Incident Number: nAPP2431945579

Incident Closure

James Ranch Unit DI 11

Section 17, Township 22 South, Range 30 East

Facility: fAPP2123053374

County: Eddy

Latitude & Longitude: 32.39061, -103.89861

Vertex File Number: 24E-04947

Prepared for:

XTO Energy, Inc.

Prepared by:

Vertex Resource Services Inc.

Date:

January 2025

Incident Closure
James Ranch Unit DI 11
Section 17, Township 22 South, Range 30 East
Latitude & Longitude: 32.39061, -103.89861
Facility: fAPP2123053374
County: Eddy County, NM

Prepared for:

XTO Energy, Inc.
3104 E. Greene Steet.
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New Mexico Oil Conservation Division
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Chad Hensley, B. Sc. GCNR
SR. PROJECT MANAGER, REPORT REVIEW

2/11/2025
Date

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1.0 Introduction

XTO Energy Inc. (XTO) retained Vertex Resource Services Inc. (Vertex) to conduct an Incident Closure for a produced water release that occurred on November 13, 2024, at James Ranch Unit DI 11 facility ID fAPP2123053374 (hereafter referred to as the "site"). XTO submitted an initial C-141 Release Notification to New Mexico Oil Conservation Division (NMOCD) on November 14, 2024. Incident ID number nAPP2431945579 was assigned to this incident.

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

2.0 Incident Description

The release occurred on November 13, 2024, due to equipment failure. The incident was reported on November 14, 2024, and involved the release of approximately 55 barrels (bbl.) of produced water on the site. Approximately 15 bbl. of free fluid was removed during initial clean-up. Additional details relevant to the release are presented in the C-141 Report.

3.0 Site Characteristics

The site is located approximately 20 miles east of Carlsbad, New Mexico (google 2025). The legal location for the site is Section 17, Township 22 South and Range 30 East in Eddy County, New Mexico. The release area is located on pad within State property. An aerial photograph and site schematic are presented on Figure 1.

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

The surrounding landscape is associated with upland landforms with elevations ranging between 2,842 and 5,000 feet. The climate is semiarid with average annual precipitation ranging between 8 and 13 inches. Using information from the United States Department of Agriculture, the dominant vegetation was determined to be grasses with scattered shrubs and half-shrubs. (United States Department of Agriculture, Natural Resources Conservation Service, 2024). Limited to no vegetation is allowed to grow on the compacted production pad, right-of-way and access road.

The surface geology at the site primarily comprises Pr –Rustler Formation (Upper Permian) — Siltstone, gypsum, sandstone, and dolomite. (New Mexico Bureau of Geology and Mineral Resources, 2024) and the soil at the site is characterized as loam, clay loam, gypsiferous material. (United States Department of Agriculture, Natural Resources Conservation Service, 2024). Additional soil characteristics include a drainage class of well drained with a very high runoff class. The karst geology potential for the site is high (United States Department of the Interior, Bureau of Land Management, 2018).

4.0 Closure Criteria Determination

The nearest active well to the site is C 03679 located approximately 1.72 miles south of the location (New Mexico Office of the State Engineer 2024).

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is the located approximately 0.21 miles east of the site (United States Fish and Wildlife Service, 2024).

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

Table 1. Closure Criteria Determination			
Site Name: James Ranch Unit DI 11 Battery			
Release Coordinates: 32.391050,-103.898815		X: 603572	Y: 3584315
Site Specific Conditions		Value	Unit
Reference	Depth to Groundwater (nearest reference)	500 ft<	
1	Distance between release and nearest DTGW reference	1 - 5 mi	
	Date of nearest DTGW reference measurement	October 29, 2013	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	1000ft - 2000ft	
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	0.5 - 1 mi	
4	Within 300 feet from an occupied residence, school, hospital, institution or church	1 - 5 mi	
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**	1 - 5 mi	
	ii) Within 1000 feet of any fresh water well or spring	1 - 5 mi	
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	2000ft - 0.5mi	
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	1 - 5 mi	
9	Within an unstable area (Karst Map)	High	Critical High Medium Low
	Distance between release and nearest unstable area	Zero Feet - Overlying - or Within Area	
10	Within a 100-year Floodplain	>500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	1 - 5 mi	
11	Soil Type	loam, clay loam, gypsiferous material	
12	Ecological Classification	Loamy	
13	Geology	Siltstone, gypsum, sandstone, and dolomite	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	<50' 51-100' >100'

The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 2.

