
	pricklypear	OPUNT	*Opuntia*	5–15	–
13	**Forb**			9–28	
	croton	CROTO	*Croton*	9–28	–

	woolly groundsel	PACA15	*Packera cana*	9–28	–
14	**Forb**			9–28	
	Goodding's tansyaster	MAPIG2	*Machaeranthera pinnatifida ssp. gooddingii var. gooddingii*	9–28	–
	woolly paperflower	PSTA	*Psilostrophe tagetina*	9–28	–
15	**Forb**			9–28	
	redstem stork's bill	ERCI6	*Erodium cicutarium*	9–28	–
	Texas stork's bill	ERTE13	*Erodium texanum*	9–28	–
16	**Forb**			9–28	
	Forb (herbaceous, not grass nor grass-like)	2FORB	*Forb (herbaceous, not grass nor grass-like)*	9–28	–

Animal community

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, black-tailed jackrabbit, black tailed prairie dog, yellow-faced pocket gopher, banner-tailed kangaroo rat, hispid cotton rat, swift fox, burrowing owl, horned lark, mockingbird, meadowlark, mourning dove, scaled quail, Great Plains toad, plains spadefoot toad, prairie rattlesnake and western coachwhip shake.

Hydrological functions

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

Hydrologic Interpretations
Soil Series Hydrologic Group
Atoka C
Bigetty B
Ratliff B
Reyab B
Holloman B
Largo B
Holloman B
Bigetty B
Berino B
Reagan B
Reakor B
Reeves B
Russler C

Recreational uses

This site offers limited potential for hiking, horseback riding, nature observation and photography. Game bird, antelope and predator hunting are also limited.

Wood products

This site has no potential for wood products

Other products

This site is suitable for grazing by all kinds and classes of livestock, during all seasons of the year. Under retrogression, such plants as black grama, blue grama, sideoats grama, bush muhly, plains bristlegrass, Arizona cottontop, fourwing saltbush and winterfat decrease and there is an increase in burrograss, threeawns, sand dropseed, muhlys, broom snakeweed and javilinabush. Under continued retrogression, burrograss can completely

dominate the site. Creosotebush, mesquite, and tarbush can also dominate. Grazing management alone will not improve the site in the above situation. This site is well suited to a system of management that rotates the season of use.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index Ac/AUM
100 - 76 3.0 – 4.2
75 – 51 4.1 – 5.5
50 – 26 5.3 – 7.0
25 – 0 7.1 +

Inventory data references

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

Other references

Literature References:

1. Brooks, M.L., AND D.A. Pyke. 2001. Invasive plants and fire in the deserts of North America. Pages 1–14 in K.E.M. Galley and T.P. Wilson (eds.). Proceedings of the Invasive Species Workshop: the Role of Fire in the Control and Spread of Invasive Species.

2. Bunting, S.C., H.A. Wright, and L.F. Neuenschwander. 1980. Long-term effects of fire on cactus in the Southern Mixed Prairie of Texas. J. Range. Manage. 33: 85-88.

3. Laycock, W.A. 1982. Hail as an ecological factor in the increase of prickly
pear cactus. p. 359-361. In: J.A. Smith and V.W. Hays (eds.) Proc. XIV Int. Grassland Congr. Westview Press, Boulder, Colo.

4. Vallentine, J.F. 1989. Range Developments and Improvements. 3rd Edition. Academic Press. San Diego, California.

5. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheet. Rangeland Soil Quality—Physical and Biological Soil Crusts. Rangeland Sheet 6, [Online]. Available: http://www.statlab.iastate.edu/survey/SQI/range.html

Contributors

David Trujillo
Don Sylvester

Rangeland health reference sheet

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

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

Indicators

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

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

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

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

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

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

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

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

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

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

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

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

    Dominant:

    Sub-dominant:

    Other:

    Additional:

---

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

---

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

---

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

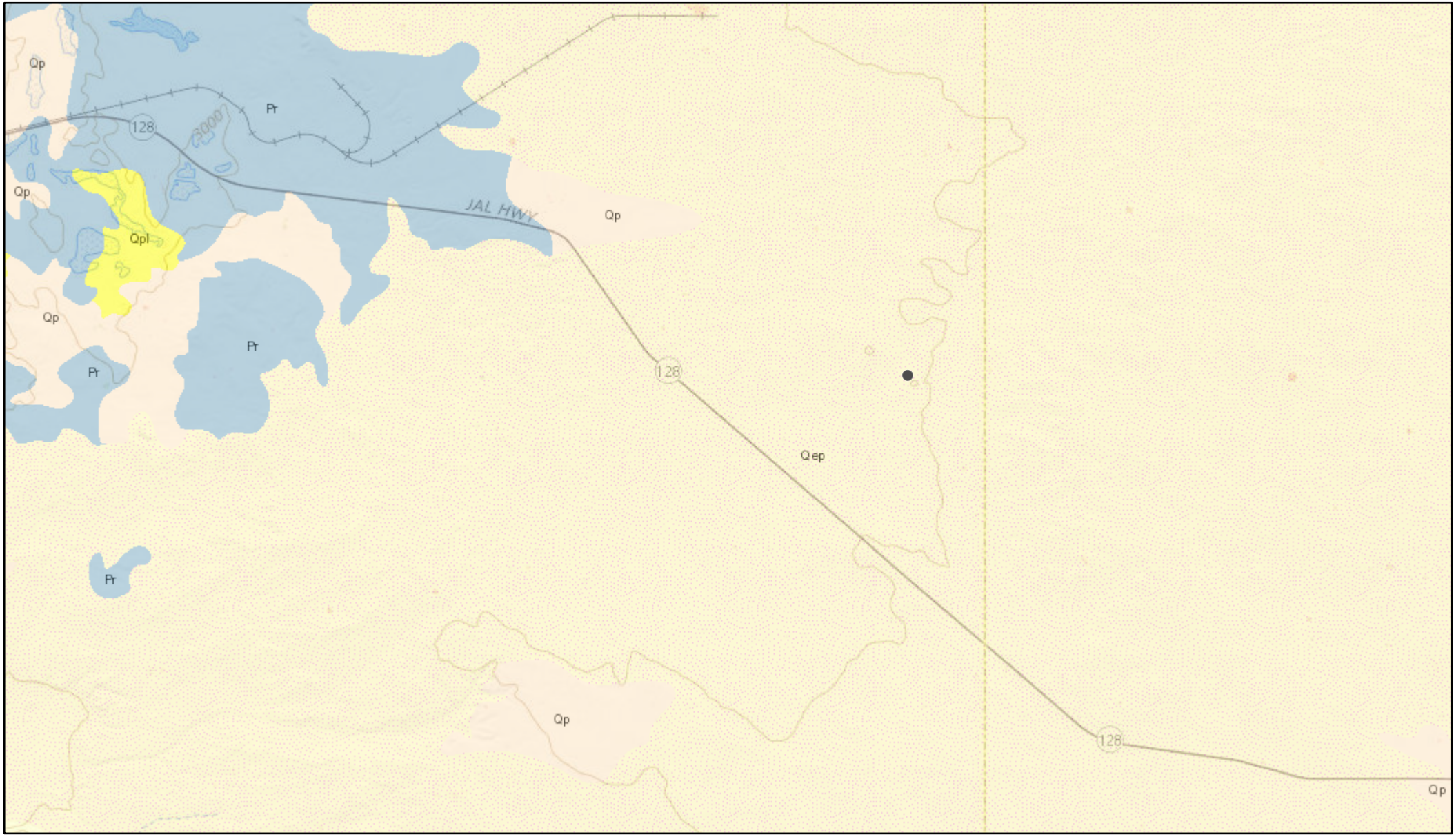
---

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

---

17. **Perennial plant reproductive capability:**

ArcGIS Web Map



4/29/2021, 1:40:55 PM

Faults

Fault, Exposed

Fault, Intermittent

Fault, Concealed

Shere Zone

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

APPENDIX B – Daily Field Reports

Daily Site Visit Report

Client:	Devon Energy Corporation	Incident ID #:	nAB1911254304
Site Location Name:	Todd 23 A Federal #029	API #:	30-015-31881
Inspection Date:	7/17/2025		

Summary of Times	
Arrived at Site	7/17/2025 10:00 AM
Departed Site	7/17/2025 2:42 PM

Daily Site Visit Report

Site Sketch

Site Sketch

Daily Site Visit Report

Field Notes

12:25 Completed safety paperwork upon arrival

12:25 Tested the eastern wall for chlorides and oils to identify if we had excavated enough

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: East

Eastern wall field screened

Viewing Direction: North

Base samples 9 and 10 were field screened from the east side of the excavation

Viewing Direction: North

Pipeline was cleaned off by end of day

Viewing Direction: North

Lay flat lines were laid on the bottom of the excavation to reduce strain on the line

Daily Site Visit Report

Viewing Direction: West

Excavation looking west from the eastern most point

Viewing Direction: Southwest

Material stockpiled southwest of the excavation on a liner

Viewing Direction: Northeast

Excavation closed off at end of day

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Katrina Taylor

Signature: 
Signature

Daily Site Visit Report

Client:	Devon Energy Corporation	Incident ID #:	
Site Location Name:	Todd 23 A Federal #029	API #:	30-015-31881
Inspection Date:	7/21/2025		

Summary of Times

Arrived at Site	7/21/2025 9:36 AM
Departed Site	7/21/2025 3:45 PM

Field Notes

14:37 Completed safety paperwork upon arrival

14:37 Sampled around to identify potential areas of concern

14:37 Began sampling when the sampling notification opened

14:41 Sampled wall samples 1-4 and base samples 1-10

14:42 Full excavation photographs are included in this DFR

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: East
	
WS25-01 0-4	WS25-02 0-4
Viewing Direction: South	**Viewing Direction**: East
	
WS25-03 0-4	WS25-04 0-4

Daily Site Visit Report

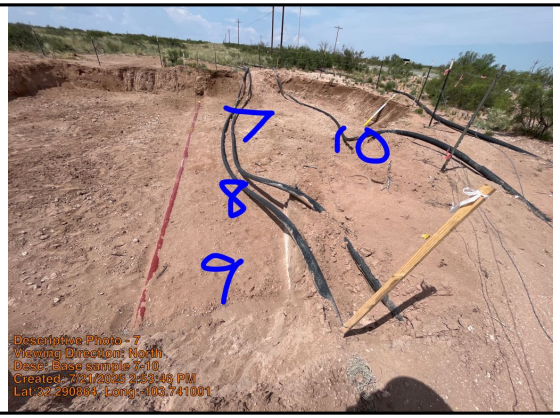
Viewing Direction: North

Base samples 1-3

Viewing Direction: North

Base samples 4-6

Viewing Direction: North



Base sample 7-10

Viewing Direction: Northeast

Site wide photograph

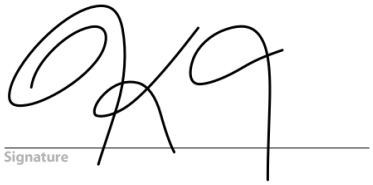
Daily Site Visit Report

Viewing Direction: Southeast	**Viewing Direction**: Southwest
	
Site wide photograph	Site wide photograph

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Katrina Taylor

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Incident ID #:	
Site Location Name:	Todd 23 A Fed 29	API #:	
Inspection Date:	8/1/2025		

Summary of Times	
Arrived at Site	8/1/2025 8:46 AM
Departed Site	8/1/2025 9:50 AM

Daily Site Visit Report

Site Sketch

Site Sketch

Daily Site Visit Report

Field Notes

8:46 Completed saftey paperwork upon arrival

17:14 Site began being backfilled

17:16 Top soil was used for the whole location and a sample was taken for laboratory analysis

17:18 One section is being left open for repair

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: Northeast	**Viewing Direction**: Southeast
	
Excavating beginning to be backfilled	Excavation beginning to be backfilled

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: East
	
Area between white stakes was requested to be left open by plains pipeline. That section of pipe needs maintenance done. The excavation in that section will be closed after maintenance has been completed	Area in need of maintenance

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Katrina Taylor

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Incident ID #:	
Site Location Name:	Todd 23 A Federal #029	API #:	30-015-31881
Inspection Date:	8/7/2025		

Summary of Times

Arrived at Site	8/7/2025 3:30 PM
Departed Site	8/7/2025 4:48 PM

Field Notes

16:07 Completed field work upon arrival

15:48 Identified the backfill area and photographed it

15:53 A section of plains pipeline's line was identified as in need of maintenance when it was uncovered during the excavation. As such plains pipeline requested it was left open until they could conduct the required maintenance at which time they would accept the responsibility of completing the backfill process.

