



Incident Numbers: nMLB1122849738,
nMLB1122852054

Release Assessment and Closure

Todd 27 P Federal #016

Unit P, Section 27, Township 23 South, Range 31 East

API: 30-015-27106

County: Eddy

Vertex File Number: 25A-01217

Prepared for:

Devon Energy Production Company, LP

Prepared by:

Vertex Resource Services Inc.

Date:

July 2025

Devon Energy Production Company, LP
Todd 27 P Federal #016

Release Assessment and Closure
July 2025

Release Assessment and Closure
Todd 27 P Federal #016
Unit P, Section 27, Township 23 South, Range 31 East
API: 30-015-27106
County: Eddy

Prepared for:
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5315 Buena Vista Drive
Carlsbad, New Mexico 88220

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August 12, 2025

Date

Kent Stallings

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

August 13, 2025

Date

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1.0 Introduction

Devon Energy Production Company, LP (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for produced water releases that occurred on June 24 and July 25, 2011, at Todd 27 P Federal #016 API 30-015-27106 (hereafter referred to as the "site"). Devon submitted initial C-141 Release Notifications (Appendix A) to New Mexico Oil Conservation Division (NMOCD). Incident ID numbers nMLB1122849738 and nMLB1122852054 were assigned to these incidents.

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

2.0 Incident Description

2.1 nMLB1122849738

The release occurred June 24, 2011, from a compromised fiberglass injection line. The incident was reported on July 29, 2011, and involved the release of approximately 300 barrels (bbl) of produced water onto the south edge of the pad. Approximately 200 bbl of free fluid was removed during initial clean-up.

2.2 nMLB1122852054

The release occurred July 25, 2011, from the same compromised fiberglass injection line. The incident was reported on July 29, 2011, and involved the release of approximately 70 bbl of produced water onto the south edge of the. Approximately 45 bbl of free fluid was removed during initial clean-up.

Additional details relevant to the releases are presented in the C-141 Reports presented in Appendix A.

3.0 Site Characteristics

The site is located approximately 33 miles east of Carlsbad, New Mexico. The legal location for the site is Unit P, Section 27, Township 23 South and Range 21 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 located on the constructed pad (Figure 2).

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

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average annual precipitation ranging between 5 and 15 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). Limited to no vegetation is allowed to grow on the compacted production pad and access road.

4.0 Closure Criteria Determination

The nearest active well to the site is livestock water well C 02348 located approximately 0.47 miles east-northeast of the site (New Mexico Office of the State Engineer, 2025). The livestock water well was drilled on November 1, 2013, and a depth to groundwater of 430 feet below ground surface (bgs) was recorded at that time. Information pertaining to the depth to ground water determination is included in Appendix B.

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 3.11 miles southwest 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.

Release area encompasses areas only on active oil and gas production pads, however, the release is remediated to reclamation standards to leave no additional contamination associated with the incidents.

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Release Assessment and Closure
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Table 1. Closure Criteria Determination			
Site Name: Todd 27 P Federal #016			
Release Coordinates: 32.268665,-103.758618		X: 616916	Y: 3570892
Site Specific Conditions		Value	Unit
1	Depth to Groundwater (nearest reference)	430	feet
	Distance between release and nearest DTGW reference	2,467	feet
		0.47	miles
	Date of nearest DTGW reference measurement	November 1, 2013	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	16,438	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	22,578	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	26,928	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	2,467	feet
	ii) Within 1000 feet of any fresh water well or spring	2,467	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	18,940	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	47,843	feet
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest Medium Karst	24,605	feet
10	Within a 100-year Floodplain	>500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	25,980	feet
11	Soil Type	Fine sand, sandy clay loam	
12	Ecological Classification	Loamy sand	
13	Geology	Eolian and piedmont deposits	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	>100'	<50' 51-100' >100'

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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

bgs – below ground surface

DTGW – depth to groundwater

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

BTEX – benzene, toluene, ethylbenzene and xylenes

5.0 Remedial Actions Taken

Characterization of the release was completed by Vertex on April 19 and 20, 2023. The total impacted area was determined to be 418 square feet. The Daily Field Reports (DFRs) associated with the site visits are included in Appendix C. Characterization sample locations and approximate release areas are presented on Figure 1. Characterization field screening and laboratory results are summarized in Table 3

Remediation efforts began in July 2025 and were finalized on August 1, 2025. Vertex personnel supervised the excavation of impacted soils. Field screening results were used to identify areas requiring further remediation. Field screening consisted of analysis using a Dextsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and silver nitrate titration (chloride). Soils were removed to depths of 2 to 4 feet bgs. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Daily Field Reports documenting various phases of the final remediation are presented in Appendix C.

Notifications that confirmatory samples were being collected were provided to the NMOCD. Confirmatory composite samples were collected from the base and walls of the excavations in increments no greater than 200 square feet. The areas of the excavation bases and walls were approximately 798 and 486 square feet respectively. A total of four base samples and four wall samples were collected for laboratory analysis following NMOCD soil sampling procedures. A composite sample of the backfill material was collected on August 1, 2025. Samples were submitted to Eurofins Environment Testing in Albuquerque, New Mexico, under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 4 and the laboratory data reports are included in Appendix D.

Upon completion of remedial actions, approximately 798 square feet and 89 cubic yards of the pad surface was remediated to closure criteria. All confirmation samples collected from the remediation area were below reclamation closure criteria.

6.0 Reclamation Compliance

The release was remediated to strictest criteria in the top 4ft, then backfilled with non-waste containing, locally sourced, material (Table 4). The area in which the release occurred was located on the edge of a pad still necessary for oil and gas production and did not impact the pastureland, as can be seen on photographs of the backfilled release and Figure 2. As such, in order restore the surface to the condition it was in prior to the release, the excavation was backfilled with caliche and stabilized to minimize erosion. Minimal plant growth will be sanctioned on areas necessary for operations. Restoration of the release site, including reseeding according to landowner requirements, will be completed at such time as all oil and gas activities are terminated and the site is reclaimed as per NMAC 19.15.29.13.

7.0 Closure Request

Vertex recommends no additional remediation or reclamation action to address the release at Todd 27 P Federal #016 before closure. Laboratory analyses of the final confirmatory samples showed constituent of concern concentration levels below NMOCD remediation and reclamation closure criteria for areas where depth to groundwater is greater than 100 feet bgs as shown in Table 2. There are no anticipated risks to human, ecological or hydrological receptors associated with the release sites. The excavation was backfilled with non-waste-containing, uncontaminated, earthen material, sourced locally, and placed to meet the site's existing grade to prevent ponding of water and erosion.

Devon Energy Production Company, LP, requests that these incidents (nMLB1122849738 and nMLB1122852054) remediation and reclamation closure be approved as all criteria set forth in Subsection E of 19.15.29.12 NMAC and Subsections A, B, C, and D(1) of 19.15.29.13 NMAC has 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 June 24 and July 25, 2011, releases at Todd 27 P Federal #016.

Should you have any questions or concerns, please do not hesitate to contact the Project Manager Kent Stallings at 346.814.1413 or KStallings@vertexresource.com.

Devon Energy Production Company, LP
Todd 27 P Federal #016

Release Assessment and Closure
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8.0 References

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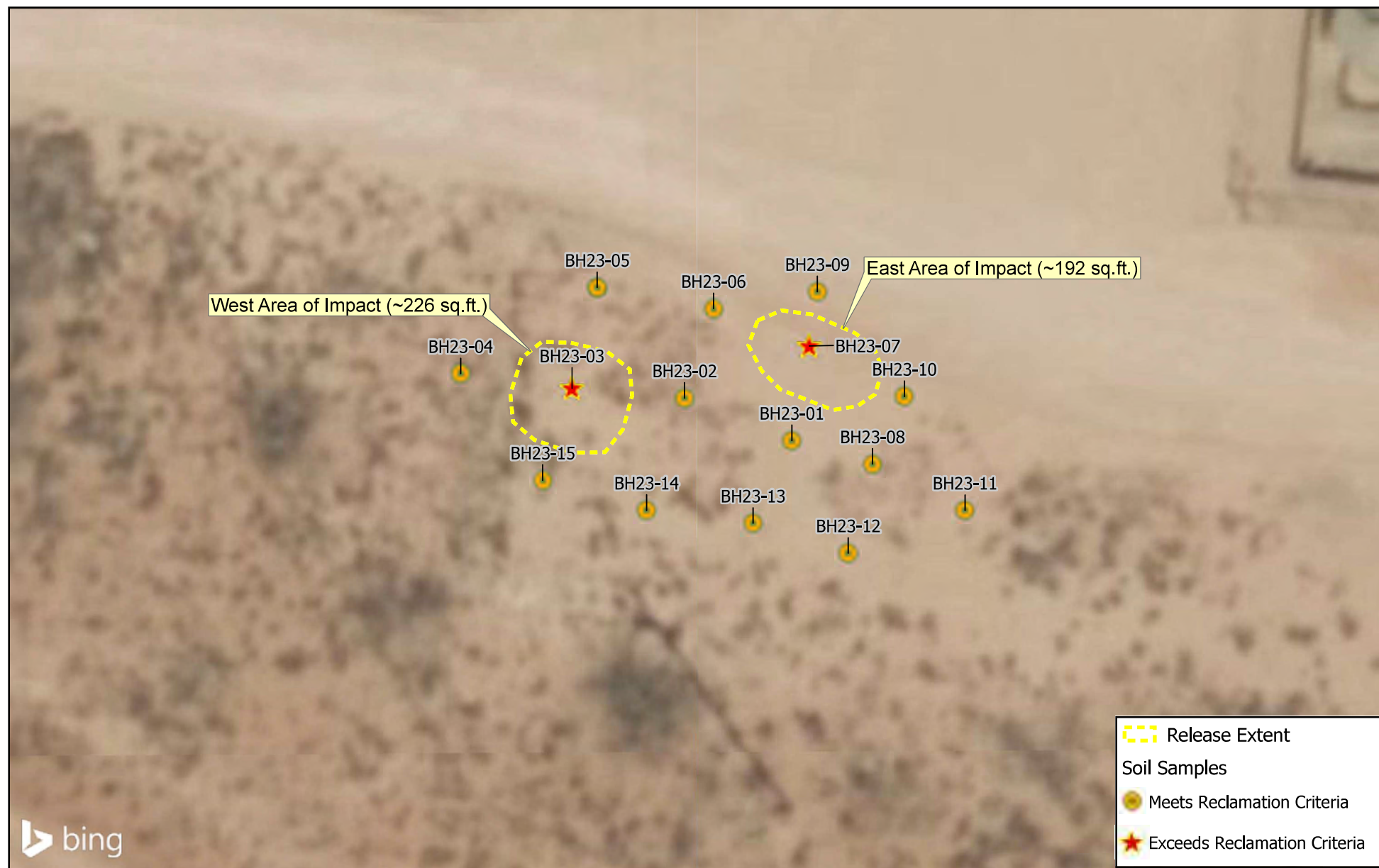
Release Assessment and Closure
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9.0 Limitations

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

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

FIGURES



0 10 20 ft
NAD 1983 StatePlane New Mexico East FIPS 3001 Feet

Map Center:
Lat/Long: 32.268675°N, 103.75865°W
Date: Mar 24/25



Characterization Sampling Site Schematic Todd 27 P Federal #016

FIGURE:

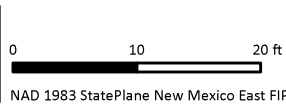
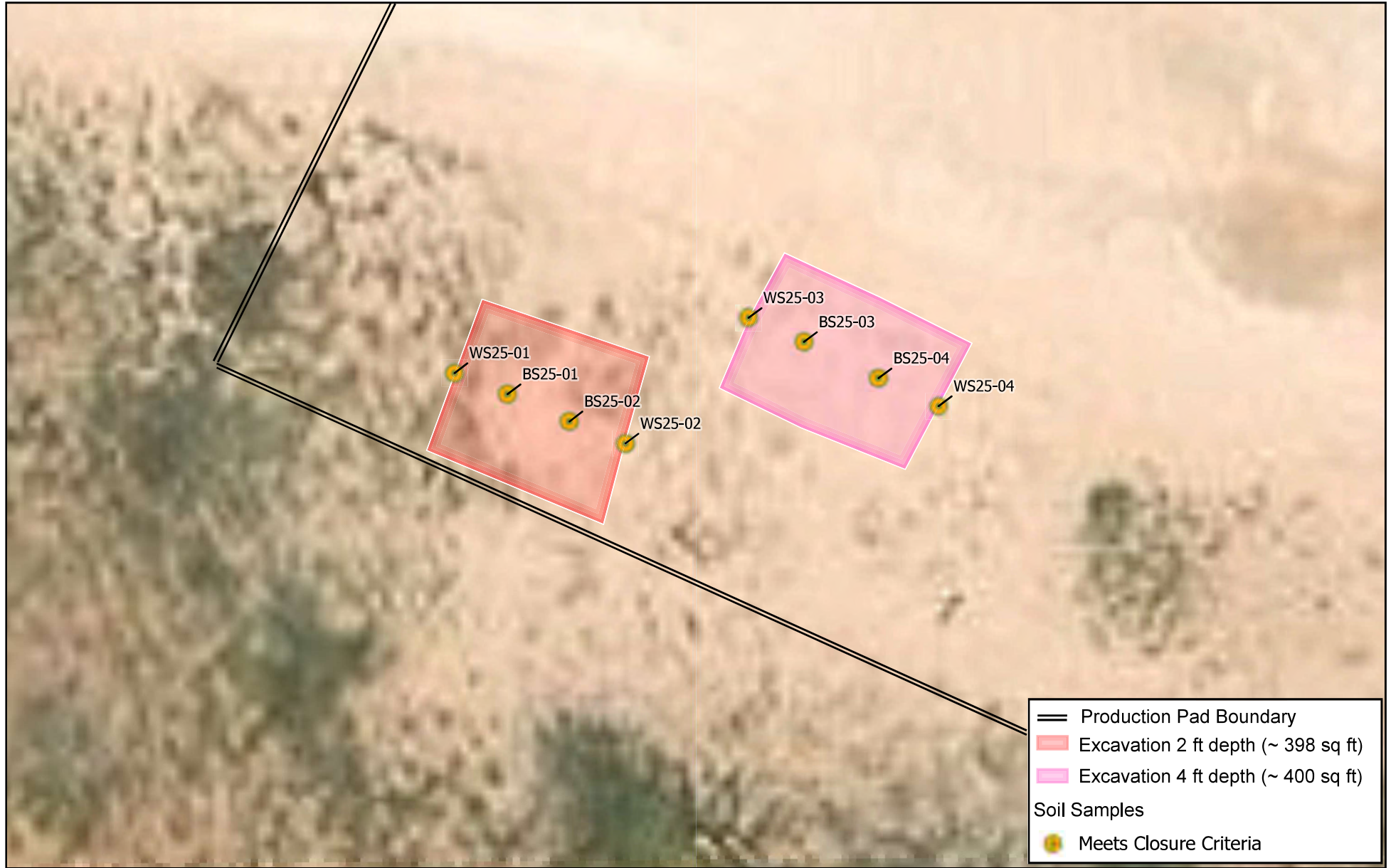
1



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

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

VERSATILITY. EXPERTISE.



Map Center:
Lat/Long: 32.268683°N, 103.758652°W

Date: Jul 15/25



Confirmation Sample Locations Todd 27 P Federal #016

FIGURE:

2



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

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

VERSATILITY. EXPERTISE.

TABLES

Client Name: Devon Energy Production Company, LP
 Site Name: Todd 27 P Federal #016
 NMOCD Tracking #: nMLB1122849738, nMLB1122852054
 Project #: 25A-01217
 Lab Reports: 2304914 and 2304959

Table 3. Characterization Sample Laboratory Results										
Sample Description			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile		Extractable					
			Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)			
Depth to Groundwater >100 feet bgs										
BH23-01	0	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	320
	4	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	580
	5	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	710
BH23-02	0	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	320
	4	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	350
BH23-03	0	April 19, 2023	ND	ND	ND	52	100	52	152	1000
	2	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	260
	4	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	190
BH23-04	0	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	380
BH23-05	0	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	68
	2	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	250
BH23-06	0	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	240
BH23-07	0	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	1300
	2	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	270
	4	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	1600
BH23-08	0	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	110
	5	April 19, 2023	ND	ND	ND	ND	ND	ND	ND	880
BH23-09	0	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	140
	2	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	240
	4	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	260
BH23-10	0	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	140
	4	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	140
BH23-11	0	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	98
	4	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	250

Client Name: Devon Energy Production Company, LP
 Site Name: Todd 27 P Federal #016
 NMOCD Tracking #: nMLB1122849738, nMLB1122852054
 Project #: 25A-01217
 Lab Reports: 2304914 and 2304959

Table 3. Characterization Sample Laboratory Results										
Sample Description			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile		Extractable					
			Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
Depth to Groundwater >100 feet bgs										
BH23-12	0	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	180
	4	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	220
BH23-13	0	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	85
	2	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	95
	4	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	180
BH23-14	0	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	78
	2	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	140
BH23-15	0	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	61
	2	April 20, 2023	ND	ND	ND	ND	ND	ND	ND	270

"ND" Not Detected at the Reporting Limit

"-" indicates not analyzed/assessed

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

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

Client Name: Devon Energy Production Company, LP
 Site Name: Todd 27 P Federal #016
 NMOCD Tracking #: nMLB1122849738, nMLB1122852054
 Project #: 25A-01217
 Lab Reports: 885-28742-1 and 885-301898-1

Table 4. Confirmation Sample Laboratory Results - Depth to Groundwater >100 feet bgs											
Sample Description			Petroleum Hydrocarbons								Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile		Extractable						
			Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration	
(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)					
Depth to Groundwater >100 feet bgs											
Backfill	-	August 1, 2025	ND	ND	ND	ND	ND	ND	ND	ND	130
BS25-01	2	July 11, 2025	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS25-02	2	July 11, 2025	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS25-03	4	July 11, 2025	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS25-04	4	July 11, 2025	ND	ND	ND	ND	ND	ND	ND	ND	160
WS25-01	0-2	July 11, 2025	ND	ND	ND	ND	ND	ND	ND	ND	190
WS25-02	0-2	July 11, 2025	ND	ND	ND	ND	ND	ND	ND	ND	270
WS25-03	0-4	July 11, 2025	ND	ND	ND	ND	ND	ND	ND	ND	240
WS25-04	0-4	July 11, 2025	ND	ND	ND	ND	ND	ND	ND	ND	130

"ND" Not Detected at the Reporting Limit

"-" indicates not analyzed/assessed

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

APPENDIX A - NMOCD C-141 Reports

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

30-015-27106

Release Notification and Corrective Action

nmlb/122849738

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy	6137	Contact ☐ Tracy Kidd
Address P. O. Box 250 Artesia, NM 88211		Telephone No. ☐ 575-513-0628
Facility Name Todd 27 #16 Injection Flowline		Facility Type ☐ SWD27

Surface Owner	Mineral Owner	Lease No. ☐
---------------	---------------	------------------------------------

LOCATION OF RELEASE

Unit Letter	Section 27	Township T23	Range 31E	Feet from the 330	North/South Line FSL	Feet from the 330	East/West Line FEL	County Eddy County
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NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 300 BPW	Volume Recovered ☐ 200 BPW
Source of Release Flowline leak	Date and Hour of Occurrence 6-24-2011 10:30 AM	Date and Hour of Discovery ☐ 6-24-11 10:30 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Randy Dade (OCD) 2:46 PM Bob Ballard (BLM-Hobbs) 2:57 PM	
By Whom? ☐ Ruben Garcia, Lease Operator	Date and Hour ☐ See above	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.* N/A		
Describe Cause of Problem and Remedial Action Taken.* Buried 3" Fiberglass injection line. Water spotted on surface by roustabout crew passing by.		
Describe Area Affected and Cleanup Action Taken.* Called vacuum truck to pick up water, roustabout crew isolated leak, raked area and will fertilize to neutralize		

RECEIVED

JUL 29 2011

NMOCD ARTESIA

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

Signature: <i>Adrienne Verkler</i>	OIL CONSERVATION DIVISION	
Printed Name: Adrienne Verkler	Approved by <i>Mike Brannon</i>	
Title: Field Tech II	Approval Date: AUG 16 2011	Expiration Date:
Date: 6-30-2011 Phone: (575) 748-0174	Conditions of Approval:	Attached ☐

* Attach Additional Sheets If Necessary

Remediation per OCD Rules &
Guidelines. **SUBMIT REMEDIATION
PROPOSAL NOT LATER THAN:**

9/16/2011

2RP-851

C-141 19 DAYS CAP
Remediation ??

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

30-015-27106

Release Notification and Corrective Action

NMLB1122852054

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy	6837	Contact ☐ Jerry Chaney
Address P. O. Box 250 Artesia, NM 88211		Telephone No. ☐ 575-748-7446
Facility Name Todd 27P Fed #16 SWD		Facility Type ☐ SWD

Surface Owner	Mineral Owner	Lease No. ☐
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LOCATION OF RELEASE

Unit Letter	Section 27	Township T23	Range 31E	Feet from the 330	North/South Line South	Feet from the 330	East/West Line East	County Eddy County
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NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 70 BPW	Volume Recovered ☐ 45 BPW
Source of Release Flowline leak	Date and Hour of Occurrence 7-25-2011 10:30 AM	Date and Hour of Discovery ☐ 7-25-11 2:30 PM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Randy Dade (OCD) 9:50 AM 7-26-11 Jim Amos (BLM) 7:45 AM 7-26-11	
By Whom? ☐ Ruben Garcia, Lease Operator	Date and Hour ☐ See above	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

RECEIVED
JUL 29 2011
NMOCD ARTESIA

Describe Cause of Problem and Remedial Action Taken.*

Buried 3" Fiberglass injection line. Water spotted on surface by roustabout crew passing by.

