



Environmental Site Remediation Work Plan

General Information

NMOCD District:	District 2 - Artesia	Incident ID:	nAPP2433927741
Landowner:	Private – Yates Ranch Property LLP	Coordinates:	32.725171, -104.497566
Client:	Silverback Operating II, LLC	Site Location:	Rumble State #4H
Date:	February 18, 2025	Project #:	24E-05130
Client Contact:	Fernando Rodriguez	Phone #:	575.361.4509
Vertex PM:	Chance Dixon	Phone #:	575.988.2681

Objective

The objective of the environmental remediation work plan is to identify exceedances found during the site assessment/characterization activity and propose an appropriate remediation technique to address these areas. The areas of environmental concern identified and delineated include pasture areas and the pipeline right-of-way. Closure criteria have been selected as per New Mexico Administrative Code 19.15.29. All applicable research as it pertains to closure criteria selection is presented in Appendix A. The closure criteria for the site are presented below.

Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
< 50 feet	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

bgs – Below ground surface
 DTGW – Depth to groundwater
 TDS – Total dissolved solids
 TPH – Total petroleum hydrocarbons = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)
 BTEX - Benzene, toluene, ethylbenzene, and xylenes

Site Assessment/Characterization

The release occurred on November 23, 2024, due to a power outage on the PLC for the air compressor overfilled separator and gas scrubber and routed fluids to the high-pressure flare, which then over sprayed surrounding areas of the pad and pasture. No free fluids were recovered but impacted soils were scraped off during the initial site assessment and clean-up. Additional details relevant to the release are presented in the C 141 Report. Daily Field Report (DFR) with site photographs documenting this initial scrape are included in Appendix B. Site characterization was completed on February 10, 2025. A total of 27 sample points were established, and samples were collected for field screening. Samples at the deepest vertical distance below closure criteria were submitted to the laboratory for analysis. In total, 60 samples were submitted to Cardinal Laboratories in Hobbs, New Mexico, for analysis. The sample locations are presented on Figure 1. Laboratory analysis results have been compared to the above-noted closure criteria and the results from the characterization activity are presented in Table 2. Exceedances are identified in the table as bold with a green background. The laboratory data report is presented in Appendix C.

Proposed Remedial Activities

Areas identified with contaminant concentrations above closure criteria will be remediated through excavation. Laboratory results from the site assessment/characterization have been referenced to estimate both the vertical and horizontal limits of the impacts and the



Environmental Site Remediation Work Plan

volume of soil to be removed. The soil will be excavated to the extent of the known contamination with field screening utilized to confirm the removal of contaminated soil below the applicable closure criteria.

Exceedances to closure criteria were identified at sampling locations BH25-12 and BH25-21. The initial scrape proved to be effective for other areas of characterization. This initial remedial response and subsequent delineation revealed no further impacts. Heavy equipment will be utilized to remove remaining impacted material and complete remedial activities in sampling areas BH25-12 and BH25-21. Field screening will be implemented to confirm the removal of contaminated soil below the applicable closure criteria. Contaminated soils will be stockpiled on a 30mil liner prior to disposal at an approved facility. Once excavation is complete, notification for confirmatory samples collection will be provided to the NMOCD two business days prior to conducting final sampling pursuant to 19.15.29.12.D(1)(a). Confirmatory samples will be collected, and laboratory analysis completed to confirm closure criteria guidelines are met. Excavations will be backfilled with clean soil sourced locally.

The estimated volume to be excavated is **~140 cubic yards**.

Sample Point	Excavation Depth	Remediation Method
BH25-12	3 ft bgs	Trackhoe
BH25-21	3 ft bgs	Trackhoe

Variance Requests

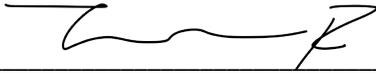
Vertex is requesting a variance in accordance with the requirements of 19.15.29 NMAC related to the final confirmation sampling of the release's remediation activities. Specifically, Vertex seeks approval to use delineation sampling locations: **BH25-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 26, and 27** as a form of final confirmation sampling for the remediated areas. Notification for final sampling will be provided to the NMOCD two business days prior to conducting final sampling pursuant to 19.15.29.12.D(1)(a).

During our remediation efforts, we have performed extensive soil sampling and analysis to delineate the impacted area. The delineation sampling locations were strategically selected based on the extent of the release, the topography of the site, and the results of the initial site assessment. Given the thoroughness of the delineation sampling process, these sample points provide a comprehensive representation of the impacted area. The laboratory analytical results from these points depict that the impacted soils have been properly remediated to NMOCD's strictest closure criteria. Vertex and Silverback respectfully request that the NMOCD grant a variance allowing the use of delineation sample points as confirmation for the remediation at the release. We believe this approach is consistent with the intent of the OCD's regulations and will ensure the protection of human health and the environment while allowing for a more efficient resolution of the incident.

Vertex did not anticipate that the remnant impacts would be miniscule. Thus, no confirmation sampling notifications were submitted to NMOCD. Therefore, Vertex would like to respectfully request another variance to use the data explained above to be used for closure without the utilization of confirmation sampling notices.

Should you have any questions or concerns, please do not hesitate to contact Chance Dixon at 575.988.1472 or cdixon@vertexresource.com.

Environmental Site Remediation Work Plan



February 20, 2025

Fernando Rodriguez, B.Sc.
PROJECT MANAGER, REPORTING

Date

In-text Tables

Table 1. Closure Criteria for Soils Impacted by a Release DTGW <50 feet bgs

List of Figures

Figure 1. Characterization Sampling Site Schematic

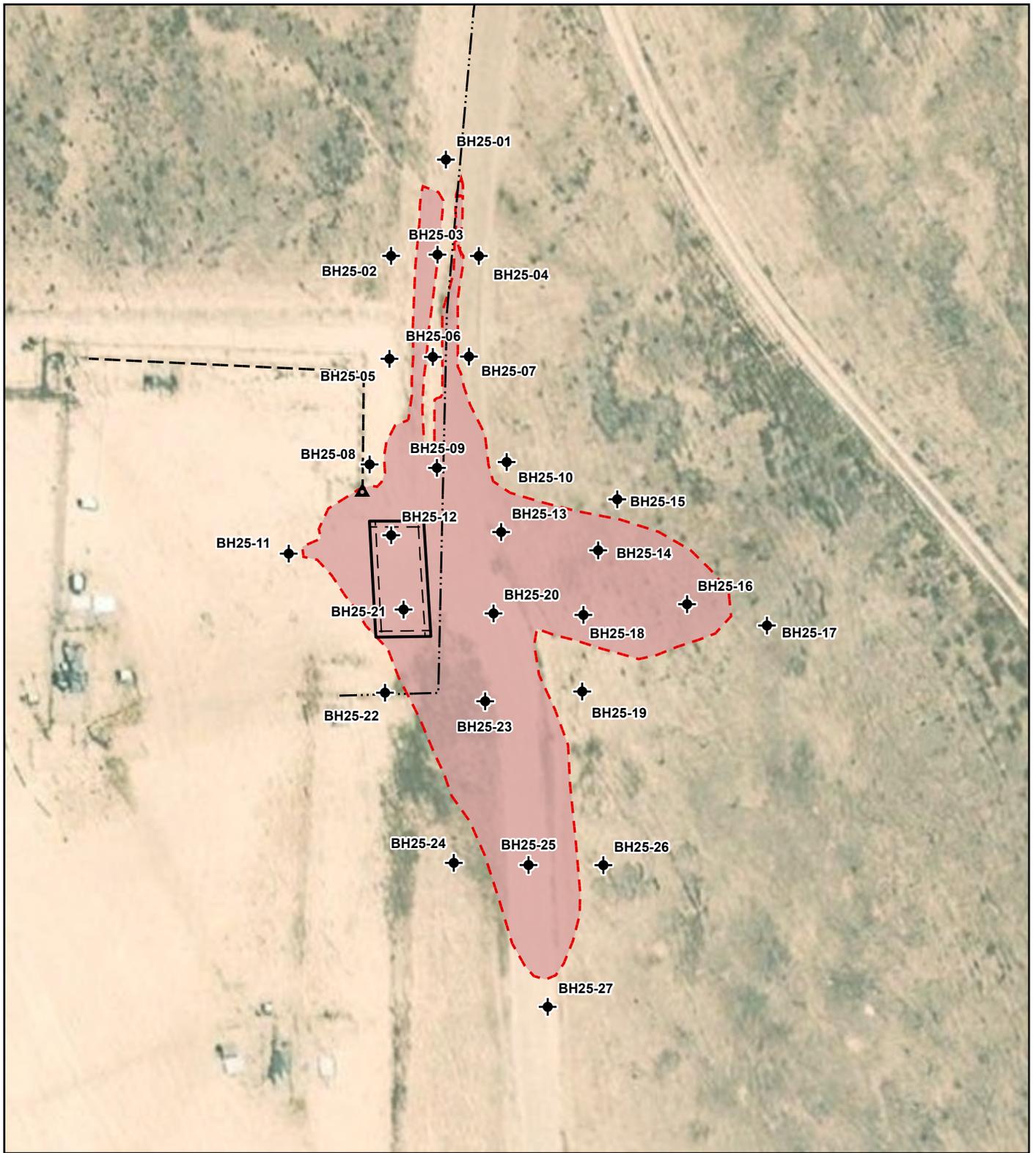
List of Tables

Table 2. Initial Characterization Field Screen and Laboratory Results

List of Appendices

- Appendix A. Closure Criteria Research Documentation
- Appendix B. Daily Field Report with Initial Scrape Photo Documentation
- Appendix C. Laboratory Data Report and Chain of Custody Form

FIGURES



- ◆ Borehole (Prefixed by "BH25-")
- ▲ Flare Stack
- Pipeline (Aboveground)
- - - Pipeline (Underground)
- ▭ Proposed Excavation to 3' bgs (~1,262 sq.ft. | 140 cu yds.)
- ▭ Release Area (~20,302 sq.ft.)



0 25 50 ft
 NAD 1983 UTM Zone 13N
 Date: Feb 19/25

Map Center:
 Lat: 32.725047°N,
 Long: 104.497338°W



Characterization Sampling Site Schematic Rumble State #4H

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, 2023. Site Features from GPS by Vertex Professional Services Ltd., 2025.

Document Path: S:\04 - Geomatics\1-Projects\US PROJECTS\Silverback Exploration\2024\24E-05130\Project\24E-05131.aprx

TABLES

Client Name: Silverback Operating II, LLC
 Site Name: Rumble State #4H
 NMOCD Tracking #: nAPP2433927741
 Project #: 24E-05130
 Lab Reports: H250110, H250549, H250550, H250824