15:53 As such a potion of excavation was left open with soil piled up to the west of it.

16:07 Pastureland vegetation is primarily honey mesquite and grasses with inter-dispersed yucca

16:48 The backfill sample and the pastureland sample are of comparable qualities

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North

Area left open for plains pipelines maintenance

Viewing Direction: North

Section of the pipeline requiring maintenance

Viewing Direction: North

Area to the east of plains pipeline has been recovered and contoured to match the surrounding surface contour

Viewing Direction: North

Area to the west of plains pipeline has been recovered and contoured to match the surrounding surface contour

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: West
	
Area to the west of plains pipeline has been recovered and contoured to match the surrounding surface contour	Area to the east of plains pipeline has been recovered and contoured to match the surrounding surface contour
Viewing Direction: East	**Viewing Direction**: South
	
Took pastureland control sample approximately 50ft west of the excavation	Pastureland vegetation is primarily honey mesquite and grasses with inter-dispersed yucca

Daily Site Visit Report

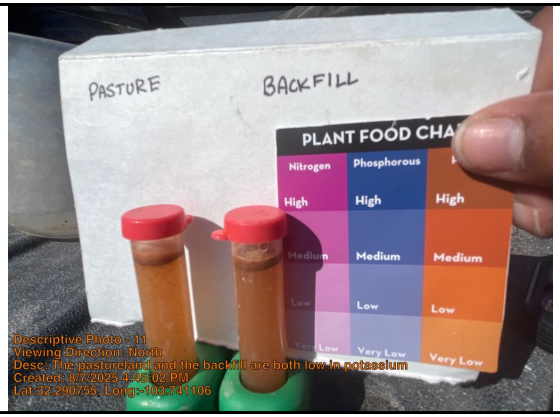
Viewing Direction: North

Coloration and rocky-ness of the backfill and pastureland samples are comparable

Viewing Direction: North

The pasture and the backfill are both neutral with the backfill being slightly more alkaline. Pasture sample is on the left and the backfill sample is on the right.

Viewing Direction: North



The pastureland and the backfill are both low in potassium

Viewing Direction: North

The pastureland and the backfill are both very low in nitrogen

Daily Site Visit Report

Viewing Direction: North

The pastureland and the backfill are both high in phosphorus

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Katrina Taylor

Signature: 

Signature

APPENDIX C – Laboratory Results

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/1/2025 12:38:43 PM

JOB DESCRIPTION

Todd 23A Federal 29

JOB NUMBER

885-29386-1

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
8/1/2025 12:38:43 PM

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

Client: Vertex
Project/Site: Todd 23A Federal 29

Laboratory Job ID: 885-29386-1

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Client Sample Results 6
QC Sample Results 20
QC Association Summary 25
Lab Chronicle 29
Certification Summary 34
Chain of Custody 35
Receipt Checklists 37

Definitions/Glossary

Client: Vertex Job ID: 885-29386-1
Project/Site: Todd 23A Federal 29

Qualifiers

HPLC/IC

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

Glossary

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

Case Narrative

Client: Vertex
Project: Todd 23A Federal 29

Job ID: 885-29386-1

Job ID: 885-29386-1 Eurofins Albuquerque

Job Narrative
885-29386-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt
The samples were received on 7/23/2025 7:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C.

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

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

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

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

Client Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

Client Sample ID: BS25-01 4.1

Date Collected: 07/21/25 13:40
Date Received: 07/23/25 07:30

Lab Sample ID: 885-29386-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7		mg/Kg		07/23/25 15:30	07/29/25 23:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*15 - 150*	*07/23/25 15:30*	*07/29/25 23:36*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/23/25 15:30	07/29/25 23:36	1
Ethylbenzene	ND		0.047		mg/Kg		07/23/25 15:30	07/29/25 23:36	1
Toluene	ND		0.047		mg/Kg		07/23/25 15:30	07/29/25 23:36	1
Xylenes, Total	ND		0.094		mg/Kg		07/23/25 15:30	07/29/25 23:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*15 - 150*	*07/23/25 15:30*	*07/29/25 23:36*	*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]	**17**		9.6		mg/Kg		07/24/25 13:44	07/25/25 18:06	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		07/24/25 13:44	07/25/25 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*110*		*62 - 134*	*07/24/25 13:44*	*07/25/25 18:06*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2900**		60		mg/Kg		07/24/25 13:09	07/26/25 08:06	20

Client Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

Client Sample ID: BS25-02 4.1

Date Collected: 07/21/25 13:42
Date Received: 07/23/25 07:30

Lab Sample ID: 885-29386-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9		mg/Kg		07/23/25 15:30	07/29/25 23:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*15 - 150*	*07/23/25 15:30*	*07/29/25 23:58*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/23/25 15:30	07/29/25 23:58	1
Ethylbenzene	ND		0.049		mg/Kg		07/23/25 15:30	07/29/25 23:58	1
Toluene	ND		0.049		mg/Kg		07/23/25 15:30	07/29/25 23:58	1
Xylenes, Total	ND		0.098		mg/Kg		07/23/25 15:30	07/29/25 23:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*15 - 150*	*07/23/25 15:30*	*07/29/25 23:58*	*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		07/24/25 13:44	07/25/25 18:18	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		07/24/25 13:44	07/25/25 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*121*		*62 - 134*	*07/24/25 13:44*	*07/25/25 18:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4200**		60		mg/Kg		07/24/25 13:09	07/26/25 08:15	20

Client Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

Client Sample ID: BS25-03 4.1

Date Collected: 07/21/25 13:44
Date Received: 07/23/25 07:30

Lab Sample ID: 885-29386-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8		mg/Kg		07/23/25 15:30	07/30/25 00:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*15 - 150*	*07/23/25 15:30*	*07/30/25 00:41*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/23/25 15:30	07/30/25 00:41	1
Ethylbenzene	ND		0.048		mg/Kg		07/23/25 15:30	07/30/25 00:41	1
Toluene	ND		0.048		mg/Kg		07/23/25 15:30	07/30/25 00:41	1
Xylenes, Total	ND		0.096		mg/Kg		07/23/25 15:30	07/30/25 00:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*15 - 150*	*07/23/25 15:30*	*07/30/25 00:41*	*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		9.8		mg/Kg		07/24/25 13:44	07/25/25 18:31	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/24/25 13:44	07/25/25 18:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*118*		*62 - 134*	*07/24/25 13:44*	*07/25/25 18:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4500**		60		mg/Kg		07/24/25 13:09	07/26/25 08:25	20

Client Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

Client Sample ID: BS25-04 4.1

Date Collected: 07/21/25 13:46
Date Received: 07/23/25 07:30

Lab Sample ID: 885-29386-4

Matrix: Solid

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		07/23/25 15:30	07/30/25 01:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*15 - 150*	*07/23/25 15:30*	*07/30/25 01:03*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/23/25 15:30	07/30/25 01:03	1
Ethylbenzene	ND		0.049		mg/Kg		07/23/25 15:30	07/30/25 01:03	1
Toluene	ND		0.049		mg/Kg		07/23/25 15:30	07/30/25 01:03	1
Xylenes, Total	ND		0.098		mg/Kg		07/23/25 15:30	07/30/25 01:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*15 - 150*	*07/23/25 15:30*	*07/30/25 01:03*	*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]	**300**		9.8		mg/Kg		07/24/25 13:44	07/28/25 11:32	1
Motor Oil Range Organics [C28-C40]	**260**		49		mg/Kg		07/24/25 13:44	07/28/25 11:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*111*		*62 - 134*	*07/24/25 13:44*	*07/28/25 11:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3300**		60		mg/Kg		07/24/25 13:09	07/26/25 08:35	20

Client Sample Results

Client: Vertex
Job ID: 885-29386-1
Project/Site: Todd 23A Federal 29

Client Sample ID: BS25-05 4.1
Lab Sample ID: 885-29386-5
Date Collected: 07/21/25 13:48
Matrix: Solid
Date Received: 07/23/25 07:30

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		07/23/25 15:30	07/30/25 01:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*15 - 150*	*07/23/25 15:30*	*07/30/25 01:25*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/23/25 15:30	07/30/25 01:25	1
Ethylbenzene	ND		0.049		mg/Kg		07/23/25 15:30	07/30/25 01:25	1
Toluene	ND		0.049		mg/Kg		07/23/25 15:30	07/30/25 01:25	1
Xylenes, Total	ND		0.097		mg/Kg		07/23/25 15:30	07/30/25 01:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*15 - 150*	*07/23/25 15:30*	*07/30/25 01:25*	*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		07/24/25 13:44	07/25/25 19:20	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		07/24/25 13:44	07/25/25 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*114*		*62 - 134*	*07/24/25 13:44*	*07/25/25 19:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4200**		60		mg/Kg		07/24/25 13:09	07/26/25 08:45	20

Client Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

Client Sample ID: BS25-06 4.1

Date Collected: 07/21/25 13:50
Date Received: 07/23/25 07:30

Lab Sample ID: 885-29386-6

Matrix: Solid

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		07/23/25 15:30	07/30/25 01:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*15 - 150*	*07/23/25 15:30*	*07/30/25 01:47*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/23/25 15:30	07/30/25 01:47	1
Ethylbenzene	ND		0.050		mg/Kg		07/23/25 15:30	07/30/25 01:47	1
Toluene	ND		0.050		mg/Kg		07/23/25 15:30	07/30/25 01:47	1
Xylenes, Total	ND		0.099		mg/Kg		07/23/25 15:30	07/30/25 01:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*15 - 150*	*07/23/25 15:30*	*07/30/25 01:47*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		07/24/25 13:44	07/25/25 19:33	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		07/24/25 13:44	07/25/25 19:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*110*		*62 - 134*	*07/24/25 13:44*	*07/25/25 19:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8500**		60		mg/Kg		07/24/25 13:09	07/26/25 08:55	20

Client Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

Client Sample ID: BS25-07 4.1

Date Collected: 07/21/25 13:52
Date Received: 07/23/25 07:30

Lab Sample ID: 885-29386-7

Matrix: Solid

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		07/23/25 15:30	07/30/25 02:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*15 - 150*	*07/23/25 15:30*	*07/30/25 02:08*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/23/25 15:30	07/30/25 02:08	1
Ethylbenzene	ND		0.049		mg/Kg		07/23/25 15:30	07/30/25 02:08	1
Toluene	ND		0.049		mg/Kg		07/23/25 15:30	07/30/25 02:08	1
Xylenes, Total	ND		0.098		mg/Kg		07/23/25 15:30	07/30/25 02:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*15 - 150*	*07/23/25 15:30*	*07/30/25 02:08*	*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]	**22**		9.4		mg/Kg		07/24/25 13:44	07/28/25 13:31	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		07/24/25 13:44	07/28/25 13:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*111*		*62 - 134*	*07/24/25 13:44*	*07/28/25 13:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3500**		60		mg/Kg		07/24/25 13:09	07/26/25 09:05	20

Client Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

Client Sample ID: BS25-08 4.1

Date Collected: 07/21/25 13:54
Date Received: 07/23/25 07:30

Lab Sample ID: 885-29386-8

Matrix: Solid

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		07/23/25 15:30	07/30/25 02:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*15 - 150*	*07/23/25 15:30*	*07/30/25 02:30*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/23/25 15:30	07/30/25 02:30	1
Ethylbenzene	ND		0.050		mg/Kg		07/23/25 15:30	07/30/25 02:30	1
Toluene	ND		0.050		mg/Kg		07/23/25 15:30	07/30/25 02:30	1
Xylenes, Total	ND		0.10		mg/Kg		07/23/25 15:30	07/30/25 02:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*15 - 150*	*07/23/25 15:30*	*07/30/25 02:30*	*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		07/24/25 13:44	07/25/25 20:22	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/24/25 13:44	07/25/25 20:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*108*		*62 - 134*	*07/24/25 13:44*	*07/25/25 20:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2500**		59		mg/Kg		07/24/25 13:09	07/26/25 09:14	20