Describe Area Affected and Cleanup Action Taken.*

Called vacuum truck to pick up water shut lease in and took soil samples. Waiting for soil samples to go forward with remediation. Will replace section of flowline that the leaks keeps occurring at.

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

OIL CONSERVATION DIVISION

Signature: : Adrienne Verkler

Printed Name: Adrienne Verkler

Title: Field Tech II

Date: 7-27-2011 Phone: (575) 748-0174

Approved by: *[Signature]*

AUG 16 2011

Approval Date:

Expiration Date:

Conditions of Approval:

Attached ☐

Remediation per OCD Rules &
Guidelines. **SUBMIT REMEDIATION
PROPOSAL NOT LATER THAN:**
9/16/2011

* Attach Additional Sheets If Necessary

Comply # NMLB1122852971

2RP-852

APPENDIX B – Closure Criteria Research Documentation



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.) POD Number	(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)															
	Code	Sub basin	County	Q64	Q16	Q4	Sec	Tws	Range	X	Y	Map	Distance	Well Depth	Depth Water	Water Column
C 02348		C	ED	NW	SE	SW	26	23S	31E	617647.5	3571068.0		752	700	430	270
C 02258		C	ED		SW	NE	26	23S	31E	618055.0	3571853.0 *		1490	662		
Average Depth to Water: 430 feet																
Minimum Depth: 430 feet																
Maximum Depth: 430 feet																
Record Count: 2																
UTM Filters (in meters): Easting: 616916 Northing: 3570892 Radius: 002000 * UTM location was derived from PLSS - see Help																

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

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	Tw	Rng	X	Y	Map
	C 02348	NW	SE	SW	26	23S	31E	617647.5	3571068.0	

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

Driller License:	1654	Driller Company:	NOT WORKING FOR HIRE--SIRMAN DRILLING AND CONSTRUC			
Driller Name:	JOHN SIRMAN					
Drill Start Date:	2013-10-31	Drill Finish Date:	2013-11-01			Plug Date:
Log File Date:	2013-11-07	PCW Rcv Date:				Source: Shallow
Pump Type:		Pipe Discharge Size:				Estimated Yield: 10
Casing Size:	6.00	Depth Well:	700			Depth Water: 430

Water Bearing Stratifications:

Top	Bottom	Description
15	125	Sandstone/Gravel/Conglomerate
315	700	Sandstone/Gravel/Conglomerate

Casing Perforations:

Top	Bottom
560	620
680	700

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

**OFFICE OF THE STATE ENGINEER**

www.ose.state.nm.us

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

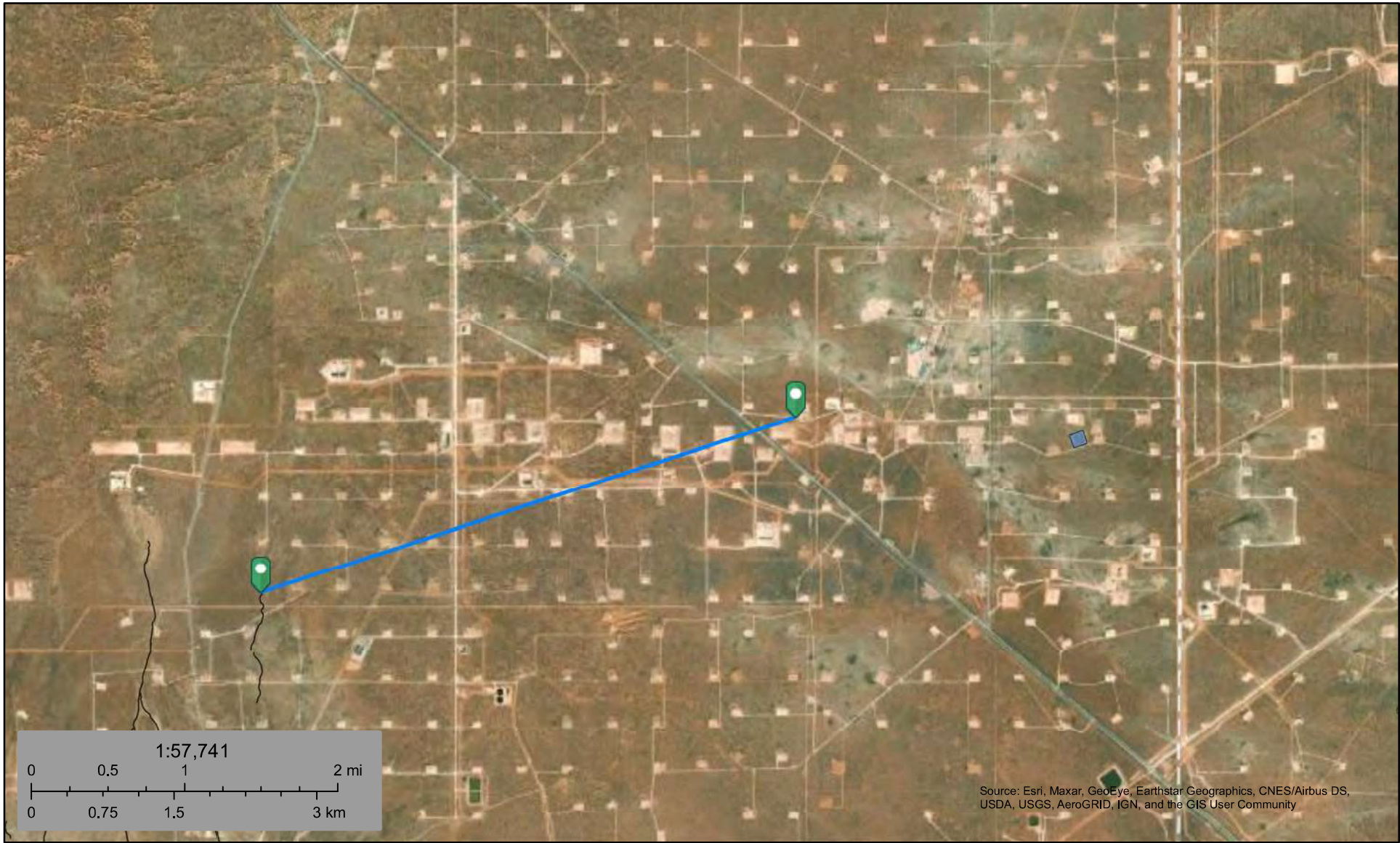
3. ANNULAR MATERIAL

WR-20 WELL RECORD & LOG (Version 06/08/2012)

TRN NUMBER 491412

Livestock

Released to Imaging: 10/14/2025 3:53:34 PM



July 20, 2021

Wetlands

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

An aerial photograph of a rural landscape, likely in the western United States, showing a grid of agricultural fields and some scattered buildings. A blue line connects a green pentagon with a white dot in the lower-middle section to a purple square on a horizontal line in the upper-middle section. The map includes a scale bar in the bottom left corner with markings for 0, 1, 2, and 4 miles, and 0, 1.5, 3, and 6 kilometers. The scale is labeled 1:120,373. In the bottom right corner, there is text identifying the U.S. Fish and Wildlife Service, National Standards and Support Team, and an email address: wetlands_team@fws.gov.

 Lake
 Other
 Riverine

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

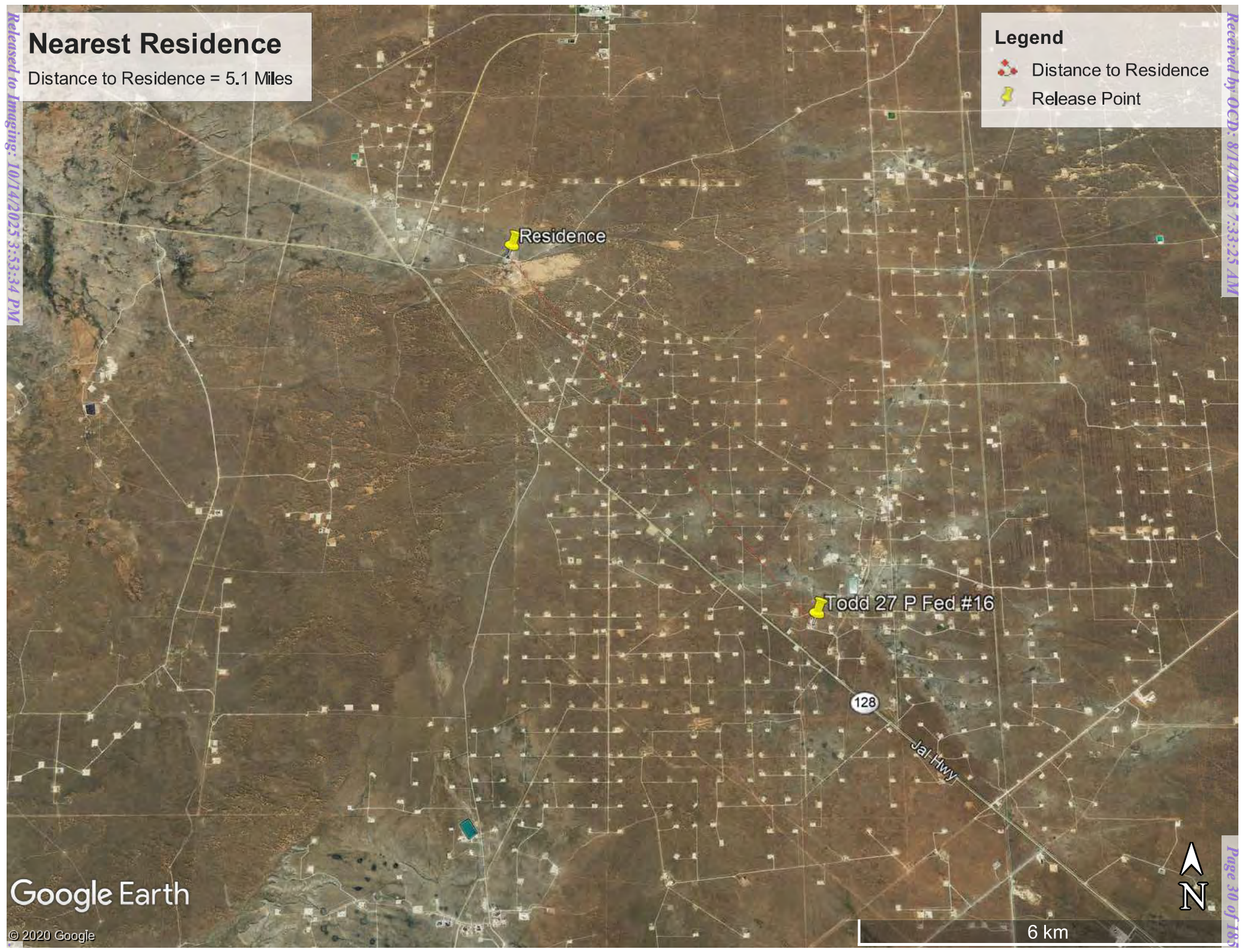
Nearest Residence

Distance to Residence = 5.1 Miles

Legend

 Distance to Residence

 Release Point



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 02348	C	STK	3.000	NGL NORTH RANCH LLC A TEXAS LIMITED LIABILITY CO	ED	C 02348				Shallow	NW	SE	SW	26	23S	31E	617647.5	3571068.0		752.4
C 02258	C	PRO	0.000	DEVON ENERGY CORP. (NEVADA)	ED	C 02258						SW	NE	26	23S	31E	618055.0	3571853.0 *		1,490.2
C 02602	C	SAN	0.000	POGO PRODUCING COMPANY	ED	C 02602						NE	NE	35	23S	31E	618471.0	3570650.0 *		1,573.7

Record Count: 3

Filters Applied:

UTM Filters (in meters):

Easting: 616916

Northing: 3570892

Radius: 002000

Sorted By: Distance

* UTM location was derived from PLSS - see Help

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3/22/25 12:31 PM MST

Active & Inactive Points of Diversion

Water Right Summary

 get image list	WR File Number: C 02348		Subbasin: C	Cross Reference:
	Primary Purpose: STK 72-12-1 LIVESTOCK WATERING			
	Primary Status: PMT Permit			
	Total Acres:		Subfile:	Header:
	Total Diversion:	3.000	Cause/Case:	
Owner:		NGL NORTH RANCH LLC A TEXAS LIMITED LIABILITY CO		Owner Class: Agent
Contact:		JIM WINTER		

Documents on File

(acre-feet per annum)										
Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
	755955	COWNF	2024-01-31	CHG	PRC	C 02348	T	0.000	0.000	
 get images	633178	COWNF	2018-09-17	CHG	PRC	C 02348	T		0.000	
 get images	491413	72121	2011-12-14	PMT	LOG	C 02348: SUBSEQUENT STK PERMIT	T		3.000	
	422940	COWNF	2009-02-02	CHG	PRC	C 02348	T		0.000	
	154822	COWNF	1998-09-09	CHG	PRC	C 02348	T	0.000	0.000	
	154817	DCL	1998-09-09	DCL	PRC	C 02348	T	0.000	3.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	TwS	Rng	X	Y	Map	Other Location Desc
C 02348		Shallow	NW	SE	SW	26	23S	31E	617647.5	3571068.0		

* UTM location was derived from PLSS - see Help

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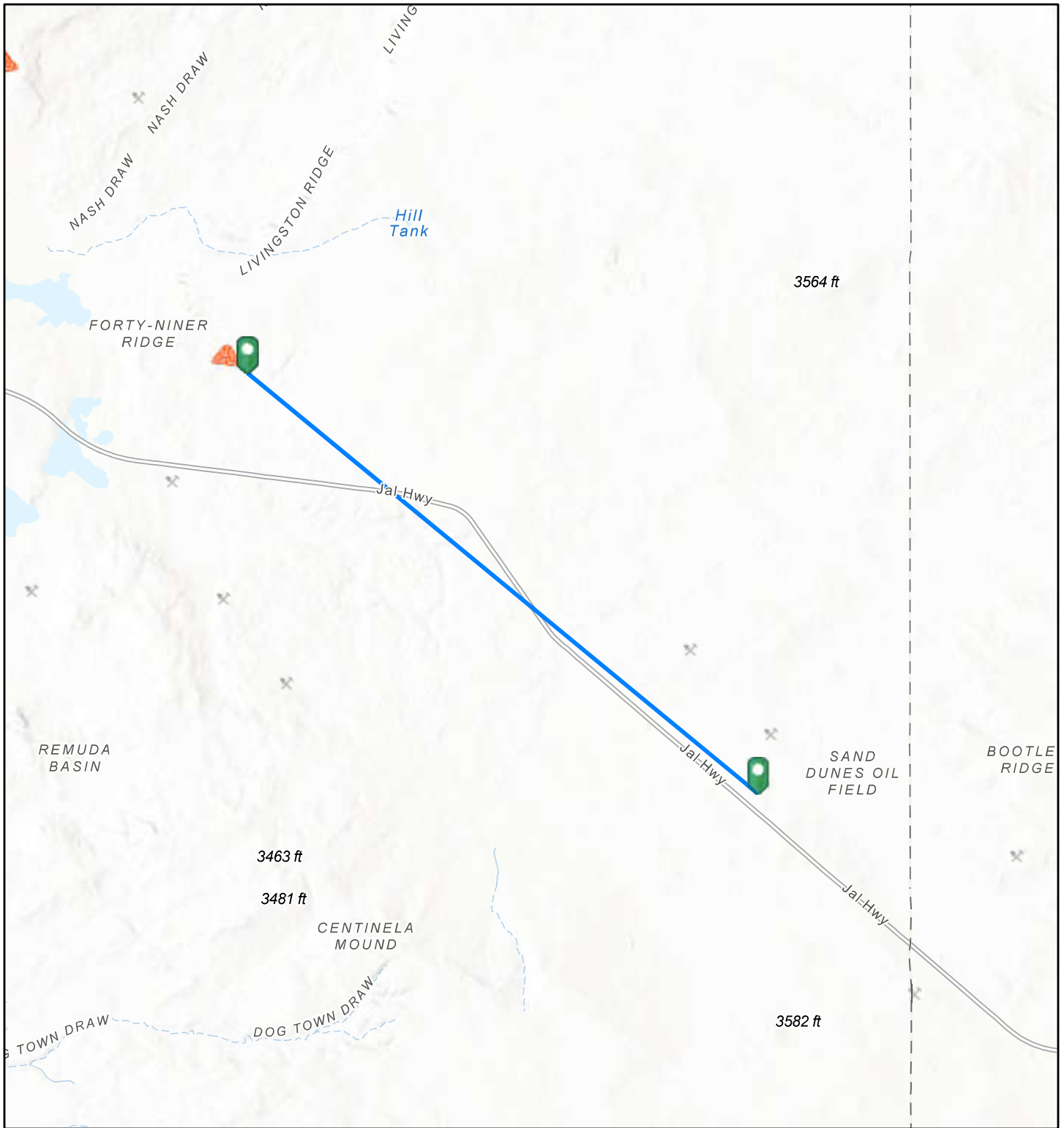
July 20, 2021

Wetlands

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

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Potash Mine 47,843 feet



3/22/2025, 1:29:01 PM

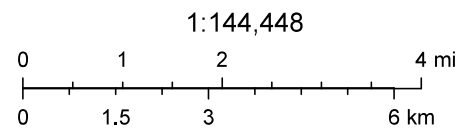
Registered Mines

Aggregate, Stone etc.

Aggregate, Stone etc.



Potash



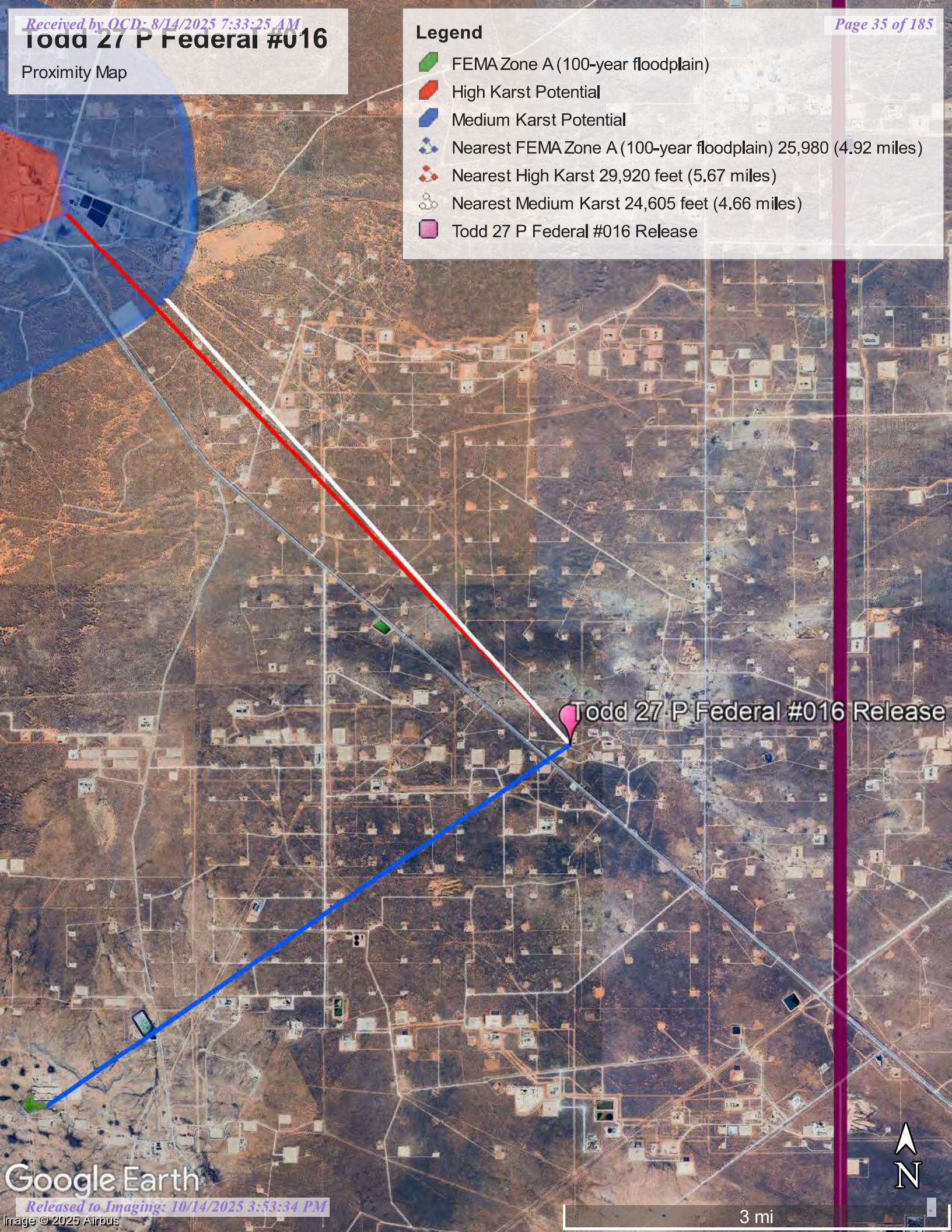
Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Todd 27 P Federal #016