Table 2. Initial Characterization Field Screen and Laboratory Results

Sample Description		Field Screening			Petroleum Hydrocarbons							Inorganic	
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Volatile		Extractable					Chloride Concentration
						Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Depth to Groundwater: <50 feet bgs													
BH25-01	0	January 2, 2025	-	-	21	ND	ND	ND	13.3	ND	13.3	13.3	16
	2	January 2, 2025	-	-	35	ND	ND	ND	ND	ND	ND	ND	32
BH25-02	0	January 2, 2025	-	-	132	ND	ND	ND	ND	ND	ND	ND	16
	2	January 2, 2025	-	-	121	ND	ND	ND	ND	ND	ND	ND	16
BH25-03	0	January 2, 2025	-	-	91	ND	ND	ND	ND	ND	ND	ND	64
	2	January 2, 2025	-	-	101	ND	ND	ND	ND	ND	ND	ND	32
	4	January 2, 2025	-	-	89	ND	ND	ND	ND	ND	ND	ND	112
BH25-04	0	January 2, 2025	-	-	193	ND	ND	ND	ND	ND	ND	ND	16
	2	January 2, 2025	-	-	109	ND	ND	ND	ND	ND	ND	ND	32
BH25-05	0	January 2, 2025	-	-	81	ND	ND	ND	ND	ND	ND	ND	48
	2	January 2, 2025	-	-	105	ND	ND	ND	ND	ND	ND	ND	48
BH25-06	0	January 2, 2025	-	-	121	ND	ND	ND	ND	ND	ND	ND	80
	2	January 2, 2025	-	-	108	ND	ND	ND	ND	ND	ND	ND	64
	4	January 2, 2025	-	-	130	ND	ND	ND	ND	ND	ND	ND	48
BH25-07	0	January 2, 2025	-	-	150	ND	ND	ND	ND	ND	ND	ND	96
	2	January 2, 2025	-	-	193	ND	ND	ND	ND	ND	ND	ND	80
BH25-08	0	January 2, 2025	-	-	38	ND	ND	ND	ND	ND	ND	ND	112
	2	January 2, 2025	-	-	72	ND	ND	ND	ND	ND	ND	ND	32
BH25-09	0	January 2, 2025	-	-	52	ND	ND	ND	27.3	ND	27.3	27.3	112
	2	January 2, 2025	-	-	130	ND	ND	ND	ND	ND	ND	ND	176
	4	January 2, 2025	-	-	80	ND	ND	ND	ND	ND	ND	ND	272
BH25-10	0	January 2, 2025	-	-	32	ND	ND	ND	ND	ND	ND	ND	16
	2	January 2, 2025	-	-	33	ND	ND	ND	ND	ND	ND	ND	80
BH25-11	0	January 29, 2025	-	-	236	ND	ND	ND	15.1	ND	15.1	15.1	16
	1	January 29, 2025	-	-	305	ND	ND	ND	ND	ND	ND	ND	16
BH25-12	0	January 28, 2025	-	ND	2,873	ND	ND	ND	ND	ND	ND	ND	2200
	2	January 28, 2025	-	ND	1,679	ND	ND	ND	ND	ND	ND	ND	960
	4	February 10, 2025	-	10	320	ND	ND	ND	ND	ND	ND	ND	16
BH25-13	0	January 2, 2025	-	-	56	ND	ND	ND	ND	ND	ND	ND	48
	2	January 2, 2025	-	-	150	ND	ND	ND	44.3	ND	44.3	44.3	320
	4	January 2, 2025	-	-	45	ND	ND	ND	ND	ND	ND	ND	112
BH25-14	0	January 28, 2025	-	39	636	ND	ND	ND	ND	ND	ND	ND	320
	2	January 28, 2025	-	3	236	ND	ND	ND	ND	ND	ND	ND	64
BH25-15	0	January 2, 2025	-	-	31	ND	ND	ND	ND	ND	ND	ND	16
	2	January 2, 2025	-	-	45	ND	ND	ND	ND	ND	ND	ND	16
BH25-16	0	January 28, 2025	-	1	311	ND	ND	ND	ND	ND	ND	ND	112
	2	January 28, 2025	-	2	269	ND	ND	ND	ND	ND	ND	ND	16
BH25-17	0	January 28, 2025	-	ND	330	ND	ND	ND	ND	ND	ND	ND	64
	2	January 28, 2025	-	ND	275	ND	ND	ND	ND	ND	ND	ND	48
BH25-18	0	January 28, 2025	-	ND	346	ND	ND	ND	ND	ND	ND	ND	128
	2	January 28, 2025	-	ND	419	ND	ND	ND	ND	ND	ND	ND	64
BH25-19	0	January 28, 2025	-	-	298	ND	ND	ND	ND	ND	ND	ND	32
	2	January 28, 2025	-	-	320	ND	ND	ND	ND	ND	ND	ND	32
BH25-20	0	January 28, 2025	-	-	447	ND	ND	ND	56.6	14.4	56.6	71	160
	2	January 28, 2025	-	-	303	ND	ND	ND	ND	ND	ND	ND	16
BH25-21	0	January 28, 2025	-	950	3,544	ND	1.58	355	12700	1960	13055	15015	5840
	2	January 28, 2025	-	48	637	ND	ND	ND	647	208	647	855	400
	4	February 10, 2025	-	20	136	ND	ND	ND	ND	ND	ND	ND	16
BH25-22	0	January 29, 2025	-	-	443	ND	ND	ND	ND	ND	ND	ND	80
	2	January 29, 2025	-	-	317	ND	ND	ND	ND	ND	ND	ND	48
BH25-23	0	January 29, 2025	-	-	318	ND	ND	ND	20.5	ND	20.5	20.5	240
	2	January 29, 2025	-	-	326	ND	ND	ND	ND	ND	ND	ND	16
BH25-24	0	January 29, 2025	-	-	290	ND	ND	ND	ND	ND	ND	ND	32
	2	January 29, 2025	-	-	372	ND	ND	ND	ND	ND	ND	ND	16
BH25-25	0	January 29, 2025	-	-	349	ND	ND	ND	ND	ND	ND	ND	32
	2	January 29, 2025	-	-	320	ND	ND	ND	ND	ND	ND	ND	16
BH25-26	0	January 29, 2025	-	-	344	ND	ND	ND	ND	ND	ND	ND	16
	2	January 29, 2025	-	-	458	ND	ND	ND	ND	ND	ND	ND	48
BH25-27	0	January 29, 2025	-	-	402	ND	ND	ND	ND	ND	ND	ND	16
	2	January 29, 2025	-	-	410	ND	ND	ND	ND	ND	ND	ND	32

"ND" Not Detected at the Reporting Limit
 "-" indicates not analyzed/assessed

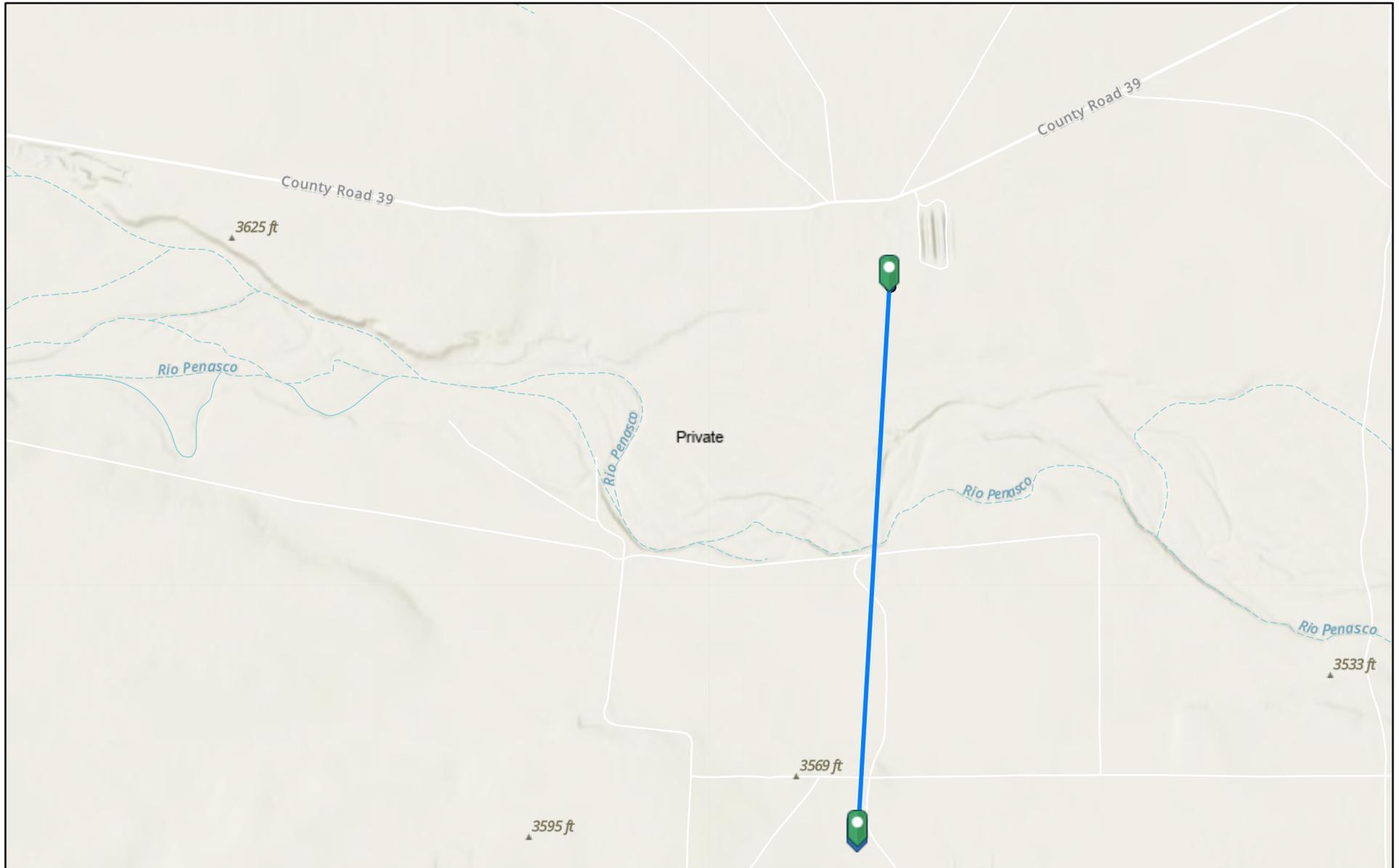
Bold and grey: exceeds NMOCD Closure Criteria (on-pad)
Bold and green: exceeds NMOCD Reclamation Criteria (off-pad)



APPENDIX A

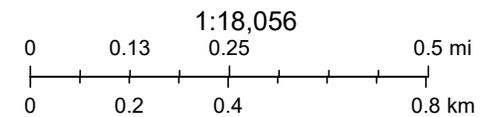
Closure Criteria Determination			
Site Name: Rumble State #4H			
Spill Coordinates: 32.725171,-104.497566		X: 547081	Y: 3620932
Table 1. Closure Criteria Determination			
Site Specific Conditions		Value	Unit
1	Depth to Groundwater (nearest reference)	150	feet
	Distance between release and nearest DTGW reference	5,052	feet
		0.96	miles
	Date of nearest DTGW reference measurement	January 31, 1961	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	2,641	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	13,011	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	52,458	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		feet
	ii) Within 1000 feet of any fresh water well or spring	73,667	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	4,465	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	16,989	feet
9	Within an unstable area (Karst Map)	Medium	Critical High Medium Low
	Distance between release and nearest unstable area	0	feet
10	Within a 100-year Floodplain	>500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	2,773	feet
11	Soil Type	UR: Upton-Reagan Complex	
12	Ecological Classification	R042CY153NM — Loamy	
13	Geology	Qp - Piedmont alluvial deposits	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	<50' 51-100' >100'

Rumble State #4H - DTGW



1/9/2025, 10:08:10 AM

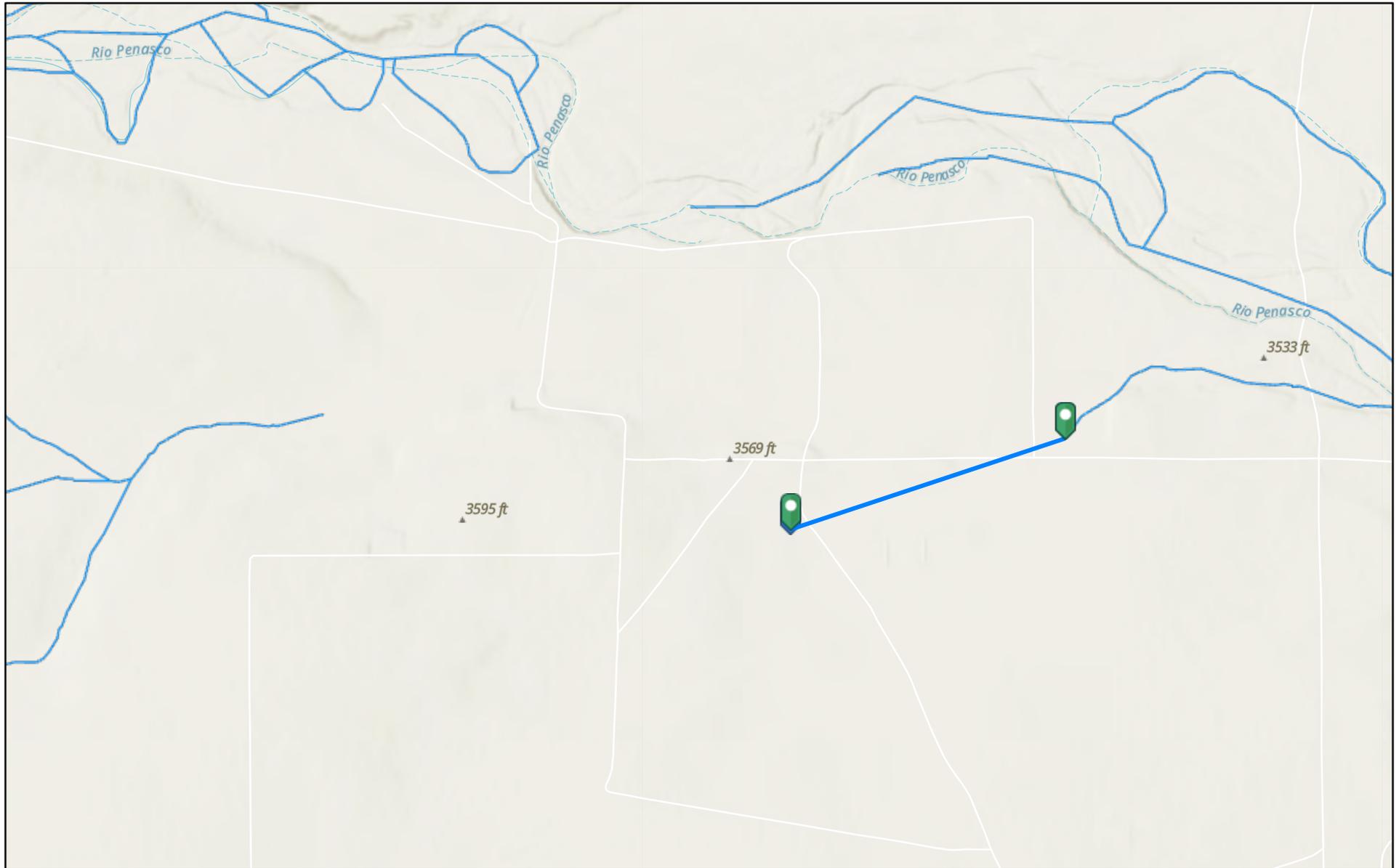
- OSE Water PODs Land Ownership
- P



U.S. BLM, Esri, NASA, NGA, USGS, FEMA, OCD, Esri Community Maps Contributors, New Mexico State University, Texas Parks & Wildlife, Esri,