Client Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

Client Sample ID: BS25-09 4.1

Date Collected: 07/21/25 13:56
Date Received: 07/23/25 07:30

Lab Sample ID: 885-29386-9

Matrix: Solid

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		07/23/25 15:30	07/30/25 02:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*15 - 150*	*07/23/25 15:30*	*07/30/25 02:52*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/23/25 15:30	07/30/25 02:52	1
Ethylbenzene	ND		0.049		mg/Kg		07/23/25 15:30	07/30/25 02:52	1
Toluene	ND		0.049		mg/Kg		07/23/25 15:30	07/30/25 02:52	1
Xylenes, Total	ND		0.099		mg/Kg		07/23/25 15:30	07/30/25 02:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*15 - 150*	*07/23/25 15:30*	*07/30/25 02:52*	*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]	**23**		9.9		mg/Kg		07/24/25 13:44	07/25/25 20:47	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		07/24/25 13:44	07/25/25 20:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*121*		*62 - 134*	*07/24/25 13:44*	*07/25/25 20:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3400**		60		mg/Kg		07/24/25 13:09	07/26/25 09:44	20

Client Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

Client Sample ID: BS25-10 4.1

Date Collected: 07/21/25 13:58
Date Received: 07/23/25 07:30

Lab Sample ID: 885-29386-10

Matrix: Solid

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		07/23/25 15:30	07/30/25 03:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*15 - 150*	*07/23/25 15:30*	*07/30/25 03:14*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/23/25 15:30	07/30/25 03:14	1
Ethylbenzene	ND		0.048		mg/Kg		07/23/25 15:30	07/30/25 03:14	1
Toluene	ND		0.048		mg/Kg		07/23/25 15:30	07/30/25 03:14	1
Xylenes, Total	ND		0.097		mg/Kg		07/23/25 15:30	07/30/25 03:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*15 - 150*	*07/23/25 15:30*	*07/30/25 03:14*	*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]	**47**		9.9		mg/Kg		07/24/25 13:44	07/25/25 20:59	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/24/25 13:44	07/25/25 20:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*121*		*62 - 134*	*07/24/25 13:44*	*07/25/25 20:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2300**		60		mg/Kg		07/24/25 13:09	07/26/25 09:54	20

Client Sample Results

Client: Vertex
Job ID: 885-29386-1
Project/Site: Todd 23A Federal 29

Client Sample ID: WS25-01 0-4.1
Lab Sample ID: 885-29386-11
Date Collected: 07/21/25 14:00
Matrix: Solid
Date Received: 07/23/25 07:30

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		07/23/25 15:30	07/30/25 03:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*15 - 150*	*07/23/25 15:30*	*07/30/25 03:36*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/23/25 15:30	07/30/25 03:36	1
Ethylbenzene	ND		0.047		mg/Kg		07/23/25 15:30	07/30/25 03:36	1
Toluene	ND		0.047		mg/Kg		07/23/25 15:30	07/30/25 03:36	1
Xylenes, Total	ND		0.095		mg/Kg		07/23/25 15:30	07/30/25 03:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*15 - 150*	*07/23/25 15:30*	*07/30/25 03:36*	*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		9.7		mg/Kg		07/24/25 13:44	07/25/25 21:12	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		07/24/25 13:44	07/25/25 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*110*		*62 - 134*	*07/24/25 13:44*	*07/25/25 21:12*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**180**		60		mg/Kg		07/24/25 13:09	07/26/25 10:04	20

Client Sample Results

Client: Vertex
Job ID: 885-29386-1
Project/Site: Todd 23A Federal 29

Client Sample ID: WS25-02 0-4.1
Lab Sample ID: 885-29386-12
Date Collected: 07/21/25 14:02
Matrix: Solid
Date Received: 07/23/25 07:30

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		07/23/25 15:30	07/30/25 03:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*15 - 150*	*07/23/25 15:30*	*07/30/25 03:58*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/23/25 15:30	07/30/25 03:58	1
Ethylbenzene	ND		0.048		mg/Kg		07/23/25 15:30	07/30/25 03:58	1
Toluene	ND		0.048		mg/Kg		07/23/25 15:30	07/30/25 03:58	1
Xylenes, Total	ND		0.096		mg/Kg		07/23/25 15:30	07/30/25 03:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*15 - 150*	*07/23/25 15:30*	*07/30/25 03:58*	*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		10		mg/Kg		07/24/25 13:44	07/25/25 21:24	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		07/24/25 13:44	07/25/25 21:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*105*		*62 - 134*	*07/24/25 13:44*	*07/25/25 21:24*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**71**		60		mg/Kg		07/24/25 13:09	07/26/25 10:13	20

Client Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

Client Sample ID: WS25-03 0-4.1

Date Collected: 07/21/25 14:04
Date Received: 07/23/25 07:30

Lab Sample ID: 885-29386-13

Matrix: Solid

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		07/24/25 16:43	07/29/25 22:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 150*	*07/24/25 16:43*	*07/29/25 22:41*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/24/25 16:43	07/29/25 22:41	1
Ethylbenzene	ND		0.050		mg/Kg		07/24/25 16:43	07/29/25 22:41	1
Toluene	ND		0.050		mg/Kg		07/24/25 16:43	07/29/25 22:41	1
Xylenes, Total	ND		0.10		mg/Kg		07/24/25 16:43	07/29/25 22:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*15 - 150*	*07/24/25 16:43*	*07/29/25 22:41*	*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]	**15**		9.8		mg/Kg		07/25/25 14:08	07/28/25 23:25	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/25/25 14:08	07/28/25 23:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*	*07/25/25 14:08*	*07/28/25 23:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**150**		60		mg/Kg		07/26/25 08:00	07/26/25 11:10	20

Client Sample Results

Client: Vertex
Job ID: 885-29386-1
Project/Site: Todd 23A Federal 29

Client Sample ID: WS25-04 0-4.1
Lab Sample ID: 885-29386-14
Date Collected: 07/21/25 14:06
Matrix: Solid
Date Received: 07/23/25 07:30

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		07/24/25 16:43	07/29/25 23:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 150*	*07/24/25 16:43*	*07/29/25 23:05*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/24/25 16:43	07/29/25 23:05	1
Ethylbenzene	ND		0.050		mg/Kg		07/24/25 16:43	07/29/25 23:05	1
Toluene	ND		0.050		mg/Kg		07/24/25 16:43	07/29/25 23:05	1
Xylenes, Total	ND		0.10		mg/Kg		07/24/25 16:43	07/29/25 23:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*15 - 150*	*07/24/25 16:43*	*07/29/25 23:05*	*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		07/25/25 14:08	07/28/25 23:49	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/25/25 14:08	07/28/25 23:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*07/25/25 14:08*	*07/28/25 23:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**120**		60		mg/Kg		07/26/25 08:00	07/26/25 11:20	20

QC Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

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

Lab Sample ID: MB 885-30744/1-A
Matrix: Solid
Analysis Batch: 31138

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30744

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		07/23/25 15:30	07/29/25 18:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*15 - 150*	*07/23/25 15:30*	*07/29/25 18:53*	*1*

Lab Sample ID: LCS 885-30744/2-A
Matrix: Solid
Analysis Batch: 31138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30744

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)	*223*		*15 - 150*

Lab Sample ID: MB 885-30866/1-A
Matrix: Solid
Analysis Batch: 31161

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30866

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		07/24/25 16:43	07/29/25 22:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 150*	*07/24/25 16:43*	*07/29/25 22:18*	*1*

Lab Sample ID: LCS 885-30866/2-A
Matrix: Solid
Analysis Batch: 31161

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30866

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			25.0	27.7		mg/Kg		111	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*201*		*15 - 150*

Lab Sample ID: 885-29386-13 MS
Matrix: Solid
Analysis Batch: 31161

Client Sample ID: WS25-03 0-4.1
Prep Type: Total/NA
Prep Batch: 30866

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	ND		24.9	25.2		mg/Kg		101	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

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

Lab Sample ID: 885-29386-13 MS
Matrix: Solid
Analysis Batch: 31161

Client Sample ID: WS25-03 0-4.1
Prep Type: Total/NA
Prep Batch: 30866

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*196*		*15 - 150*

Lab Sample ID: 885-29386-13 MSD
Matrix: Solid
Analysis Batch: 31161

Client Sample ID: WS25-03 0-4.1
Prep Type: Total/NA
Prep Batch: 30866

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		25.0	24.1		mg/Kg		96	70 - 130	4	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*196*		*15 - 150*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-30744/1-A
Matrix: Solid
Analysis Batch: 31137

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30744

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/23/25 15:30	07/29/25 18:53	1
Ethylbenzene	ND		0.050		mg/Kg		07/23/25 15:30	07/29/25 18:53	1
Toluene	ND		0.050		mg/Kg		07/23/25 15:30	07/29/25 18:53	1
Xylenes, Total	ND		0.10		mg/Kg		07/23/25 15:30	07/29/25 18:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*92*		*15 - 150*	*07/23/25 15:30*	*07/29/25 18:53*	*1*

Lab Sample ID: LCS 885-30744/3-A
Matrix: Solid
Analysis Batch: 31137

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30744

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.911		mg/Kg		91	70 - 130		
Ethylbenzene			1.00	0.915		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			2.00	1.85		mg/Kg		93	70 - 130		
o-Xylene			1.00	0.924		mg/Kg		92	70 - 130		
Toluene			1.00	0.894		mg/Kg		89	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*94*		*15 - 150*

Lab Sample ID: MB 885-30866/1-A
Matrix: Solid
Analysis Batch: 31162

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30866

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/24/25 16:43	07/29/25 22:18	1

QC Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

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

Lab Sample ID: MB 885-30866/1-A
Matrix: Solid
Analysis Batch: 31162

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30866

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.050		mg/Kg		07/24/25 16:43	07/29/25 22:18	1
Toluene	ND		0.050		mg/Kg		07/24/25 16:43	07/29/25 22:18	1
Xylenes, Total	ND		0.10		mg/Kg		07/24/25 16:43	07/29/25 22:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*15 - 150*	*07/24/25 16:43*	*07/29/25 22:18*	*1*

Lab Sample ID: LCS 885-30866/3-A
Matrix: Solid
Analysis Batch: 31162

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30866

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.918		mg/Kg		92	70 - 130		
Ethylbenzene			1.00	0.907		mg/Kg		91	70 - 130		
m-Xylene & p-Xylene			2.00	1.91		mg/Kg		95	70 - 130		
o-Xylene			1.00	0.927		mg/Kg		93	70 - 130		
Toluene			1.00	0.927		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*15 - 150*

Lab Sample ID: 885-29386-14 MS
Matrix: Solid
Analysis Batch: 31162

Client Sample ID: WS25-04 0-4.1
Prep Type: Total/NA
Prep Batch: 30866

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.999	0.872		mg/Kg		87	70 - 130		
Ethylbenzene	ND		0.999	0.899		mg/Kg		90	70 - 130		
m-Xylene & p-Xylene	ND		2.00	1.90		mg/Kg		95	70 - 130		
o-Xylene	ND		0.999	0.905		mg/Kg		91	70 - 130		
Toluene	ND		0.999	0.900		mg/Kg		89	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*15 - 150*

Lab Sample ID: 885-29386-14 MSD
Matrix: Solid
Analysis Batch: 31162

Client Sample ID: WS25-04 0-4.1
Prep Type: Total/NA
Prep Batch: 30866

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.999	0.899		mg/Kg		90	70 - 130	3	20
Ethylbenzene	ND		0.999	0.911		mg/Kg		91	70 - 130	1	20
m-Xylene & p-Xylene	ND		2.00	1.94		mg/Kg		97	70 - 130	2	20
o-Xylene	ND		0.999	0.931		mg/Kg		93	70 - 130	3	20
Toluene	ND		0.999	0.919		mg/Kg		91	70 - 130	2	20