Proximity Map

Legend

-  FEMA Zone A (100-year floodplain)
-  High Karst Potential
-  Medium Karst Potential
-  Nearest FEMA Zone A (100-year floodplain) 25,980 (4.92 miles)
-  Nearest High Karst 29,920 feet (5.67 miles)
-  Nearest Medium Karst 24,605 feet (4.66 miles)
-  Todd 27 P Federal #016 Release



Todd 27 P Federal #016 Release

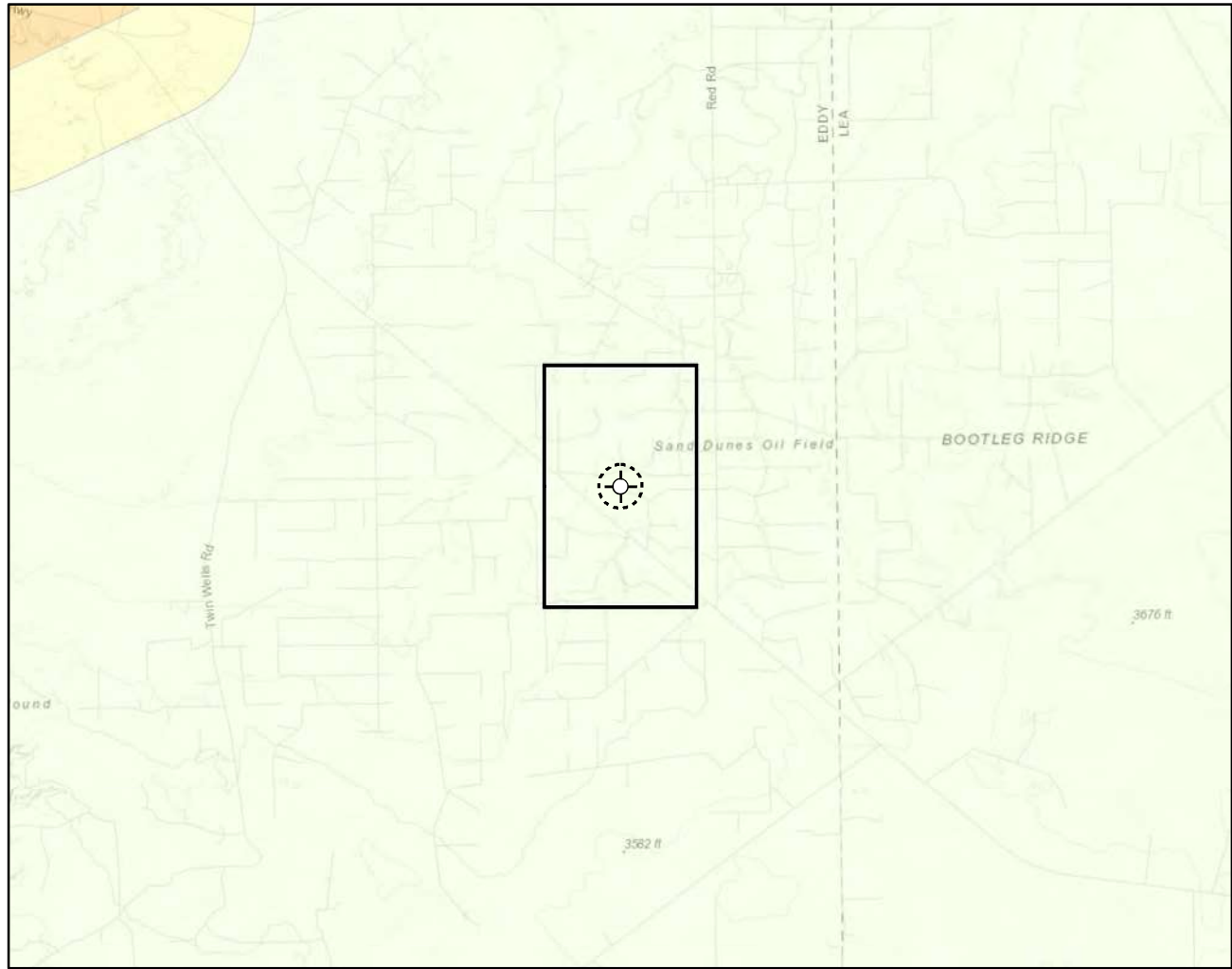
Google Earth

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Image © 2025 Airbus



3 mi



Karst Potential

- Critical
- High
- Medium
- Low

- Site Location
- Site Buffer (1,000 ft.)

Overview Map

0 0.25 0.5 1 1.5 mi



Detail Map

0 750 1,500 ft.



Map Center:
Lat/Long: 32.267474, -103.754981

NAD 1983 UTM Zone 13N
Date: Oct 05/20



Karst Potential
Todd 27P Fed #16

FIGURE:

X



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

Note: Inset Map, ESRI 20XX; Overview Map: ESRI World Topographic

VERSATILITY. EXPERTISE.

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National Flood Hazard Layer FIRMette



103°45'37"W 32°16'18"N



103°44'59"W 32°15'48"N

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 B
		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 X
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		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



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 10/5/2020 at 4:26 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Received by OCD: 8/16/2025 7:33:25 AM

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United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

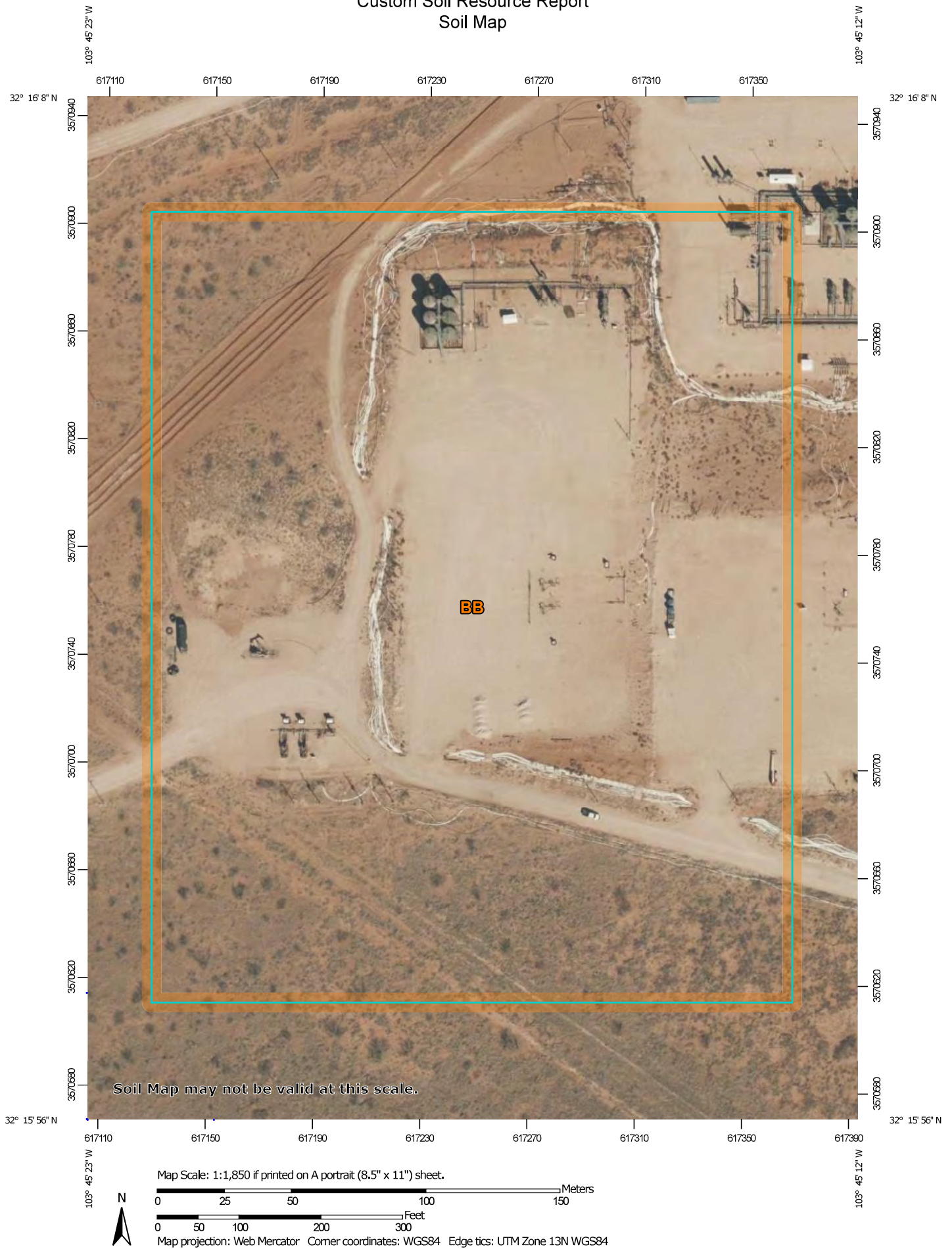
A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Eddy Area, New Mexico



October 5, 2020

Custom Soil Resource Report
Soil Map



10

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

Custom Soil Resource Report

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BB	Berino complex, 0 to 3 percent slopes, eroded	17.4	100.0%
Totals for Area of Interest		17.4	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.

Custom Soil Resource Report

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

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

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

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

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

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

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

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

Custom Soil Resource Report

Eddy Area, New Mexico**BB—Berino complex, 0 to 3 percent slopes, eroded****Map Unit Setting***National map unit symbol:* 1w43*Elevation:* 2,000 to 5,700 feet*Mean annual precipitation:* 5 to 15 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:* 60 percent*Pajarito and similar soils:* 25 percent*Minor components:* 15 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 17 inches:* fine sand*H2 - 17 to 58 inches:* sandy clay loam*H3 - 58 to 60 inches:* loamy sand**Properties and qualities***Slope:* 0 to 3 percent*Depth to restrictive feature:* More than 80 inches*Drainage class:* Well drained*Runoff class:* Low*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high
(0.60 to 2.00 in/hr)*Depth to water table:* More than 80 inches*Frequency of flooding:* None*Frequency of ponding:* None*Calcium carbonate, maximum content:* 40 percent*Maximum salinity:* Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)*Sodium adsorption ratio, maximum:* 1.0*Available water capacity:* Moderate (about 8.0 inches)**Interpretive groups***Land capability classification (irrigated):* None specified*Land capability classification (nonirrigated):* 7e*Hydrologic Soil Group:* B*Ecological site:* R042XC003NM - Loamy Sand*Hydric soil rating:* No

Custom Soil Resource Report

Description of Pajarito**Setting**

Landform: Interdunes, plains, dunes
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 9 inches: loamy fine sand
H2 - 9 to 72 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: 40 percent
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Minor Components**Cacique**

Percent of map unit: 4 percent
Ecological site: R042XC004NM - Sandy
Hydric soil rating: No

Pajarito

Percent of map unit: 4 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Wink

Percent of map unit: 4 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Kermit

Percent of map unit: 3 percent
Ecological site: R042XC005NM - Deep Sand
Hydric soil rating: No

Ecological site R042XC003NM Loamy Sand

Accessed: 07/19/2021

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.

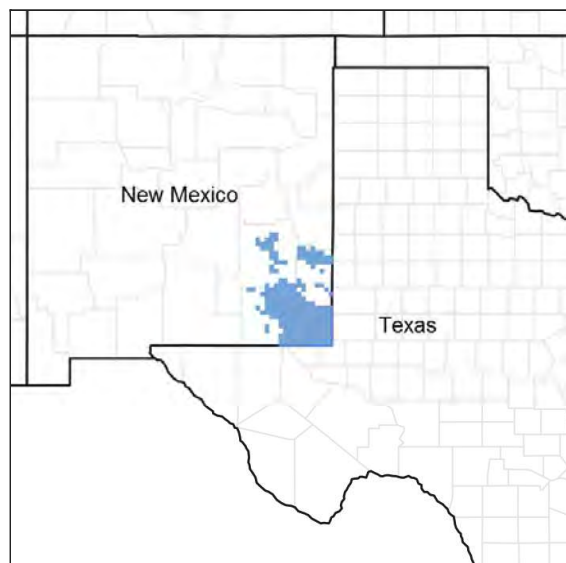


Figure 1. Mapped extent

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.

Associated sites

R042XC004NM	Sandy Sandy
R042XC005NM	Deep Sand Deep Sand

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

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

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

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

Climatic features

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

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

Table 3. Representative climatic features

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

Influencing water features

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

Soil features

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

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

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

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

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

Table 4. Representative soil features

Surface texture	(1) Fine sand (2) Fine sandy loam (3) Loamy fine sand
Family particle size	(1) Sandy
Drainage class	Well drained to somewhat excessively drained
Permeability class	Moderate to moderately rapid
Soil depth	40–72 in
Surface fragment cover <=3"	0–10%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	5–7 in
Calcium carbonate equivalent (0-40in)	3–40%
Electrical conductivity (0-40in)	2–4 mmhos/cm
Sodium adsorption ratio (0-40in)	0–2
Soil reaction (1:1 water) (0-40in)	6.6–8.4
Subsurface fragment volume <=3" (Depth not specified)	4–12%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

Overview

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

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

State and transition model

Plant Communities and Transitional Pathways (diagram):

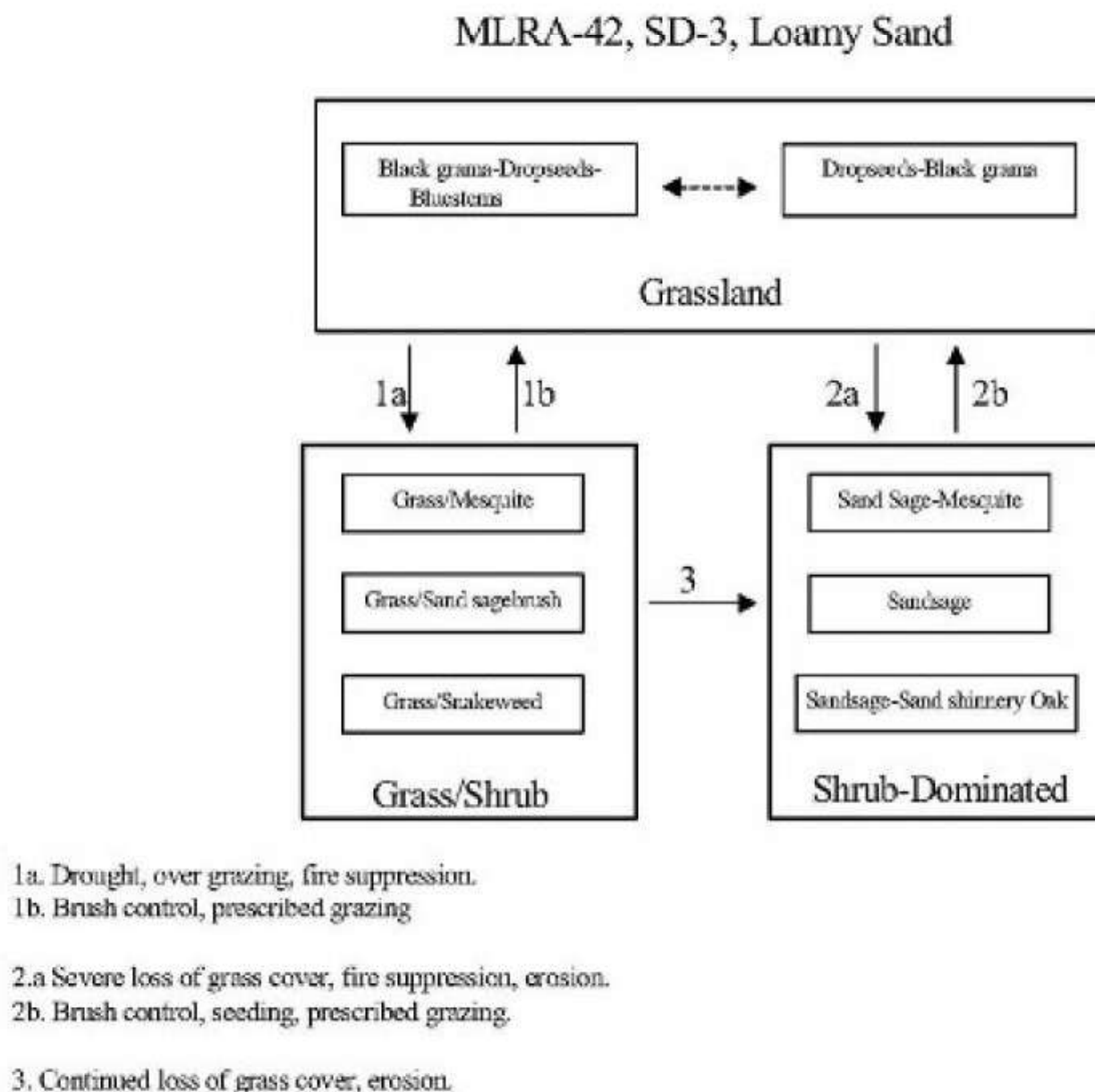


Figure 4.

Community 1.1
Historic Climax Plant Community

Grassland: The historic plant community is a uniformly distributed grassland dominated by black grama, dropseeds, and bluestems. Sand sage and shinnery oak are evenly dispersed throughout the grassland due to the coarse soil surface texture. Perennial and annual forbs are common but their abundance and distribution are reflective of precipitation. Bluestems initially, followed by black grama, decrease with drought and heavy grazing intensity. Historical fire frequency is unknown but likely occurred enough to remove small shrubs to the competitive advantage of grass species. Fire suppression, drought conditions, and excessive grazing drive most grass species out of competition with shrub species.

Diagnosis: Grassland dominated by black grama, dropseeds, and bluestems. Shrubs, such as sand sage, shinnery oak, and mesquite are dispersed throughout the grassland. Forbs are present and populations fluctuate with precipitation variability.

Table 5. Annual production by plant type

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

Table 6. Ground cover

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

Figure 6. Plant community growth curve (percent production by month).
NM2803, R042XC003NM-Loamy Sand-HCPC. SD-3 Loamy Sand - Warm
season plant community .

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

State 2
Grass/Shrub

Community 2.1



* Black grama/lespedeza community,
with some dropseeds, threeawns, and
scattered sand shinnery oak
* Grass cover low to moderate

Grass/Shrub State: The grass/shrub state is dominated by communities of grasses/mesquite, grasses/snakeweed, or grasses/sand sage. Decreases in black grama and bluestem species lead to an increase in bare patches and mesquite which further competes with grass species. An increase of dropseeds and threeawns occurs. Grass distribution becomes more patchy with an absence or severe decrease in black grama and bluestems. Mesquite provides nitrogen and soil organic matter to co-dominant grasses (Ansley and Jacoby 1998, Ansley et al. 1998). Mesquite mortality when exposed to fire is low due to aggressive resprouting abilities. Herbicide application combined with subsequent prescribed fire may be more effective in mesquite reduction (Britton and Wright 1971).

Diagnosis: This state is dominated by an increased abundance of communities including grass/mesquite, grass/snakeweed, or grass/sand sage. Dropseeds and threeawns have a patchy distribution.

Transition to Grass/Shrub State (1a): The historic plant community begins to shift toward the grass/shrub state as drivers such as drought, fire suppression, interspecific competition, and excessive grazing contribute to alterations in soil properties and herbaceous cover. Cover loss and surface soil erosion are initial indicators of transition followed by a decrease in black grama with a subsequent increase of dropseeds, threeawns, mesquite, and snakeweed. Snakeweed has been documented to outcompete black grama especially under conditions of fire suppression and drought (McDaniel et al. 1984).

Key indicators of approach to transition:

- Loss of black grama cover
- Surface soil erosion
- Bare patch expansion
- Increased dropseed/threeawn and mesquite, snakeweed, or sand sage abundances

Transition to Historic Plant Community (1b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community.

State 3 Shrub Dominated

Community 1.1 Shrub Dominated

Shrub-Dominated State: The shrub-dominated state results from a severe loss of grass cover. This state's primary species is sand sage. Shinnery oak and mesquite also occur; however, grass cover is limited to intershrub distribution. Sand sage stabilizes light sandy soils from wind erosion, which enhances protected grass/forb cover (Davis and Bonham 1979). However, shinnery oak also responds to the sandy soils with dense stands due to an aggressive rhizome system. Shinnery oak's extensive root system promotes competitive exclusion of grasses and forbs. Sand sage, shinnery oak, and mesquite can be controlled with herbicide (Herbel et al. 1979, Pettit 1986).

Transition to Shrub-Dominated (2a): Severe loss of grass species with increased erosion and fire suppression will result in a transition to a shrub-dominated state with sand sage, Shin oak, and honey mesquite directly from the grassland-dominated state.

Key indicators of approach to transition:

- Severe loss of grass species cover
- Surface soil erosion
- Bare patch expansion
- Increased sand sage, shinnery oak, and mesquite abundance

Transition to Historic Plant Community (2b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community. In addition, seeding with native grass species will augment the transition to a grassland-dominated state.

Transition to Shrub-Dominated (3): If the grass/shrub site continues to lose grass cover with soil erosion, the site will transition to a shrub-dominated state with sand sage, shinnery oak, and honey mesquite.