Table 2. Closure Criteria for Soils Impacted by a Release

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

TDS – total dissolved solides
TPH – total petroleum hydrocarbons, GRO – gas range organics, DRO – diesel range organics, MRO – motor oil range organics
BTEX – benzene, toluene, ethylbenzene and xylenes

5.0 Remedial Actions Taken

An initial site inspection of the release area was completed on November 13, 2024, which identified the area of the release specified in the initial C-141 Report. The area of interest was determined to be approximately 11,098 square feet. Characterization sampling was completed on November 26, 2024, at 14 sample locations. Results are summarized in Table 3. The Daily Field Report (DFR) associated with the site inspection is included in Appendix B.

Remediation efforts began on January 13, 2025, and were finalized on January 20, 2025. Vertex personnel guided the excavation of impacted soil through field screening. Soils were removed to a depth of 3 to 4 feet below ground surface. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. The final DFR documenting final excavation before the remediation is presented in Appendix B.

Notification that confirmatory samples were being collected was provided to the NMOCD, and a variance request was requested due to high wind shut down by XTO and was granted by NMOCD. The variance approval is included in Appendix D. Confirmatory composite samples were collected from the base and walls of the excavation in 200 square foot increments. A total of 51 base samples and 19 sidewall samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Cardinal Laboratories in Hobbs, New Mexico under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 3, and the laboratory data reports are included in Appendix C. All confirmatory samples collected and analyzed were below closure criteria for the site.

6.0 Oil Conservation Division Rejection and Corrective Actions Taken

On February 6, 2025, NMOCD rejected closure report due to being unable to determine if the correct amount of side wall samples were collected as there are discrepancies on the depths of the excavations in the report. Reviewing the report with the regulator, it was determined that the Change of Custody (CoC) was filled out in error with incorrect depth assigned to sample points. Samples BES25-28 through BES-51 and WES25-11 through WES25-19 were labeled Incorrectly. Samples depths adjusted to depict the correct depth of sampling and an edited CoC was sent to cardinal to regenerate the report. The corrected CoC can be found in Appendix C.

7.0 Closure

The release area was fully delineated, remediated, and backfilled with local soil by January 24, 2025. Confirmatory samples were analyzed by the laboratory and found to be below allowable concentrations as per the NMAC Closure Criteria for Soils Impacted by a Release at this site. Based on these findings, XTO requests that this release be closed.

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

8.0 References

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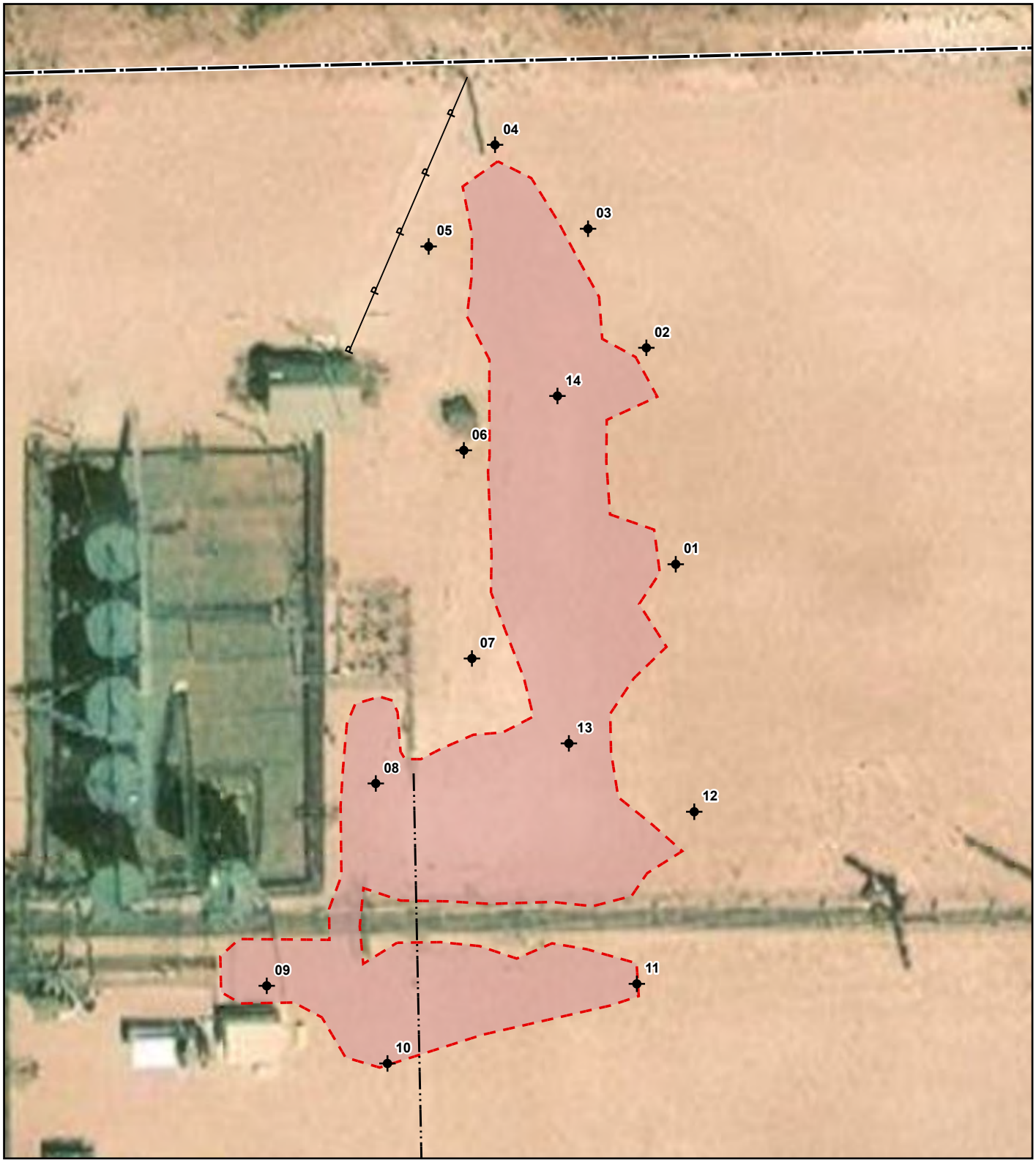
9.0 Limitations