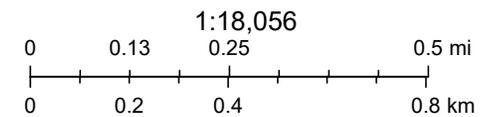
New Mexico Oil Conservation Division

Rumble State #4H - Watercourse



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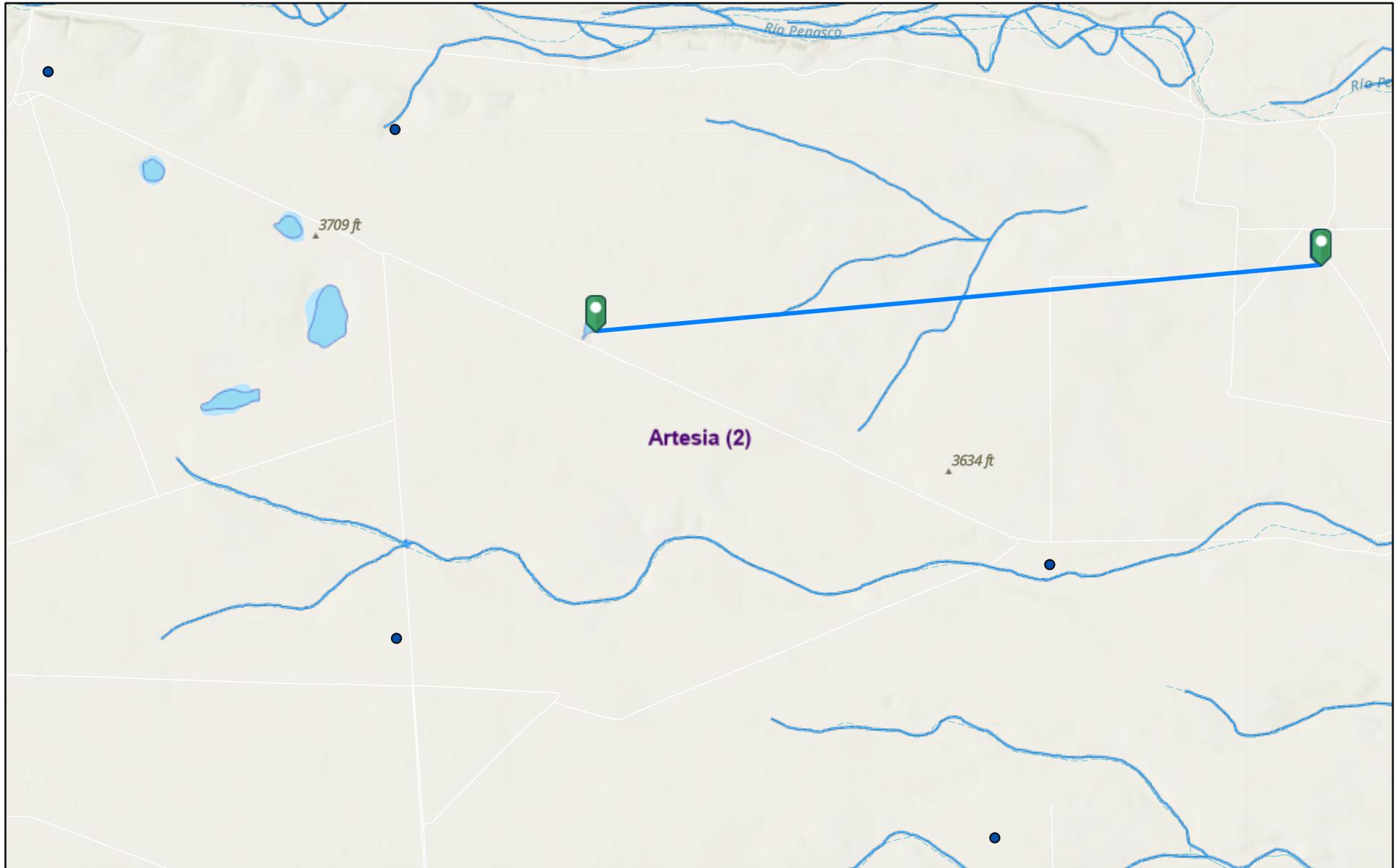
— OSE Streams



Esri, NASA, NGA, USGS, FEMA, OCD, Esri Community Maps Contributors, New Mexico State University, Texas Parks & Wildlife, Esri, TomTom, Garmin,

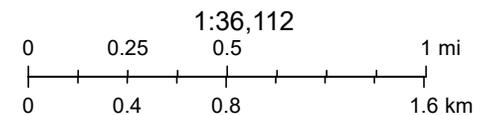
New Mexico Oil Conservation Division

Rumble State 4H - Lake



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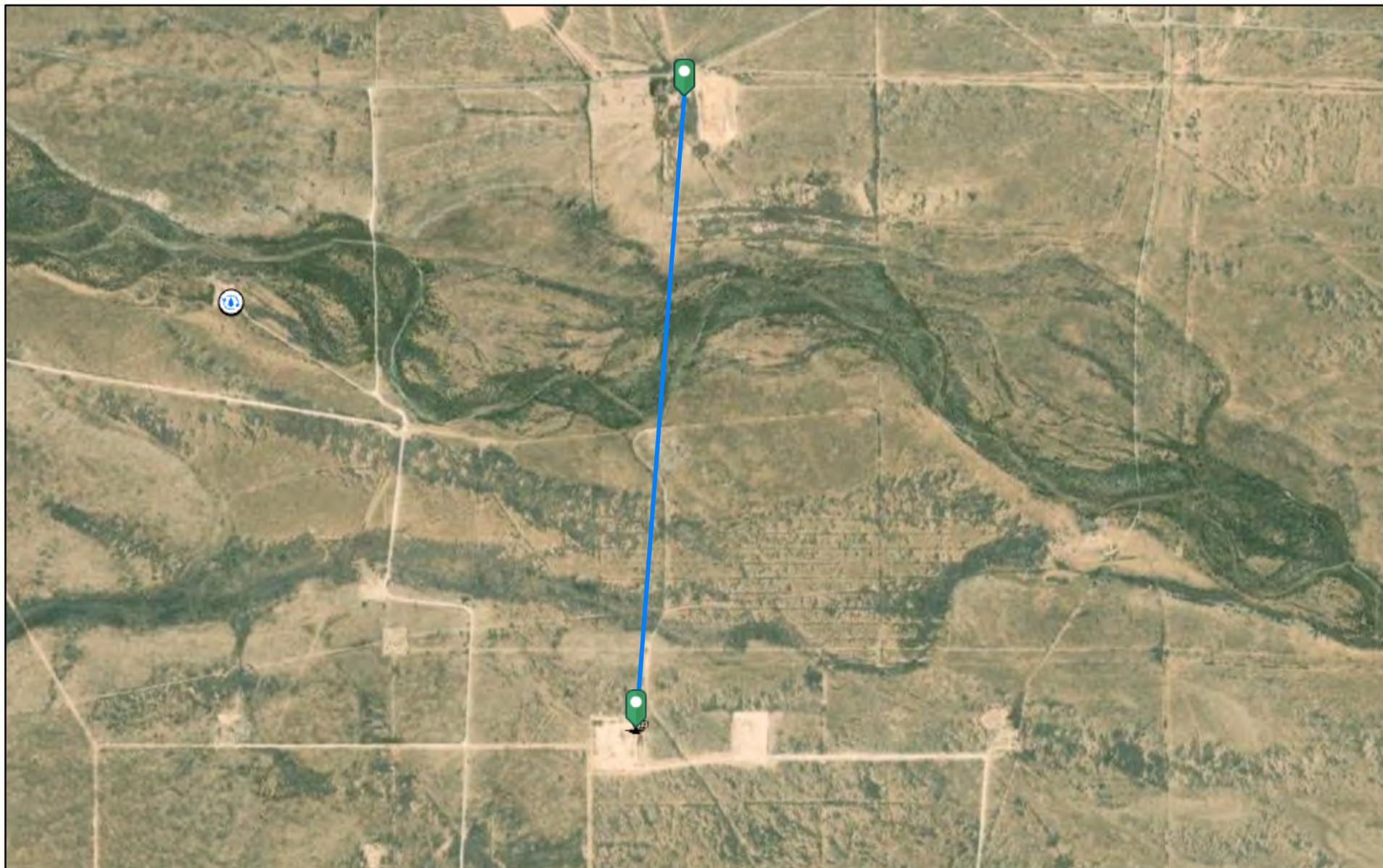
- OSE Water PODs
- OSW Water Bodies
- OSE Streams
- OCD Districts



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

New Mexico Oil Conservation Division

Rumble State #4H - Residence

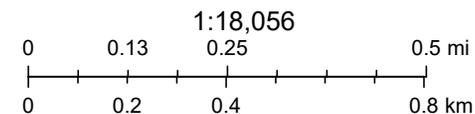


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Incident Release

 Produced Water Release

 Oil Release



Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department., Esri, HERE, Garmin, IPC, Maxar

New Mexico Oil Conservation Division



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

WR File Nbr	Sub basin	Use	Diversion	County	POD Number	Well Tag	Code	Grant	Source	(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)		Map	Distance	Start Date	End Date	Depth Well (in feet)	Depth Water (in feet)
										q64	q16	q4	Sec	Tws	Range	X	Y							
RA 04344	RA	DOL	3.000	CH	RA 04344				Shallow		NW	NW	21	18S	25E	547168.0	3622497.0 *		1,567.4	1960-12-02	1960-12-13	381	220	
RA 04365	RA	DOL	3.000	CH	RA 04365				Shallow		NW	NW	21	18S	25E	547168.0	3622497.0 *		1,567.4	1961-01-21	1961-02-01	265	150	

Record Count: 2

Filters Applied:

UTM Filters (in meters):

Easting: 547081
Northing: 3620932
Radius: 1616.0

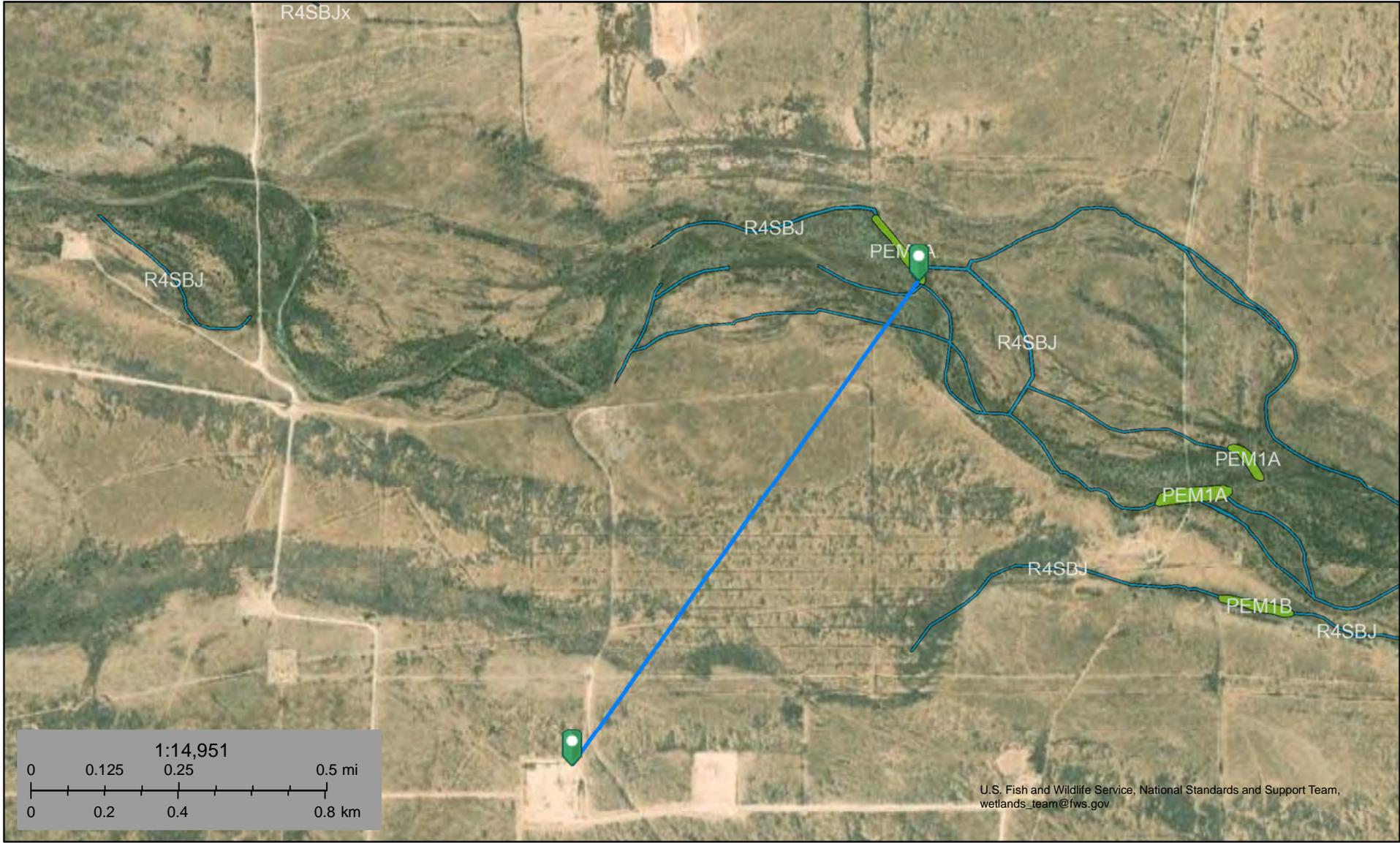
Sorted By: Distance

* 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.