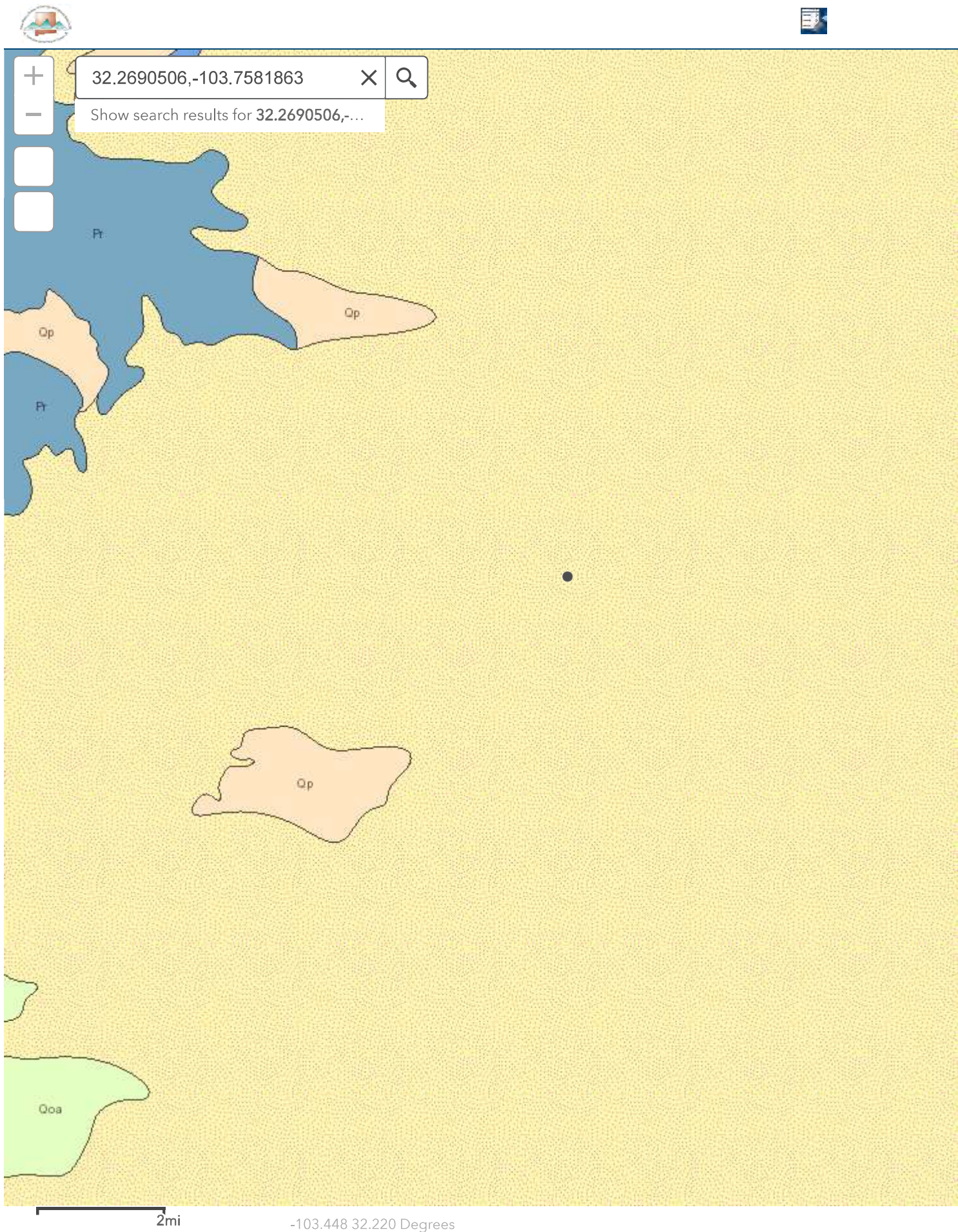
Key indicators of approach to transition:

- Continual loss of dropseeds/threewhens cover
- Surface soil erosion
- Bare patch expansion
- Increased sand sage, shinnery oak, and mesquite/dropseed/threewhens and mesquite/snakeweed abundance

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1	Warm Season			61–123	
	little bluestem	SCSC	<i>Schizachyrium scoparium</i>	61–123	–
2	Warm Season			37–61	
	sand bluestem	ANHA	<i>Andropogon hallii</i>	37–61	–
3	Warm Season			37–61	
	cane bluestem	BOBA3	<i>Bothriochloa barbinodis</i>	37–61	–
	silver bluestem	BOSA	<i>Bothriochloa saccharoides</i>	37–61	–
4	Warm Season			123–184	
	black grama	BOER4	<i>Bouteloua eriopoda</i>	123–184	–
	bush muhly	MUPO2	<i>Muhlenbergia porteri</i>	123–184	–
5	Warm Season			123–184	
	thin paspalum	PASE5	<i>Paspalum setaceum</i>	123–184	–
	stipa breviflora	SEV410	<i>Stipa pulchra</i>	123–184	–



APPENDIX C – Daily Field Reports

Daily Site Visit Report



Client	Devon Energy Corporation	Inspection Date	4/20/2023
Site Location Name	Todd 27 P Fed #16 SWD	API #	30-015-27106
Client Contact Name	Dale Woodall	Project Owner	
Client Contact Phone #	405-318-4697	Project Manager	
Project Reference #			
Unique Project ID			

Summary of Times

Arrived at Site	4/20/2023 9:18 AM
Departed Site	4/20/2023 5:38 PM

Field Notes

- 9:27** Completed JSA on arrival. On site to continue delineation of release south of lease road.
- 16:44** Mapped additional borehole locations in Arc Collector.
- 16:44** Swept borehole areas with magnetic locator prior to ground disturbance.
- 16:46** Advanced BH23-09, BH23-10, BH23-11, BH23-12, and BH23-13 to 4 feet bgs. Collected samples at 0, 2, and 4 feet bgs.
- 16:47** Advanced BH23-14 and BH23-15 to 2 feet bgs. Collected samples at 0 and 2 feet bgs.
- 16:48** Field screening results for all samples were below NMOCD strictest criteria for TPH and chloride.
- 16:52** Horizontal delineation tentatively complete pending laboratory results. Vertical delineation inhibited by refusal at 5 feet bgs. Local and relatively current depth to groundwater well available. Groundwater reference depth greater than 100 feet bgs. Vertical delineation not required due to depth to groundwater reference.

Next Steps & Recommendations

1

Daily Site Visit Report



Site Photos

Viewing Direction: South



North of tank battery facing south.

Viewing Direction: South



On lease road facing south. Advanced BH23-09 north of BH23-07.

Viewing Direction: Southwest



South edge of lease road facing southwest. Advanced BH23-10 north-northeast of BH23-08.

Viewing Direction: Northwest



South of lease road facing northwest. Advanced BH23-11 east-southeast of BH23-08.

Daily Site Visit Report



Viewing Direction: Northeast  Descriptive Photo - 5 Viewing Direction: Northeast Object: South of lease road facing northeast. Advanced BH23-12 south-southwest of BH22-08. Created: 4/23/2023 11:16:05 AM Lat:32.288826, Long:-103.785336 South of lease road facing northeast. Advanced BH23-12 south-southwest of BH22-08.	Viewing Direction: North  Descriptive Photo - 6 Viewing Direction: North Object: South of lease road facing north. Advanced BH23-13 south-southwest of BH22-01. Created: 4/23/2023 11:22:06 AM Lat:32.288822, Long:-103.785336 South of lease road facing north. Advanced BH23-13 south-southwest of BH22-01.
Viewing Direction: West  Descriptive Photo - 7 Viewing Direction: West Object: South of lease road facing west. Advanced BH23-14 south-southwest of BH22-02. Created: 4/23/2023 11:43:48 AM Lat:32.288826, Long:-103.785336 South of lease road facing west. Advanced BH23-14 south-southwest of BH22-02.	Viewing Direction: East  Descriptive Photo - 8 Viewing Direction: East Object: South of lease road facing east. Advanced BH23-15 south-southwest of BH22-03. Created: 4/23/2023 11:51:38 AM Lat:32.288826, Long:-103.785336 South of lease road facing east. Advanced BH23-15 south-southwest of BH22-03.

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Lakin Pullman

Signature:

A handwritten signature in black ink, appearing to be 'LP', written over a horizontal line. Below the line, the word 'Signature' is printed in a small, light gray font.



Daily Site Visit Report

Client:	Devon Energy Corporation	Incident ID #:	nMLB1122849738, nMLB1122852054
Site Location Name:	Todd 27 P Fed #16 SWD	API #:	30-015-27106
Inspection Date:	7/11/2025		

Summary of Times

Arrived at Site	7/11/2025 6:50 AM
Departed Site	7/11/2025 2:12 PM

Field Notes

- 6:59** Completed JSA on arrival. On site to map excavation and collect confirmation samples.
- 8:55** Remediation excavations to 2 and 4 feet bgs were completed based on the approved work plan. Excavations were immediately south of the lease road. The well pad the incidents are assigned is immediately north of the lease road and currently hosts a tank battery and salt water disposal. Excavations were completed without direct oversight from Vertex and prior to scheduled confirmation sampling event.
- 8:51** Mapped excavations in ArcGIS and determined minimum number of confirmation samples to meet sampling requirements. Swept excavation base and excavation walls with magnetic locator prior to sample collection.
- 13:51** Confirmation samples collected from the excavation base and walls were 5-point composites representing areas no greater than 200 square feet.
- 14:06** Collected confirmation samples WS25-01 and WS25-02 from excavation to 2 feet bgs. Excavation wall samples were collected between 0 and 2 feet bgs. Collected confirmation samples BS25-01 and BS25-02 from base of excavation to 2 feet bgs.
- 14:06** Collected confirmation samples WS25-03 and WS25-04 from excavation to 4 feet bgs. Excavation wall samples were collected between 0 and 4 feet bgs. Collected confirmation samples BS25-01 and BS25-02 from base of excavation to 4 feet bgs.
- 14:06** Field screening results for all samples were below NMOCD closure criteria for chloride and TPH.
- 14:07** Packed laboratory samples for analyses.

Next Steps & Recommendations

- 1 Submit soil samples to laboratory.

Daily Site Visit Report



Daily Site Visit Report



Site Photos

Viewing Direction: East



North of lease road facing east.

Viewing Direction: South



Northwest corner of excavation to 2' bgs facing south.

Viewing Direction: Southeast



Northwest corner of excavation to 2' bgs facing southeast.

Viewing Direction: East



Southwest corner of excavation to 2' bgs facing east.

Daily Site Visit Report



Viewing Direction: Northeast

Southwest corner of excavation to 2' bgs facing northeast.

Viewing Direction: North

Southeast corner of excavation to 2' bgs facing north.

Viewing Direction: Northwest

Southeast corner of excavation to 2' bgs facing northwest.

Viewing Direction: Southwest

Northeast corner of excavation to 2' bgs facing west.

Daily Site Visit Report



Viewing Direction: Southwest  Northeast corner of excavation to 2' bgs facing southwest.
Viewing Direction: Southeast  Northwest corner of excavation to 4' bgs facing southeast.

Viewing Direction: South  Northwest corner of excavation to 4' bgs facing south.
Viewing Direction: East  Southwest corner of excavation to 4' bgs facing east.

Daily Site Visit Report



Viewing Direction: Northeast

Southwest corner of excavation to 4' bgs facing northeast.

Viewing Direction: North

Southeast corner of excavation to 4' bgs facing north.

Viewing Direction: Northwest

Southeast corner of excavation to 4' bgs facing northwest.

Viewing Direction: West

Northeast corner of excavation to 4' bgs facing west.

Daily Site Visit Report



Viewing Direction: Southwest



Northeast corner of excavation to 4' bgs facing southwest.

Viewing Direction: Southeast



West-northwest edge of excavation to 2 feet bgs facing east-southeast. Collected confirmation samples.

Viewing Direction: West



East-southeast edge of excavation to 2 feet bgs facing west-northwest. Collected confirmation samples.

Viewing Direction: Southeast



Northwest edge of excavation to 4 feet bgs facing southeast. Collected confirmation samples.

Daily Site Visit Report



Viewing Direction: Northwest



Southeast edge of excavation to 4 feet bgs facing northwest. Collected confirmation samples.

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Lakin Pullman

Signature:

A handwritten signature in black ink, appearing to be 'LP', written over a horizontal line.

Signature



Daily Site Visit Report

Client:	Devon Energy Corporation	Incident ID #:	
Site Location Name:	Todd 27 P Fed #16 SWD	API #:	30-015-27106
Inspection Date:	8/1/2025		

Summary of Times

Arrived at Site	8/1/2025 3:27 PM
Departed Site	8/1/2025 4:26 PM

Field Notes

- 15:35** Completed JSA on arrival. On site to confirm backfill of excavation on pad immediately south of lease road.
- 16:04** Excavations were backfilled with packed caliche and graded to match pad immediately south of the lease road.
- 16:26** Took photographs of completed backfill and surrounding background vegetation. Surrounding vegetation was composed primarily of grasses and shrubs.
- 18:13** One 5-point composite sample of the backfill was collected. Field screening results were below NMOCD strictest criteria for chloride and TPH.

Next Steps & Recommendations

- 1 Submit backfill sample to laboratory for analyses.

Daily Site Visit Report



Site Photos

Viewing Direction: East



West-northwest of tank battery facing east.

Viewing Direction: Southwest



South edge of lease road facing southwest over backfilled excavations.

Viewing Direction: West



South of lease road facing west over backfilled excavations.

Viewing Direction: Northwest



South edge of lease road facing southwest over backfilled excavation to 4 feet bgs.

Daily Site Visit Report



South of lease road facing north over backfilled excavation to 2 feet bgs.



South of lease road facing northeast over backfilled excavations.



South of lease road facing east over backfilled excavations.



South edge of lease road facing southeast over backfilled excavations.

Daily Site Visit Report



Viewing Direction: South  Descriptive Photo - 01 Viewing Direction: South Date: 8/14/2025 3:46:20 PM Created: 8/14/2025 3:46:20 PM Lat: 32.397752, Long: -105.758551 At lease road facing south over backfilled excavations.	Viewing Direction: Northeast  Descriptive Photo - 02 Viewing Direction: Northeast Date: 8/14/2025 3:46:20 PM Created: 8/14/2025 3:46:20 PM Lat: 32.397752, Long: -105.758551 Off southwest corner of pad facing northeast over backfilled excavations.
Viewing Direction: East  Descriptive Photo - 03 Viewing Direction: East Date: 8/14/2025 3:46:20 PM Created: 8/14/2025 3:46:20 PM Lat: 32.397752, Long: -105.758551 Off southwest corner of pad facing east over backfilled excavations.	Viewing Direction: North  Descriptive Photo - 04 Viewing Direction: North Date: 8/14/2025 3:46:20 PM Created: 8/14/2025 3:46:20 PM Lat: 32.397752, Long: -105.758551 Southwest corner of pad facing northeast over backfilled excavations.

Daily Site Visit Report



Viewing Direction: North  Dispersive Photo - 25 Viewing Direction: North Date: 8/14/2025 4:15:25 PM Created: 8/14/2025 4:15:25 PM Labeled: 103.75971 Southwest corner of pad facing north over pad and surrounding vegetation.	Viewing Direction: Northwest  Dispersive Photo - 26 Viewing Direction: Northwest Date: 8/14/2025 4:15:25 PM Created: 8/14/2025 4:15:25 PM Labeled: 103.75971 Southwest corner of pad facing northwest over surrounding vegetation.
Viewing Direction: West  Dispersive Photo - 27 Viewing Direction: West Date: 8/14/2025 4:15:25 PM Created: 8/14/2025 4:15:25 PM Labeled: 103.75971 Southwest corner of pad facing west over surrounding vegetation.	Viewing Direction: Southwest  Dispersive Photo - 28 Viewing Direction: Southwest Date: 8/14/2025 4:15:25 PM Created: 8/14/2025 4:15:25 PM Labeled: 103.75971 Southwest corner of pad facing southwest over surrounding vegetation.

Daily Site Visit Report



Viewing Direction: South



Descriptive Photo: 10
Viewing Direction: South
Date: Southwest corner of pad facing south over surrounding vegetation.
Created: 8/14/2025 4:14:00 PM
Lat: 32.28625, Long: -103.75748

Southwest corner of pad facing south over surrounding vegetation.

Viewing Direction: West



Descriptive Photo: 10
Viewing Direction: West
Date: Southwest corner of pad facing west over pad and surrounding vegetation.
Created: 8/14/2025 4:14:52 PM
Lat: 32.28625, Long: -103.75748

Southwest corner of pad facing east over pad and surrounding vegetation.

Viewing Direction: Southeast



Descriptive Photo: 10
Viewing Direction: Southeast
Date: Southwest corner of pad facing southeast over surrounding vegetation.
Created: 8/14/2025 4:15:00 PM
Lat: 32.28625, Long: -103.75748

Southwest corner of pad facing southeast over surrounding vegetation.

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Lakin Pullman

Signature:

A handwritten signature in black ink, appearing to be 'LP', written over a horizontal line. Below the line, the word 'Signature' is printed in a small, light gray font.

APPENDIX E – Laboratory Data Reports and Chain of Custody Forms



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

April 28, 2023

Kent Stallings

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL: (505) 506-0040

FAX:

RE: Todd 27 P Federal 016

OrderNo.: 2304914

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 24 sample(s) on 4/21/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-01 0'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 10:45:00 AM

Lab ID: 2304914-001

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/25/2023 5:45:22 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/25/2023 5:45:22 AM
Surr: DNOP	84.8	69-147		%Rec	1	4/25/2023 5:45:22 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/24/2023 9:32:39 PM
Surr: BFB	112	37.7-212		%Rec	1	4/24/2023 9:32:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/24/2023 9:32:39 PM
Toluene	ND	0.049		mg/Kg	1	4/24/2023 9:32:39 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/24/2023 9:32:39 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/24/2023 9:32:39 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/24/2023 9:32:39 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/24/2023 3:09:14 PM

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

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

Page 1 of 31

Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-01 2'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 10:50:00 AM

Lab ID: 2304914-002

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/25/2023 6:09:01 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/25/2023 6:09:01 AM
Surr: DNOP	79.3	69-147		%Rec	1	4/25/2023 6:09:01 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/24/2023 9:56:12 PM
Surr: BFB	109	37.7-212		%Rec	1	4/24/2023 9:56:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	4/24/2023 9:56:12 PM
Toluene	ND	0.050		mg/Kg	1	4/24/2023 9:56:12 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/24/2023 9:56:12 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/24/2023 9:56:12 PM
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	4/24/2023 9:56:12 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	320	60		mg/Kg	20	4/24/2023 3:21:39 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-01 4'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 10:55:00 AM

Lab ID: 2304914-003

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	4/25/2023 6:32:40 AM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	4/25/2023 6:32:40 AM
Surr: DNOP	78.3	69-147		%Rec	1	4/25/2023 6:32:40 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/24/2023 10:19:44 PM
Surr: BFB	116	37.7-212		%Rec	1	4/24/2023 10:19:44 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/24/2023 10:19:44 PM
Toluene	ND	0.049		mg/Kg	1	4/24/2023 10:19:44 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/24/2023 10:19:44 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/24/2023 10:19:44 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/24/2023 10:19:44 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	580	60		mg/Kg	20	4/24/2023 3:34:03 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-01 5'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 12:00:00 PM

Lab ID: 2304914-004

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/25/2023 6:56:20 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/25/2023 6:56:20 AM
Surr: DNOP	78.9	69-147		%Rec	1	4/25/2023 6:56:20 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/24/2023 10:43:10 PM
Surr: BFB	113	37.7-212		%Rec	1	4/24/2023 10:43:10 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	4/24/2023 10:43:10 PM
Toluene	ND	0.049		mg/Kg	1	4/24/2023 10:43:10 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/24/2023 10:43:10 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/24/2023 10:43:10 PM
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	4/24/2023 10:43:10 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	710	60		mg/Kg	20	4/24/2023 3:46:28 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-02 0'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 11:00:00 AM

Lab ID: 2304914-005

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	4/24/2023 1:12:31 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/24/2023 1:12:31 PM
Surr: DNOP	105	69-147		%Rec	1	4/24/2023 1:12:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/24/2023 8:14:00 PM
Surr: BFB	93.4	37.7-212		%Rec	1	4/24/2023 8:14:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/24/2023 8:14:00 PM
Toluene	ND	0.049		mg/Kg	1	4/24/2023 8:14:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/24/2023 8:14:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/24/2023 8:14:00 PM
Surr: 4-Bromofluorobenzene	85.2	70-130		%Rec	1	4/24/2023 8:14:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/24/2023 3:58:53 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-02 2'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 11:05:00 AM

Lab ID: 2304914-006

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/24/2023 1:44:36 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/24/2023 1:44:36 PM
Surr: DNOP	107	69-147		%Rec	1	4/24/2023 1:44:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/24/2023 9:19:00 PM
Surr: BFB	95.3	37.7-212		%Rec	1	4/24/2023 9:19:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/24/2023 9:19:00 PM
Toluene	ND	0.048		mg/Kg	1	4/24/2023 9:19:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/24/2023 9:19:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/24/2023 9:19:00 PM
Surr: 4-Bromofluorobenzene	85.1	70-130		%Rec	1	4/24/2023 9:19:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	320	60		mg/Kg	20	4/24/2023 4:36:07 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-02 4'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 11:10:00 AM