QC Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

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

Lab Sample ID: 885-29386-14 MSD
Matrix: Solid
Analysis Batch: 31162

Client Sample ID: WS25-04 0-4.1
Prep Type: Total/NA
Prep Batch: 30866

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*92*		*15 - 150*

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

Lab Sample ID: MB 885-30841/1-A
Matrix: Solid
Analysis Batch: 30908

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30841

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		07/24/25 13:44	07/25/25 15:00	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		07/24/25 13:44	07/25/25 15:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*115*		*62 - 134*	*07/24/25 13:44*	*07/25/25 15:00*	*1*

Lab Sample ID: LCS 885-30841/2-A
Matrix: Solid
Analysis Batch: 30908

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30841

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	52.7		mg/Kg		105	51 - 148		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*105*		*62 - 134*

Lab Sample ID: MB 885-30924/1-A
Matrix: Solid
Analysis Batch: 30995

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30924

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		07/25/25 14:07	07/28/25 15:06	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		07/25/25 14:07	07/28/25 15:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*	*07/25/25 14:07*	*07/28/25 15:06*	*1*

Lab Sample ID: LCS 885-30924/2-A
Matrix: Solid
Analysis Batch: 30995

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30924

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	57.1		mg/Kg		114	51 - 148		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*

QC Sample Results

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-30834/1-A
Matrix: Solid
Analysis Batch: 30880

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30834

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5		mg/Kg		07/24/25 13:09	07/25/25 07:51	1

Lab Sample ID: LCS 885-30834/2-A
Matrix: Solid
Analysis Batch: 30880

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30834

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			15.0	15.0		mg/Kg		100	90 - 110		

Lab Sample ID: MB 885-30965/1-A
Matrix: Solid
Analysis Batch: 30963

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30965

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5		mg/Kg		07/26/25 08:00	07/26/25 10:23	1

Lab Sample ID: LCS 885-30965/2-A
Matrix: Solid
Analysis Batch: 30963

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30965

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			15.0	14.6		mg/Kg		97	90 - 110		

Lab Sample ID: 885-29386-13 MS
Matrix: Solid
Analysis Batch: 30963

Client Sample ID: WS25-03 0-4.1
Prep Type: Total/NA
Prep Batch: 30965

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	150		30.2	184	4	mg/Kg		119	50 - 150		

Lab Sample ID: 885-29386-13 MSD
Matrix: Solid
Analysis Batch: 30963

Client Sample ID: WS25-03 0-4.1
Prep Type: Total/NA
Prep Batch: 30965

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	150		30.1	179	4	mg/Kg		103	50 - 150	3	20

Lab Sample ID: 885-29386-14 MS
Matrix: Solid
Analysis Batch: 30963

Client Sample ID: WS25-04 0-4.1
Prep Type: Total/NA
Prep Batch: 30965

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	120		30.2	147		mg/Kg		101	50 - 150		

Lab Sample ID: 885-29386-14 MSD
Matrix: Solid
Analysis Batch: 30963

Client Sample ID: WS25-04 0-4.1
Prep Type: Total/NA
Prep Batch: 30965

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	120		29.9	144		mg/Kg		93	50 - 150	2	20

QC Association Summary

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

GC VOA

Prep Batch: 30744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-1	BS25-01 4.1	Total/NA	Solid	5030C	
885-29386-2	BS25-02 4.1	Total/NA	Solid	5030C	
885-29386-3	BS25-03 4.1	Total/NA	Solid	5030C	
885-29386-4	BS25-04 4.1	Total/NA	Solid	5030C	
885-29386-5	BS25-05 4.1	Total/NA	Solid	5030C	
885-29386-6	BS25-06 4.1	Total/NA	Solid	5030C	
885-29386-7	BS25-07 4.1	Total/NA	Solid	5030C	
885-29386-8	BS25-08 4.1	Total/NA	Solid	5030C	
885-29386-9	BS25-09 4.1	Total/NA	Solid	5030C	
885-29386-10	BS25-10 4.1	Total/NA	Solid	5030C	
885-29386-11	WS25-01 0-4.1	Total/NA	Solid	5030C	
885-29386-12	WS25-02 0-4.1	Total/NA	Solid	5030C	
MB 885-30744/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-30744/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-30744/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Prep Batch: 30866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-13	WS25-03 0-4.1	Total/NA	Solid	5030C	
885-29386-14	WS25-04 0-4.1	Total/NA	Solid	5030C	
MB 885-30866/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-30866/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-30866/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-29386-13 MS	WS25-03 0-4.1	Total/NA	Solid	5030C	
885-29386-13 MSD	WS25-03 0-4.1	Total/NA	Solid	5030C	
885-29386-14 MS	WS25-04 0-4.1	Total/NA	Solid	5030C	
885-29386-14 MSD	WS25-04 0-4.1	Total/NA	Solid	5030C	

Analysis Batch: 31137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-1	BS25-01 4.1	Total/NA	Solid	8021B	30744
885-29386-2	BS25-02 4.1	Total/NA	Solid	8021B	30744
885-29386-3	BS25-03 4.1	Total/NA	Solid	8021B	30744
885-29386-4	BS25-04 4.1	Total/NA	Solid	8021B	30744
885-29386-5	BS25-05 4.1	Total/NA	Solid	8021B	30744
885-29386-6	BS25-06 4.1	Total/NA	Solid	8021B	30744
885-29386-7	BS25-07 4.1	Total/NA	Solid	8021B	30744
885-29386-8	BS25-08 4.1	Total/NA	Solid	8021B	30744
885-29386-9	BS25-09 4.1	Total/NA	Solid	8021B	30744
885-29386-10	BS25-10 4.1	Total/NA	Solid	8021B	30744
885-29386-11	WS25-01 0-4.1	Total/NA	Solid	8021B	30744
885-29386-12	WS25-02 0-4.1	Total/NA	Solid	8021B	30744
MB 885-30744/1-A	Method Blank	Total/NA	Solid	8021B	30744
LCS 885-30744/3-A	Lab Control Sample	Total/NA	Solid	8021B	30744

Analysis Batch: 31138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-1	BS25-01 4.1	Total/NA	Solid	8015M/D	30744
885-29386-2	BS25-02 4.1	Total/NA	Solid	8015M/D	30744
885-29386-3	BS25-03 4.1	Total/NA	Solid	8015M/D	30744
885-29386-4	BS25-04 4.1	Total/NA	Solid	8015M/D	30744

QC Association Summary

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

GC VOA (Continued)

Analysis Batch: 31138 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-5	BS25-05 4.1	Total/NA	Solid	8015M/D	30744
885-29386-6	BS25-06 4.1	Total/NA	Solid	8015M/D	30744
885-29386-7	BS25-07 4.1	Total/NA	Solid	8015M/D	30744
885-29386-8	BS25-08 4.1	Total/NA	Solid	8015M/D	30744
885-29386-9	BS25-09 4.1	Total/NA	Solid	8015M/D	30744
885-29386-10	BS25-10 4.1	Total/NA	Solid	8015M/D	30744
885-29386-11	WS25-01 0-4.1	Total/NA	Solid	8015M/D	30744
885-29386-12	WS25-02 0-4.1	Total/NA	Solid	8015M/D	30744
MB 885-30744/1-A	Method Blank	Total/NA	Solid	8015M/D	30744
LCS 885-30744/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	30744

Analysis Batch: 31161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-13	WS25-03 0-4.1	Total/NA	Solid	8015M/D	30866
885-29386-14	WS25-04 0-4.1	Total/NA	Solid	8015M/D	30866
MB 885-30866/1-A	Method Blank	Total/NA	Solid	8015M/D	30866
LCS 885-30866/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	30866
885-29386-13 MS	WS25-03 0-4.1	Total/NA	Solid	8015M/D	30866
885-29386-13 MSD	WS25-03 0-4.1	Total/NA	Solid	8015M/D	30866

Analysis Batch: 31162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-13	WS25-03 0-4.1	Total/NA	Solid	8021B	30866
885-29386-14	WS25-04 0-4.1	Total/NA	Solid	8021B	30866
MB 885-30866/1-A	Method Blank	Total/NA	Solid	8021B	30866
LCS 885-30866/3-A	Lab Control Sample	Total/NA	Solid	8021B	30866
885-29386-14 MS	WS25-04 0-4.1	Total/NA	Solid	8021B	30866
885-29386-14 MSD	WS25-04 0-4.1	Total/NA	Solid	8021B	30866

GC Semi VOA

Prep Batch: 30841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-1	BS25-01 4.1	Total/NA	Solid	SHAKE	
885-29386-2	BS25-02 4.1	Total/NA	Solid	SHAKE	
885-29386-3	BS25-03 4.1	Total/NA	Solid	SHAKE	
885-29386-4	BS25-04 4.1	Total/NA	Solid	SHAKE	
885-29386-5	BS25-05 4.1	Total/NA	Solid	SHAKE	
885-29386-6	BS25-06 4.1	Total/NA	Solid	SHAKE	
885-29386-7	BS25-07 4.1	Total/NA	Solid	SHAKE	
885-29386-8	BS25-08 4.1	Total/NA	Solid	SHAKE	
885-29386-9	BS25-09 4.1	Total/NA	Solid	SHAKE	
885-29386-10	BS25-10 4.1	Total/NA	Solid	SHAKE	
885-29386-11	WS25-01 0-4.1	Total/NA	Solid	SHAKE	
885-29386-12	WS25-02 0-4.1	Total/NA	Solid	SHAKE	
MB 885-30841/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-30841/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 30908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-1	BS25-01 4.1	Total/NA	Solid	8015M/D	30841

QC Association Summary

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

GC Semi VOA (Continued)

Analysis Batch: 30908 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-2	BS25-02 4.1	Total/NA	Solid	8015M/D	30841
885-29386-3	BS25-03 4.1	Total/NA	Solid	8015M/D	30841
885-29386-5	BS25-05 4.1	Total/NA	Solid	8015M/D	30841
885-29386-6	BS25-06 4.1	Total/NA	Solid	8015M/D	30841
885-29386-8	BS25-08 4.1	Total/NA	Solid	8015M/D	30841
885-29386-9	BS25-09 4.1	Total/NA	Solid	8015M/D	30841
885-29386-10	BS25-10 4.1	Total/NA	Solid	8015M/D	30841
885-29386-11	WS25-01 0-4.1	Total/NA	Solid	8015M/D	30841
885-29386-12	WS25-02 0-4.1	Total/NA	Solid	8015M/D	30841
MB 885-30841/1-A	Method Blank	Total/NA	Solid	8015M/D	30841
LCS 885-30841/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	30841

Prep Batch: 30924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-13	WS25-03 0-4.1	Total/NA	Solid	SHAKE	
885-29386-14	WS25-04 0-4.1	Total/NA	Solid	SHAKE	
MB 885-30924/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-30924/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 30995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-4	BS25-04 4.1	Total/NA	Solid	8015M/D	30841
885-29386-7	BS25-07 4.1	Total/NA	Solid	8015M/D	30841
885-29386-13	WS25-03 0-4.1	Total/NA	Solid	8015M/D	30924
885-29386-14	WS25-04 0-4.1	Total/NA	Solid	8015M/D	30924
MB 885-30924/1-A	Method Blank	Total/NA	Solid	8015M/D	30924
LCS 885-30924/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	30924