Rumble State #4H - Wetland



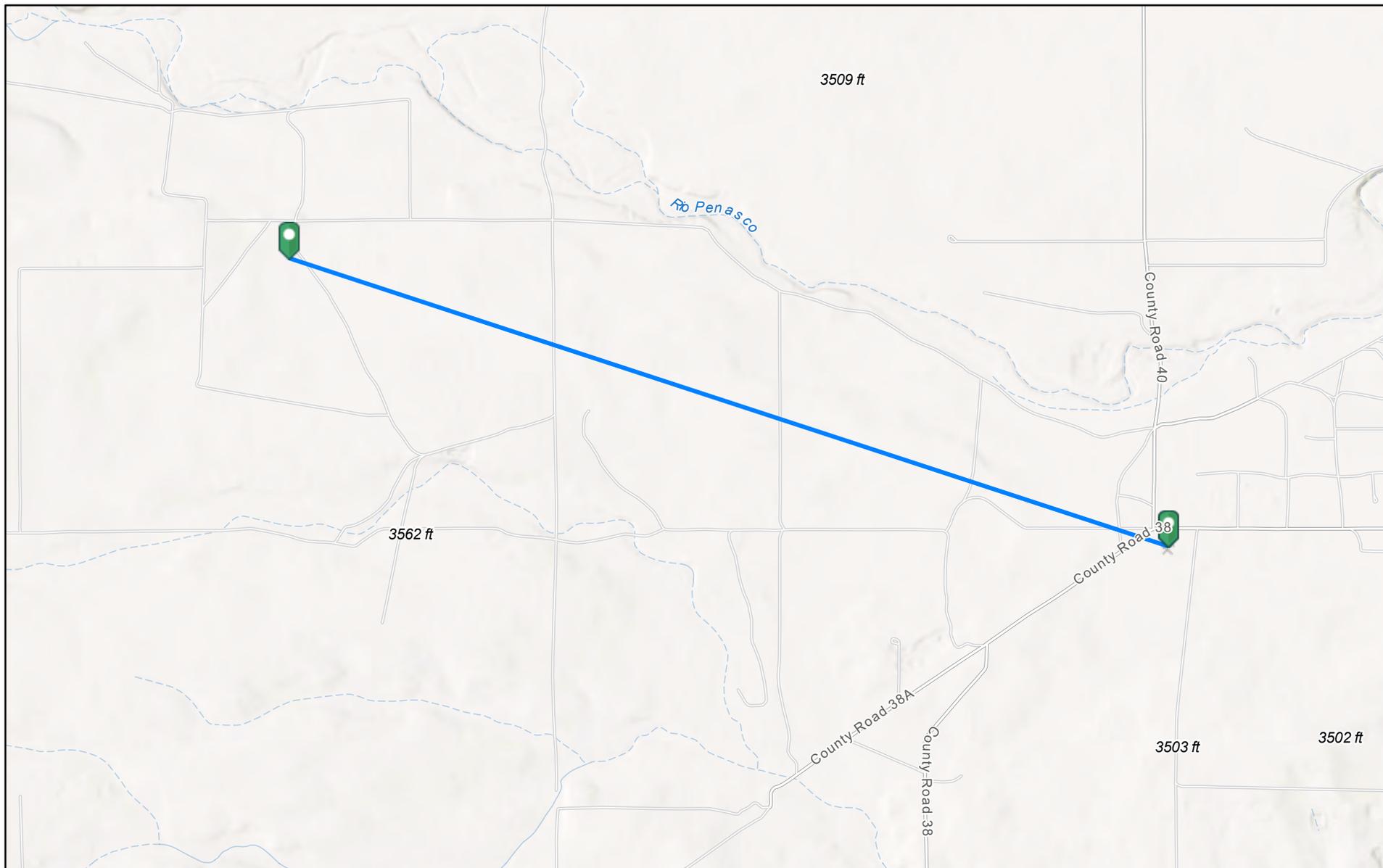
January 9, 2025

Wetlands

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

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

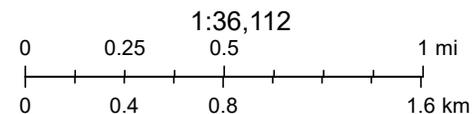
Rumble State #4H - Mine



2/17/2025, 12:46:17 PM

Registered Mines

✕ Aggregate, Stone etc.

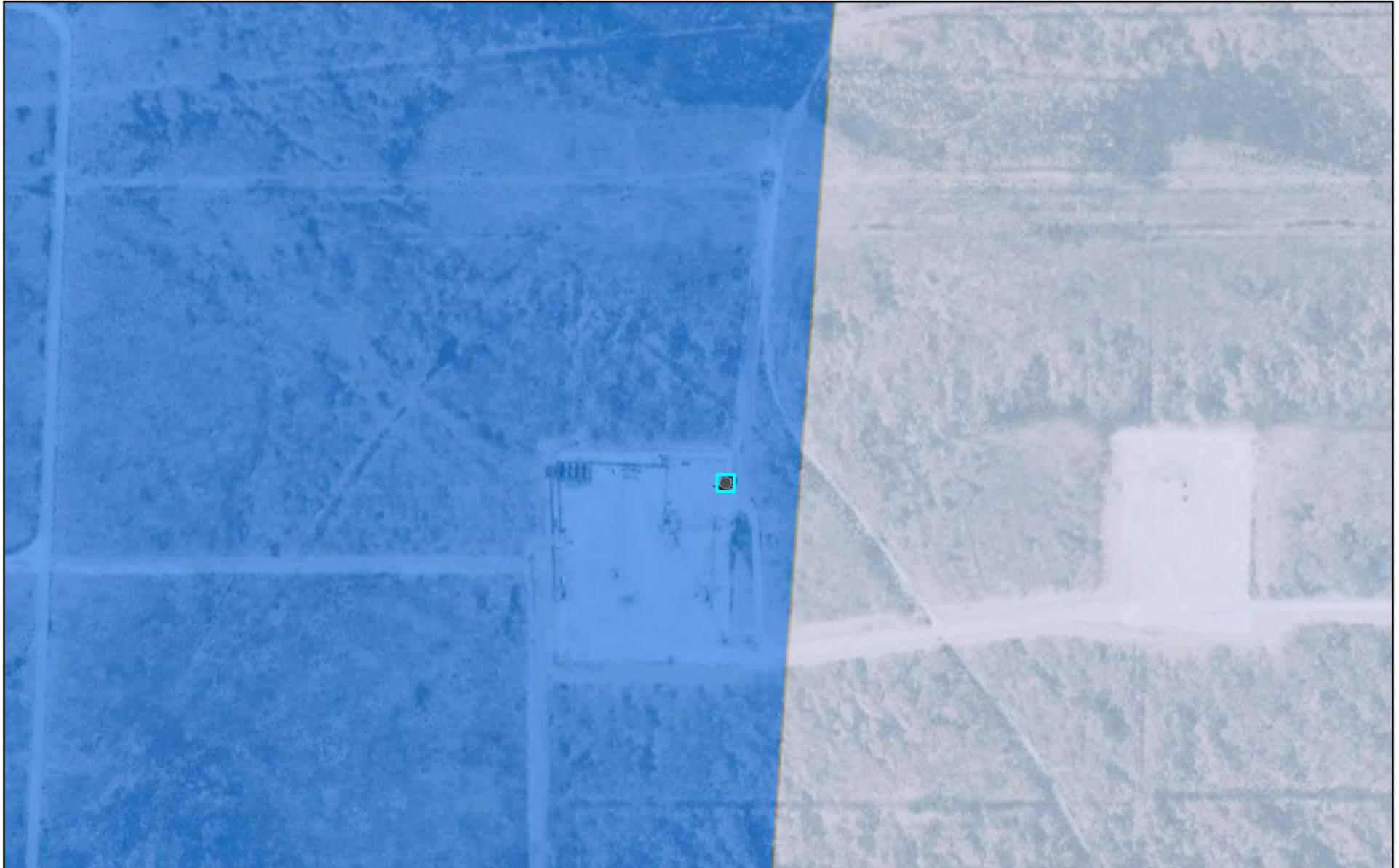


Esri, NASA, NGA, USGS, FEMA, Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,

EMNRD MMD GIS Coordinator

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

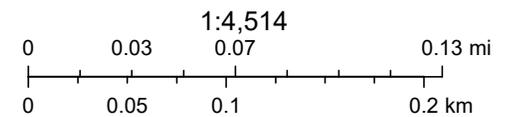
Rumble State #4H - Karst



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Incident Release Karst Occurrence Potential Low

Oil Release Medium



BLM, OCD, New Mexico Tech, Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department., Esri, HERE, Garmin,

New Mexico Oil Conservation Division

National Flood Hazard Layer FIRMette



104°30'10"W 32°43'46"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 X
 - Future Conditions 1% Annual Chance Flood Hazard Zone X
 - Area with Reduced Flood Risk due to Levee. See Notes. Zone X
 - Area with Flood Risk due to Levee Zone D
 - OTHER AREAS**
 - NO SCREEN Area of Minimal Flood Hazard Zone X
 - Effective LOMRs
 - Area of Undetermined Flood Hazard Zone D
 - GENERAL STRUCTURES**
 - Channel, Culvert, or Storm Sewer
 - Levee, Dike, or Floodwall
 - OTHER FEATURES**
 - 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.



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



February 17, 2025

Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report Soil Map (Rumble State #4H (30-015-45749))



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MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

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

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
 Survey Area Data: Version 20, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 12, 2022—Dec 2, 2022

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.

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Map Unit Legend (Rumble State #4H (30-015-45749))

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
RE	Reagan-Upton association, 0 to 9 percent slopes	0.2	1.6%
UR	Upton-Reagan complex, 0 to 9 percent slopes	10.9	98.4%
Totals for Area of Interest		11.1	100.0%

Map Unit Descriptions (Rumble State #4H (30-015-45749))

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

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pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

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Eddy Area, New Mexico**RE—Reagan-Upton association, 0 to 9 percent slopes****Map Unit Setting***National map unit symbol:* 1w5d*Elevation:* 1,100 to 5,400 feet*Mean annual precipitation:* 6 to 14 inches*Mean annual air temperature:* 60 to 64 degrees F*Frost-free period:* 180 to 240 days*Farmland classification:* Farmland of statewide importance**Map Unit Composition***Reagan and similar soils:* 70 percent*Upton and similar soils:* 25 percent*Minor components:* 5 percent*Estimates are based on observations, descriptions, and transects of the mapunit.***Description of Reagan****Setting***Landform:* Fan remnants, alluvial fans*Landform position (three-dimensional):* Rise*Down-slope shape:* Convex, linear*Across-slope shape:* Linear*Parent material:* Alluvium and/or eolian deposits**Typical profile***H1 - 0 to 8 inches:* loam*H2 - 8 to 60 inches:* loam**Properties and qualities***Slope:* 0 to 3 percent*Depth to restrictive feature:* More than 80 inches*Drainage class:* Well drained*Runoff class:* Low*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high
(0.60 to 2.00 in/hr)*Depth to water table:* More than 80 inches*Frequency of flooding:* None*Frequency of ponding:* None*Calcium carbonate, maximum content:* 40 percent*Maximum salinity:* Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)*Sodium adsorption ratio, maximum:* 1.0*Available water supply, 0 to 60 inches:* Moderate (about 8.2 inches)**Interpretive groups***Land capability classification (irrigated):* 2e*Land capability classification (nonirrigated):* 6e*Hydrologic Soil Group:* B*Ecological site:* R042CY153NM - Loamy*Hydric soil rating:* No

Custom Soil Resource Report

Description of Upton**Setting**

Landform: Ridges, fans
Landform position (three-dimensional): Side slope, rise
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from limestone

Typical profile

H1 - 0 to 9 inches: gravelly loam
H2 - 9 to 13 inches: gravelly loam
H3 - 13 to 21 inches: cemented
H4 - 21 to 60 inches: very gravelly loam

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high
(0.01 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 75 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R042CY159NM - Shallow Loamy
Hydric soil rating: No

Minor Components**Atoka**

Percent of map unit: 3 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Pima

Percent of map unit: 2 percent
Ecological site: R070BC017NM - Bottomland
Hydric soil rating: No

Custom Soil Resource Report

UR—Upton-Reagan complex, 0 to 9 percent slopes**Map Unit Setting**

National map unit symbol: 1w65
Elevation: 1,100 to 5,400 feet
Mean annual precipitation: 6 to 15 inches
Mean annual air temperature: 60 to 70 degrees F
Frost-free period: 180 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Upton and similar soils: 55 percent
Reagan and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Upton**Setting**

Landform: Ridges, fans
Landform position (three-dimensional): Side slope, rise
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from limestone

Typical profile

H1 - 0 to 9 inches: gravelly loam
H2 - 9 to 13 inches: gravelly loam
H3 - 13 to 21 inches: cemented
H4 - 21 to 60 inches: very gravelly loam

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high
 (0.01 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 75 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s

Custom Soil Resource Report

Hydrologic Soil Group: D
Ecological site: R070BC025NM - Shallow
Hydric soil rating: No

Description of Reagan**Setting**

Landform: Fan remnants, alluvial fans
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Alluvium and/or eolian deposits

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 60 inches: loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Minor Components**Pima**

Percent of map unit: 5 percent
Ecological site: R070BC017NM - Bottomland
Hydric soil rating: No

Reagan

Percent of map unit: 5 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

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Ecological site R070BC025NM Shallow

Accessed: 02/17/2025

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on knolls, ridges, hillslopes alluvial fans and escarpments. Slopes range from 0 to 25 percent and average about 7 percent. Direction of slope varies and is usually not significant. Elevations range from 2,842 to 4,500 feet.

Table 2. Representative physiographic features

Landforms	(1) Hill (2) Ridge (3) Fan piedmont
Flooding frequency	None
Ponding frequency	None
Elevation	2,842–4,500 ft
Slope	0–25%
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 180 to 220 days. The last killing frost is late March or early April, and the first killing frost is in late October or early November.

Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of this site. Because of the shallow soil depth, the vegetation on this site can take advantage of moisture almost anytime it falls. Strong winds that blow from the west and southwest blow from January through June, which accelerates soil drying at a critical time for cool season plant growth.

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

Table 3. Representative climatic features

Frost-free period (average)	220 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

The soils of this site are shallow to very shallow. Soils are derived from mixed calcareous eolian deposits derived from sedimentary rock. Surface layers are very cobbly loam, very gravelly loam, gravelly loam, cobbly loam, gravelly fine sandy loam or gravelly sandy loam.

There is an indurated caliche layer or limestone bedrock that occurs within 20 inches and averages less than 10 inches. Limestone or caliche layer may be the restrictive layer.