Lab ID: 2304914-007

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/24/2023 1:55:21 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/24/2023 1:55:21 PM
Surr: DNOP	97.5	69-147		%Rec	1	4/24/2023 1:55:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/24/2023 10:23:00 PM
Surr: BFB	90.5	37.7-212		%Rec	1	4/24/2023 10:23:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/24/2023 10:23:00 PM
Toluene	ND	0.050		mg/Kg	1	4/24/2023 10:23:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/24/2023 10:23:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/24/2023 10:23:00 PM
Surr: 4-Bromofluorobenzene	84.3	70-130		%Rec	1	4/24/2023 10:23:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	350	60		mg/Kg	20	4/24/2023 4:48:32 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-03 0'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 11:15:00 AM

Lab ID: 2304914-008

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	52	10		mg/Kg	1	4/25/2023 2:17:57 AM
Motor Oil Range Organics (MRO)	100	50		mg/Kg	1	4/25/2023 2:17:57 AM
Surr: DNOP	102	69-147		%Rec	1	4/25/2023 2:17:57 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/24/2023 10:45:00 PM
Surr: BFB	86.6	37.7-212		%Rec	1	4/24/2023 10:45:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/24/2023 10:45:00 PM
Toluene	ND	0.050		mg/Kg	1	4/24/2023 10:45:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/24/2023 10:45:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/24/2023 10:45:00 PM
Surr: 4-Bromofluorobenzene	82.5	70-130		%Rec	1	4/24/2023 10:45:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	1000	60		mg/Kg	20	4/24/2023 5:00:57 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-03 2'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 11:20:00 AM

Lab ID: 2304914-009

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	4/24/2023 2:16:49 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	4/24/2023 2:16:49 PM
Surr: DNOP	94.2	69-147		%Rec	1	4/24/2023 2:16:49 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/24/2023 11:06:00 PM
Surr: BFB	90.6	37.7-212		%Rec	1	4/24/2023 11:06:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/24/2023 11:06:00 PM
Toluene	ND	0.049		mg/Kg	1	4/24/2023 11:06:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/24/2023 11:06:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/24/2023 11:06:00 PM
Surr: 4-Bromofluorobenzene	84.4	70-130		%Rec	1	4/24/2023 11:06:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	260	60		mg/Kg	20	4/24/2023 5:13:22 PM

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

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

Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-03 4'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 11:25:00 AM

Lab ID: 2304914-010

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	4/24/2023 2:27:36 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/24/2023 2:27:36 PM
Surr: DNOP	91.1	69-147		%Rec	1	4/24/2023 2:27:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/24/2023 11:28:00 PM
Surr: BFB	89.1	37.7-212		%Rec	1	4/24/2023 11:28:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/24/2023 11:28:00 PM
Toluene	ND	0.049		mg/Kg	1	4/24/2023 11:28:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/24/2023 11:28:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/24/2023 11:28:00 PM
Surr: 4-Bromofluorobenzene	85.1	70-130		%Rec	1	4/24/2023 11:28:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	190	60		mg/Kg	20	4/24/2023 5:25:46 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-04 0'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 11:30:00 AM

Lab ID: 2304914-011

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/24/2023 2:38:23 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/24/2023 2:38:23 PM
Surr: DNOP	94.3	69-147		%Rec	1	4/24/2023 2:38:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/24/2023 11:50:00 PM
Surr: BFB	89.8	37.7-212		%Rec	1	4/24/2023 11:50:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/24/2023 11:50:00 PM
Toluene	ND	0.049		mg/Kg	1	4/24/2023 11:50:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/24/2023 11:50:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/24/2023 11:50:00 PM
Surr: 4-Bromofluorobenzene	86.6	70-130		%Rec	1	4/24/2023 11:50:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	61		mg/Kg	20	4/24/2023 5:38:10 PM

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

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

Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-04 2'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 11:35:00 AM

Lab ID: 2304914-012

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/24/2023 2:49:12 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/24/2023 2:49:12 PM
Surr: DNOP	98.8	69-147		%Rec	1	4/24/2023 2:49:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 12:11:00 AM
Surr: BFB	93.1	37.7-212		%Rec	1	4/25/2023 12:11:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/25/2023 12:11:00 AM
Toluene	ND	0.049		mg/Kg	1	4/25/2023 12:11:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/25/2023 12:11:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/25/2023 12:11:00 AM
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	1	4/25/2023 12:11:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/24/2023 5:50:34 PM

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

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

Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-04 4'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 11:40:00 AM

Lab ID: 2304914-013

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/24/2023 3:10:41 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/24/2023 3:10:41 PM
Surr: DNOP	93.8	69-147		%Rec	1	4/24/2023 3:10:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/25/2023 12:33:00 AM
Surr: BFB	92.4	37.7-212		%Rec	1	4/25/2023 12:33:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/25/2023 12:33:00 AM
Toluene	ND	0.050		mg/Kg	1	4/25/2023 12:33:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/25/2023 12:33:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/25/2023 12:33:00 AM
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	1	4/25/2023 12:33:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	380	60		mg/Kg	20	4/24/2023 6:02:59 PM

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

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

Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-05 0'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 1:00:00 PM

Lab ID: 2304914-014

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/24/2023 3:21:36 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/24/2023 3:21:36 PM
Surr: DNOP	72.8	69-147		%Rec	1	4/24/2023 3:21:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/25/2023 12:54:00 AM
Surr: BFB	89.4	37.7-212		%Rec	1	4/25/2023 12:54:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/25/2023 12:54:00 AM
Toluene	ND	0.050		mg/Kg	1	4/25/2023 12:54:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/25/2023 12:54:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/25/2023 12:54:00 AM
Surr: 4-Bromofluorobenzene	83.2	70-130		%Rec	1	4/25/2023 12:54:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	68	59		mg/Kg	20	4/24/2023 4:04:33 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-05 2'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 1:05:00 PM

Lab ID: 2304914-015

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/24/2023 3:32:33 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/24/2023 3:32:33 PM
Surr: DNOP	88.8	69-147		%Rec	1	4/24/2023 3:32:33 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/25/2023 1:37:00 AM
Surr: BFB	93.6	37.7-212		%Rec	1	4/25/2023 1:37:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	4/25/2023 1:37:00 AM
Toluene	ND	0.047		mg/Kg	1	4/25/2023 1:37:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/25/2023 1:37:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	4/25/2023 1:37:00 AM
Surr: 4-Bromofluorobenzene	86.7	70-130		%Rec	1	4/25/2023 1:37:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	250	60		mg/Kg	20	4/24/2023 4:41:48 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-06 0'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 1:10:00 PM

Lab ID: 2304914-016

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/24/2023 3:43:26 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/24/2023 3:43:26 PM
Surr: DNOP	90.0	69-147		%Rec	1	4/24/2023 3:43:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 1:59:00 AM
Surr: BFB	93.2	37.7-212		%Rec	1	4/25/2023 1:59:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/25/2023 1:59:00 AM
Toluene	ND	0.049		mg/Kg	1	4/25/2023 1:59:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/25/2023 1:59:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/25/2023 1:59:00 AM
Surr: 4-Bromofluorobenzene	86.4	70-130		%Rec	1	4/25/2023 1:59:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	4/24/2023 4:54:13 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-06 2'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 1:15:00 PM

Lab ID: 2304914-017

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/24/2023 4:04:59 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/24/2023 4:04:59 PM
Surr: DNOP	88.8	69-147		%Rec	1	4/24/2023 4:04:59 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/25/2023 2:20:00 AM
Surr: BFB	92.6	37.7-212		%Rec	1	4/25/2023 2:20:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/25/2023 2:20:00 AM
Toluene	ND	0.048		mg/Kg	1	4/25/2023 2:20:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/25/2023 2:20:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/25/2023 2:20:00 AM
Surr: 4-Bromofluorobenzene	87.6	70-130		%Rec	1	4/25/2023 2:20:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	240	60		mg/Kg	20	4/24/2023 5:06:37 PM

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

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

Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-07 0'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 1:20:00 PM

Lab ID: 2304914-018

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/24/2023 4:15:54 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/24/2023 4:15:54 PM
Surr: DNOP	87.2	69-147		%Rec	1	4/24/2023 4:15:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 2:42:00 AM
Surr: BFB	92.1	37.7-212		%Rec	1	4/25/2023 2:42:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/25/2023 2:42:00 AM
Toluene	ND	0.049		mg/Kg	1	4/25/2023 2:42:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/25/2023 2:42:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/25/2023 2:42:00 AM
Surr: 4-Bromofluorobenzene	87.1	70-130		%Rec	1	4/25/2023 2:42:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	1300	60		mg/Kg	20	4/24/2023 5:43:51 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-07 2'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 1:25:00 PM

Lab ID: 2304914-019

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/24/2023 4:26:47 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/24/2023 4:26:47 PM
Surr: DNOP	94.2	69-147		%Rec	1	4/24/2023 4:26:47 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/25/2023 3:04:00 AM
Surr: BFB	94.7	37.7-212		%Rec	1	4/25/2023 3:04:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/25/2023 3:04:00 AM
Toluene	ND	0.048		mg/Kg	1	4/25/2023 3:04:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/25/2023 3:04:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/25/2023 3:04:00 AM
Surr: 4-Bromofluorobenzene	88.6	70-130		%Rec	1	4/25/2023 3:04:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	270	59		mg/Kg	20	4/24/2023 6:33:29 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-07 4'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 1:30:00 PM

Lab ID: 2304914-020

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/24/2023 4:37:41 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/24/2023 4:37:41 PM
Surr: DNOP	87.1	69-147		%Rec	1	4/24/2023 4:37:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 3:25:00 AM
Surr: BFB	94.3	37.7-212		%Rec	1	4/25/2023 3:25:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/25/2023 3:25:00 AM
Toluene	ND	0.049		mg/Kg	1	4/25/2023 3:25:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/25/2023 3:25:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/25/2023 3:25:00 AM
Surr: 4-Bromofluorobenzene	88.6	70-130		%Rec	1	4/25/2023 3:25:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	1600	60		mg/Kg	20	4/24/2023 7:35:32 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-08 0'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 1:35:00 PM

Lab ID: 2304914-021

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/24/2023 4:48:31 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/24/2023 4:48:31 PM
Surr: DNOP	93.0	69-147		%Rec	1	4/24/2023 4:48:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 3:47:00 AM
Surr: BFB	91.4	37.7-212		%Rec	1	4/25/2023 3:47:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/25/2023 3:47:00 AM
Toluene	ND	0.049		mg/Kg	1	4/25/2023 3:47:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/25/2023 3:47:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/25/2023 3:47:00 AM
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	1	4/25/2023 3:47:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	4/24/2023 7:47:57 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-08 2'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 1:40:00 PM

Lab ID: 2304914-022

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	4/24/2023 4:59:25 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/24/2023 4:59:25 PM
Surr: DNOP	94.9	69-147		%Rec	1	4/24/2023 4:59:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/25/2023 4:09:00 AM
Surr: BFB	88.8	37.7-212		%Rec	1	4/25/2023 4:09:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/25/2023 4:09:00 AM
Toluene	ND	0.050		mg/Kg	1	4/25/2023 4:09:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/25/2023 4:09:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/25/2023 4:09:00 AM
Surr: 4-Bromofluorobenzene	85.8	70-130		%Rec	1	4/25/2023 4:09:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	59		mg/Kg	20	4/24/2023 8:00:21 PM

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

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

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Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-08 4'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 1:45:00 PM

Lab ID: 2304914-023

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/24/2023 5:10:15 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/24/2023 5:10:15 PM
Surr: DNOP	96.1	69-147		%Rec	1	4/24/2023 5:10:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 4:30:00 AM
Surr: BFB	89.4	37.7-212		%Rec	1	4/25/2023 4:30:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/25/2023 4:30:00 AM
Toluene	ND	0.049		mg/Kg	1	4/25/2023 4:30:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/25/2023 4:30:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/25/2023 4:30:00 AM
Surr: 4-Bromofluorobenzene	84.9	70-130		%Rec	1	4/25/2023 4:30:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	110	60		mg/Kg	20	4/24/2023 8:12:46 PM

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

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

Analytical Report

Lab Order 2304914

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-08 5'

Project: Todd 27 P Federal 016

Collection Date: 4/19/2023 1:50:00 PM

Lab ID: 2304914-024

Matrix: SOIL

Received Date: 4/21/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/24/2023 5:21:05 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/24/2023 5:21:05 PM
Surr: DNOP	94.2	69-147		%Rec	1	4/24/2023 5:21:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 4:52:00 AM
Surr: BFB	94.1	37.7-212		%Rec	1	4/25/2023 4:52:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/25/2023 4:52:00 AM
Toluene	ND	0.049		mg/Kg	1	4/25/2023 4:52:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/25/2023 4:52:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/25/2023 4:52:00 AM
Surr: 4-Bromofluorobenzene	89.6	70-130		%Rec	1	4/25/2023 4:52:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	880	61		mg/Kg	20	4/24/2023 8:25:10 PM

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

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

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304914

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Todd 27 P Federal 016

Sample ID: MB-74509	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 74509	RunNo: 96264								
Prep Date: 4/24/2023	Analysis Date: 4/24/2023	SeqNo: 3486650 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-74509	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 74509	RunNo: 96264								
Prep Date: 4/24/2023	Analysis Date: 4/24/2023	SeqNo: 3486651 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.7	90	110			

Sample ID: MB-74513	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 74513	RunNo: 96286								
Prep Date: 4/24/2023	Analysis Date: 4/24/2023	SeqNo: 3486770 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-74513	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 74513	RunNo: 96286								
Prep Date: 4/24/2023	Analysis Date: 4/24/2023	SeqNo: 3486771 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.9	90	110			

Sample ID: MB-74525	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 74525	RunNo: 96286								
Prep Date: 4/24/2023	Analysis Date: 4/24/2023	SeqNo: 3486802 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-74525	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 74525	RunNo: 96286								
Prep Date: 4/24/2023	Analysis Date: 4/24/2023	SeqNo: 3486803 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.4	90	110			

Qualifiers:

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

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

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

WO#: 2304914

28-Apr-23

Client: Vertex Resources Services, Inc.**Project:** Todd 27 P Federal 016

Sample ID: LCS-74508	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74508	RunNo: 96255								
Prep Date: 4/24/2023	Analysis Date: 4/24/2023	SeqNo: 3485596	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		85.6	69	147			

Sample ID: MB-74508	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 74508	RunNo: 96255								
Prep Date: 4/24/2023	Analysis Date: 4/24/2023	SeqNo: 3485597	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.6		10.00		86.2	69	147			

Sample ID: 2304914-005AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH23-02 0'	Batch ID: 74498	RunNo: 96255								
Prep Date: 4/21/2023	Analysis Date: 4/24/2023	SeqNo: 3486477	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	37	8.6	42.92	0	85.3	54.2	135			
Surr: DNOP	3.6		4.292		85.0	69	147			

Sample ID: 2304914-005AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH23-02 0'	Batch ID: 74498	RunNo: 96255								
Prep Date: 4/21/2023	Analysis Date: 4/24/2023	SeqNo: 3486478	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	49.95	0	91.9	54.2	135	22.6	29.2	
Surr: DNOP	4.9		4.995		97.6	69	147	0	0	

Sample ID: LCS-74498	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74498	RunNo: 96255								
Prep Date: 4/21/2023	Analysis Date: 4/24/2023	SeqNo: 3486556	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.9	61.9	130			
Surr: DNOP	4.8		5.000		96.2	69	147			

Sample ID: MB-74498	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 74498	RunNo: 96255								
Prep Date: 4/21/2023	Analysis Date: 4/24/2023	SeqNo: 3486560	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								

Qualifiers:

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

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

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

WO#: 2304914

28-Apr-23

Client: Vertex Resources Services, Inc.**Project:** Todd 27 P Federal 016

Sample ID: MB-74498	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 74498		RunNo: 96255							
Prep Date: 4/21/2023	Analysis Date: 4/24/2023		SeqNo: 3486560		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.6		10.00		96.4	69	147			

Sample ID: MB-74530	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 74530		RunNo: 96291							
Prep Date: 4/25/2023	Analysis Date: 4/25/2023		SeqNo: 3486988		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.7		10.00		77.3	69	147			

Sample ID: LCS-74530	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 74530		RunNo: 96291							
Prep Date: 4/25/2023	Analysis Date: 4/25/2023		SeqNo: 3486989		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.0		5.000		80.5	69	147			

Sample ID: MB-74487	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 74487		RunNo: 96290							
Prep Date: 4/21/2023	Analysis Date: 4/24/2023		SeqNo: 3487633		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.1		10.00		81.0	69	147			

Sample ID: LCS-74487	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 74487		RunNo: 96290							
Prep Date: 4/21/2023	Analysis Date: 4/24/2023		SeqNo: 3487634		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.2	61.9	130			
Surr: DNOP	4.3		5.000		85.1	69	147			

Qualifiers:

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

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

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

WO#: 2304914

28-Apr-23

Client: Vertex Resources Services, Inc.**Project:** Todd 27 P Federal 016

Sample ID: 2.5ug gro lcs	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: GS96248		RunNo: 96248							
Prep Date:	Analysis Date: 4/24/2023		SeqNo: 3485326		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2300		1000		230	37.7	212			S

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: GS96248		RunNo: 96248							
Prep Date:	Analysis Date: 4/24/2023		SeqNo: 3485328		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		106	37.7	212			

Sample ID: lcs-74483	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 74483		RunNo: 96277							
Prep Date: 4/21/2023	Analysis Date: 4/24/2023		SeqNo: 3486417		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.2	70	130			
Surr: BFB	5400		1000		537	37.7	212			S

Sample ID: mb-74483	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 74483		RunNo: 96277							
Prep Date: 4/21/2023	Analysis Date: 4/24/2023		SeqNo: 3486418		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1200		1000		115	37.7	212			

Sample ID: lcs-74492	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 74492		RunNo: 96248							
Prep Date: 4/21/2023	Analysis Date: 4/24/2023		SeqNo: 3487034		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	83.8	70	130			
Surr: BFB	2000		1000		198	37.7	212			

Sample ID: mb-74492	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 74492		RunNo: 96248							
Prep Date: 4/21/2023	Analysis Date: 4/24/2023		SeqNo: 3487035		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		91.1	37.7	212			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304914

28-Apr-23

Client: Vertex Resources Services, Inc.**Project:** Todd 27 P Federal 016

Sample ID: 2304914-005ams	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: BH23-02 0'	Batch ID: 74492		RunNo: 96248							
Prep Date: 4/21/2023	Analysis Date: 4/24/2023		SeqNo: 3487037		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.56	0	84.5	70	130			
Surr: BFB	2000		982.3		200	37.7	212			

Sample ID: 2304914-005amsd	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: BH23-02 0'	Batch ID: 74492		RunNo: 96248							
Prep Date: 4/21/2023	Analysis Date: 4/24/2023		SeqNo: 3487038		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.9	24.56	0	82.1	70	130	2.93	20	
Surr: BFB	2000		982.3		201	37.7	212	0	0	

Qualifiers:

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

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

Page 29 of 31

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

WO#: 2304914

28-Apr-23

Client: Vertex Resources Services, Inc.**Project:** Todd 27 P Federal 016

Sample ID: 100ng btex lcs	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: BS96248		RunNo: 96248							
Prep Date:	Analysis Date: 4/24/2023		SeqNo: 3485327		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		101	70	130			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: BS96248		RunNo: 96248							
Prep Date:	Analysis Date: 4/24/2023		SeqNo: 3485329		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.98		1.000		97.8	70	130			

Sample ID: LCS-74483	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 74483		RunNo: 96277							
Prep Date: 4/21/2023	Analysis Date: 4/24/2023		SeqNo: 3486451		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	87.1	80	120			
Toluene	0.91	0.050	1.000	0	90.8	80	120			
Ethylbenzene	0.92	0.050	1.000	0	91.7	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.1	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	70	130			

Sample ID: mb-74483	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 74483		RunNo: 96277							
Prep Date: 4/21/2023	Analysis Date: 4/24/2023		SeqNo: 3486452		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		98.5	70	130			

Sample ID: lcs-74492	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 74492		RunNo: 96248							
Prep Date: 4/21/2023	Analysis Date: 4/24/2023		SeqNo: 3487058		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	84.3	80	120			
Toluene	0.85	0.050	1.000	0	85.3	80	120			
Ethylbenzene	0.84	0.050	1.000	0	84.3	80	120			
Xylenes, Total	2.5	0.10	3.000	0	83.2	80	120			

Qualifiers:

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

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

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

WO#: 2304914

28-Apr-23

Client: Vertex Resources Services, Inc.**Project:** Todd 27 P Federal 016

Sample ID: ics-74492	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 74492	RunNo: 96248								
Prep Date: 4/21/2023	Analysis Date: 4/24/2023	SeqNo: 3487058 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.88		1.000		88.1	70	130			

Sample ID: mb-74492	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 74492	RunNo: 96248								
Prep Date: 4/21/2023	Analysis Date: 4/24/2023	SeqNo: 3487059 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.85		1.000		84.6	70	130			

Sample ID: 2304914-006ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: BH23-02 2'	Batch ID: 74492	RunNo: 96248								
Prep Date: 4/21/2023	Analysis Date: 4/24/2023	SeqNo: 3487062 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.024	0.9634	0	82.7	68.8	120			
Toluene	0.81	0.048	0.9634	0	84.3	73.6	124			
Ethylbenzene	0.80	0.048	0.9634	0	83.4	72.7	129			
Xylenes, Total	2.4	0.096	2.890	0	82.5	75.7	126			
Surr: 4-Bromofluorobenzene	0.84		0.9634		86.8	70	130			

Sample ID: 2304914-006amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: BH23-02 2'	Batch ID: 74492	RunNo: 96248								
Prep Date: 4/21/2023	Analysis Date: 4/24/2023	SeqNo: 3487063 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.76	0.024	0.9588	0	79.5	68.8	120	4.41	20	
Toluene	0.80	0.048	0.9588	0	83.2	73.6	124	1.82	20	
Ethylbenzene	0.80	0.048	0.9588	0	83.1	72.7	129	0.889	20	
Xylenes, Total	2.4	0.096	2.876	0	82.2	75.7	126	0.937	20	
Surr: 4-Bromofluorobenzene	0.82		0.9588		85.9	70	130	0	0	

Qualifiers:

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

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



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

Sample Log-In Check List

Client Name: Vertex Resources
Services, Inc.