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

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

FIGURES



Borehole (Prefixed by "BH24-")
Buried Pipeline
Approximate Lease Boundary
Buried Electrical Line
Release Area (~11,098 sq.ft.)

VERTEX

0 5 10 20 ft
NAD 1983 UTM Zone 13N
Date: Dec 12/24

Map Center:
Lat: 32.391171°N,
Long:103.89881°W

N

Characterization Sampling Site Schematic
JRU DI 11 Battery

FIGURE: 1

XTO ENERGY

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

Note: Georeferenced image from Esri, 2023. Approximate lease boundary from imagery by Vertex Professional Services Ltd. (VPS) 2024. Site features from GPS by VPS, 2024.

VERSATILITY. EXPERTISE.

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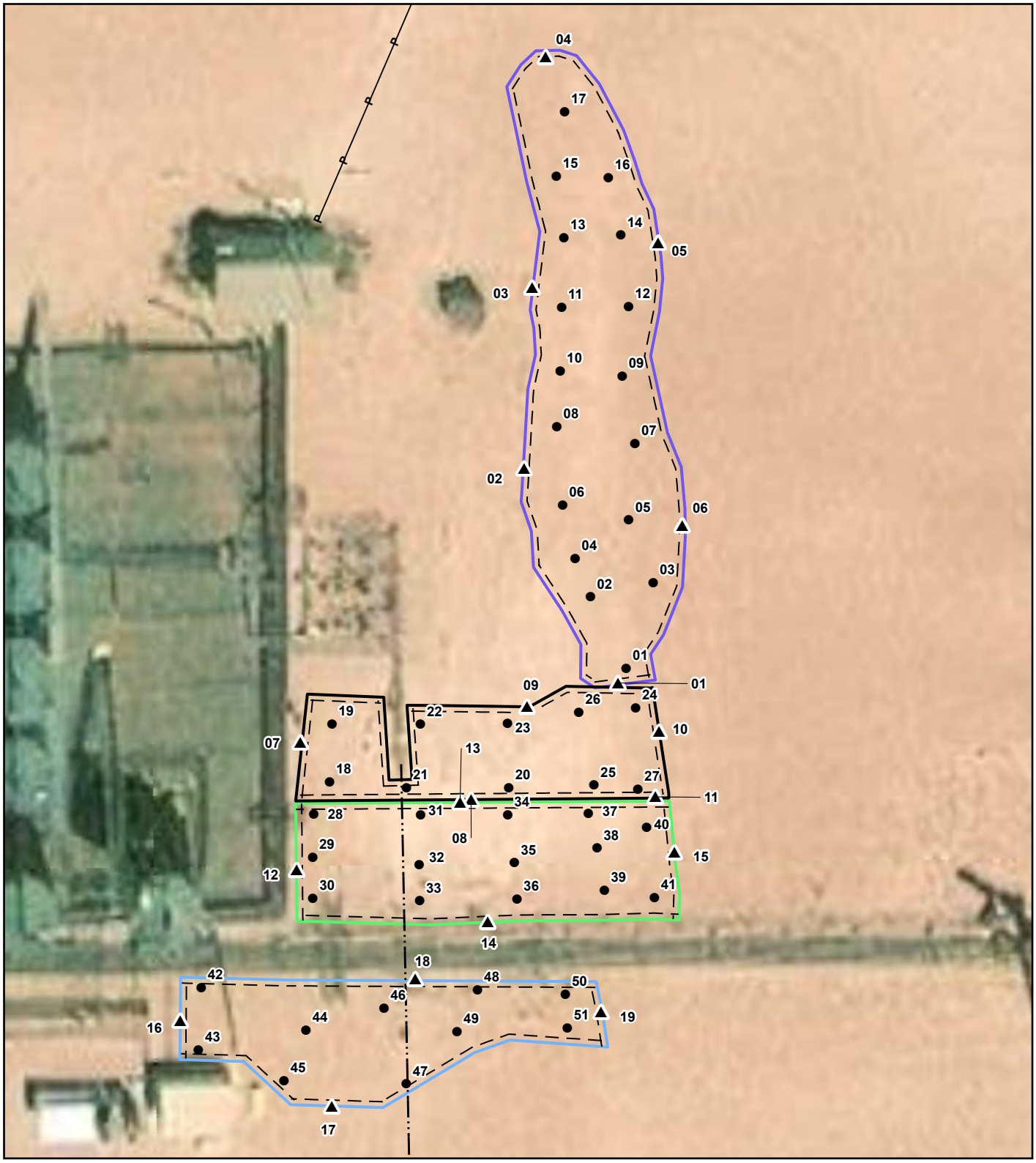