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

Characteristic soils:

Lozier
Potter
Tencee
Upton
Ector
Kimbrough

Table 4. Representative soil features

Surface texture	(1) Gravelly loam (2) Extremely gravelly loam (3) Extremely cobbly loam
Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Very slow to moderately slow
Soil depth	4–20 in
Surface fragment cover <=3"	15–40%
Available water capacity (0-40in)	1 in
Calcium carbonate equivalent (0-40in)	15–60%

Electrical conductivity (0-40in)	0–2 mmhos/cm
Sodium adsorption ratio (0-40in)	0–1
Soil reaction (1:1 water) (0-40in)	7.4–8.4
Subsurface fragment volume <=3" (Depth not specified)	13–42%
Subsurface fragment volume >3" (Depth not specified)	0–1%

Ecological dynamics

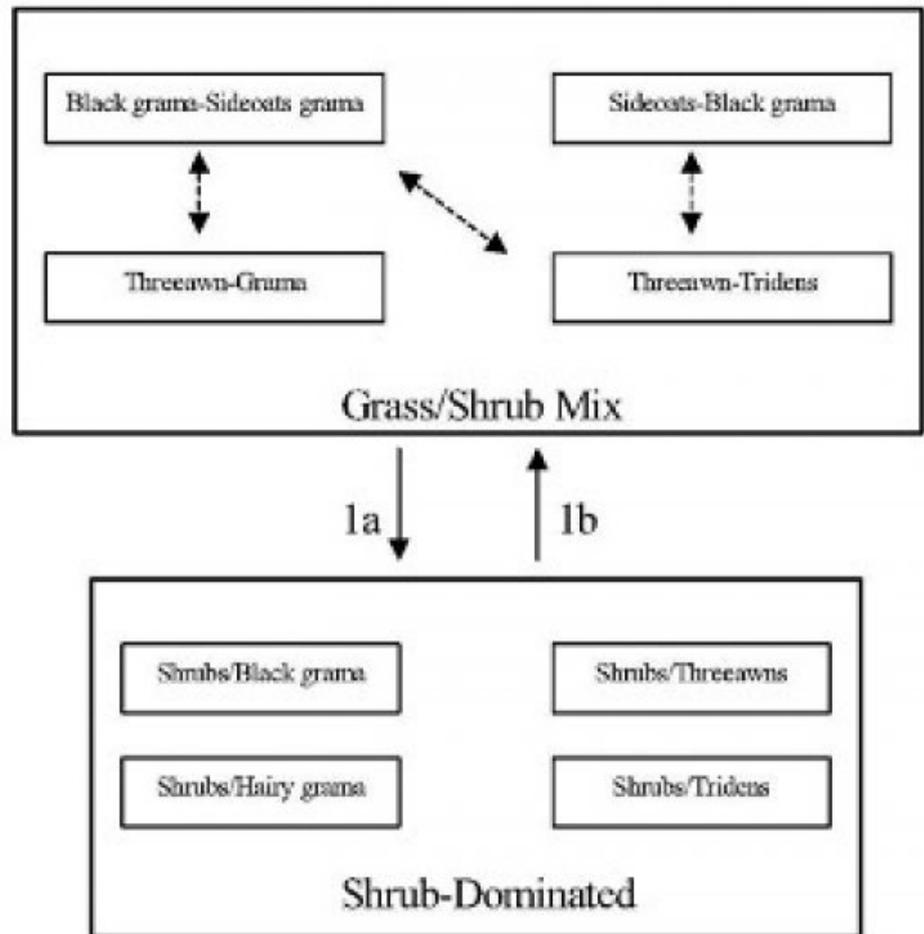
Overview:

The Shallow site is associated with and Limestone Hills, Loamy, and Shallow Sandy sites. When associated with Limestone Hills, the Shallow site occurs on the summits, foot slopes and toeslopes of hills. Loamy sites often occur as areas between low elongated hills with rounded crests (Shallow site). When the Shallow Sandy site and Shallow site occur in association, the Shallow Sandy soils occupy the tops of low ridges and the Shallow site soils occur on the steeper sideslopes of the ridge. The historic plant community of the Shallow site has the aspect of a grassland/shrub mix, dominated by grasses, but with shrubs common throughout the site. Black grama is the dominant grass species; creosotebush, mesquite, and catclaw mimosa are common shrubs. Overgrazing and or extended drought can reduce grass cover, effect a change in grass species dominance, and may result in a shrub-dominated state. 1

State and transition model

Plant Communities and Transitional Pathways (diagram)

MLRA-42, SD-3, Shallow



1a. Extended drought, overgrazing, no fire

1b. Brush control, Prescribed grazing

**State 1
Grass/Shrub Mix**

**Community 1.1
Grass/Shrub Mix**

Grassland/Shrub Mix: The historic plant community is dominated by black grama with sideoats grama as the sub-dominant. Blue grama, hairy grama, bush muhly, and sand dropseed also occur in significant amounts. Sideoats grama can occur as the dominant grass with black grama as sub-dominant on the western side of the Land Resource Unit SD-3. This may be due to higher average elevation on the west side. Retrogression within this state due to extended drought or overgrazing will cause a decrease in species such as black grama, sideoats grama, blue grama, and bush muhly. Threeawns may become the dominant grass species due to a decline in more palatable grasses or because of its ability to quickly recover following drought. Continued loss of grass cover and associated increase in amount of bare ground may result in a shrub-dominated state. Decreased fire frequencies may also be

an important component in the cause of this transition. Diagnosis: Grass cover is fairly uniform, however, surface gravel, cobble, and bare ground make up a large percent of total ground cover, and grass production during unfavorable years may only average 150-175 pounds per acre. Shrubs are common with canopy cover averaging five to ten percent. Evidence of erosion such as rills and gullies are rare, but may occur on slopes greater than eight percent.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	168	352	536
Shrub/Vine	63	131	200
Forb	20	42	64
Total	251	525	800

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	5-10%
Grass/grasslike foliar cover	10-15%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	5-8%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	40-60%

Figure 5. Plant community growth curve (percent production by month). NM2825, R042XC025NM Shallow HCPC. R042XC025NM Shallow HCPC 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 Shrub-Dominated

Community 2.1 Shrub-Dominated

Shrub-Dominated: This state is characterized by an increase in shrubs and a decrease in grass cover relative to grassland/shrub mix. As grass cover decreases shrubs increase, especially creosotebush, catclaw mimosa, whitethorn acacia, and mesquite. Each of these shrub species may become dominant in localized areas or across the site, depending on the spatial variability in soil characteristics and landscape position. Black grama, threeawns, hairy grama, or hairy tridens may be the dominant grass species. Fluffgrass, burrograss and broom snakeweed increase in representation. The Shallow site is resistant to state change, due to the natural rock armor of the soil and a shallow impermeable layer. The amount of rock fragments on the soil surface assist in retarding erosion. On Shallow sites with low slope, the shallow depth to either a petrocalcic layer or limestone bedrock helps to keep water perched and available to shallow rooted grasses for extended periods. 2 Diagnosis: Shrubs are the dominant species, especially creosotebush, catclaw mimosa, whitethorn acacia, or mesquite. Grass cover is variable ranging

from patchy with large connected bare areas present to sparse with only a limited amount in shrub inter-spaces. Transition to Shrub-Dominated (1a) Overgrazing and or extended periods of drought, and suppression of natural fire regimes are thought to cause this transition. As grass cover is lost, soil fertility and available soil moisture decline, due to the reduction of organic matter and decreased infiltration.³ Shrubs have the ability to extract nutrients and water from a greater area of soil than grasses and are better able to utilize limited water. Competition by shrubs for water and nutrients limits grass recruitment and establishment. Fire historically may have played a part in suppressing shrub expansion; fire suppression may therefore facilitate shrub expansion. Key indicators of approach to transition: *Decrease or change in composition or distribution of grass cover. *Increase in size and frequency of bare patches. *Increase in amount of shrub seedlings. Transition back to Grassland/Shrub Mix (1b) Brush control is necessary to re-establish grasses. Prescribed grazing will help to ensure proper forage utilization and sustain grass cover. Once the transition is reversed and grass cover is re-established, periodic use of prescribed fire may assist in maintaining the Grassland/Shrub state.

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				105–158	
	black grama	BOER4	<i>Bouteloua eriopoda</i>	105–158	–
2				79–105	
	sideoats grama	BOCU	<i>Bouteloua curtipendula</i>	79–105	–
3				79–105	
	blue grama	BOGR2	<i>Bouteloua gracilis</i>	79–105	–
	hairy grama	BOHI2	<i>Bouteloua hirsuta</i>	79–105	–
4				26–53	
	bush muhly	MUPO2	<i>Muhlenbergia porteri</i>	26–53	–
5				16–26	
	cane bluestem	BOBA3	<i>Bothriochloa barbinodis</i>	16–26	–
6				26–53	
	sand dropseed	SPCR	<i>Sporobolus cryptandrus</i>	26–53	–
7				16–26	
	hairy woollygrass	ERPI5	<i>Erioneuron pilosum</i>	16–26	–
8				5–16	
	ear muhly	MUAR	<i>Muhlenbergia arenacea</i>	5–16	–
9				5–16	
	New Mexico feathergrass	HENE5	<i>Hesperostipa neomexicana</i>	5–16	–
10				5–16	
	low woollygrass	DAPU7	<i>Dasyochloa pulchella</i>	5–16	–
11				16–26	
	Grass, perennial	2GP	<i>Grass, perennial</i>	16–26	–
Forb					
12				11–26	
	stemless four-nerve daisy	TEACE	<i>Tetraneuris acaulis var. epunctata</i>	11–26	–
13				5–16	
	woolly groundsel	PACA15	<i>Packera cana</i>	5–16	–

14				5-16	
	globemallow	SPHAE	<i>Sphaeralcea</i>	5-16	-
15				5-16	
	bladderpod	LESQU	<i>Lesquerella</i>	5-16	-
16				5-16	
	cassia	CASSI	<i>Cassia</i>	5-16	-
17				11-26	
	Forb (herbaceous, not grass nor grass-like)	2FORB	<i>Forb (herbaceous, not grass nor grass-like)</i>	11-26	-
Shrub/Vine					
18				5-16	
	littleleaf sumac	RHMI3	<i>Rhus microphylla</i>	5-16	-
19				5-16	
	creosote bush	LATR2	<i>Larrea tridentata</i>	5-16	-
20				5-16	
	littleleaf ratany	KRER	<i>Krameria erecta</i>	5-16	-
21				5-16	
	javelina bush	COER5	<i>Condalia ericoides</i>	5-16	-
22				5-16	
	American tarwort	FLCE	<i>Flourensia cernua</i>	5-16	-
23				5-16	
	crown of thorns	KOSP	<i>Koeberlinia spinosa</i>	5-16	-
24				11-26	
	honey mesquite	PRGL2	<i>Prosopis glandulosa</i>	11-26	-
	honey mesquite	PRGL2	<i>Prosopis glandulosa</i>	11-26	-
25				5-16	
	catclaw mimosa	MIACB	<i>Mimosa aculeaticarpa var. biuncifera</i>	5-16	-
26				5-16	
	pricklypear	OPUNT	<i>Opuntia</i>	5-16	-
27				11-26	
	mariola	PAIN2	<i>Parthenium incanum</i>	11-26	-
	mariola	PAIN2	<i>Parthenium incanum</i>	11-26	-
28				5-16	
	broom snakeweed	GUSA2	<i>Gutierrezia sarothrae</i>	5-16	-
29				16-26	
	Shrub (>.5m)	2SHRUB	<i>Shrub (>.5m)</i>	16-26	-

Animal community

This site provides habitats which support a resident animal community that is characterized by desert cottontail, spotted ground squirrel, Merriam's kangaroo rat, cactus mouse, white-throated woodrat, gray fox, spotted skunk, roadrunner, Swainson's hawk, white-necked raven, cactus wren, pyrrhuloxia, lark sparrow, mourning dove, scaled quail, leopard lizard, round-tailed horned lizard, prairie rattlesnake, marbled whiptail, and greater earless lizard. Where associated with limestone hills, mule deer utilize this site.

Where large woody shrubs occur, most resident birds and scissor-tailed flycatcher, morning dove, lark sparrow and

Swainson's hawk nest.

Hydrological functions

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

Hydrologic Interpretations

Soil Series----- Hydrologic Group

Lozier----- D

Potter----- C

Tencee----- D

Upton----- C

Kimbrough----- D

Upton----- D

Ector----- D

Recreational uses

This site offers recreation potential for hiking, horseback riding, rock hunting, nature photography and bird hunting and birding. During years of abundant spring moisture, a colorful array of wild flowers is displayed during May and June. A few summer and fall flowers also occur.

Wood products

This site has no potential for wood production.