Work Order Number: 2304914

RcptNo: 1

Received By: Juan Rojas

4/21/2023 7:30:00 AM

Juan Rojas

Completed By: Tracy Casarrubias

4/21/2023 7:54:30 AM

Reviewed By:

in 4/21/23

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by:

in 4/21/23

Special Handling (if applicable)

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

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	Good	Yes	Morty		

Released to Imaging: 10/14/2025 3:53:34 PM

Date	Time	Matrix	Sample Name
04/19/23	10:45	Soil	BH23-01 0'
04/19/23	10:50	Soil	BH23-01 2'
04/19/23	10:55	Soil	BH23-01 4'
04/19/23	12:00	Soil	BH23-01 5'
04/19/23	11:00	Soil	BH23-02 0'
04/19/23	11:05	Soil	BH23-02 2'
04/19/23	11:10	Soil	BH23-02 4'
04/19/23	11:15	Soil	BH23-03 0'
04/19/23	11:20	Soil	BH23-03 2'
04/19/23	11:25	Soil	BH23-03 4'
04/19/23	11:30	Soil	BH23-04 0'
04/19/23	11:35	Soil	BH23-04 2'

04/19/23	10:45	Soil	BH23-01 0'
04/19/23	10:50	Soil	BH23-01 2'
04/19/23	10:55	Soil	BH23-01 4'
04/19/23	12:00	Soil	BH23-01 5'
04/19/23	11:00	Soil	BH23-02 0'
04/19/23	11:05	Soil	BH23-02 2'
04/19/23	11:10	Soil	BH23-02 4'
04/19/23	11:15	Soil	BH23-03 0'
04/19/23	11:20	Soil	BH23-03 2'
04/19/23	11:25	Soil	BH23-03 4'
04/19/23	11:30	Soil	BH23-04 0'
04/19/23	11:35	Soil	BH23-04 2'

Received by:	Via:	Date	Time
<i>acumins</i>		4/20/23	7:00
Received by:	Via:	Date	Time
<i>[Signature]</i>		4/20/23	7:30

[illegible] $\frac{1}{2}$

gru/21/23

Released to Imaging: 10/14/2025 3:53:34 PM

Turn-Around Time:	
☐ Standard	☒ Rush <u>48-hr</u>
Project Name:	
Todd 27 P Federal #016	
Project #:	
22E-02816-19	
Project Manager:	
Kent Stallings	
kstallings@vertex.ca	
Sampler:	L. Pullman
On Ice:	☒ Yes ☐ No
# of Coolers:	1 <u>MO-4</u>
Cooler Temp (including CF):	<u>7.4 + 0.1 = 7.5</u>



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 / MTEC	TPH:8015D(%)	8081 Pesticides	EDB (Method)	PAHs by 83	RCRA 8 Metals	Cl, F, Br, N	8260 (VOA)	8270 (Semi-VOCs)	Total Coliform
04/19/23	11:40	Soil	BH23-04 4'	1, 4oz jar		013	X	X					X			
04/19/23	13:00	Soil	BH23-05 0'	1, 4oz jar		014	X	X					X			
04/19/23	13:05	Soil	BH23-05 2'	1, 4oz jar		015	X	X					X			
04/19/23	13:10	Soil	BH23-06 0'	1, 4oz jar		016	X	X					X			
04/19/23	13:15	Soil	BH23-06 2'	1, 4oz jar		017	X	X					X			
04/19/23	13:20	Soil	BH23-07 0'	1, 4oz jar		018	X	X					X			
04/19/23	13:25	Soil	BH23-07 2'	1, 4oz jar		019	X	X					X			
04/19/23	13:30	Soil	BH23-07 4'	1, 4oz jar		020	X	X					X			
04/19/23	13:35	Soil	BH23-08 0'	1, 4oz jar		021	X	X					X			
04/19/23	13:40	Soil	BH23-08 2'	1, 4oz jar		022	X	X					X			
04/19/23	13:45	Soil	BH23-08 4'	1, 4oz jar		023	X	X					X			
04/19/23	13:50	Soil	BH23-08 5'	1, 4oz jar		024	X	X					X			
Date:	Time:	Relinquished By:	Received by:	Via:	Date	Time	Remarks:									
4/20/23	07:00	[Signature]	[Signature]		4/20/23	7:00	Direct bill to Devon, Dale Woodall cc. kstallings@vertex.ca for Final Report									
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time										
4/20/23	19:00	[Signature]	[Signature]		4/20/23	7:30										

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.

гнч/21/23

Received by OCD: 8/14/2025 7:33:25 AM

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

April 28, 2023

Kent Stallings

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL: (505) 506-0040

FAX:

RE: Todd 27 Federal 016

OrderNo.: 2304959

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 19 sample(s) on 4/22/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-09 0'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 10:10:00 AM

Lab ID: 2304959-001

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/25/2023 3:00:50 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/25/2023 3:00:50 AM
Surr: DNOP	91.7	69-147		%Rec	1	4/25/2023 3:00:50 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/25/2023 3:31:00 PM
Surr: BFB	90.2	37.7-212		%Rec	1	4/25/2023 3:31:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/26/2023 4:13:00 PM
Toluene	ND	0.049		mg/Kg	1	4/26/2023 4:13:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/26/2023 4:13:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/26/2023 4:13:00 PM
Surr: 4-Bromofluorobenzene	85.9	70-130		%Rec	1	4/26/2023 4:13:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	140	60		mg/Kg	20	4/24/2023 9:52:00 PM

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

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

Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-09 2'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 10:15:00 AM

Lab ID: 2304959-002

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/25/2023 3:33:04 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/25/2023 3:33:04 AM
Surr: DNOP	90.4	69-147		%Rec	1	4/25/2023 3:33:04 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 4:36:00 PM
Surr: BFB	92.6	37.7-212		%Rec	1	4/25/2023 4:36:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/26/2023 4:34:00 PM
Toluene	ND	0.048		mg/Kg	1	4/26/2023 4:34:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/26/2023 4:34:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/26/2023 4:34:00 PM
Surr: 4-Bromofluorobenzene	88.5	70-130		%Rec	1	4/26/2023 4:34:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	240	60		mg/Kg	20	4/24/2023 10:04:25 PM

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

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

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Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-09 4'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 10:20:00 AM

Lab ID: 2304959-003

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/25/2023 3:43:46 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/25/2023 3:43:46 AM
Surr: DNOP	92.0	69-147		%Rec	1	4/25/2023 3:43:46 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 4:58:00 PM
Surr: BFB	87.9	37.7-212		%Rec	1	4/25/2023 4:58:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	4/26/2023 5:39:00 PM
Toluene	ND	0.047		mg/Kg	1	4/26/2023 5:39:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	4/26/2023 5:39:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	4/26/2023 5:39:00 PM
Surr: 4-Bromofluorobenzene	85.7	70-130		%Rec	1	4/26/2023 5:39:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	260	60		mg/Kg	20	4/24/2023 10:16:50 PM

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

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

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Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-10 0'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 10:25:00 AM

Lab ID: 2304959-004

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/25/2023 3:54:27 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/25/2023 3:54:27 AM
Surr: DNOP	89.8	69-147		%Rec	1	4/25/2023 3:54:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 5:19:00 PM
Surr: BFB	95.2	37.7-212		%Rec	1	4/25/2023 5:19:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/26/2023 6:00:00 PM
Toluene	ND	0.048		mg/Kg	1	4/26/2023 6:00:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/26/2023 6:00:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/26/2023 6:00:00 PM
Surr: 4-Bromofluorobenzene	81.9	70-130		%Rec	1	4/26/2023 6:00:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	4/24/2023 10:29:15 PM

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

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

Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-10 2'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 10:30:00 AM

Lab ID: 2304959-005

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/25/2023 4:05:06 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/25/2023 4:05:06 AM
Surr: DNOP	90.2	69-147		%Rec	1	4/25/2023 4:05:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 5:41:00 PM
Surr: BFB	92.1	37.7-212		%Rec	1	4/25/2023 5:41:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/26/2023 6:22:00 PM
Toluene	ND	0.048		mg/Kg	1	4/26/2023 6:22:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/26/2023 6:22:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/26/2023 6:22:00 PM
Surr: 4-Bromofluorobenzene	85.6	70-130		%Rec	1	4/26/2023 6:22:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	140	59		mg/Kg	20	4/24/2023 10:41:39 PM

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

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

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Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-10 4'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 10:35:00 AM

Lab ID: 2304959-006

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/25/2023 4:15:44 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/25/2023 4:15:44 AM
Surr: DNOP	89.3	69-147		%Rec	1	4/25/2023 4:15:44 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 6:02:00 PM
Surr: BFB	90.7	37.7-212		%Rec	1	4/25/2023 6:02:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/26/2023 6:44:00 PM
Toluene	ND	0.048		mg/Kg	1	4/26/2023 6:44:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/26/2023 6:44:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	4/26/2023 6:44:00 PM
Surr: 4-Bromofluorobenzene	87.5	70-130		%Rec	1	4/26/2023 6:44:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	140	60		mg/Kg	20	4/24/2023 10:54:03 PM

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

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

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Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-11 0'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 10:45:00 AM

Lab ID: 2304959-007

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/25/2023 4:26:21 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/25/2023 4:26:21 AM
Surr: DNOP	87.4	69-147		%Rec	1	4/25/2023 4:26:21 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/25/2023 6:24:00 PM
Surr: BFB	90.7	37.7-212		%Rec	1	4/25/2023 6:24:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/26/2023 7:05:00 PM
Toluene	ND	0.049		mg/Kg	1	4/26/2023 7:05:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/26/2023 7:05:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/26/2023 7:05:00 PM
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	1	4/26/2023 7:05:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	4/24/2023 11:06:27 PM

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

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

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Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-11 2'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 10:50:00 AM

Lab ID: 2304959-008

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/25/2023 4:36:57 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/25/2023 4:36:57 AM
Surr: DNOP	92.5	69-147		%Rec	1	4/25/2023 4:36:57 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 6:45:00 PM
Surr: BFB	86.7	37.7-212		%Rec	1	4/25/2023 6:45:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/26/2023 7:27:00 PM
Toluene	ND	0.048		mg/Kg	1	4/26/2023 7:27:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/26/2023 7:27:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/26/2023 7:27:00 PM
Surr: 4-Bromofluorobenzene	85.2	70-130		%Rec	1	4/26/2023 7:27:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	98	60		mg/Kg	20	4/24/2023 11:18:51 PM

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

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

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Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-11 4'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 10:55:00 AM

Lab ID: 2304959-009

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/25/2023 4:58:00 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/25/2023 4:58:00 AM
Surr: DNOP	90.7	69-147		%Rec	1	4/25/2023 4:58:00 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/25/2023 7:07:00 PM
Surr: BFB	93.1	37.7-212		%Rec	1	4/25/2023 7:07:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/26/2023 7:48:00 PM
Toluene	ND	0.050		mg/Kg	1	4/26/2023 7:48:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/26/2023 7:48:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/26/2023 7:48:00 PM
Surr: 4-Bromofluorobenzene	84.9	70-130		%Rec	1	4/26/2023 7:48:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	250	60		mg/Kg	20	4/24/2023 11:31:16 PM

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

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

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Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-12 0'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 11:05:00 AM

Lab ID: 2304959-010

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/25/2023 5:08:30 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/25/2023 5:08:30 AM
Surr: DNOP	90.0	69-147		%Rec	1	4/25/2023 5:08:30 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 7:28:00 PM
Surr: BFB	90.3	37.7-212		%Rec	1	4/25/2023 7:28:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/26/2023 8:31:00 PM
Toluene	ND	0.050		mg/Kg	1	4/26/2023 8:31:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/26/2023 8:31:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/26/2023 8:31:00 PM
Surr: 4-Bromofluorobenzene	83.9	70-130		%Rec	1	4/26/2023 8:31:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	4/25/2023 12:08:30 AM

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

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

Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-12 2'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 11:10:00 AM

Lab ID: 2304959-011

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/25/2023 5:18:58 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/25/2023 5:18:58 AM
Surr: DNOP	92.2	69-147		%Rec	1	4/25/2023 5:18:58 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 8:12:00 PM
Surr: BFB	90.6	37.7-212		%Rec	1	4/25/2023 8:12:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/26/2023 8:53:00 PM
Toluene	ND	0.050		mg/Kg	1	4/26/2023 8:53:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/26/2023 8:53:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/26/2023 8:53:00 PM
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	1	4/26/2023 8:53:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	180	60		mg/Kg	20	4/25/2023 12:20:55 AM

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

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

Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-12 4'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 11:15:00 AM

Lab ID: 2304959-012

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/25/2023 5:29:25 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/25/2023 5:29:25 AM
Surr: DNOP	92.2	69-147		%Rec	1	4/25/2023 5:29:25 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/25/2023 8:33:00 PM
Surr: BFB	88.1	37.7-212		%Rec	1	4/25/2023 8:33:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/26/2023 9:15:00 PM
Toluene	ND	0.048		mg/Kg	1	4/26/2023 9:15:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/26/2023 9:15:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/26/2023 9:15:00 PM
Surr: 4-Bromofluorobenzene	85.7	70-130		%Rec	1	4/26/2023 9:15:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	220	60		mg/Kg	20	4/25/2023 12:33:20 AM

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

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

Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-13 0'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 11:20:00 AM

Lab ID: 2304959-013

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/25/2023 5:39:52 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/25/2023 5:39:52 AM
Surr: DNOP	93.1	69-147		%Rec	1	4/25/2023 5:39:52 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/25/2023 8:55:00 PM
Surr: BFB	87.3	37.7-212		%Rec	1	4/25/2023 8:55:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/26/2023 9:36:00 PM
Toluene	ND	0.050		mg/Kg	1	4/26/2023 9:36:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/26/2023 9:36:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/26/2023 9:36:00 PM
Surr: 4-Bromofluorobenzene	86.2	70-130		%Rec	1	4/26/2023 9:36:00 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	85	60		mg/Kg	20	4/25/2023 2:23:45 PM

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

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

Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-13 2'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 11:25:00 AM

Lab ID: 2304959-014

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/25/2023 5:50:19 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/25/2023 5:50:19 AM
Surr: DNOP	91.4	69-147		%Rec	1	4/25/2023 5:50:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/25/2023 9:16:00 PM
Surr: BFB	94.5	37.7-212		%Rec	1	4/25/2023 9:16:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/26/2023 9:58:00 PM
Toluene	ND	0.048		mg/Kg	1	4/26/2023 9:58:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/26/2023 9:58:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/26/2023 9:58:00 PM
Surr: 4-Bromofluorobenzene	86.6	70-130		%Rec	1	4/26/2023 9:58:00 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	95	60		mg/Kg	20	4/25/2023 2:36:09 PM

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

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

Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-13 4'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 11:30:00 AM

Lab ID: 2304959-015

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/25/2023 6:00:48 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/25/2023 6:00:48 AM
Surr: DNOP	95.0	69-147		%Rec	1	4/25/2023 6:00:48 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/25/2023 9:38:00 PM
Surr: BFB	93.8	37.7-212		%Rec	1	4/25/2023 9:38:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/26/2023 10:19:00 PM
Toluene	ND	0.049		mg/Kg	1	4/26/2023 10:19:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/26/2023 10:19:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/26/2023 10:19:00 PM
Surr: 4-Bromofluorobenzene	87.2	70-130		%Rec	1	4/26/2023 10:19:00 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	180	60		mg/Kg	20	4/25/2023 2:48:34 PM

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

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

Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-14 0'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 11:35:00 AM

Lab ID: 2304959-016

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/25/2023 6:11:18 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/25/2023 6:11:18 AM
Surr: DNOP	94.1	69-147		%Rec	1	4/25/2023 6:11:18 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/25/2023 10:00:00 PM
Surr: BFB	88.1	37.7-212		%Rec	1	4/25/2023 10:00:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/26/2023 10:41:00 PM
Toluene	ND	0.049		mg/Kg	1	4/26/2023 10:41:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/26/2023 10:41:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/26/2023 10:41:00 PM
Surr: 4-Bromofluorobenzene	88.1	70-130		%Rec	1	4/26/2023 10:41:00 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	78	60		mg/Kg	20	4/25/2023 3:00:58 PM

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

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

Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-14 2'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 11:40:00 AM

Lab ID: 2304959-017

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/25/2023 6:21:49 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/25/2023 6:21:49 AM
Surr: DNOP	91.0	69-147		%Rec	1	4/25/2023 6:21:49 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/25/2023 10:21:00 PM
Surr: BFB	90.3	37.7-212		%Rec	1	4/25/2023 10:21:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/26/2023 11:02:00 PM
Toluene	ND	0.050		mg/Kg	1	4/26/2023 11:02:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/26/2023 11:02:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/26/2023 11:02:00 PM
Surr: 4-Bromofluorobenzene	87.8	70-130		%Rec	1	4/26/2023 11:02:00 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	140	60		mg/Kg	20	4/25/2023 3:38:11 PM

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

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

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Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-15 0'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 11:45:00 AM

Lab ID: 2304959-018

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/25/2023 6:32:21 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/25/2023 6:32:21 AM
Surr: DNOP	91.5	69-147		%Rec	1	4/25/2023 6:32:21 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/25/2023 10:43:00 PM
Surr: BFB	87.1	37.7-212		%Rec	1	4/25/2023 10:43:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/26/2023 11:24:00 PM
Toluene	ND	0.048		mg/Kg	1	4/26/2023 11:24:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/26/2023 11:24:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/26/2023 11:24:00 PM
Surr: 4-Bromofluorobenzene	87.3	70-130		%Rec	1	4/26/2023 11:24:00 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	61	60		mg/Kg	20	4/25/2023 3:50:36 PM

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

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

Analytical Report

Lab Order 2304959

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-15 2'

Project: Todd 27 Federal 016

Collection Date: 4/20/2023 11:50:00 AM

Lab ID: 2304959-019

Matrix: SOIL

Received Date: 4/22/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/25/2023 6:42:54 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/25/2023 6:42:54 AM
Surr: DNOP	94.8	69-147		%Rec	1	4/25/2023 6:42:54 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/25/2023 11:04:00 PM
Surr: BFB	87.7	37.7-212		%Rec	1	4/25/2023 11:04:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/26/2023 11:46:00 PM
Toluene	ND	0.050		mg/Kg	1	4/26/2023 11:46:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/26/2023 11:46:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/26/2023 11:46:00 PM
Surr: 4-Bromofluorobenzene	86.9	70-130		%Rec	1	4/26/2023 11:46:00 PM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	270	60		mg/Kg	20	4/25/2023 4:03:01 PM

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304959

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Todd 27 Federal 016

Sample ID: MB-74525	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBS	Batch ID: 74525		RunNo: 96286							
Prep Date: 4/24/2023	Analysis Date: 4/24/2023		SeqNo: 3486802		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-74525	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSS	Batch ID: 74525		RunNo: 96286							
Prep Date: 4/24/2023	Analysis Date: 4/24/2023		SeqNo: 3486803		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.4	90	110			

Sample ID: MB-74538	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBS	Batch ID: 74538		RunNo: 96292							
Prep Date: 4/25/2023	Analysis Date: 4/25/2023		SeqNo: 3487860		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-74538	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSS	Batch ID: 74538		RunNo: 96292							
Prep Date: 4/25/2023	Analysis Date: 4/25/2023		SeqNo: 3487861		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.5	90	110			

Qualifiers:

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

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

Page 20 of 26

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

WO#: 2304959

28-Apr-23

Client: Vertex Resources Services, Inc.**Project:** Todd 27 Federal 016

Sample ID: LCS-74508	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74508	RunNo: 96255								
Prep Date: 4/24/2023	Analysis Date: 4/24/2023	SeqNo: 3485596	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		85.6	69	147			

Sample ID: MB-74508	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 74508	RunNo: 96255								
Prep Date: 4/24/2023	Analysis Date: 4/24/2023	SeqNo: 3485597	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.6		10.00		86.2	69	147			

Sample ID: 2304959-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH23-09 0'	Batch ID: 74519	RunNo: 96255								
Prep Date: 4/24/2023	Analysis Date: 4/25/2023	SeqNo: 3486534	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.8	49.21	0	84.9	54.2	135			
Surr: DNOP	4.7		4.921		95.9	69	147			

Sample ID: 2304959-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH23-09 0'	Batch ID: 74519	RunNo: 96255								
Prep Date: 4/24/2023	Analysis Date: 4/25/2023	SeqNo: 3486535	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	49.85	0	86.0	54.2	135	2.59	29.2	
Surr: DNOP	4.7		4.985		93.8	69	147	0	0	