HPLC/IC

Prep Batch: 30834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-1	BS25-01 4.1	Total/NA	Solid	300_Prep	
885-29386-2	BS25-02 4.1	Total/NA	Solid	300_Prep	
885-29386-3	BS25-03 4.1	Total/NA	Solid	300_Prep	
885-29386-4	BS25-04 4.1	Total/NA	Solid	300_Prep	
885-29386-5	BS25-05 4.1	Total/NA	Solid	300_Prep	
885-29386-6	BS25-06 4.1	Total/NA	Solid	300_Prep	
885-29386-7	BS25-07 4.1	Total/NA	Solid	300_Prep	
885-29386-8	BS25-08 4.1	Total/NA	Solid	300_Prep	
885-29386-9	BS25-09 4.1	Total/NA	Solid	300_Prep	
885-29386-10	BS25-10 4.1	Total/NA	Solid	300_Prep	
885-29386-11	WS25-01 0-4.1	Total/NA	Solid	300_Prep	
885-29386-12	WS25-02 0-4.1	Total/NA	Solid	300_Prep	
MB 885-30834/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-30834/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 30880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-30834/1-A	Method Blank	Total/NA	Solid	300.0	30834
LCS 885-30834/2-A	Lab Control Sample	Total/NA	Solid	300.0	30834

QC Association Summary

Client: Vertex
Project/Site: Todd 23A Federal 29

Job ID: 885-29386-1

HPLC/IC

Analysis Batch: 30963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-1	BS25-01 4.1	Total/NA	Solid	300.0	30834
885-29386-2	BS25-02 4.1	Total/NA	Solid	300.0	30834
885-29386-3	BS25-03 4.1	Total/NA	Solid	300.0	30834
885-29386-4	BS25-04 4.1	Total/NA	Solid	300.0	30834
885-29386-5	BS25-05 4.1	Total/NA	Solid	300.0	30834
885-29386-6	BS25-06 4.1	Total/NA	Solid	300.0	30834
885-29386-7	BS25-07 4.1	Total/NA	Solid	300.0	30834
885-29386-8	BS25-08 4.1	Total/NA	Solid	300.0	30834
885-29386-9	BS25-09 4.1	Total/NA	Solid	300.0	30834
885-29386-10	BS25-10 4.1	Total/NA	Solid	300.0	30834
885-29386-11	WS25-01 0-4.1	Total/NA	Solid	300.0	30834
885-29386-12	WS25-02 0-4.1	Total/NA	Solid	300.0	30834
885-29386-13	WS25-03 0-4.1	Total/NA	Solid	300.0	30965
885-29386-14	WS25-04 0-4.1	Total/NA	Solid	300.0	30965
MB 885-30965/1-A	Method Blank	Total/NA	Solid	300.0	30965
LCS 885-30965/2-A	Lab Control Sample	Total/NA	Solid	300.0	30965
885-29386-13 MS	WS25-03 0-4.1	Total/NA	Solid	300.0	30965
885-29386-13 MSD	WS25-03 0-4.1	Total/NA	Solid	300.0	30965
885-29386-14 MS	WS25-04 0-4.1	Total/NA	Solid	300.0	30965
885-29386-14 MSD	WS25-04 0-4.1	Total/NA	Solid	300.0	30965

Prep Batch: 30965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-29386-13	WS25-03 0-4.1	Total/NA	Solid	300_Prep	
885-29386-14	WS25-04 0-4.1	Total/NA	Solid	300_Prep	
MB 885-30965/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-30965/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
885-29386-13 MS	WS25-03 0-4.1	Total/NA	Solid	300_Prep	
885-29386-13 MSD	WS25-03 0-4.1	Total/NA	Solid	300_Prep	
885-29386-14 MS	WS25-04 0-4.1	Total/NA	Solid	300_Prep	
885-29386-14 MSD	WS25-04 0-4.1	Total/NA	Solid	300_Prep	

Lab Chronicle

Client: Vertex
Job ID: 885-29386-1
Project/Site: Todd 23A Federal 29

Client Sample ID: BS25-01 4.1
Lab Sample ID: 885-29386-1
Date Collected: 07/21/25 13:40
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8015M/D		1	31138	AT	EET ALB	07/29/25 23:36
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8021B		1	31137	AT	EET ALB	07/29/25 23:36
Total/NA	Prep	SHAKE			30841	BZR	EET ALB	07/24/25 13:44
Total/NA	Analysis	8015M/D		1	30908	EM	EET ALB	07/25/25 18:06
Total/NA	Prep	300_Prep			30834	RC	EET ALB	07/24/25 13:09
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 08:06

Client Sample ID: BS25-02 4.1
Lab Sample ID: 885-29386-2
Date Collected: 07/21/25 13:42
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8015M/D		1	31138	AT	EET ALB	07/29/25 23:58
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8021B		1	31137	AT	EET ALB	07/29/25 23:58
Total/NA	Prep	SHAKE			30841	BZR	EET ALB	07/24/25 13:44
Total/NA	Analysis	8015M/D		1	30908	EM	EET ALB	07/25/25 18:18
Total/NA	Prep	300_Prep			30834	RC	EET ALB	07/24/25 13:09
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 08:15

Client Sample ID: BS25-03 4.1
Lab Sample ID: 885-29386-3
Date Collected: 07/21/25 13:44
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8015M/D		1	31138	AT	EET ALB	07/30/25 00:41
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8021B		1	31137	AT	EET ALB	07/30/25 00:41
Total/NA	Prep	SHAKE			30841	BZR	EET ALB	07/24/25 13:44
Total/NA	Analysis	8015M/D		1	30908	EM	EET ALB	07/25/25 18:31
Total/NA	Prep	300_Prep			30834	RC	EET ALB	07/24/25 13:09
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 08:25

Client Sample ID: BS25-04 4.1
Lab Sample ID: 885-29386-4
Date Collected: 07/21/25 13:46
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8015M/D		1	31138	AT	EET ALB	07/30/25 01:03

Lab Chronicle

Client: Vertex
Job ID: 885-29386-1
Project/Site: Todd 23A Federal 29

Client Sample ID: BS25-04 4.1
Lab Sample ID: 885-29386-4
Date Collected: 07/21/25 13:46
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8021B		1	31137	AT	EET ALB	07/30/25 01:03
Total/NA	Prep	SHAKE			30841	BZR	EET ALB	07/24/25 13:44
Total/NA	Analysis	8015M/D		1	30995	EM	EET ALB	07/28/25 11:32
Total/NA	Prep	300_Prep			30834	RC	EET ALB	07/24/25 13:09
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 08:35

Client Sample ID: BS25-05 4.1
Lab Sample ID: 885-29386-5
Date Collected: 07/21/25 13:48
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8015M/D		1	31138	AT	EET ALB	07/30/25 01:25
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8021B		1	31137	AT	EET ALB	07/30/25 01:25
Total/NA	Prep	SHAKE			30841	BZR	EET ALB	07/24/25 13:44
Total/NA	Analysis	8015M/D		1	30908	EM	EET ALB	07/25/25 19:20
Total/NA	Prep	300_Prep			30834	RC	EET ALB	07/24/25 13:09
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 08:45

Client Sample ID: BS25-06 4.1
Lab Sample ID: 885-29386-6
Date Collected: 07/21/25 13:50
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8015M/D		1	31138	AT	EET ALB	07/30/25 01:47
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8021B		1	31137	AT	EET ALB	07/30/25 01:47
Total/NA	Prep	SHAKE			30841	BZR	EET ALB	07/24/25 13:44
Total/NA	Analysis	8015M/D		1	30908	EM	EET ALB	07/25/25 19:33
Total/NA	Prep	300_Prep			30834	RC	EET ALB	07/24/25 13:09
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 08:55

Client Sample ID: BS25-07 4.1
Lab Sample ID: 885-29386-7
Date Collected: 07/21/25 13:52
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8015M/D		1	31138	AT	EET ALB	07/30/25 02:08
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8021B		1	31137	AT	EET ALB	07/30/25 02:08

Lab Chronicle

Client: Vertex
Job ID: 885-29386-1
Project/Site: Todd 23A Federal 29

Client Sample ID: BS25-07 4.1
Lab Sample ID: 885-29386-7
Date Collected: 07/21/25 13:52
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			30841	BZR	EET ALB	07/24/25 13:44
Total/NA	Analysis	8015M/D		1	30995	EM	EET ALB	07/28/25 13:31
Total/NA	Prep	300_Prep			30834	RC	EET ALB	07/24/25 13:09
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 09:05

Client Sample ID: BS25-08 4.1
Lab Sample ID: 885-29386-8
Date Collected: 07/21/25 13:54
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8015M/D		1	31138	AT	EET ALB	07/30/25 02:30
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8021B		1	31137	AT	EET ALB	07/30/25 02:30
Total/NA	Prep	SHAKE			30841	BZR	EET ALB	07/24/25 13:44
Total/NA	Analysis	8015M/D		1	30908	EM	EET ALB	07/25/25 20:22
Total/NA	Prep	300_Prep			30834	RC	EET ALB	07/24/25 13:09
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 09:14

Client Sample ID: BS25-09 4.1
Lab Sample ID: 885-29386-9
Date Collected: 07/21/25 13:56
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8015M/D		1	31138	AT	EET ALB	07/30/25 02:52
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8021B		1	31137	AT	EET ALB	07/30/25 02:52
Total/NA	Prep	SHAKE			30841	BZR	EET ALB	07/24/25 13:44
Total/NA	Analysis	8015M/D		1	30908	EM	EET ALB	07/25/25 20:47
Total/NA	Prep	300_Prep			30834	RC	EET ALB	07/24/25 13:09
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 09:44

Client Sample ID: BS25-10 4.1
Lab Sample ID: 885-29386-10
Date Collected: 07/21/25 13:58
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8015M/D		1	31138	AT	EET ALB	07/30/25 03:14
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8021B		1	31137	AT	EET ALB	07/30/25 03:14
Total/NA	Prep	SHAKE			30841	BZR	EET ALB	07/24/25 13:44
Total/NA	Analysis	8015M/D		1	30908	EM	EET ALB	07/25/25 20:59

Lab Chronicle

Client: Vertex
Job ID: 885-29386-1
Project/Site: Todd 23A Federal 29

Client Sample ID: BS25-10 4.1
Lab Sample ID: 885-29386-10
Date Collected: 07/21/25 13:58
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			30834	RC	EET ALB	07/24/25 13:09
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 09:54

Client Sample ID: WS25-01 0-4.1
Lab Sample ID: 885-29386-11
Date Collected: 07/21/25 14:00
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8015M/D		1	31138	AT	EET ALB	07/30/25 03:36
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8021B		1	31137	AT	EET ALB	07/30/25 03:36
Total/NA	Prep	SHAKE			30841	BZR	EET ALB	07/24/25 13:44
Total/NA	Analysis	8015M/D		1	30908	EM	EET ALB	07/25/25 21:12
Total/NA	Prep	300_Prep			30834	RC	EET ALB	07/24/25 13:09
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 10:04

Client Sample ID: WS25-02 0-4.1
Lab Sample ID: 885-29386-12
Date Collected: 07/21/25 14:02
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8015M/D		1	31138	AT	EET ALB	07/30/25 03:58
Total/NA	Prep	5030C			30744	KLS	EET ALB	07/23/25 15:30
Total/NA	Analysis	8021B		1	31137	AT	EET ALB	07/30/25 03:58
Total/NA	Prep	SHAKE			30841	BZR	EET ALB	07/24/25 13:44
Total/NA	Analysis	8015M/D		1	30908	EM	EET ALB	07/25/25 21:24
Total/NA	Prep	300_Prep			30834	RC	EET ALB	07/24/25 13:09
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 10:13

Client Sample ID: WS25-03 0-4.1
Lab Sample ID: 885-29386-13
Date Collected: 07/21/25 14:04
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30866	KLS	EET ALB	07/24/25 16:43
Total/NA	Analysis	8015M/D		1	31161	JP	EET ALB	07/29/25 22:41
Total/NA	Prep	5030C			30866	KLS	EET ALB	07/24/25 16:43
Total/NA	Analysis	8021B		1	31162	JP	EET ALB	07/29/25 22:41
Total/NA	Prep	SHAKE			30924	BZR	EET ALB	07/25/25 14:08
Total/NA	Analysis	8015M/D		1	30995	EM	EET ALB	07/28/25 23:25
Total/NA	Prep	300_Prep			30965	RC	EET ALB	07/26/25 08:00
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 11:10