Other products

This site is suited for grazing by all kinds and classes of livestock during all seasons of the year. Missmanagement will cause a decrease in black grama, sideoats grama, and blue grama, bush muhly and New Mexico feathergrass. A corresponding increase in bare ground will occur. There will also be an increase in muhlys, fluffgrass, creosotebush, javalinabush, catclaw, and mesquite. This site will respond best to a system of management that rotates the season of use.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index----- Ac/AUM

100 - 76----- 3.7 – 4.5

75 – 51----- 4.3 – 5.5

50 – 26----- 5.3 – 10.0

25 – 0----- 10.1 +

Inventory data references

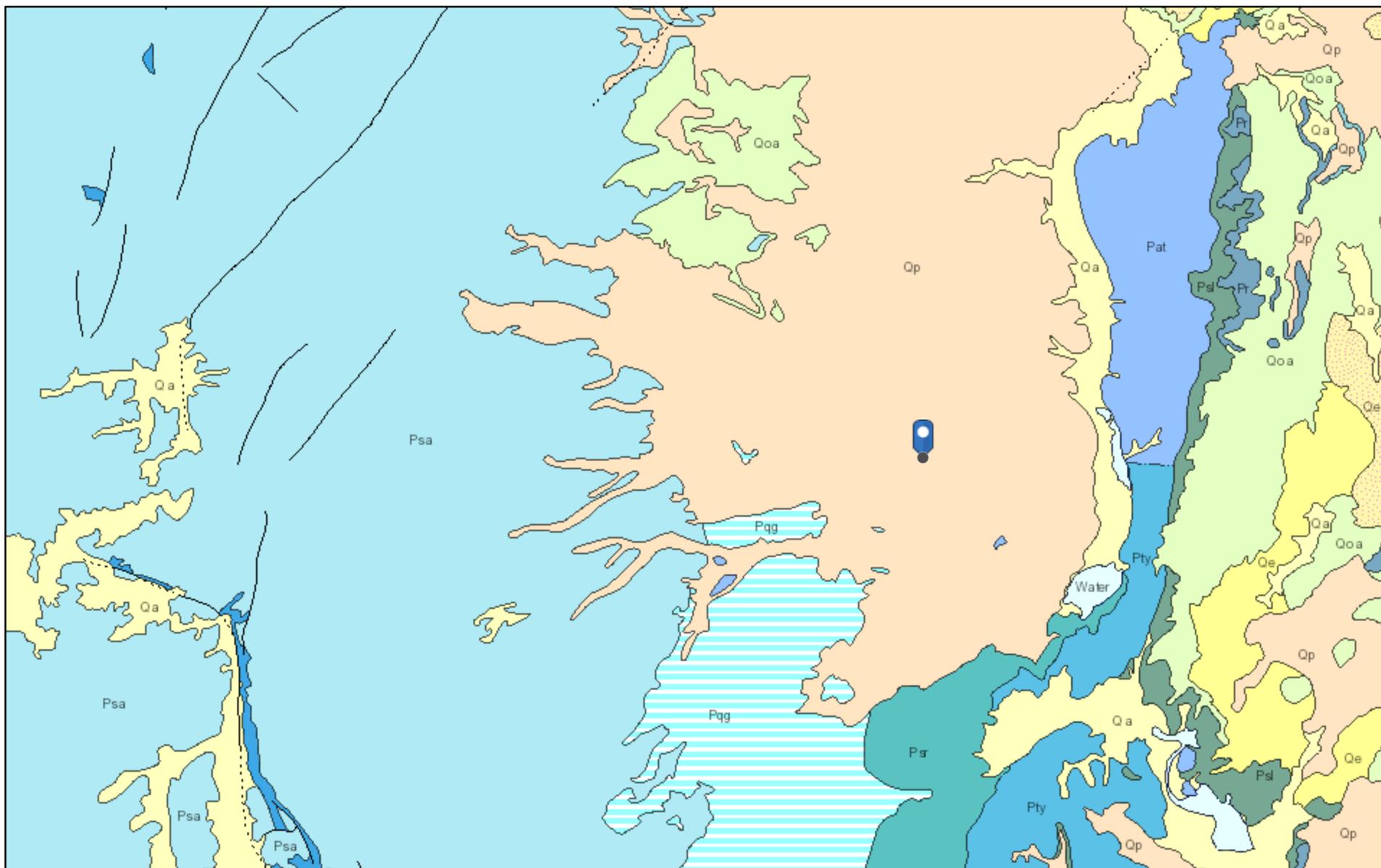
Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico (SD-3). This site has been mapped and correlated with soils in the following soil surveys. Eddy County, Lea County, and Chaves County.

Other references

Literature Cited:

1. Humphrey, R.R. 1974. Fire in the deserts and desert grassland of North America. In: Kozlowski, T. T.; Ahlgren, C. E., eds. Fire and ecosystems. New York: Academic Press: 365-400.

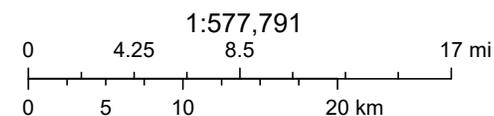
Rumble State #4H - Geology



1/9/2025, 12:05:11 PM

Lithologic Units

- Playa—Alluvium and evaporite deposits (Holocene)
- Water—Perennial standing water
- Qa—Alluvium (Holocene to upper Pleistocene)



Esri, CGIAR, USGS, NMBGMR, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names

ArcGIS Web AppBuilder

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

APPENDIX B



Daily Site Visit Report

Client	Silverback Operating II, LLC	Inspection Date	2/18/2025
Site Location Name	Rumble State #4H	API #	30-015-45749
Client Contact Name	Justin Carter	Project Owner	
Client Contact Phone #	405-286-3375	Project Manager	
Project Reference #			
Unique Project ID			

Summary of Times

Arrived at Site	2/13/2025 1:30 PM
Departed Site	

Field Notes

- Site photographs of remediated areas after initial scrape of impacted materials.

Next Steps & Recommendations

1

Daily Site Visit Report



Site Photos

Viewing Direction: East



Overview of scraped west areas (within pad)

Viewing Direction: North



Overview of scraped road areas

Viewing Direction: Southwest



Overview of scraped areas

Viewing Direction: South



Overview of scraped areas (two-track)

Daily Site Visit Report



Site Photos

Viewing Direction: South



Northern extent of the release/scraped areas

Viewing Direction: South



Nothern extent of the release/scraped areas

Viewing Direction: South



Overview of the release/scraped areas

Viewing Direction: Northeast



Northern extent of the release/scraped areas

Daily Site Visit Report



Site Photos

Viewing Direction: North



Overview of scraped areas/edge of pad

Viewing Direction: West



Overview of east portions of release

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Fernando Rodriguez

Signature:


Signature

APPENDIX C



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

January 16, 2025

FERNANDO RODRIGUEZ
VERTEX RESOURCE
3101 BOYD DRIVE
CARLSBAD, NM 88220

RE: RUMBLE STATE #4

Enclosed are the results of analyses for samples received by the laboratory on 01/10/25 12:51.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 01 @ 0' (H250110-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/10/2025	ND	1.94	97.0	2.00	6.12	
Toluene*	<0.050	0.050	01/10/2025	ND	1.97	98.4	2.00	3.52	
Ethylbenzene*	<0.050	0.050	01/10/2025	ND	2.02	101	2.00	2.70	
Total Xylenes*	<0.150	0.150	01/10/2025	ND	6.25	104	6.00	2.56	
Total BTEX	<0.300	0.300	01/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/10/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	218	109	200	7.51	
DRO >C10-C28*	13.3	10.0	01/10/2025	ND	197	98.7	200	7.11	
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND					

Surrogate: 1-Chlorooctane 95.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 01 @ 2' (H250110-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/10/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/10/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/10/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/10/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/10/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	01/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	218	109	200	7.51		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	197	98.7	200	7.11		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 86.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 02 @ 0' (H250110-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	01/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	218	109	200	7.51		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	197	98.7	200	7.11		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 81.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 02 @ 2' (H250110-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	01/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	218	109	200	7.51		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	197	98.7	200	7.11		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 91.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 03 @ 0' (H250110-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	01/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	218	109	200	7.51		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	197	98.7	200	7.11		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 91.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 03 @ 2' (H250110-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	01/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	218	109	200	7.51		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	197	98.7	200	7.11		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 99.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.9 % 49.1-148

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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 03 @ 4' (H250110-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	01/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	218	109	200	7.51		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	197	98.7	200	7.11		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 97.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.1 % 49.1-148

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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 04 @ 0' (H250110-08)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	01/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	218	109	200	7.51		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	197	98.7	200	7.11		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 99.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.0 % 49.1-148

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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 04 @ 2' (H250110-09)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	01/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	218	109	200	7.51		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	197	98.7	200	7.11		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 95.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.7 % 49.1-148

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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 05 @ 0' (H250110-10)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	01/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	218	109	200	7.51		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	197	98.7	200	7.11		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 83.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.9 % 49.1-148

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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 05 @ 2' (H250110-11)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	01/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/11/2025	ND	218	109	200	7.51		
DRO >C10-C28*	<10.0	10.0	01/11/2025	ND	197	98.7	200	7.11		
EXT DRO >C28-C36	<10.0	10.0	01/11/2025	ND						

Surrogate: 1-Chlorooctane 88.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.1 % 49.1-148

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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 06 @ 0' (H250110-12)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	01/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 99.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 06 @ 2' (H250110-13)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	01/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 06 @ 4' (H250110-14)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	01/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 92.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 07 @ 0' (H250110-15)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	01/10/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 07 @ 2' (H250110-16)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/11/2025	ND	1.94	97.0	2.00	6.12		
Toluene*	<0.050	0.050	01/11/2025	ND	1.97	98.4	2.00	3.52		
Ethylbenzene*	<0.050	0.050	01/11/2025	ND	2.02	101	2.00	2.70		
Total Xylenes*	<0.150	0.150	01/11/2025	ND	6.25	104	6.00	2.56		
Total BTEX	<0.300	0.300	01/11/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	01/10/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 96.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 08 @ 0' (H250110-17)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/13/2025	ND	1.63	81.3	2.00	1.24		
Toluene*	<0.050	0.050	01/13/2025	ND	1.76	88.2	2.00	1.18		
Ethylbenzene*	<0.050	0.050	01/13/2025	ND	1.74	87.0	2.00	0.718		
Total Xylenes*	<0.150	0.150	01/13/2025	ND	5.10	85.0	6.00	1.23	QM-07	
Total BTEX	<0.300	0.300	01/13/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	01/10/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 08 @ 2' (H250110-18)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/13/2025	ND	1.63	81.3	2.00	1.24		
Toluene*	<0.050	0.050	01/13/2025	ND	1.76	88.2	2.00	1.18		
Ethylbenzene*	<0.050	0.050	01/13/2025	ND	1.74	87.0	2.00	0.718		
Total Xylenes*	<0.150	0.150	01/13/2025	ND	5.10	85.0	6.00	1.23		
Total BTEX	<0.300	0.300	01/13/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.6 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	01/10/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 99.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 09 @ 0' (H250110-19)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/13/2025	ND	1.63	81.3	2.00	1.24		
Toluene*	<0.050	0.050	01/13/2025	ND	1.76	88.2	2.00	1.18		
Ethylbenzene*	<0.050	0.050	01/13/2025	ND	1.74	87.0	2.00	0.718		
Total Xylenes*	<0.150	0.150	01/13/2025	ND	5.10	85.0	6.00	1.23		
Total BTEX	<0.300	0.300	01/13/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	01/10/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60		
DRO >C10-C28*	27.3	10.0	01/10/2025	ND	184	91.8	200	4.04		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 09 @ 2' (H250110-20)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/13/2025	ND	1.63	81.3	2.00	1.24		
Toluene*	<0.050	0.050	01/13/2025	ND	1.76	88.2	2.00	1.18		
Ethylbenzene*	<0.050	0.050	01/13/2025	ND	1.74	87.0	2.00	0.718		
Total Xylenes*	<0.150	0.150	01/13/2025	ND	5.10	85.0	6.00	1.23		
Total BTEX	<0.300	0.300	01/13/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	01/10/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 09 @ 4' (H250110-21)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/13/2025	ND	1.63	81.3	2.00	1.24		
Toluene*	<0.050	0.050	01/13/2025	ND	1.76	88.2	2.00	1.18		
Ethylbenzene*	<0.050	0.050	01/13/2025	ND	1.74	87.0	2.00	0.718		
Total Xylenes*	<0.150	0.150	01/13/2025	ND	5.10	85.0	6.00	1.23		
Total BTEX	<0.300	0.300	01/13/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.4 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	01/10/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 89.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 10 @ 0' (H250110-22)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/13/2025	ND	1.63	81.3	2.00	1.24	
Toluene*	<0.050	0.050	01/13/2025	ND	1.76	88.2	2.00	1.18	
Ethylbenzene*	<0.050	0.050	01/13/2025	ND	1.74	87.0	2.00	0.718	
Total Xylenes*	<0.150	0.150	01/13/2025	ND	5.10	85.0	6.00	1.23	
Total BTEX	<0.300	0.300	01/13/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.4 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	01/10/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60	
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND					

Surrogate: 1-Chlorooctane 87.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 10 @ 2' (H250110-23)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/13/2025	ND	1.63	81.3	2.00	1.24		
Toluene*	<0.050	0.050	01/13/2025	ND	1.76	88.2	2.00	1.18		
Ethylbenzene*	<0.050	0.050	01/13/2025	ND	1.74	87.0	2.00	0.718		
Total Xylenes*	<0.150	0.150	01/13/2025	ND	5.10	85.0	6.00	1.23		
Total BTEX	<0.300	0.300	01/13/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	01/10/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 98.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 13 @ 0' (H250110-24)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/13/2025	ND	1.63	81.3	2.00	1.24	
Toluene*	<0.050	0.050	01/13/2025	ND	1.76	88.2	2.00	1.18	
Ethylbenzene*	<0.050	0.050	01/13/2025	ND	1.74	87.0	2.00	0.718	
Total Xylenes*	<0.150	0.150	01/13/2025	ND	5.10	85.0	6.00	1.23	
Total BTEX	<0.300	0.300	01/13/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	01/10/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60	
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND					