Sample ID: LCS-74519	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74519	RunNo: 96255								
Prep Date: 4/24/2023	Analysis Date: 4/25/2023	SeqNo: 3486557	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	80.5	61.9	130			
Surr: DNOP	4.3		5.000		86.2	69	147			

Sample ID: MB-74519	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 74519	RunNo: 96255								
Prep Date: 4/24/2023	Analysis Date: 4/25/2023	SeqNo: 3486561	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304959

28-Apr-23

Client: Vertex Resources Services, Inc.
Project: Todd 27 Federal 016

Sample ID: MB-74519	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 74519	RunNo: 96255								
Prep Date: 4/24/2023	Analysis Date: 4/25/2023	SeqNo: 3486561		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.0		10.00		90.2	69	147			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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

WO#: 2304959

28-Apr-23

Client: Vertex Resources Services, Inc.**Project:** Todd 27 Federal 016

Sample ID: 2.5ug gro lcs	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: GS96281		RunNo: 96281							
Prep Date:	Analysis Date: 4/25/2023		SeqNo: 3486749		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2200		1000		220	37.7	212			S

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: GS96281		RunNo: 96281							
Prep Date:	Analysis Date: 4/25/2023		SeqNo: 3486752		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		102	37.7	212			

Sample ID: lcs-74514	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 74514		RunNo: 96281							
Prep Date: 4/24/2023	Analysis Date: 4/25/2023		SeqNo: 3487017		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.4	70	130			
Surr: BFB	1900		1000		190	37.7	212			

Sample ID: 2304959-001ams	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: BH23-09 0'	Batch ID: 74514		RunNo: 96281							
Prep Date: 4/24/2023	Analysis Date: 4/25/2023		SeqNo: 3488377		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.8	23.99	0	89.0	70	130			
Surr: BFB	1900		959.7		201	37.7	212			

Sample ID: 2304959-001amsd	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: BH23-09 0'	Batch ID: 74514		RunNo: 96281							
Prep Date: 4/24/2023	Analysis Date: 4/25/2023		SeqNo: 3488378		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	23.92	0	92.0	70	130	2.98	20	
Surr: BFB	1900		956.9		203	37.7	212	0	0	

Sample ID: mb-74514	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 74514		RunNo: 96281							
Prep Date: 4/24/2023	Analysis Date: 4/25/2023		SeqNo: 3489211		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	890		1000		88.9	37.7	212			

Qualifiers:

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

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

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304959
28-Apr-23

Client: Vertex Resources Services, Inc.
Project: Todd 27 Federal 016

Sample ID: Ics-74558	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 74558	RunNo: 96347								
Prep Date: 4/25/2023	Analysis Date: 4/27/2023	SeqNo: 3489509		Units: %Rec						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		1000		187	37.7	212			

Sample ID: mb-74558	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 74558	RunNo: 96347								
Prep Date: 4/25/2023	Analysis Date: 4/27/2023	SeqNo: 3489510		Units: %Rec						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	920		1000		92.1	37.7	212			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

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

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 24 of 26

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

WO#: 2304959

28-Apr-23

Client: Vertex Resources Services, Inc.**Project:** Todd 27 Federal 016

Sample ID: 100ng btex lcs	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: BS96281		RunNo: 96281							
Prep Date:	Analysis Date: 4/25/2023		SeqNo: 3486750		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.98		1.000		97.6	70	130			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: BS96281		RunNo: 96281							
Prep Date:	Analysis Date: 4/25/2023		SeqNo: 3486753		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.97		1.000		96.9	70	130			

Sample ID: lcs-74556	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 74556		RunNo: 96347							
Prep Date: 4/25/2023	Analysis Date: 4/26/2023		SeqNo: 3489547		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	86.0	80	120			
Toluene	0.85	0.050	1.000	0	85.2	80	120			
Ethylbenzene	0.83	0.050	1.000	0	83.1	80	120			
Xylenes, Total	2.5	0.10	3.000	0	82.3	80	120			
Surr: 4-Bromofluorobenzene	0.87		1.000		87.0	70	130			

Sample ID: mb-74556	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 74556		RunNo: 96347							
Prep Date: 4/25/2023	Analysis Date: 4/26/2023		SeqNo: 3489548		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.88		1.000		87.6	70	130			

Sample ID: 2304959-002ams	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: BH23-09 2'	Batch ID: 74556		RunNo: 96347							
Prep Date: 4/25/2023	Analysis Date: 4/26/2023		SeqNo: 3489553		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.024	0.9718	0	94.7	68.8	120			
Toluene	0.94	0.049	0.9718	0	96.6	73.6	124			
Ethylbenzene	0.93	0.049	0.9718	0	96.2	72.7	129			
Xylenes, Total	2.8	0.097	2.915	0	95.4	75.7	126			

Qualifiers:

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

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

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

WO#: 2304959

28-Apr-23

Client: Vertex Resources Services, Inc.**Project:** Todd 27 Federal 016

Sample ID: 2304959-002ams	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: BH23-09 2'	Batch ID: 74556		RunNo: 96347							
Prep Date: 4/25/2023	Analysis Date: 4/26/2023		SeqNo: 3489553		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.84		0.9718		86.3	70	130			

Sample ID: 2304959-002amsd	SampType: MSD		TestCode: EPA Method 8021B: Volatiles							
Client ID: BH23-09 2'	Batch ID: 74556		RunNo: 96347							
Prep Date: 4/25/2023	Analysis Date: 4/26/2023		SeqNo: 3489554		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.024	0.9728	0	90.5	68.8	120	4.51	20	
Toluene	0.88	0.049	0.9728	0	90.5	73.6	124	6.34	20	
Ethylbenzene	0.87	0.049	0.9728	0	89.1	72.7	129	7.50	20	
Xylenes, Total	2.6	0.097	2.918	0	88.0	75.7	126	8.05	20	
Surr: 4-Bromofluorobenzene	0.86		0.9728		87.9	70	130	0	0	

Sample ID: Ics-74558	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 74558		RunNo: 96347							
Prep Date: 4/25/2023	Analysis Date: 4/27/2023		SeqNo: 3489574		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.90		1.000		89.6	70	130			

Sample ID: mb-74558	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 74558		RunNo: 96347							
Prep Date: 4/25/2023	Analysis Date: 4/27/2023		SeqNo: 3489575		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.88		1.000		88.3	70	130			

Qualifiers:

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

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



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

Sample Log-In Check List

Client Name: Vertex Resources
Services, Inc.

Work Order Number: 2304959

RcptNo: 1

Received By: Juan Rojas

4/22/2023 7:30:00 AM

Juan Rojas

Completed By: Juan Rojas

4/22/2023 7:48:51 AM

Juan Rojas

Reviewed By:

WJ 4/24/23

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☒

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels? Yes ☒ No ☐
(Note discrepancies on chain of custody)

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

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met? Yes ☒ No ☐
(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted?

Checked by: *JW 4/22/23*

Special Handling (if applicable)

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

Person Notified:

Date

By Whom:

Via:

☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

Client missing mailing address, phone number, and email address on COC. JR 4/22/23

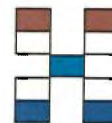
17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.3	Good	No	Morty		

Released to Imaging: 10/14/2025 3:53:34 PM

48-hr

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.



www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

[illegible]

Received by OCD: 8/14/2025 7:33:25 AM

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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 7/21/2025 11:18:36 AM

JOB DESCRIPTION

Todd 27 P Federal #016

JOB NUMBER

885-28742-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.



Eurofins Albuquerque

Job Notes

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

Authorization



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7/21/2025 11:18:36 AM

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Client: Vertex
Project/Site: Todd 27 P Federal #016

Laboratory Job ID: 885-28742-1

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Definitions/Glossary

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

Qualifiers

GC Semi VOA

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

Glossary

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

Case Narrative

Client: Vertex
Project: Todd 27 P Federal #016

Job ID: 885-28742-1

Job ID: 885-28742-1**Eurofins Albuquerque****Job Narrative
885-28742-1**

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

Receipt

The samples were received on 7/15/2025 7:35 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 4.1°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: Surrogate recovery for the following samples were outside the upper control limit: BS25-02 2' (885-28742-2) and (885-28742-A-8-G MS). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

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.

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Client Sample Results

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

Client Sample ID: BS25-01 2'

Lab Sample ID: 885-28742-1

Date Collected: 07/11/25 09:40

Matrix: Solid

Date Received: 07/15/25 07:35

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		07/15/25 16:20	07/16/25 23:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		15 - 150			07/15/25 16:20	07/16/25 23:14	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		07/15/25 16:20	07/16/25 23:14	1
Ethylbenzene	ND		0.050	mg/Kg		07/15/25 16:20	07/16/25 23:14	1
Toluene	ND		0.050	mg/Kg		07/15/25 16:20	07/16/25 23:14	1
Xylenes, Total	ND		0.10	mg/Kg		07/15/25 16:20	07/16/25 23:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		15 - 150			07/15/25 16:20	07/16/25 23:14	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]	ND		9.6	mg/Kg		07/18/25 13:53	07/19/25 13:49	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		07/18/25 13:53	07/19/25 13:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	113		62 - 134			07/18/25 13:53	07/19/25 13:49	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60	mg/Kg		07/16/25 08:15	07/16/25 16:08	20

Eurofins Albuquerque

Client Sample Results

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

Client Sample ID: BS25-02 2'

Lab Sample ID: 885-28742-2

Date Collected: 07/11/25 09:45

Matrix: Solid

Date Received: 07/15/25 07:35

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		07/15/25 16:20	07/16/25 23:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		15 - 150			07/15/25 16:20	07/16/25 23:38	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		07/15/25 16:20	07/16/25 23:38	1
Ethylbenzene	ND		0.049	mg/Kg		07/15/25 16:20	07/16/25 23:38	1
Toluene	ND		0.049	mg/Kg		07/15/25 16:20	07/16/25 23:38	1
Xylenes, Total	ND		0.098	mg/Kg		07/15/25 16:20	07/16/25 23:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		15 - 150			07/15/25 16:20	07/16/25 23:38	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		07/18/25 13:53	07/19/25 14:00	1
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		07/18/25 13:53	07/19/25 14:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	136	S1+	62 - 134			07/18/25 13:53	07/19/25 14:00	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60	mg/Kg		07/16/25 08:15	07/16/25 16:39	20

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Client Sample Results

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

Client Sample ID: BS25-03 4'

Lab Sample ID: 885-28742-3

Date Collected: 07/11/25 10:05

Matrix: Solid

Date Received: 07/15/25 07:35

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.6	mg/Kg		07/15/25 16:20	07/17/25 00:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		15 - 150			07/15/25 16:20	07/17/25 00:01	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023	mg/Kg		07/15/25 16:20	07/17/25 00:01	1
Ethylbenzene	ND		0.046	mg/Kg		07/15/25 16:20	07/17/25 00:01	1
Toluene	ND		0.046	mg/Kg		07/15/25 16:20	07/17/25 00:01	1
Xylenes, Total	ND		0.093	mg/Kg		07/15/25 16:20	07/17/25 00:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		15 - 150			07/15/25 16:20	07/17/25 00:01	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3	mg/Kg		07/18/25 13:53	07/19/25 14:11	1
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		07/18/25 13:53	07/19/25 14:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	111		62 - 134			07/18/25 13:53	07/19/25 14:11	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60	mg/Kg		07/16/25 08:15	07/16/25 17:10	20

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Client Sample Results

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

Client Sample ID: BS25-04 4'

Lab Sample ID: 885-28742-4

Date Collected: 07/11/25 10:10

Matrix: Solid

Date Received: 07/15/25 07:35

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		07/15/25 16:20	07/17/25 00:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		15 - 150			07/15/25 16:20	07/17/25 00:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		07/15/25 16:20	07/17/25 00:25	1
Ethylbenzene	ND		0.047	mg/Kg		07/15/25 16:20	07/17/25 00:25	1
Toluene	ND		0.047	mg/Kg		07/15/25 16:20	07/17/25 00:25	1
Xylenes, Total	ND		0.095	mg/Kg		07/15/25 16:20	07/17/25 00:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		15 - 150			07/15/25 16:20	07/17/25 00:25	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		07/18/25 13:53	07/19/25 14:22	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		07/18/25 13:53	07/19/25 14:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	116		62 - 134			07/18/25 13:53	07/19/25 14:22	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	160		60	mg/Kg		07/16/25 08:15	07/16/25 17:41	20

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Client Sample Results

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

Client Sample ID: WS25-01 0-2'

Lab Sample ID: 885-28742-5

Date Collected: 07/11/25 09:30

Matrix: Solid

Date Received: 07/15/25 07:35

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		07/15/25 16:20	07/17/25 00:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		15 - 150			07/15/25 16:20	07/17/25 00:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		07/15/25 16:20	07/17/25 00:49	1
Ethylbenzene	ND		0.048	mg/Kg		07/15/25 16:20	07/17/25 00:49	1
Toluene	ND		0.048	mg/Kg		07/15/25 16:20	07/17/25 00:49	1
Xylenes, Total	ND		0.096	mg/Kg		07/15/25 16:20	07/17/25 00:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		15 - 150			07/15/25 16:20	07/17/25 00:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4	mg/Kg		07/18/25 13:53	07/19/25 14:33	1
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		07/18/25 13:53	07/19/25 14:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	116		62 - 134			07/18/25 13:53	07/19/25 14:33	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	190		60	mg/Kg		07/16/25 08:15	07/16/25 17:51	20

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Client Sample Results

Client: Vertex

Job ID: 885-28742-1

Project/Site: Todd 27 P Federal #016

Client Sample ID: WS25-02 0-2'

Lab Sample ID: 885-28742-6

Date Collected: 07/11/25 09:35

Matrix: Solid

Date Received: 07/15/25 07:35

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		07/15/25 16:20	07/17/25 01:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		15 - 150			07/15/25 16:20	07/17/25 01:13	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		07/15/25 16:20	07/17/25 01:13	1
Ethylbenzene	ND		0.049	mg/Kg		07/15/25 16:20	07/17/25 01:13	1
Toluene	ND		0.049	mg/Kg		07/15/25 16:20	07/17/25 01:13	1
Xylenes, Total	ND		0.097	mg/Kg		07/15/25 16:20	07/17/25 01:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		15 - 150			07/15/25 16:20	07/17/25 01:13	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		07/18/25 13:53	07/19/25 14:44	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		07/18/25 13:53	07/19/25 14:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	121		62 - 134			07/18/25 13:53	07/19/25 14:44	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	270		60	mg/Kg		07/16/25 08:15	07/16/25 18:02	20

Eurofins Albuquerque

Client Sample Results

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

Client Sample ID: WS25-03 0-4'

Lab Sample ID: 885-28742-7

Date Collected: 07/11/25 09:55

Matrix: Solid

Date Received: 07/15/25 07:35

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		07/15/25 16:20	07/17/25 01:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		15 - 150			07/15/25 16:20	07/17/25 01:36	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		07/15/25 16:20	07/17/25 01:36	1
Ethylbenzene	ND		0.050	mg/Kg		07/15/25 16:20	07/17/25 01:36	1
Toluene	ND		0.050	mg/Kg		07/15/25 16:20	07/17/25 01:36	1
Xylenes, Total	ND		0.099	mg/Kg		07/15/25 16:20	07/17/25 01:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		15 - 150			07/15/25 16:20	07/17/25 01:36	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		07/18/25 13:53	07/19/25 14:55	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		07/18/25 13:53	07/19/25 14:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	114		62 - 134			07/18/25 13:53	07/19/25 14:55	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	240		60	mg/Kg		07/16/25 08:15	07/16/25 18:12	20

Eurofins Albuquerque

Client Sample Results

Client: Vertex

Job ID: 885-28742-1

Project/Site: Todd 27 P Federal #016

Client Sample ID: WS25-04 0-4'

Lab Sample ID: 885-28742-8

Date Collected: 07/11/25 10:00

Matrix: Solid

Date Received: 07/15/25 07:35

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		07/15/25 16:20	07/17/25 02:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		15 - 150			07/15/25 16:20	07/17/25 02:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		07/15/25 16:20	07/17/25 02:00	1
Ethylbenzene	ND		0.049	mg/Kg		07/15/25 16:20	07/17/25 02:00	1
Toluene	ND		0.049	mg/Kg		07/15/25 16:20	07/17/25 02:00	1
Xylenes, Total	ND		0.097	mg/Kg		07/15/25 16:20	07/17/25 02:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		15 - 150			07/15/25 16:20	07/17/25 02:00	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		9.2	mg/Kg		07/18/25 13:53	07/19/25 15:06	1
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		07/18/25 13:53	07/19/25 15:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	117		62 - 134			07/18/25 13:53	07/19/25 15:06	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	130		60	mg/Kg		07/16/25 08:15	07/16/25 18:22	20

Eurofins Albuquerque

QC Sample Results

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

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

Lab Sample ID: MB 885-30182/1-A

Matrix: Solid

Analysis Batch: 30263

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 30182

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0	mg/Kg		07/15/25 15:30	07/16/25 22:51	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		15 - 150			07/15/25 15:30	07/16/25 22:51	1

Lab Sample ID: LCS 885-30182/2-A

Matrix: Solid

Analysis Batch: 30263

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 30182

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Gasoline Range Organics (GRO)-C6-C10	25.0	28.5		mg/Kg		114	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	204		15 - 150					

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-30182/1-A

Matrix: Solid

Analysis Batch: 30264

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 30182

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		07/15/25 15:30	07/16/25 22:51	1
Ethylbenzene	ND		0.050	mg/Kg		07/15/25 15:30	07/16/25 22:51	1
Toluene	ND		0.050	mg/Kg		07/15/25 15:30	07/16/25 22:51	1
Xylenes, Total	ND		0.10	mg/Kg		07/15/25 15:30	07/16/25 22:51	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		15 - 150			07/15/25 15:30	07/16/25 22:51	1

Lab Sample ID: LCS 885-30182/3-A

Matrix: Solid

Analysis Batch: 30264

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 30182

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Benzene	1.00	0.961		mg/Kg		96	70 - 130	
Ethylbenzene	1.00	0.965		mg/Kg		97	70 - 130	
m-Xylene & p-Xylene	2.00	2.03		mg/Kg		102	70 - 130	
o-Xylene	1.00	0.958		mg/Kg		96	70 - 130	
Toluene	1.00	0.967		mg/Kg		97	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	92		15 - 150					

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QC Sample Results

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

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

Lab Sample ID: MB 885-30416/1-A

Matrix: Solid

Analysis Batch: 30456

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 30416

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		07/18/25 13:53	07/19/25 13:27	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		07/18/25 13:53	07/19/25 13:27	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	121		62 - 134			07/18/25 13:53	07/19/25 13:27	1

Lab Sample ID: LCS 885-30416/2-A

Matrix: Solid

Analysis Batch: 30456

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 30416

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	50.0	62.8		mg/Kg		126	51 - 148
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Di-n-octyl phthalate (Surr)	134		62 - 134				

Lab Sample ID: 885-28742-8 MS

Matrix: Solid

Analysis Batch: 30456

Client Sample ID: WS25-04 0-4'

Prep Type: Total/NA

Prep Batch: 30416

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	ND		46.6	62.2		mg/Kg		134	44 - 136
Surrogate	MS %Recovery	MS Qualifier	Limits						
Di-n-octyl phthalate (Surr)	155	S1+	62 - 134						

Lab Sample ID: 885-28742-8 MSD

Matrix: Solid

Analysis Batch: 30456

Client Sample ID: WS25-04 0-4'

Prep Type: Total/NA

Prep Batch: 30416

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		47.3	47.2		mg/Kg		100	44 - 136	27	32
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Di-n-octyl phthalate (Surr)	112		62 - 134								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-30204/1-A

Matrix: Solid

Analysis Batch: 30203

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 30204

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5	mg/Kg		07/16/25 08:15	07/16/25 09:17	1

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QC Sample Results

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-30204/2-A				Client Sample ID: Lab Control Sample			
Matrix: Solid				Prep Type: Total/NA			
Analysis Batch: 30203				Prep Batch: 30204			
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	15.0	14.5		mg/Kg		97	90 - 110

QC Association Summary

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

GC VOA

Prep Batch: 30182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-28742-1	BS25-01 2'	Total/NA	Solid	5030C	
885-28742-2	BS25-02 2'	Total/NA	Solid	5030C	
885-28742-3	BS25-03 4'	Total/NA	Solid	5030C	
885-28742-4	BS25-04 4'	Total/NA	Solid	5030C	
885-28742-5	WS25-01 0-2'	Total/NA	Solid	5030C	
885-28742-6	WS25-02 0-2'	Total/NA	Solid	5030C	
885-28742-7	WS25-03 0-4'	Total/NA	Solid	5030C	
885-28742-8	WS25-04 0-4'	Total/NA	Solid	5030C	
MB 885-30182/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-30182/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-30182/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 30263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-28742-1	BS25-01 2'	Total/NA	Solid	8015M/D	30182
885-28742-2	BS25-02 2'	Total/NA	Solid	8015M/D	30182
885-28742-3	BS25-03 4'	Total/NA	Solid	8015M/D	30182
885-28742-4	BS25-04 4'	Total/NA	Solid	8015M/D	30182
885-28742-5	WS25-01 0-2'	Total/NA	Solid	8015M/D	30182
885-28742-6	WS25-02 0-2'	Total/NA	Solid	8015M/D	30182
885-28742-7	WS25-03 0-4'	Total/NA	Solid	8015M/D	30182
885-28742-8	WS25-04 0-4'	Total/NA	Solid	8015M/D	30182
MB 885-30182/1-A	Method Blank	Total/NA	Solid	8015M/D	30182
LCS 885-30182/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	30182