Lab Chronicle

Client: Vertex
Job ID: 885-29386-1
Project/Site: Todd 23A Federal 29

Client Sample ID: WS25-04 0-4.1
Lab Sample ID: 885-29386-14

Date Collected: 07/21/25 14:06
Matrix: Solid
Date Received: 07/23/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30866	KLS	EET ALB	07/24/25 16:43
Total/NA	Analysis	8015M/D		1	31161	JP	EET ALB	07/29/25 23:05
Total/NA	Prep	5030C			30866	KLS	EET ALB	07/24/25 16:43
Total/NA	Analysis	8021B		1	31162	JP	EET ALB	07/29/25 23:05
Total/NA	Prep	SHAKE			30924	BZR	EET ALB	07/25/25 14:08
Total/NA	Analysis	8015M/D		1	30995	EM	EET ALB	07/28/25 23:49
Total/NA	Prep	300_Prep			30965	RC	EET ALB	07/26/25 08:00
Total/NA	Analysis	300.0		20	30963	RC	EET ALB	07/26/25 11:20

Laboratory References:

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

Accreditation/Certification Summary

Client: Vertex Job ID: 885-29386-1
Project/Site: Todd 23A Federal 29

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 Resource Group (Bill to Devon)

Mailing Address: 3101 Boyd dr

Carlsbad NM, 88220

Phone #: (575) 725-5001

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☒ Rush 5 Day

Project Name: Todd 23 A Federal 29

~~Todd 23 A Fed 29~~

Project #: 25A-01348

Project Manager: Sally Carttar

Scarttar@vertex.ca

Sampler: Katrina Taylor

On Ice: ☑ Yes ☐ No

# of Coolers: 1 chucky

Cooler Temp (including CF): 3.8+0.2=4.0 (°C)

HALL ENVIRONMENTAL ANALYSIS LABOR

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

885-29386 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)
7/21	13:40	Soil	BS25-01 4.1	4oz, 1	ICE		X	X					X			
	13:42		BS25-02 4.1													
	13:44		BS25-03 4.1													
	13:46		BS25-04 4.1													
	13:48		BS25-05 4.1													
	13:50		BS25-06 4.1													
	13:52		BS25-07 4.1													
	13:54		BS25-08 4.1													
	13:56		BS25-09 4.1													
	13:58		BS25-10 4.1													
	14:00		WS25-01 0-4.1													
↓	14:02	↓	WS25-02 0-4.1	↓	↓											

Date	Time	Relinquished by	Received by	Via	Date	Time
7/22	1130	Katrina Taylor			7/22/25	1130
7/22/25	1900			courier	7/23/25	7:30

Remarks: Bill to Devon

ATTN: Jim Raley (Jim.Raley@dvn.com)

cc: Sally Carttar (SCarttar@vertex.ca)

& Katrina.Taylor@vertex.ca

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

Chain-of-Custody Record

Client: VERTEX RESOURCE GROUP (BILL TO DEVON)

Mailing Address: 3101 BOYD DR CARLSBAD, NM, 88220

Phone #: (575) 725-5001

email or Fax#:

QA/QC Package.
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☒ Rush 5 Day

Project Name: TODD 23 FEDERAL 29

Project #: 25A-01348

Project Manager: SALLY CARTTAR

SCARTTAR@VERTEX.CA

Sampler: KATRINA TAYLOR

On Ice: ☒ Yes ☐ No

# of Coolers: 1 chilly

Cooler Temp (including CF): 3.6 to 0.2=4.0 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	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)
7/21	14:04	Soil	WS25-03 0-4.1	4oz, 1	ICE		X	X					X			
7/21	14:06	↓	WS25-04 0-4.1	↓	↓		↓	↓					↓			

Date	Time	Relinquished by	Received by	Via	Date	Time
7/22	1130	Katrina Taylor			7/22/25	1130
7/23/25	700			COURIER	7/23/25	7:30

Remarks: BILL TO DEVON
ATTN: JIM RALEY (JIM.RALEY@DVN.COM)
CC: SCARTTAR@VERTEX.CA & KATRINA.TAYLOR@VERTEX.CA

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

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-29386-1

Login Number: 29386 **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.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/12/2025 4:23:21 PM

JOB DESCRIPTION

Todd 23 A Fed 29

JOB NUMBER

885-30201-1

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
8/12/2025 4:23:21 PM

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

Client: Vertex
Project/Site: Todd 23 A Fed 29

Laboratory Job ID: 885-30201-1

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Client Sample Results 6
QC Sample Results 7
QC Association Summary 10
Lab Chronicle 11
Certification Summary 12
Chain of Custody 13
Receipt Checklists 14

Definitions/Glossary

Client: Vertex Job ID: 885-30201-1
Project/Site: Todd 23 A Fed 29

Glossary

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

Case Narrative

Client: Vertex
Project: Todd 23 A Fed 29

Job ID: 885-30201-1

Job ID: 885-30201-1 Eurofins Albuquerque

Job Narrative
885-30201-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt
The sample was received on 8/5/2025 7:48 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°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 continuing calibration verification (CCV) associated with batch 885-31798 recovered above the upper control limit for Diesel Range Organics [C10-C28]. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is:Backfill (885-30201-1).

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

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

Client Sample Results

Client: Vertex
Project/Site: Todd 23 A Fed 29

Job ID: 885-30201-1

Client Sample ID: Backfill

Date Collected: 08/01/25 09:00
Date Received: 08/05/25 07:48

Lab Sample ID: 885-30201-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9		mg/Kg		08/06/25 12:48	08/08/25 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*15 - 150*	*08/06/25 12:48*	*08/08/25 18:00*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		08/06/25 12:48	08/08/25 07:13	1
Ethylbenzene	ND		0.049		mg/Kg		08/06/25 12:48	08/08/25 07:13	1
Toluene	ND		0.049		mg/Kg		08/06/25 12:48	08/08/25 07:13	1
Xylenes, Total	ND		0.097		mg/Kg		08/06/25 12:48	08/08/25 07:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*15 - 150*	*08/06/25 12:48*	*08/08/25 07:13*	*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]	ND		9.9		mg/Kg		08/06/25 14:53	08/07/25 17:31	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		08/06/25 14:53	08/07/25 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*118*		*62 - 134*	*08/06/25 14:53*	*08/07/25 17:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		08/07/25 07:32	08/07/25 10:21	20

QC Sample Results

Client: Vertex
Project/Site: Todd 23 A Fed 29

Job ID: 885-30201-1

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

Lab Sample ID: MB 885-31707/1-A
Matrix: Solid
Analysis Batch: 31872

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31707

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		08/06/25 12:48	08/08/25 11:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*15 - 150*	*08/06/25 12:48*	*08/08/25 11:38*	*1*

Lab Sample ID: LCS 885-31707/2-A
Matrix: Solid
Analysis Batch: 31872

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31707

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			25.0	20.4		mg/Kg		81	70 - 130		

Surrogate			*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)			*185*		*15 - 150*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-31707/1-A
Matrix: Solid
Analysis Batch: 31848

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31707

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		08/06/25 12:48	08/08/25 02:52	1
Ethylbenzene	ND		0.050		mg/Kg		08/06/25 12:48	08/08/25 02:52	1
Toluene	ND		0.050		mg/Kg		08/06/25 12:48	08/08/25 02:52	1
Xylenes, Total	ND		0.10		mg/Kg		08/06/25 12:48	08/08/25 02:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*15 - 150*	*08/06/25 12:48*	*08/08/25 02:52*	*1*

Lab Sample ID: LCS 885-31707/3-A
Matrix: Solid
Analysis Batch: 31848

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31707

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.950		mg/Kg		95	70 - 130		
Ethylbenzene			1.00	0.930		mg/Kg		93	70 - 130		
m-Xylene & p-Xylene			2.00	1.92		mg/Kg		96	70 - 130		
o-Xylene			1.00	0.959		mg/Kg		96	70 - 130		
Toluene			1.00	0.942		mg/Kg		94	70 - 130		

Surrogate			*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)			*101*		*15 - 150*

QC Sample Results

Client: Vertex
Project/Site: Todd 23 A Fed 29

Job ID: 885-30201-1

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

Lab Sample ID: LCS 885-31707/3-A
Matrix: Solid
Analysis Batch: 31873

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31707

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.932		mg/Kg		93	70 - 130		
Ethylbenzene			1.00	0.912		mg/Kg		91	70 - 130		
m-Xylene & p-Xylene			2.00	1.93		mg/Kg		96	70 - 130		
o-Xylene			1.00	0.929		mg/Kg		93	70 - 130		
Toluene			1.00	0.921		mg/Kg		92	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*15 - 150*

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

Lab Sample ID: MB 885-31726/1-A
Matrix: Solid
Analysis Batch: 31798

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31726

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		08/06/25 14:53	08/07/25 14:15	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		08/06/25 14:53	08/07/25 14:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*92*		*62 - 134*	*08/06/25 14:53*	*08/07/25 14:15*	*1*

Lab Sample ID: LCS 885-31726/2-A
Matrix: Solid
Analysis Batch: 31798

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31726

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	50.8		mg/Kg		102	51 - 148		

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-31762/1-A
Matrix: Solid
Analysis Batch: 31782

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31762

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5		mg/Kg		08/07/25 07:32	08/07/25 08:54	1

Lab Sample ID: LCS 885-31762/2-A
Matrix: Solid
Analysis Batch: 31782

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31762

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			15.0	14.0		mg/Kg		93	90 - 110		

QC Sample Results

Client: Vertex
Project/Site: Todd 23 A Fed 29

Job ID: 885-30201-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 885-31762/3-A
Matrix: Solid
Analysis Batch: 31782

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31762

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			15.0	14.1		mg/Kg		94	90 - 110	1	20

QC Association Summary

Client: Vertex
Project/Site: Todd 23 A Fed 29

Job ID: 885-30201-1

GC VOA

Prep Batch: 31707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30201-1	Backfill	Total/NA	Solid	5030C	
MB 885-31707/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-31707/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-31707/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 31848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30201-1	Backfill	Total/NA	Solid	8021B	31707
MB 885-31707/1-A	Method Blank	Total/NA	Solid	8021B	31707
LCS 885-31707/3-A	Lab Control Sample	Total/NA	Solid	8021B	31707

Analysis Batch: 31872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30201-1	Backfill	Total/NA	Solid	8015M/D	31707
MB 885-31707/1-A	Method Blank	Total/NA	Solid	8015M/D	31707
LCS 885-31707/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	31707

Analysis Batch: 31873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 885-31707/3-A	Lab Control Sample	Total/NA	Solid	8021B	31707

GC Semi VOA

Prep Batch: 31726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30201-1	Backfill	Total/NA	Solid	SHAKE	
MB 885-31726/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-31726/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 31798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30201-1	Backfill	Total/NA	Solid	8015M/D	31726
MB 885-31726/1-A	Method Blank	Total/NA	Solid	8015M/D	31726
LCS 885-31726/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	31726

HPLC/IC

Prep Batch: 31762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30201-1	Backfill	Total/NA	Solid	300_Prep	
MB 885-31762/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-31762/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
LCSD 885-31762/3-A	Lab Control Sample Dup	Total/NA	Solid	300_Prep	

Analysis Batch: 31782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30201-1	Backfill	Total/NA	Solid	300.0	31762
MB 885-31762/1-A	Method Blank	Total/NA	Solid	300.0	31762
LCS 885-31762/2-A	Lab Control Sample	Total/NA	Solid	300.0	31762
LCSD 885-31762/3-A	Lab Control Sample Dup	Total/NA	Solid	300.0	31762