Surrogate: 1-Chlorooctane 99.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 13 @ 2' (H250110-25)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/13/2025	ND	1.63	81.3	2.00	1.83	
Toluene*	<0.050	0.050	01/13/2025	ND	1.72	86.2	2.00	0.524	
Ethylbenzene*	<0.050	0.050	01/13/2025	ND	1.81	90.7	2.00	0.395	
Total Xylenes*	<0.150	0.150	01/13/2025	ND	5.62	93.7	6.00	0.137	
Total BTEX	<0.300	0.300	01/13/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	01/10/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60	
DRO >C10-C28*	44.3	10.0	01/10/2025	ND	184	91.8	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 13 @ 4' (H250110-26)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/13/2025	ND	1.63	81.3	2.00	1.83	
Toluene*	<0.050	0.050	01/13/2025	ND	1.72	86.2	2.00	0.524	
Ethylbenzene*	<0.050	0.050	01/13/2025	ND	1.81	90.7	2.00	0.395	
Total Xylenes*	<0.150	0.150	01/13/2025	ND	5.62	93.7	6.00	0.137	
Total BTEX	<0.300	0.300	01/13/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	01/10/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60	
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 15 @ 0' (H250110-27)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/13/2025	ND	1.63	81.3	2.00	1.83		
Toluene*	<0.050	0.050	01/13/2025	ND	1.72	86.2	2.00	0.524		
Ethylbenzene*	<0.050	0.050	01/13/2025	ND	1.81	90.7	2.00	0.395		
Total Xylenes*	<0.150	0.150	01/13/2025	ND	5.62	93.7	6.00	0.137		
Total BTEX	<0.300	0.300	01/13/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	01/10/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/10/2025	ND	179	89.6	200	5.60		
DRO >C10-C28*	<10.0	10.0	01/10/2025	ND	184	91.8	200	4.04		
EXT DRO >C28-C36	<10.0	10.0	01/10/2025	ND						

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 FERNANDO RODRIGUEZ
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/10/2025	Sampling Date:	01/02/2025
Reported:	01/16/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Alyssa Parras
Project Location:	SILVERBACK		

Sample ID: BH25 - 15 @ 2' (H250110-28)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/13/2025	ND	1.63	81.3	2.00	1.83		
Toluene*	<0.050	0.050	01/13/2025	ND	1.72	86.2	2.00	0.524		
Ethylbenzene*	<0.050	0.050	01/13/2025	ND	1.81	90.7	2.00	0.395		
Total Xylenes*	<0.150	0.150	01/13/2025	ND	5.62	93.7	6.00	0.137		
Total BTEX	<0.300	0.300	01/13/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	01/10/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/11/2025	ND	179	89.6	200	5.60		
DRO >C10-C28*	<10.0	10.0	01/11/2025	ND	184	91.8	200	4.04		
EXT DRO >C28-C36	<10.0	10.0	01/11/2025	ND						

Surrogate: 1-Chlorooctane 90.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.3 % 49.1-148

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1053

Company Name: Vertex (Bill to Silverback) Project Manager:		BILL TO P.O. #: 1000-1913 Company: Silverback	
Address: _____ State: _____ Zip: _____ City: _____		Attn: _____ Address: 108 S 4th St City: Artesia State: NM Zip: 88210	
Phone #: _____ Fax #: _____ Project #: 24E-05130 Project Owner:		Phone #: _____ Fax #: _____	
Project Name: Rumbic State #4 Project Location:		PRESERV: <input checked="" type="checkbox"/> GRAB OR (C)OMP. <input type="checkbox"/> COOL <input type="checkbox"/> OTHER:	
Sampler Name: R. 710994		SAMPLING:	
FOR LAB USE ONLY			
Lab I.D.	Sample I.D.	MATRIX: <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> OIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> OTHER:	DATE:
1250110	BH75-01 a 0' BH75-01 a 0' BH75-02 a 0' BH75-03 a 0' BH75-03 a 0' BH75-04 a 0' BH75-04 a 0' BH75-05 a 0'	<input checked="" type="checkbox"/> GRAB OR (C)OMP. <input type="checkbox"/> # CONTAINERS GROUNDWATER WASTEWATER SOIL <input checked="" type="checkbox"/> OIL SLUDGE OTHER:	1-03-25 10:30 10:28 10:44 10:50 10:55 10:59 11:06 11:15 11:21
PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.		ANALYSIS REQUEST	
Relinquished By: _____ Date: 1-10-25 Time: 1:05 PM		Received By: APR Date: _____ Time: _____	
Delivered By: (Circle One) Observed Temp. °C: 3.42 Corrected Temp. °C: 28.1		Sample Condition: <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sampler - UPS - Bus - Other: _____		CHECKED BY: (Initials) AP	
Turnaround Time: _____ Thermometer ID #140 Correction Factor -0.6°C		REMARKS: R. 710994 a Vertex resource down P. Proger a Vertex resource down	
Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: All Results are emailed. Please provide Email address:		Standard <input type="checkbox"/> Rush <input type="checkbox"/> Bacteria (only) Sample Condition: <input type="checkbox"/> Intact <input type="checkbox"/> Observed Temp. °C: _____ Corrected Temp. °C: _____	

† Cardinal cannot accept verbal changes. Please email changes to caley.keene@cardinallabsnm.com



101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 3

Company Name: Vertex L Bill to Silverback Project Manager: Fernando Rodriguez		BILL TO P.O. #: 1000-1913 Company: Silverback	
Address: _____ State: _____ Zip: _____ City: _____		Attn: _____ Address: _____ City: _____ State: _____ Zip: _____	
Phone #: _____ Fax #: _____ Project #: 24E-05130 Project Owner: _____		Project Name: _____ Project Location: Rumble State #4	
Sampler Name: R. Progyr		Matrix: <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> GROUNDWATER <input type="checkbox"/> WASTEWATER <input type="checkbox"/> OIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> OTHER: _____	
FOR LAB USE ONLY		PRESERV: <input checked="" type="checkbox"/> / COOL <input type="checkbox"/> OTHER: _____	
Lab I.D.		SAMPLE # CONTAINERS # CONTAINERS	
Sample I.D.		DATE TIME	
11 BHAS-05 0 2'		1-2-25 11:33	
12 BHAS-06 0 1'		11:40	
13 BHAS-06 0 2'		11:45	
14 BHAS-06 0 4'		11:50	
15 BHAS-07 0 1'		11:57	
16 BHAS-07 0 2'		12:04	
17 BHAS-08 0 1'		12:12	
18 BHAS-08 0 2'		12:18	
19 BHAS-09 0 1'		12:27	
20 BHAS-09 0 2'		12:34	
REINQUISHED BY: _____ Date: _____ Time: _____		RECEIVED BY: ADAMS Date: 1/31 Time: 11:03	
Relinquished By: _____ Date: _____ Time: _____		Received By: _____ Date: _____ Time: _____	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: _____		Observed Temp. °C: 3.4 Corrected Temp. °C: 2.8	
Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Bacteria (only) <input type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: AD Turnaround Time: _____ Thermometer ID #140 Correction Factor -0.6°C	
REMARKS: Fernando Rodriguez@vertexresource.com Rush			
Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: _____ All Results are emailed. Please provide Email address: _____			



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

3 OF 3

Company Name: Vertex (Bill to Silverback) Project Manager: Fernando Address: City: State: ZIP: Phone #: Fax #: Project #: 24E-05130 Project Owner: Project Name: Project Location: Rumbic State #4 Sampler Name: R. Proger FOR LAB USE ONLY		BILL TO P.O. #: 1000-1013 Company: Silverback Attn: Address: 108 S 4th St City: Artesia State: NM Zip: 88210 Phone #: Fax #: PRESERV: <input checked="" type="checkbox"/> / COOL OTHER:	
Lab I.D. Sample I.D. H250113 01 BH25-09 04 02 BH25-10 01 03 BH25-10 01 04 BH25-13 01 05 BH25-13 01 06 BH25-13 01 07 BH25-15 01 08 BH25-15 01		MATRIX GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: ACID/BASE: OTHER:	
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Relinquished By: [Signature] Date: 1-10-25 Time: 1:51 Received By: [Signature]		ANALYSIS REQUEST	
Delivered By: (Circle One) Observed Temp. °C: 3.4 Corrected Temp. °C: 2.8 Sample Condition: Cool Intact Checked By: [Signature]		Turnaround Time: Standard Bacteria (only) Sample Condition: Cool Intact Observed Temp. °C: Corrected Temp. °C:	



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

February 05, 2025

CHANCE DIXON
VERTEX RESOURCE
3101 BOYD DRIVE
CARLSBAD, NM 88220

RE: RUMBLE STATE #4

Enclosed are the results of analyses for samples received by the laboratory on 01/30/25 13:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 14 @ 0' (H250549-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34	
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22	
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14	
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55	
Total BTEX	<0.300	0.300	01/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	01/31/2025	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	184	92.1	200	7.15	
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	157	78.3	200	8.51	
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane 79.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 14 @ 2' (H250549-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	01/31/2025	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	184	92.1	200	7.15		
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	157	78.3	200	8.51		
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 92.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 16 @ 0' (H250549-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	01/31/2025	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	184	92.1	200	7.15		
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	157	78.3	200	8.51		
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 88.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 16 @ 2' (H250549-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	01/31/2025	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05		
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05		
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 78.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 71.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 17 @ 0' (H250549-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	01/31/2025	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05		
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05		
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 85.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 17 @ 2' (H250549-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	01/31/2025	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05		
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05		
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 88.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 18 @ 0' (H250549-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	01/31/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05		
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05		
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 81.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 75.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 18 @ 2' (H250549-08)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34	
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22	
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14	
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55	
Total BTEX	<0.300	0.300	01/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	01/31/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05	
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane 84.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 19 @ 0' (H250549-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34	
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22	
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14	
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55	
Total BTEX	<0.300	0.300	01/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	01/31/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05	
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane 93.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 19 @ 2' (H250549-10)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	01/31/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05		
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05		
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 90.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 20 @ 0' (H250549-11)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	01/31/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05		
DRO >C10-C28*	56.6	10.0	01/30/2025	ND	181	90.7	200	2.05		
EXT DRO >C28-C36	14.4	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 81.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 20 @ 2' (H250549-12)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	01/31/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05		
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05		
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 94.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 21 @ 0' (H250549-13)

BTEX 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/31/2025	ND	2.22	111	2.00	3.34	
Toluene*	<0.050	0.050	01/31/2025	ND	2.26	113	2.00	2.22	
Ethylbenzene*	0.125	0.050	01/31/2025	ND	2.28	114	2.00	2.14	
Total Xylenes*	1.45	0.150	01/31/2025	ND	6.95	116	6.00	2.55	GC-NC1
Total BTEX	1.58	0.300	01/31/2025	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID) 164 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5840	16.0	01/31/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	355	100	01/31/2025	ND	200	100	200	2.05	
DRO >C10-C28*	12700	100	01/31/2025	ND	181	90.7	200	2.05	
EXT DRO >C28-C36	1960	100	01/31/2025	ND					

Surrogate: 1-Chlorooctane 197 % 48.2-134

Surrogate: 1-Chlorooctadecane 229 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 21 @ 2' (H250549-14)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	400	16.0	01/31/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05		
DRO >C10-C28*	647	10.0	01/30/2025	ND	181	90.7	200	2.05		
EXT DRO >C28-C36	208	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 83.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 12 @ 0' (H250549-15)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2200	16.0	01/31/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	02/05/2025	ND	200	100	200	2.05		
DRO >C10-C28*	<10.0	10.0	02/05/2025	ND	181	90.7	200	2.05		
EXT DRO >C28-C36	<10.0	10.0	02/05/2025	ND						

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/28/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH25 - 12 @ 2' (H250549-16)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	960	16.0	01/31/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05		
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05		
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 73.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 66.6 % 49.1-148

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Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- GC-NC1 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Vertex Resource Services
 Project Manager: Chance Dixon
 Address: 3101 Boyd Dr
 City: Carlsbad State: NM Zip: 88220
 Phone #: 575-988-2681 Fax #: 575-988-2681
 Project #: 24E-05130 Project Owner:
 Project Name: Rumble State #41H
 Project Location: Eddy County, NM
 Sampler Name: T. Stahl
 P.O. #: Company: Silverback Exploration
 Attn: Rafael Aviso
 Address: 108 S. 4th St
 City: Artesia
 State: NM Zip: 88210
 Phone #: Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX							PRESERV	SAMPLING	DATE	TIME	TPH: (8015) EXT	BTEX (8021B)	Chloride (SM 4500)
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE							
H255549																	
9	BH25-19 0ft	C	1	X									12:00	12:00	X	X	X
10	BH25-19 2ft	C	1	X									12:15	12:15	X	X	X
11	BH25-20 0ft	C	1	X									12:30	12:30	X	X	X
12	BH25-20 2ft	C	1	X									12:45	12:45	X	X	X
13	BH25-21 0ft	C	1	X									13:00	13:00	X	X	X
14	BH25-21 2ft	C	1	X									13:15	13:15	X	X	X
15	BH25-12 0ft	C	1	X									13:30	13:30	X	X	X
16	BH25-12 2ft	C	1	X									13:45	13:45	X	X	X

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Relinquished By: [Signature] Date: 1/29/05 Time: 9:00
 Received By: [Signature] Date: 1/30/05 Time: 1:35

FORM-006 R 2.0

Phone Result: Yes No Add'l Phone #:
 Fax Result: Yes No Add'l Fax #:
 REMARKS: Direct bill to Silverback Exploration
 Email results to: frodriguez@vertex.ca & cdixon@vertex.ca
 1.9c/1.3c
 AF-D.C. #148