- ▲ Wall Sample (Prefixed by "WES25-")
- ● Base Sample (Prefixed by "BES25-")
- P— Buried Electrical Line
- —·· Buried Pipeline
- Excavation to 1' bgs (~1,948 sq.ft. | 206 ft.)
- Excavation to 1' bgs (~1,672 sq.ft. | 213 ft.)
- Excavation to 3' bgs (~3,295 sq.ft. | 298 ft.)
- Excavation to 4' bgs (~1,501 sq.ft. | 228 ft.)

VERTEX

0 5 10 20 ft
NAD 1983 UTM Zone 13N
Date: Jan 29/25

Map Center:
Lat: 32.391134°N,
Long:103.898823°W

N

Confirmation Schematic
JRU DI 11 Battery

FIGURE: 2

XTO ENERGY

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Note: Georeferenced image from Esri, 2023. Site features from GPS by Vertex Professional Services Ltd. (VPS) 2024 & 2025.

VERSATILITY. EXPERTISE.

TABLES

Client Name: XTO Energy, Inc.
Site Name: James Ranch Unit DI 11 Battery
NMOCD Tracking #: napp2431945579
Project #: 24E-04947
Lab Report: H247288

Table 3. Initial Characterization Laboratory Results

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
			Depth to Groundwater <50							
BH24-01	0	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	48
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	128
BH24-02	0	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	128
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	112
BH24-03	0	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	176
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	32
BH24-04	0	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	64
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	64
BH24-05	0	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	32
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	48
BH24-06	0	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	32
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	64
BH24-07	0	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	96
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	80
BH24-08	0	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	**3440**
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	**1860**
BH24-09	0	November 26, 2024	ND	ND	ND	nn	ND	ND	ND	**2220**
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	48
BH24-10	0	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	**1200**
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	32
BH24-11	0	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	**1280**
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	112
BH24-12	0	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	64
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	112
BH24-13	0	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	**2760**
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	**3400**
BH24-14	0	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	**7520**
	2	November 26, 2024	ND	ND	ND	ND	ND	ND	ND	496

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

VERTEX

Client Name: XTO Energy, Inc.
Site Name: James Ranch Unit DI 11 Battery
NMOCD Tracking #: napp2431945579
Project #: 24E-04947
Lab Report: H250393