Lab Chronicle

Client: Vertex
Job ID: 885-30201-1
Project/Site: Todd 23 A Fed 29

Client Sample ID: Backfill
Lab Sample ID: 885-30201-1

Date Collected: 08/01/25 09:00
Matrix: Solid

Date Received: 08/05/25 07:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			31707	AT	EET ALB	08/06/25 12:48
Total/NA	Analysis	8015M/D		1	31872	JP	EET ALB	08/08/25 18:00
Total/NA	Prep	5030C			31707	AT	EET ALB	08/06/25 12:48
Total/NA	Analysis	8021B		1	31848	AT	EET ALB	08/08/25 07:13
Total/NA	Prep	SHAKE			31726	BZR	EET ALB	08/06/25 14:53
Total/NA	Analysis	8015M/D		1	31798	EM	EET ALB	08/07/25 17:31
Total/NA	Prep	300_Prep			31762	RC	EET ALB	08/07/25 07:32
Total/NA	Analysis	300.0		20	31782	RC	EET ALB	08/07/25 10:21

Laboratory References:

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

Accreditation/Certification Summary

Client: Vertex
Job ID: 885-30201-1
Project/Site: Todd 23 A Fed 29

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 RESOURCE SERVICES (BILL TO Devon)

Mailing Address: 3101 BOYD DR, CARLSBAD, NM, 88220

Phone #: 575-725-5001

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☒ Rush 5 Day

Project Name: TODD 23 A FED 29

Project #: ~~2RP-4~~ 25A-01348

Project Manager: SALLY CARTTAR, KENT STALLING // SCARTTAR@VERTEX.CA KSTALLINGS@VERTEX.CA

Sampler: Katrina Taylor

On Ice: ☒ Yes ☐ No

# of Coolers: 1 chucky

Cooler Temp (including CF): 1.8+0.2=2.0 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORA

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

885-30201 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)
8/1/25	9:00	Soil	BACKFILL	1L6	4OZ, 1		X	X					X			

Date	Time	Relinquished by	Received by	Via	Date	Time
8/4/25	1030				8/4/25	1030
8/4/25	1910			Courier	8/5/25	7:45

Remarks: ATTN: JIM.RALEY@DVN.COM
CC: KSTALLINGS@VERTEX.CA, SCARTTAR@VERTEX.CA, & KATRINA.TAYLOR@Vertex
WO: ~~8~~ 1006088801
GL: 7700100

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: 885-30201-1

Login Number: 30201 **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.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX D – Borehole Logs

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: 751178
File Nbr: C 04774

Sep. 19, 2023

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

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

* If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.

* If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.

* The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.

* This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,

Azucena Ramirez
(575)622-6521

Enclosure

explore

File No. C-4774 POD1

NEW MEXICO OFFICE OF THE STATE ENGINEER

WR-07 APPLICATION FOR PERMIT TO DRILL

A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/

Purpose:	☐ Pollution Control And/Or Recovery	☐ Ground Source Heat Pump
☐ Exploratory Well*(Pump test)	☐ Construction Site/Public Works Dewatering	☒ Other(Describe): Exploratory Borehole
☐ Monitoring Well	☐ Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

*New Mexico Environment Department-Drinking Water Bureau (NMED-DWB) will be notified if a proposed exploratory well is used for public water supply.

☒ Temporary Request - Requested Start Date: 09/25/2023 Requested End Date: 11/06/2023

Plugging Plan of Operations Submitted? ☒ Yes ☐ No

---

1. APPLICANT(S)

Name: Devon Energy Resources	Name:
Contact or Agent: Dale Woodall — check here if Agent ☐	Contact or Agent: — check here if Agent ☐
Mailing Address: 205 E Bender Road # 150	Mailing Address:
City: Hobbs	City:
State: NM Zip Code: 88240	State: Zip Code:
Phone: 405-318-4697 Phone (Work): ☐ Home ☐ Cell	Phone: Phone (Work): ☐ Home ☐ Cell
E-mail (optional): dale.woodall@dvn.com	E-mail (optional):

OSE DII SEP 15 2023 AM 11:02

FOR OSE INTERNAL USE Application for Permit, Form WR-07, Rev 07/12/22

File No.: C-4774	Trn. No.: 751178	Receipt No.: 2-46212
Trans Description (optional): MON		
Sub-Basin: CUB	PCW/LOG Due Date: 9/18/24	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

☐ UTM (NAD83) (Meters)
☐ Zone 12N
☐ Zone 13N

■ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (*Quarters or Halves , Section, Township, Range*) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
	-103.741901	32.295239,	Section 23, T23S, R31E

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions are attached: ☐ Yes ■ No **If yes, how many** NA

Other description relating well to common landmarks, streets, or other:

Todd 23 A Federal #029

Well is on land owned by: BLM

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? ☐ Yes ■ No
If yes, how many_____

Approximate depth of well (feet): 105	Outside diameter of well casing (inches): 2
Driller Name: Vision Resources Jason Maley	Driller License Number: 1833

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Devon plans to have a licensed water well driller install an exploratory soil boring on location to determine the depth of groundwater. The soil boring will be installed up to a depth of 105 feet below ground surface (ft bgs). Temporary PVC well material will be placed to a depth of the boring and secured at the surface. The temporary well will be in place for a minimum of 72 hours at which time the well will be gauged for the presence of water. If water is encountered at any point during the boring installation, the soil boring will be plugged using a slurry of Portland Type 1/11 Neat Cement less than 6.0 gallons of water per 94 lb sack. If no water is encountered, the boring will be plugged using hydrated bentonite with drill cuttings to plug the upper 10 ft. bgs. The event will begin September 25th, 2023 and continue through November 6th, 2023.
Todd 23 A Federal #029, 32.295239,-103.741901

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory:	**Pollution Control and/or Recovery:**	**Construction De-Watering:**	**Mine De-Watering:**
Is proposed well a future public water supply well? ☐ Yes ☒ NO If Yes, an application must be filed with NMED-DWB, concurrently. ☐ Include a description of the requested pump test if applicable.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge. ☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.
Monitoring ☐ The reason and duration of the monitoring is required.		**Ground Source Heat Pump:** ☐ Include a description of the geothermal heat exchange project, ☐ The number of boreholes for the completed project and required depths. ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Dale Woodall
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Dale Woodall
Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☑ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 14th day of September 20 23, for the State Engineer,

Mike A. Hamman, P.E., State Engineer

OSE DIT SEP 15 2023 AM 11:02

By: K. Parekh
Signature

Kashyap Parekh
Print

Title: Water Resources Manager I
Print

FOR OSE INTERNAL USE Application for Permit, Form WR-07 Version 07/12/22

File No.: C-4774	Trn No.: 751178

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

17-16 Construction of a water well by anyone without a valid New Mexico Well Driller License is illegal, and the landowner shall bear the cost of plugging the well by a licensed New Mexico well driller. This does not apply to driven wells, the casing of which does not exceed two and three-eighths inches outside diameter.

17-1A Depth of the well shall not exceed the thickness of the valley fill.

17-4 No water shall be appropriated and beneficially used under this permit.

17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.

Trn Desc: C 04774 POD1 File Number: C 04774
Trn Number: 751178

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.

17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.

17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.

17-Q The State Engineer retains jurisdiction over this permit.

17-R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.

Trn Desc: C 04774 POD1

File Number: C 04774
Trn Number: 751178

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

LOG The Point of Diversion C 04774 POD1 must be completed and the Well Log filed on or before 09/18/2024.

SHOULD THE PERMITTEE CHANGE THE PURPOSE OF USE TO OTHER THAN MONITORING PURPOSES, AN APPLICATION SHALL BE ACQUIRED FROM THE OFFICE OF THE STATE ENGINEER.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd: Date Rcvd. Corrected:
Formal Application Rcvd: 09/15/2023 Pub. of Notice Ordered:
Date Returned - Correction: Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 19 day of Sep A.D., 2023

Mike A. Hamman, P.E., State Engineer

By: K. Parekh
KASHYAP PAREKH

Trn Desc: C 04774 POD1 File Number: C 04774
Trn Number: 751178

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
ROSWELL

Mike A. Hamman, P.E.
State Engineer

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
Phone: (575) 622-6521
Fax: (575) 623-8559

September 21, 2023

Devon Energy
205 East Bender Road # 150
Artesia, NM 88210

RE: Well Plugging Plan of Operations for well no. C-4774-POD1

Greetings:

Enclosed is your copy of the Well Plugging Plan of Operations for the above referenced well subject to the attached Conditions of Approval. The proposed method of operation is found to be acceptable and in accordance with the Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells 19.27.4 NMAC adopted June 30, 2017 by the State Engineer. subject to the attached Conditions of Approval.

Within 30 days after the well is plugged, the well driller is required to file a complete plugging record with the OSE and the permit holder.

Sincerely,

K. Parekh

Kashyap Parekh
Water Resources Manager I

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
ROSWELL
1900 West Second St.
Roswell, New Mexico 88201
Phone: (575) 622-6521
Fax: (575) 623- 8559

Applicant has identified wells, listed below, to be plugged. Jason Maley (Vision Resources) (WD-1833) will perform the plugging.

Permittee: Devon Energy
NMOSE Permit Number: C-4774-POD1

NMOSE File	Casing diameter (inches)	Well depth (feet bgl)	Approximate static water level (feet bgl)	Latitude	Longitude
C-4774-POD1	6.5 (Soil Boring)	55	Unknown	32° 17' 42.8604"	103° 44' 30.8436"

Specific Plugging Conditions of Approval for Well located in Eddy County, New Mexico.

1. Water well drilling and well drilling activities, including well plugging, are regulated under 19.27.4 NMAC, which requires any person engaged in the business of well drilling within New Mexico to obtain a Well Driller License issued by the New Mexico Office of the State Engineer (NMOSE). Therefore, the firm of a New Mexico licensed Well Driller shall perform the well plugging.

2. Ground Water encountered: The total Theoretical volume of sealant required for abandonment of soil boring well is approximately 94.0 gallons. Total minimum volume of necessary sealant shall be calculated upon sounding the actual pluggable depth of well, which is estimated at 55 feet.

3. Dry Hole: The total Theoretical volume of sealant required for abandonment of soil boring well is approximately 17.2 gallons. Total minimum volume of necessary sealant shall be calculated upon sounding the actual pluggable depth of well, which is estimated at 10 feet.

4. Ground Water encountered: Type I/II Portland cement mixed with 5.2 to 6.0 gallons of fresh water per 94-lb sack of cement is approved for the plugging the well.

5. Dry Hole: (a) Drill cuttings up to ten feet of land surface. (b) 10 feet to 0 feet – Hydrated bentonite. The bentonite shall be hydrated separately with its required increments of water prior to being mixed into the cement slurry.

6. Sealant shall be placed by pumping through a tremie pipe extended to near well bottom and kept below top of the slurry column as the well is plugged from bottom-upwards in a manner that displaces

the standing water column upwards from below. Tremie pipe may be pulled as necessary to retain minimal submergence in the advancing column of sealant.

7. Should cement "shrinks-back" occur in the well, use of a tremie for topping off is required for cement placement deeper than 20 feet below land surface or if water is present in the casing. The approved sealant for topping off is identified in condition 3. and 4. of these Specific Conditions of Approval.

8. Any open annulus encountered surrounding the casing shall also be sealed by the placement of the approved sealant. When plugging shallow wells with no construction or environmental concerns, and if the well record on a well to be plugged shows a proper 20-foot annular seal, a plugging plan can propose the use of clean fill material to a nominal 30 feet bgs, then placing an OSE approved sealant to surface. Lacking that information, we would require an excavation of at least 2-feet which shall then be filled in its entirety with sealant to surface.

9. Should the NMED, or another regulatory agency sharing jurisdiction of the project authorize, or by regulation require a more stringent well plugging procedure than herein acknowledged, the more-stringent procedure should be followed. This, in part, includes provisions regarding pre-authorization to proceed, contaminant remediation, inspection, pulling/perforating of casing, or prohibition of free discharge of any fluid from the borehole during or related to the plugging process.

10. NMOSE witnessing of the plugging of the soil boring will not be required.

11. Any deviation from this plan must obtain an approved variance from this office prior to implementation.

12. A Well Plugging Record itemizing actual abandonment process and materials used shall be filed with the State Engineer within 30 days after completion of well plugging. For the plugging record, please resurvey coordinate location for well and note coordinate system for GPS unit. Please attach a copy of these plugging conditions.

The NMOSE Well Plugging Plan of Operations is hereby approved with the aforesaid conditions applied.