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

February 05, 2025

CHANCE DIXON
VERTEX RESOURCE
3101 BOYD DRIVE
CARLSBAD, NM 88220

RE: RUMBLE STATE #4

Enclosed are the results of analyses for samples received by the laboratory on 01/30/25 13:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 11 0' (H250550-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34	
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22	
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14	
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55	
Total BTEX	<0.300	0.300	01/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/31/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05	
DRO >C10-C28*	15.1	10.0	01/30/2025	ND	181	90.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane 86.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 11 1' (H250550-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	01/31/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05		
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05		
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 81.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 22 0' (H250550-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	2.22	111	2.00	3.34		
Toluene*	<0.050	0.050	01/30/2025	ND	2.26	113	2.00	2.22		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.28	114	2.00	2.14		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.95	116	6.00	2.55		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	01/31/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05		
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05		
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 87.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 22 2' (H250550-04)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	1.92	96.1	2.00	2.31	
Toluene*	<0.050	0.050	01/30/2025	ND	2.10	105	2.00	2.28	
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.07	104	2.00	1.49	
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.43	107	6.00	3.49	
Total BTEX	<0.300	0.300	01/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	01/31/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05	
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane 87.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 23 0' (H250550-05)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	1.92	96.1	2.00	2.31	
Toluene*	<0.050	0.050	01/30/2025	ND	2.10	105	2.00	2.28	
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.07	104	2.00	1.49	
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.43	107	6.00	3.49	
Total BTEX	<0.300	0.300	01/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	01/31/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05	
DRO >C10-C28*	20.5	10.0	01/30/2025	ND	181	90.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane 83.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 23 2' (H250550-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	1.92	96.1	2.00	2.31		
Toluene*	<0.050	0.050	01/30/2025	ND	2.10	105	2.00	2.28		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.07	104	2.00	1.49		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.43	107	6.00	3.49		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	01/31/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05		
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05		
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 92.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 24 0' (H250550-07)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	1.92	96.1	2.00	2.31	
Toluene*	<0.050	0.050	01/30/2025	ND	2.10	105	2.00	2.28	
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.07	104	2.00	1.49	
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.43	107	6.00	3.49	
Total BTEX	<0.300	0.300	01/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	01/31/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	200	100	200	2.05	
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	181	90.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane 97.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 24 2' (H250550-08)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	1.92	96.1	2.00	2.31	
Toluene*	<0.050	0.050	01/30/2025	ND	2.10	105	2.00	2.28	
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.07	104	2.00	1.49	
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.43	107	6.00	3.49	
Total BTEX	<0.300	0.300	01/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	01/31/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	186	93.1	200	2.35	
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	179	89.6	200	2.14	
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane 91.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 25 0' (H250550-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	1.92	96.1	2.00	2.31	
Toluene*	<0.050	0.050	01/30/2025	ND	2.10	105	2.00	2.28	
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.07	104	2.00	1.49	
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.43	107	6.00	3.49	
Total BTEX	<0.300	0.300	01/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	01/31/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	186	93.1	200	2.35	
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	179	89.6	200	2.14	
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane 91.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 25 2' (H250550-10)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	1.92	96.1	2.00	2.31	
Toluene*	<0.050	0.050	01/30/2025	ND	2.10	105	2.00	2.28	
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.07	104	2.00	1.49	
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.43	107	6.00	3.49	
Total BTEX	<0.300	0.300	01/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	01/31/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	186	93.1	200	2.35	
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	179	89.6	200	2.14	
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane 93.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 26 0' (H250550-11)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	1.92	96.1	2.00	2.31	
Toluene*	<0.050	0.050	01/30/2025	ND	2.10	105	2.00	2.28	
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.07	104	2.00	1.49	
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.43	107	6.00	3.49	
Total BTEX	<0.300	0.300	01/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	01/31/2025	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	186	93.1	200	2.35	
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	179	89.6	200	2.14	
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane 91.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 26 2' (H250550-12)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	1.92	96.1	2.00	2.31	
Toluene*	<0.050	0.050	01/30/2025	ND	2.10	105	2.00	2.28	
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.07	104	2.00	1.49	
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.43	107	6.00	3.49	
Total BTEX	<0.300	0.300	01/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	01/31/2025	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	186	93.1	200	2.35	
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	179	89.6	200	2.14	
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane 94.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 27 0' (H250550-13)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/30/2025	ND	1.92	96.1	2.00	2.31		
Toluene*	<0.050	0.050	01/30/2025	ND	2.10	105	2.00	2.28		
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.07	104	2.00	1.49		
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.43	107	6.00	3.49		
Total BTEX	<0.300	0.300	01/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	01/31/2025	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	186	93.1	200	2.35		
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	179	89.6	200	2.14		
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND						

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	01/30/2025	Sampling Date:	01/29/2025
Reported:	02/05/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH - 25 - 27 2' (H250550-14)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2025	ND	1.92	96.1	2.00	2.31	
Toluene*	<0.050	0.050	01/30/2025	ND	2.10	105	2.00	2.28	
Ethylbenzene*	<0.050	0.050	01/30/2025	ND	2.07	104	2.00	1.49	
Total Xylenes*	<0.150	0.150	01/30/2025	ND	6.43	107	6.00	3.49	
Total BTEX	<0.300	0.300	01/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	01/31/2025	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2025	ND	186	93.1	200	2.35	
DRO >C10-C28*	<10.0	10.0	01/30/2025	ND	179	89.6	200	2.14	
EXT DRO >C28-C36	<10.0	10.0	01/30/2025	ND					

Surrogate: 1-Chlorooctane 97.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Vertex Resource Services Project Manager: Chance Dixon Address: 3101 Boyd Dr City: Carlsbad State: NM Zip: 88220 Phone #: 575-988-2681 Fax #: Project #: 24E-05130 Project Owner: Project Name: Rumble State #4H Project Location: Eddy County, NM Sampler Name: T. Stahl <small>FOR LAB USE ONLY</small>		P.O. #: Company: Silverback Exploration Attn: Rafael Alviso Address: 108 S. 4th St. City: Artesia State: NM Zip: 88210 Phone #: Fax #:	
		BILL TO	
Lab I.D. Sample I.D. AHSDSSD 1 2 3 4 5 6 7 8 9 10 11 12		(G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER ACID/BASE: ICE / COOL OTHER	
		MATRIX	
		PRESERV	
		SAMPLING	
		DATE TIME 1-21-05 9:15 1-21-05 11:35 1-21-05 9:30 1-21-05 9:45 1-21-05 10:00 1-21-05 10:10 1-21-05 10:15 1-21-05 10:20 1-21-05 10:30 1-21-05 10:35 1-21-05 10:45 1-21-05 10:50	
		TPH: (8015) EXT BTEX (8021B) Chloride (SM 4500)	
		ANALYSIS REQUEST	

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Relinquished By: *[Signature]* **Date:** 1/21/05 **Time:** 5:45
Received By: *[Signature]* **Date:** 1/30/05 **Time:** 1:35

Relinquished By: *[Signature]* **Date:** 1/30/05 **Time:** 1:35
Received By: *[Signature]* **Date:** 1/30/05 **Time:** 1:35

Phone Result: Yes No **Add'l Phone #:**
Fax Result: Yes No **Add'l Fax #:**
REMARKS: Direct bill to Silverback Exploration
 Email results to: frodriguez@vertex.ca & cdixon@vertex.ca
 1.92/1.32
 02.0.1c #140



101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Vertex Resource Services
Project Manager: Chance Dixon
Address: 3101 Boyd Dr
City: Carlsbad **State:** NM **Zip:** 88220
Phone #: 575-988-2681 **Fax #:**
Project #: 24E-05130 **Project Owner:**
Project Name: Rumble State #4H
Project Location: Eddy County, NM
Sampler Name: T. Stahl

FOR LAB USE ONLY

Lab I.D.: H250550
Sample I.D.: BH25-27 0ft
 BH25-27 2ft

Relinquished By: *[Signature]*
Received By: *[Signature]*
Date: 1/29/25
Time: 15:45

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.			DATE	TIME	ANALYSIS REQUEST			
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE	ICE / COOL	OTHER :			TPH: (8015) EXT	BTEX (8021B)	Chloride (SM 4500)	
		C	1			X					X			1-29-25	11:00	X	X	X
		C	1			X					X			1-29-25	11:15	X	X	X

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Relinquished By: *[Signature]*
Received By: *[Signature]*
Date: 1/29/25
Time: 15:45

Relinquished By: *[Signature]*
Received By: *[Signature]*
Date: 1-30-25
Time: 1:33:35

Phone Result: Yes No **Add'l Phone #:**
Fax Result: Yes No **Add'l Fax #:**

REMARKS:
 1.92/11.34 Direct bill to Silverback Exploration
 Email results to: trodriguez@vertex.ca &
 cdixon@vertex.ca



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

February 17, 2025

CHANCE DIXON
VERTEX RESOURCE
3101 BOYD DRIVE
CARLSBAD, NM 88220

RE: RUMBLE STATE #4

Enclosed are the results of analyses for samples received by the laboratory on 02/11/25 13:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	02/11/2025	Sampling Date:	02/10/2025
Reported:	02/17/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH 25 - 12 4FT (H250824-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/12/2025	ND	1.87	93.6	2.00	2.13	
Toluene*	<0.050	0.050	02/12/2025	ND	1.91	95.3	2.00	2.30	
Ethylbenzene*	<0.050	0.050	02/12/2025	ND	1.90	94.9	2.00	2.46	
Total Xylenes*	<0.150	0.150	02/12/2025	ND	5.79	96.5	6.00	2.27	
Total BTEX	<0.300	0.300	02/12/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/12/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/11/2025	ND	196	98.2	200	8.18	
DRO >C10-C28*	<10.0	10.0	02/11/2025	ND	200	100	200	9.06	
EXT DRO >C28-C36	<10.0	10.0	02/11/2025	ND					

Surrogate: 1-Chlorooctane 95.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

VERTEX RESOURCE
 CHANCE DIXON
 3101 BOYD DRIVE
 CARLSBAD NM, 88220
 Fax To: NA

Received:	02/11/2025	Sampling Date:	02/10/2025
Reported:	02/17/2025	Sampling Type:	Soil
Project Name:	RUMBLE STATE #4	Sampling Condition:	Cool & Intact
Project Number:	24E-05130	Sample Received By:	Tamara Oldaker
Project Location:	SILVERBACK - EDDY CO., NM		

Sample ID: BH 25 - 21 4FT (H250824-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/12/2025	ND	1.87	93.6	2.00	2.13		
Toluene*	<0.050	0.050	02/12/2025	ND	1.91	95.3	2.00	2.30		
Ethylbenzene*	<0.050	0.050	02/12/2025	ND	1.90	94.9	2.00	2.46		
Total Xylenes*	<0.150	0.150	02/12/2025	ND	5.79	96.5	6.00	2.27		
Total BTEX	<0.300	0.300	02/12/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	02/12/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	02/11/2025	ND	196	98.2	200	8.18		
DRO >C10-C28*	<10.0	10.0	02/11/2025	ND	200	100	200	9.06		
EXT DRO >C28-C36	<10.0	10.0	02/11/2025	ND						

Surrogate: 1-Chlorooctane 91.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.5 % 49.1-148

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Notes and Definitions

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- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

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Phone: (505) 476-3441

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Phone: (505) 629-6116

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

QUESTIONS

Action 434314

QUESTIONS

Operator: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 434314
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2433927741
Incident Name	NAPP2433927741 RUMBLE STATE #4H @ 30-015-45749
Incident Type	Oil Release
Incident Status	Remediation Plan Received
Incident Well	[30-015-45749] RUMBLE STATE #004H

Location of Release Source	
<i>Please answer all the questions in this group.</i>	
Site Name	RUMBLE STATE #4H
Date Release Discovered	11/23/2024
Surface Owner	Private

Incident Details	
<i>Please answer all the questions in this group.</i>	
Incident Type	Oil Release
Did this release result in a fire or is the result of a fire	Yes
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	
<i>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.</i>	
Crude Oil Released (bbls) Details	Cause: Equipment Failure Other (Specify) Crude Oil Released: 15 BBL Recovered: 0 BBL Lost: 15 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure Other (Specify) Produced Water Released: 5 BBL Recovered: 0 BBL Lost: 5 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)	Power outage on the PLC for the air compressor overfilled separator and gas scrubber and routed fluids to the high-pressure flare, which then over sprayed surrounding areas of the pad and pasture. The standing oil caught fire and extinguished itself.

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
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QUESTIONS, Page 2

Action 434314

QUESTIONS (continued)

Operator: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 434314
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

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: (2) an unauthorized release of a volume that: (a) results in a fire or is the result of a fire.
<i>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.</i>	

Initial Response

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

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

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: Justin Carter Title: Landman Email: jcarter@novooog.com Date: 12/04/2024
--	---

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Phone: (505) 476-3441

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

QUESTIONS, Page 3

Action 434314

QUESTIONS (continued)

Operator: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 434314
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

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

Remediation Plan
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
<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)	5840
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	15015
GRO+DRO (EPA SW-846 Method 8015M)	13055
BTEX (EPA SW-846 Method 8021B or 8260B)	1.6
Benzene (EPA SW-846 Method 8021B or 8260B)	0

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	04/01/2025
On what date will (or did) the final sampling or liner inspection occur	04/01/2025
On what date will (or was) the remediation complete(d)	04/15/2025
What is the estimated surface area (in square feet) that will be reclaimed	16500
What is the estimated volume (in cubic yards) that will be reclaimed	203
What is the estimated surface area (in square feet) that will be remediated	1262
What is the estimated volume (in cubic yards) that will be remediated	140

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed. The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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

QUESTIONS, Page 4

Action 434314

QUESTIONS (continued)

Operator: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 434314
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:

(Select all answers below that apply.)

(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	HALFWAY DISPOSAL AND LANDFILL [FEEM0112334510]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

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

I hereby agree and sign off to the above statement	Name: Fatma Abdallah Title: Regulatory Manager Email: FAbdallah@silverbackexp.com Date: 02/21/2025
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The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS, Page 5

Action 434314

QUESTIONS (continued)

Operator: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 434314
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Deferral Requests Only	
<i>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.</i>	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS, Page 6

Action 434314

QUESTIONS (continued)

Operator: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 434314
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	{Unavailable.}

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	No

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Santa Fe, NM 87505

CONDITIONS

Action 434314

CONDITIONS

Operator: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 434314
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
scott.rodgers	The remediation plan is approved. The variance request as written is not approved. OCD may consider a variance request to the frequency of confirmation samples provided it can demonstrate that the variance will provide equal or better protection of fresh water, public health, and the environment. Please submit the closure report to the OCD by 06/09/2025.	3/10/2025