Analysis Batch: 30264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-28742-1	BS25-01 2'	Total/NA	Solid	8021B	30182
885-28742-2	BS25-02 2'	Total/NA	Solid	8021B	30182
885-28742-3	BS25-03 4'	Total/NA	Solid	8021B	30182
885-28742-4	BS25-04 4'	Total/NA	Solid	8021B	30182
885-28742-5	WS25-01 0-2'	Total/NA	Solid	8021B	30182
885-28742-6	WS25-02 0-2'	Total/NA	Solid	8021B	30182
885-28742-7	WS25-03 0-4'	Total/NA	Solid	8021B	30182
885-28742-8	WS25-04 0-4'	Total/NA	Solid	8021B	30182
MB 885-30182/1-A	Method Blank	Total/NA	Solid	8021B	30182
LCS 885-30182/3-A	Lab Control Sample	Total/NA	Solid	8021B	30182

GC Semi VOA

Prep Batch: 30416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-28742-1	BS25-01 2'	Total/NA	Solid	SHAKE	
885-28742-2	BS25-02 2'	Total/NA	Solid	SHAKE	
885-28742-3	BS25-03 4'	Total/NA	Solid	SHAKE	
885-28742-4	BS25-04 4'	Total/NA	Solid	SHAKE	
885-28742-5	WS25-01 0-2'	Total/NA	Solid	SHAKE	
885-28742-6	WS25-02 0-2'	Total/NA	Solid	SHAKE	
885-28742-7	WS25-03 0-4'	Total/NA	Solid	SHAKE	
885-28742-8	WS25-04 0-4'	Total/NA	Solid	SHAKE	
MB 885-30416/1-A	Method Blank	Total/NA	Solid	SHAKE	

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QC Association Summary

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

GC Semi VOA (Continued)

Prep Batch: 30416 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 885-30416/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-28742-8 MS	WS25-04 0-4'	Total/NA	Solid	SHAKE	
885-28742-8 MSD	WS25-04 0-4'	Total/NA	Solid	SHAKE	

Analysis Batch: 30456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-28742-1	BS25-01 2'	Total/NA	Solid	8015M/D	30416
885-28742-2	BS25-02 2'	Total/NA	Solid	8015M/D	30416
885-28742-3	BS25-03 4'	Total/NA	Solid	8015M/D	30416
885-28742-4	BS25-04 4'	Total/NA	Solid	8015M/D	30416
885-28742-5	WS25-01 0-2'	Total/NA	Solid	8015M/D	30416
885-28742-6	WS25-02 0-2'	Total/NA	Solid	8015M/D	30416
885-28742-7	WS25-03 0-4'	Total/NA	Solid	8015M/D	30416
885-28742-8	WS25-04 0-4'	Total/NA	Solid	8015M/D	30416
MB 885-30416/1-A	Method Blank	Total/NA	Solid	8015M/D	30416
LCS 885-30416/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	30416
885-28742-8 MS	WS25-04 0-4'	Total/NA	Solid	8015M/D	30416
885-28742-8 MSD	WS25-04 0-4'	Total/NA	Solid	8015M/D	30416

HPLC/IC

Analysis Batch: 30203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-28742-1	BS25-01 2'	Total/NA	Solid	300.0	30204
885-28742-2	BS25-02 2'	Total/NA	Solid	300.0	30204
885-28742-3	BS25-03 4'	Total/NA	Solid	300.0	30204
885-28742-4	BS25-04 4'	Total/NA	Solid	300.0	30204
885-28742-5	WS25-01 0-2'	Total/NA	Solid	300.0	30204
885-28742-6	WS25-02 0-2'	Total/NA	Solid	300.0	30204
885-28742-7	WS25-03 0-4'	Total/NA	Solid	300.0	30204
885-28742-8	WS25-04 0-4'	Total/NA	Solid	300.0	30204
MB 885-30204/1-A	Method Blank	Total/NA	Solid	300.0	30204
LCS 885-30204/2-A	Lab Control Sample	Total/NA	Solid	300.0	30204

Prep Batch: 30204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-28742-1	BS25-01 2'	Total/NA	Solid	300_Prep	
885-28742-2	BS25-02 2'	Total/NA	Solid	300_Prep	
885-28742-3	BS25-03 4'	Total/NA	Solid	300_Prep	
885-28742-4	BS25-04 4'	Total/NA	Solid	300_Prep	
885-28742-5	WS25-01 0-2'	Total/NA	Solid	300_Prep	
885-28742-6	WS25-02 0-2'	Total/NA	Solid	300_Prep	
885-28742-7	WS25-03 0-4'	Total/NA	Solid	300_Prep	
885-28742-8	WS25-04 0-4'	Total/NA	Solid	300_Prep	
MB 885-30204/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-30204/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Eurofins Albuquerque

Lab Chronicle

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

Client Sample ID: BS25-01 2'

Lab Sample ID: 885-28742-1

Date Collected: 07/11/25 09:40

Matrix: Solid

Date Received: 07/15/25 07:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8015M/D		1	30263	JP	EET ALB	07/16/25 23:14
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8021B		1	30264	JP	EET ALB	07/16/25 23:14
Total/NA	Prep	SHAKE			30416	EM	EET ALB	07/18/25 13:53
Total/NA	Analysis	8015M/D		1	30456	DH	EET ALB	07/19/25 13:49
Total/NA	Prep	300_Prep			30204	RC	EET ALB	07/16/25 08:15
Total/NA	Analysis	300.0		20	30203	RC	EET ALB	07/16/25 16:08

Client Sample ID: BS25-02 2'

Lab Sample ID: 885-28742-2

Date Collected: 07/11/25 09:45

Matrix: Solid

Date Received: 07/15/25 07:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8015M/D		1	30263	JP	EET ALB	07/16/25 23:38
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8021B		1	30264	JP	EET ALB	07/16/25 23:38
Total/NA	Prep	SHAKE			30416	EM	EET ALB	07/18/25 13:53
Total/NA	Analysis	8015M/D		1	30456	DH	EET ALB	07/19/25 14:00
Total/NA	Prep	300_Prep			30204	RC	EET ALB	07/16/25 08:15
Total/NA	Analysis	300.0		20	30203	RC	EET ALB	07/16/25 16:39

Client Sample ID: BS25-03 4'

Lab Sample ID: 885-28742-3

Date Collected: 07/11/25 10:05

Matrix: Solid

Date Received: 07/15/25 07:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8015M/D		1	30263	JP	EET ALB	07/17/25 00:01
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8021B		1	30264	JP	EET ALB	07/17/25 00:01
Total/NA	Prep	SHAKE			30416	EM	EET ALB	07/18/25 13:53
Total/NA	Analysis	8015M/D		1	30456	DH	EET ALB	07/19/25 14:11
Total/NA	Prep	300_Prep			30204	RC	EET ALB	07/16/25 08:15
Total/NA	Analysis	300.0		20	30203	RC	EET ALB	07/16/25 17:10

Client Sample ID: BS25-04 4'

Lab Sample ID: 885-28742-4

Date Collected: 07/11/25 10:10

Matrix: Solid

Date Received: 07/15/25 07:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8015M/D		1	30263	JP	EET ALB	07/17/25 00:25

Eurofins Albuquerque

Lab Chronicle

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

Client Sample ID: BS25-04 4'
Date Collected: 07/11/25 10:10
Date Received: 07/15/25 07:35

Lab Sample ID: 885-28742-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8021B		1	30264	JP	EET ALB	07/17/25 00:25
Total/NA	Prep	SHAKE			30416	EM	EET ALB	07/18/25 13:53
Total/NA	Analysis	8015M/D		1	30456	DH	EET ALB	07/19/25 14:22
Total/NA	Prep	300_Prep			30204	RC	EET ALB	07/16/25 08:15
Total/NA	Analysis	300.0		20	30203	RC	EET ALB	07/16/25 17:41

Client Sample ID: WS25-01 0-2'
Date Collected: 07/11/25 09:30
Date Received: 07/15/25 07:35

Lab Sample ID: 885-28742-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8015M/D		1	30263	JP	EET ALB	07/17/25 00:49
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8021B		1	30264	JP	EET ALB	07/17/25 00:49
Total/NA	Prep	SHAKE			30416	EM	EET ALB	07/18/25 13:53
Total/NA	Analysis	8015M/D		1	30456	DH	EET ALB	07/19/25 14:33
Total/NA	Prep	300_Prep			30204	RC	EET ALB	07/16/25 08:15
Total/NA	Analysis	300.0		20	30203	RC	EET ALB	07/16/25 17:51

Client Sample ID: WS25-02 0-2'
Date Collected: 07/11/25 09:35
Date Received: 07/15/25 07:35

Lab Sample ID: 885-28742-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8015M/D		1	30263	JP	EET ALB	07/17/25 01:13
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8021B		1	30264	JP	EET ALB	07/17/25 01:13
Total/NA	Prep	SHAKE			30416	EM	EET ALB	07/18/25 13:53
Total/NA	Analysis	8015M/D		1	30456	DH	EET ALB	07/19/25 14:44
Total/NA	Prep	300_Prep			30204	RC	EET ALB	07/16/25 08:15
Total/NA	Analysis	300.0		20	30203	RC	EET ALB	07/16/25 18:02

Client Sample ID: WS25-03 0-4'
Date Collected: 07/11/25 09:55
Date Received: 07/15/25 07:35

Lab Sample ID: 885-28742-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8015M/D		1	30263	JP	EET ALB	07/17/25 01:36
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8021B		1	30264	JP	EET ALB	07/17/25 01:36

Lab Chronicle

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

Client Sample ID: WS25-03 0-4'
Date Collected: 07/11/25 09:55
Date Received: 07/15/25 07:35

Lab Sample ID: 885-28742-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			30416	EM	EET ALB	07/18/25 13:53
Total/NA	Analysis	8015M/D		1	30456	DH	EET ALB	07/19/25 14:55
Total/NA	Prep	300_Prep			30204	RC	EET ALB	07/16/25 08:15
Total/NA	Analysis	300.0		20	30203	RC	EET ALB	07/16/25 18:12

Client Sample ID: WS25-04 0-4'
Date Collected: 07/11/25 10:00
Date Received: 07/15/25 07:35

Lab Sample ID: 885-28742-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8015M/D		1	30263	JP	EET ALB	07/17/25 02:00
Total/NA	Prep	5030C			30182	JP	EET ALB	07/15/25 16:20
Total/NA	Analysis	8021B		1	30264	JP	EET ALB	07/17/25 02:00
Total/NA	Prep	SHAKE			30416	EM	EET ALB	07/18/25 13:53
Total/NA	Analysis	8015M/D		1	30456	DH	EET ALB	07/19/25 15:06
Total/NA	Prep	300_Prep			30204	RC	EET ALB	07/16/25 08:15
Total/NA	Analysis	300.0		20	30203	RC	EET ALB	07/16/25 18:22

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

Accreditation/Certification Summary

Client: Vertex
Project/Site: Todd 27 P Federal #016

Job ID: 885-28742-1

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-27-26
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics (GRO)-C6-C10
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total
Oregon	NELAP	NM100001	02-26-26

Chain-of-Custody Record

Client: **Vertex**

(direct bill to Devon, work order 8999999999)

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

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

Turn-Around Time:

X 40 HOUR RUSH
X 5-Day Rush

Project Name:

Todd 27 P Federal #016

Project #:

25A-01217

Project Manager:

Sally Carttar

SCarttar@vertexresource.com

Sampler: L. Pullman

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including CF): 3.9 + 0.2 = 4.1

Container
Type and #Preservative
Type

HEAL No.

Date Time Matrix Sample Name

07.11.25 9:40 Soil BS25-01 2'

07.11.25 9:45 Soil BS25-02 2'

07.11.25 10:05 Soil BS25-03 4'

07.11.25 10:10 Soil BS25-04 4'

07.11.25 9:30 Soil WS25-01 0-2'

07.11.25 9:35 Soil WS25-02 0-2'

07.11.25 9:55 Soil WS25-03 0-4'

07.11.25 10:00 Soil WS25-04 0-4'

HALL ENVIRONMENTAL
ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

885-28742 COC



Analysis Request

BTEX / MTBE / TMB's (8021)

TPH:8015D(GRO / DRO / MRO)

8081 Pesticides/8082 PCB's

EDB (Method 504.1)

PAHs by 8310 or 8270SIMS

RCRA 8 Metals

Cl, F, Br, NO₃, NO₂, PO₄, SO₄

8260 (VOA)

8270 (Semi-VOA)

Total Coliform (Present/Absent)

Date: 7-14-25

Time: 07:00

Relinquished by:

Received by:

Via:

Date: 7/14/25

Time: 7:00

Date: 7/14/25

Time: 19:00

Relinquished by:

Received by:

Via:

Date: 7/15/25

Time: 7:35

Remarks: ATTN Jim Raley

Direct bill to Devon work order 8999999999 Jim Raley

cc. permian@vertexresource.com, SCarttar@vertexresource.com,

kstallings@vertexresource.com, SMcCarty@vertexresource.com,

and LPullman@vertexresource.com for Final Report

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

Login Sample Receipt Checklist

Client: Vertex

Job Number: 885-28742-1

Login Number: 28742

List Source: Eurofins Albuquerque

List Number: 1

Creator: McQuiston, Steven

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



Environment Testing

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

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 27 P Fed 16

JOB NUMBER

885-30198-1

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 27 P Fed 16

Laboratory Job ID: 885-30198-1

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Definitions/Glossary

Client: Vertex
Project/Site: Todd 27 P Fed 16

Job ID: 885-30198-1

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 27 P Fed 16

Job ID: 885-30198-1

Job ID: 885-30198-1

Eurofins Albuquerque

Job Narrative 885-30198-1

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 (885-30198-1).

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.

Eurofins Albuquerque

Client Sample Results

Client: Vertex
Project/Site: Todd 27 P Fed 16

Job ID: 885-30198-1

Client Sample ID: Backfill

Lab Sample ID: 885-30198-1

Date Collected: 08/01/25 12:00

Matrix: Solid

Date Received: 08/05/25 07:48

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		08/06/25 12:48	08/08/25 12:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		15 - 150			08/06/25 12:48	08/08/25 12:01	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023	mg/Kg		08/06/25 12:48	08/08/25 06:52	1
Ethylbenzene	ND		0.047	mg/Kg		08/06/25 12:48	08/08/25 06:52	1
Toluene	ND		0.047	mg/Kg		08/06/25 12:48	08/08/25 06:52	1
Xylenes, Total	ND		0.094	mg/Kg		08/06/25 12:48	08/08/25 06:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		15 - 150			08/06/25 12:48	08/08/25 06:52	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]	ND		9.6	mg/Kg		08/06/25 14:53	08/07/25 17:55	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		08/06/25 14:53	08/07/25 17:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	104		62 - 134			08/06/25 14:53	08/07/25 17:55	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	130		60	mg/Kg		08/07/25 07:32	08/07/25 09:41	20

Eurofins Albuquerque

QC Sample Results

Client: Vertex
Project/Site: Todd 27 P Fed 16

Job ID: 885-30198-1

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				

Eurofins Albuquerque

QC Sample Results

Client: Vertex
Project/Site: Todd 27 P Fed 16

Job ID: 885-30198-1

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	

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

Lab Sample ID: 885-30198-1 MS

Matrix: Solid

Analysis Batch: 31782

Client Sample ID: Backfill

Prep Type: Total/NA

Prep Batch: 31762

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
Chloride	130		29.9	154	4	mg/Kg		84	50 - 150	

Eurofins Albuquerque

QC Sample Results

Client: Vertex
Project/Site: Todd 27 P Fed 16

Job ID: 885-30198-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 885-30198-1 MSD					Client Sample ID: Backfill							
Matrix: Solid					Prep Type: Total/NA							
Analysis Batch: 31782					Prep Batch: 31762							
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride	130		29.9	155	4	mg/Kg		90	50 - 150	1	20	

QC Association Summary

Client: Vertex
Project/Site: Todd 27 P Fed 16

Job ID: 885-30198-1

GC VOA

Prep Batch: 31707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30198-1	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
885-30198-1	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
885-30198-1	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

GC Semi VOA

Prep Batch: 31726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30198-1	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
885-30198-1	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
885-30198-1	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	
885-30198-1 MS	Backfill	Total/NA	Solid	300_Prep	
885-30198-1 MSD	Backfill	Total/NA	Solid	300_Prep	

Analysis Batch: 31782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30198-1	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
885-30198-1 MS	Backfill	Total/NA	Solid	300.0	31762
885-30198-1 MSD	Backfill	Total/NA	Solid	300.0	31762

Eurofins Albuquerque

Lab Chronicle

Client: Vertex
Project/Site: Todd 27 P Fed 16

Job ID: 885-30198-1

Client Sample ID: Backfill
Date Collected: 08/01/25 12:00
Date Received: 08/05/25 07:48

Lab Sample ID: 885-30198-1
Matrix: Solid

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 12:01
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 06:52
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 17:55
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 09:41

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

Accreditation/Certification Summary

Client: Vertex
Project/Site: Todd 27 P Fed 16

Job ID: 885-30198-1

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 (bill to Devon)

Mailing Address: 3101 Boyd dr, Carlsbad

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 48 hr

Project Name:

Todd 27 P Feb 16

Project #:	25A-01217
------------	-----------

Project Manager: Sally Carttar
Kent Stallings SCarttar@vertex.ca
Kstallings@vertex.ca

Sampler: Katrina Zavlar

On Ice: ☒ Yes ☐ No

# of Coolers:	1	chiller
---------------	---	---------

Cooler Temp (including CF): $1 - 92 + 9.2 = -7.0$ ($^{\circ}\text{C}$)Container
Type and #Preservative
Type

HEAL No.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 871

Tel. 505-345-3975 Fax 505-345-4107 885-30198 COC



Analysis Request

[illegible]

Date	Time.	Relinquished by
------	-------	-----------------

8/4/14	10:00	Water Trough
Date	Time	Relinquished by

Received by	Via
-------------	-----

Via

Date	Time
------	------

Received by Administrative Via _____

Via

8/4/25 10
Date Time

Remarks:	ATTN: JIM.RALEY@DVM.COM
----------	-------------------------

CC: KStallings@vertex.ca, SCarttar@vertex.ca &
CC: ~~8777777777~~ KTaylor@vertex.ca

GL: 7700100 → 100610330

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: 885-30198-1

Login Number: 30198

List Source: Eurofins Albuquerque

List Number: 1

Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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QUESTIONS

Action 495641

QUESTIONS

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 495641
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nMLB1122852054
Incident Name	NMLB1122852054 TODD 27 P FEDERAL #016 @ 30-015-27106
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-015-27106] TODD 27 P FEDERAL #016

Location of Release Source

Please answer all the questions in this group.

Site Name	TODD 27 P FEDERAL #016
Date Release Discovered	07/25/2011
Surface Owner	Federal

Incident Details

Please answer all the questions in this group.

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

Nature and Volume of Release

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure Flow Line - Injection Produced Water Released: 70 BBL Recovered: 45 BBL Lost: 25 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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QUESTIONS, Page 2

Action 495641

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 495641
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	False
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Release occurred outside containment

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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

I hereby agree and sign off to the above statement	Name: Roni Kidd Title: Business Manager Email: rkidd@buckhornproduction.com Date: 04/08/2025
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QUESTIONS, Page 3

Action 495641

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 495641
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
<i>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.</i>	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1000 (ft.) and ½ (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	1600
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	152
GRO+DRO (EPA SW-846 Method 8015M)	52
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	05/01/2025
On what date will (or did) the final sampling or liner inspection occur	08/01/2025
On what date will (or was) the remediation complete(d)	08/01/2025
What is the estimated surface area (in square feet) that will be reclaimed	418
What is the estimated volume (in cubic yards) that will be reclaimed	61
What is the estimated surface area (in square feet) that will be remediated	418
What is the estimated volume (in cubic yards) that will be remediated	61
<i>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.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 4

Action 495641

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 495641
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(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	FEEM0112334510 HALFWAY DISPOSAL AND LANDFILL
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
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Roni Kidd Title: Business Manager Email: rkidd@buckhornproduction.com Date: 04/08/2025
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5

Action 495641

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 495641
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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Action 495641

QUESTIONS (continued)

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	Action Number: 495641
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	484175
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	07/11/2025
What was the (estimated) number of samples that were to be gathered	5
What was the sampling surface area in square feet	1000

Remediation Closure Request	
<i>Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.</i>	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	798
What was the total volume (cubic yards) remediated	89
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	798
What was the total volume (in cubic yards) reclaimed	89
Summarize any additional remediation activities not included by answers (above)	As detailed in attached report.
<i>The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.	
I hereby agree and sign off to the above statement	Name: Roni Kidd Title: Business Manager Email: rkidd@buckhornproduction.com Date: 08/13/2025

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Action 495641

QUESTIONS (continued)

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	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 495641

CONDITIONS

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 495641
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CONDITIONS

Created By	Condition	Condition Date
scott.rodgers	This Remediation Closure Report is approved. Areas reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as they are no longer reasonably needed. A report for reclamation and revegetation will need to be submitted and approved prior to this incident receiving the final status of "Restoration Complete".	10/14/2025