Witness my hand and seal this 21st day of September 2023

Mike A. Hamman, P.E. State Engineer

By: K. Parekh

Kashyap Parekh
Water Resources Manager I

WELL PLUGGING PLAN OF OPERATIONS

NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging. This form may be used to plug a single well, or if you are plugging multiple monitoring wells on the same site using the same plugging methodology.

Alert! Your well may be eligible to participate in the Aquifer Mapping Program (AMP)-NM Bureau of Geology geoinfo.nmt.edu/resources/water/cgmn/ if within an area of interest and meets the minimum construction requirements, such as there is still water in your well, and the well construction reflected in a well record and log is not compromised, contact AMP at 575-835-5038 or -6951, or by email nmbg-waterlevels@nmt.edu, prior to completing this prior form. Showing proof to the OSE that your well was accepted in this program, may delay the plugging of your well until a later date.

I. FILING FEE: There is no filing fee for this form.

II. GENERAL / WELL OWNERSHIP: ☐ Check here if proposing one plan for multiple monitoring wells on the same site and attaching WD-08m

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: C-4774-POD1

Name of well owner: Devon Energy Resources

Mailing address: 205 E Bender Road # 150 County: Lea

City: Hobbs State: NM Zip code: 88240

Phone number: 405-318-4697 E-mail: Dale.Woodall@DVN.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Vision Resources , Jason Maley

New Mexico Well Driller License No.: 1833 Expiration Date: 10/07/2023

IV. WELL INFORMATION: ☐ **Check here if this plan describes method for plugging multiple monitoring wells on the same site and attach supplemental form WD-08m and skip to #2 in this section.**

Note: A copy of the existing Well Record for the well(s) to be plugged should be attached to this plan.

1) GPS Well Location: Latitude: 32 deg, 17 min, 42.8604 sec
Longitude: -103 deg, 44 min, 30.8436 sec, NAD 83

2) Reason(s) for plugging well(s):

32.295239,-103.741901 - No water found

OSE DIT SEP 15 2023 AM11:03

3) Was well used for any type of monitoring program? no If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

4) Does the well tap brackish, saline, or otherwise poor quality water? no If yes, provide additional detail, including analytical results and/or laboratory report(s):

5) Static water level: No water feet below land surface / feet above land surface (circle one)

6) Depth of the well: 105 feet

7) Inside diameter of innermost casing: 2 inches.

8) Casing material: PVC

9) The well was constructed with:

☐ an open-hole production interval, state the open interval: _____

☒ a well screen or perforated pipe, state the screened interval(s): 100-105 Feet

10) What annular interval surrounding the artesian casing of this well is cement-grouted? None

11) Was the well built with surface casing? no If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? _____ If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? Yes If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.

V. DESCRIPTION OF PLANNED WELL PLUGGING:

☐ **If plugging method differs between multiple wells on same site, a separate form must be completed for each method.**

Note: If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie pipe, a detailed diagram of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such as geophysical logs, that are necessary to adequately describe the proposal. Attach a copy of any signed OSE variance to this plugging plan.

Also, if this planned plugging plan requires a variance to 19.27.4 NMAC, attach a detailed variance request signed by the applicant.

1) Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology proposed for the well:

Temporary PVC casing will be removed and approximately 9.4 Cubic feet bentonite chips will be placed in well.

2) Will well head be cut-off below land surface after plugging? No well head will be installed.

VI. PLUGGING AND SEALING MATERIALS:

Note: The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant. Attach a copy of the batch mix recipe from the cement company and/or product description for specialty cement mixes or any sealant that deviates from the list of OSE approved sealants.

1) For plugging intervals that employ cement grout, complete and attach Table A.

2) For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.

3) Theoretical volume of grout required to plug the well to land surface: DNA

4) Type of Cement proposed: DNA

5) Proposed cement grout mix: DNA gallons of water per 94 pound sack of Portland cement.

6) Will the grout be: DNA batch-mixed and delivered to the site

DNA mixed on site

7) Grout additives requested, and percent by dry weight relative to cement:

Grout not planned

8) Additional notes and calculations:

VII. ADDITIONAL INFORMATION: List additional information below, or on separate sheet(s):

Devon plans to have a licensed water well driller install an exploratory soil boring on location to determine the depth of groundwater. The soil boring will be installed up to a depth of 105 feet below ground surface (ft bgs). Temporary PVC well material will be placed to a depth of the boring and secured at the surface. The temporary well will be in place for a minimum of 72 hours at which time the well will be gauged for the presence of water. If water is encountered at any point during the boring installation, the soil boring will be plugged using a slurry of Portland Type 1/11 Neat Cement less than 6.0 gallons of water per 94 lb sack. If no water is encountered, the boring will be plugged using hydrated bentonite with drill cuttings to plug the upper 10 ft. bgs. The event will begin September 25th, 2023 and continue through November 6th, 2023.
Todd 23 A Federal #029 at 32.295239,-103.741901

VIII. SIGNATURE:

I, Dale Woodall, say that I have carefully read the foregoing Well Plugging Plan of Operations and any attachments, which are a part hereof; that I am familiar with the rules and regulations of the State Engineer pertaining to the plugging of wells and will comply with them, and that each and all of the statements in the Well Plugging Plan of Operations and attachments are true to the best of my knowledge and belief.

Dale Woodall — Signature of Applicant

9/14/2023 — Date

IX. ACTION OF THE STATE ENGINEER:

OSE DII SEP 15 2023 AM 11:03

This Well Plugging Plan of Operations is:

X Approved subject to the attached conditions.

_____ Not approved for the reasons provided on the attached letter.

Witness my hand and official seal this 21st day of September 2023

Mike A. Hamman P.E., New Mexico State Engineer

By: K. Parekh

KASHYAP PAREKH

W.R.M.-I

TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of grout placement (ft bgl)	Does Not Apply (DNA)	DNA	DNA
Bottom of proposed interval of grout placement (ft bgl)	DNA	DNA	DNA
Theoretical volume of grout required per interval (gallons)	DNA	DNA	DNA
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement	DNA	DNA	DNA
Mixed on-site or batch-mixed and delivered?	DNA	DNA	DNA
Grout additive 1 requested	DNA	DNA	DNA
Additive 1 percent by dry weight relative to cement	DNA	DNA	DNA
Grout additive 2 requested	DNA	DNA	DNA
Additive 2 percent by dry weight relative to cement	DNA	DNA	DNA

TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of sealant placement (ft bgl)	1-ft. Fill to one-ft below ground surface. Top 1-ft will be filled with soil backfill.		Zero feet below grade.
Bottom of proposed sealant of grout placement (ft bgl)	Bottom 105.0-ft. 0-20': Pour from surface 20 to 105': Tremie in bentonite chips.		
Theoretical volume of sealant required per interval (gallons)	Under a 100 gallons of water/enough to be adequate for hydrating the bentonite		
Proposed abandonment sealant (manufacturer and trade name)	Wyoming Bentonite		

OSE DII SEP 15 2023 AM11:04

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

Todd 23f

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.): C-4774 POD 1	WELL TAG ID NO.	OSE FILE NO(S.): C04774
WELL OWNER NAME(S): Devon Energy Resources		PHONE (OPTIONAL)
WELL OWNER MAILING ADDRESS: 205 E. Bender Road # 150		CITY: Hobbs STATE: NM ZIP: 88210

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	32	17	42.8604	N
LONGITUDE	103	44	30.8436	W

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

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHJIP, 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)
12-14-23	12-14-23	105'	105'	Dry

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

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

DATE STATIC MEASURED: 12-17-23

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	.02

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.	POD NO.	TRN NO.
LOCATION	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'	Brown sand with coarse rock	Y ✓ N	
5'	30'	25'	Tan fine sand with coarse rock	Y ✓ N	
30'	105'	75'	Brown sand mixed with clay	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	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): Dry

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:

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:

Jason Maley — 1/10/24

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

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

PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: C-4774

Well owner: Devon Energy Resources Phone No.: _____

Mailing address: 205 E. Bender Road # 150

City: Hobbs State: NM Zip code: 88240

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Vision Resources

2) New Mexico Well Driller License No.: 1833 Expiration Date: 10-7-25

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Jason Maley

4) Date well plugging began: 12-20-23 Date well plugging concluded: 12-20-23

5) GPS Well Location: Latitude: 32 deg, 17 min, 42.8604 sec
Longitude: 103 deg, 44 min, 30.8436 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 105' ft below ground level (bgl), by the following manner: Tape

7) Static water level measured at initiation of plugging: N/A ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 9-21-23

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
0		155	155	Tremie pipe Open Hole	
	Wyoming Bentonite				
105'					

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

I, Jason Maley , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Signature of Well Driller

1/10/24
Date

Version: September 8, 2009
Page 2 of 2

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 495940

QUESTIONS

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 495940
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAB1911254304**
Incident Name	**NAB1911254304 TODD 23 A FEDERAL #029 @ 30-015-31881**
Incident Type	**Produced Water Release**
Incident Status	**Reclamation Report Received**
Incident Well	**[30-015-31881] TODD 23 A FEDERAL #029**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	TODD 23 A FEDERAL #029
Date Release Discovered	02/03/2019
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Corrosion | Flow Line - Production | Produced Water | Released: 0 BBL | Recovered: 0 BBL | Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
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: 495940
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**More info needed to determine if this will be treated as a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	*Unavailable.*
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response *The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.*	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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

I hereby agree and sign off to the above statement	Name: Roni Kidd Title: Business Manager Email: rkidd@buckhornproduction.com Date: 05/08/2025

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: 495940
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

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	U.S. Geological Survey
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 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	7300
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	1300
GRO+DRO (EPA SW-846 Method 8015M)	830
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	05/09/2025
On what date will (or did) the final sampling or liner inspection occur	07/14/2025
On what date will (or was) the remediation complete(d)	07/14/2025
What is the estimated surface area (in square feet) that will be reclaimed	1826
What is the estimated volume (in cubic yards) that will be reclaimed	350
What is the estimated surface area (in square feet) that will be remediated	1826
What is the estimated volume (in cubic yards) that will be remediated	350
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: 495940
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	fJEG1635837366 OWL LANDFILL JAL
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	No
OR is the **off-site** disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
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: 05/08/2025
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: 495940
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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: 495940
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**486135**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**07/22/2025**
What was the (estimated) number of samples that were to be gathered	**14**
What was the sampling surface area in square feet	**2800**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	10619
What was the total volume (cubic yards) remediated	1288
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	10619
What was the total volume (in cubic yards) reclaimed	1288
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: 08/14/2025

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: 495940
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	Yes
What was the total reclamation surface area (in square feet) for this site	10619
What was the total volume of replacement material (in cubic yards) for this site	1288
Per Paragraph (1) of Subsection D of 19.15.29.13 NMAC the reclamation must contain a minimum of four feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, or other test methods approved by the division. The soil cover must include a 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.	
Is the soil top layer complete and is it suitable material to establish vegetation	Yes
On what (estimated) date will (or was) the reseeding commence(d)	08/21/2025
Summarize any additional reclamation activities not included by answers (above)	As detailed in attached report.
The responsible party must attach information demonstrating they have complied with all applicable reclamation requirements and any conditions or directives of the OCD. This demonstration should be in the form of attachments (in .pdf format) including a scaled site map, any proposed reseeding plans or relevant field notes, photographs of reclaimed area, and a narrative of the reclamation activities. Refer to 19.15.29.13 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: 08/14/2025

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: 495940
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Revegetation Report	
Only answer the questions in this group if all surface restoration, reclamation and re-vegetation obligations have been satisfied.	
Requesting a restoration complete approval with this submission	No
Per Paragraph (4) of Subsection (D) of 19.15.29.13 NMAC for any major or minor release containing liquids, the responsible party must notify the division when reclamation and re-vegetation are complete.	

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

Action 495940

CONDITIONS

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 495940
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your reclamation report for Incident #NAB1911254304 TODD 23 A FEDERAL #029, thank you. The reclamation report is approved.	9/15/2025