Table 4. Confirmatory Sample and Laboratory Results

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
			Depth to Groundwater <50							
BES25-01	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	112
BES25-02	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	112
BES25-03	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	112
BES25-04	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	64
BES25-05	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	96
BES25-06	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	96
BES25-07	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	128
BES25-08	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	160
BES25-09	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	96
BES25-10	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	64
BES25-11	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	48
BES25-12	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	192
BES25-13	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	160
BES25-14	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	144
BES25-15	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	112
BES25-16	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	304
BES25-17	3	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	192
BES25-18	4	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	208
BES25-19	4	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	96
BES25-20	4	January 17, 2025	ND	ND	ND	ND	ND	ND	ND	96
BES25-21	4	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	256
BES25-22	4	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	80
BES25-23	4	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	112
BES25-24	4	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	128
BES25-25	4	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	64
BES25-26	4	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	224
BES25-27	4	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	112
BES25-28	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	208
BES25-29	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	160
BES25-30	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	128
BES25-31	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	464
BES25-32	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	416
BES25-33	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	256
BES25-34	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	48
BES25-35	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	64
BES25-36	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	192
BES25-37	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	64
BES25-38	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	96

Client Name: XTO Energy, Inc.
Site Name: James Ranch Unit DI 11 Battery
NMOCD Tracking #: napp2431945579
Project #: 24E-04947
Lab Report: H250393

Table 4. Confirmatory Sample and Laboratory Results

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
			Depth to Groundwater <50							
BES25-39	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	112
BES25-40	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	64
BES25-41	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	64
BES25-42	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	48
BES25-43	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	64
BES25-44	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	32
BES25-45	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	48
BES25-46	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	96
BES25-47	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	112
BES25-48	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	112
BES25-49	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	48
BES25-50	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	176
BES25-51	1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	64
WES25-1	0-3	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	64
WES25-2	0-3	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	64
WES25-3	0-3	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	64
WES25-4	0-3	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	80
WES25-5	0-3	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	112
WES25-6	0-3	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	144
WES25-7	0-4	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	144
WES25-8	0-4	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	64
WES25-9	0-4	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	64
WES25-10	0-4	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	144
WES25-11	0-4	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	144
WES25-12	0-1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	112
WES25-13	0-1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	160
WES25-14	0-1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	112
WES25-15	0-1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	160
WES25-16	0-1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	144
WES25-17	0-1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	192
WES25-18	0-1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	48
WES25-19	0-1	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	240
Backfill	Surface	January 20, 2025	ND	ND	ND	ND	ND	ND	ND	224

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

APPENDIX A – Closure Criteria Research Documentation

ATTACHMENT 5

Closure Criteria Determination				
Site Name: James Ranch Unit DI 11 Battery				
Release Coordinates: 32.391050,-103.898815		X: 603572	Y: 3584315	
Site Specific Conditions		Value	Unit	Reference
Reference	Depth to Groundwater (nearest reference)	500 ft<		1
1	Distance between release and nearest DTGW reference	**1 - 5 mi**		
	Date of nearest DTGW reference measurement	**October 29, 2013**		
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	1000ft - 2000ft		2
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	2000ft - 0.5mi		3
4	Within 300 feet from an occupied residence, school, hospital, institution or church	1 - 5 mi		4
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**	1 - 5 mi		5
	ii) Within 1000 feet of any fresh water well or spring	1 - 5 mi		5
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)	6
7	Within 300 feet of a wetland	2000ft - 0.5mi		7
8	Within the area overlying a subsurface mine	No	(Y/N)	8
	Distance between release and nearest registered mine	1 - 5 mi		
9	Within an unstable area (Karst Map)	**High**	Critical High Medium Low	9
	Distance between release and nearest unstable area	**Zero Feet - Overlying - or Within Area**		
10	Within a 100-year Floodplain	>500	year	10
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	1 - 5 mi		
11	Soil Type	loam, clay loam, gypsiferous material		11
12	Ecological Classification	Loamy		12
13	Geology	Siltstone, gypsum, sandstone, and dolomite		13
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	<50' 51-100' >100'	

OSE POD 0.5 miles

12/10/2024, 4:11:35 PM

GIS WATERS PODs
- Active
- Pending

OSE District Boundary

Water Right Regulations
- Artesian Planning Area

NHD Flowlines
- Artificial Path
- Connector
- Stream River

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

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

Online web user

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

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)	(R=POD has been replaced, O=orphaned, C=the file is closed)			(quarters are smallest to largest)						(NAD83 UTM in meters)				(In feet)	(In feet)	(In feet)
POD Number	**Code**	**Sub basin**	**County**	**Q64**	**Q16**	**Q4**	**Sec**	**Tws**	**Range**	**X**	**Y**	**Map**	**Distance**	**Well Depth**	**Depth Water**	**Water Column**
C 02723		CUB	ED	NE	NE	SW	15	22S	30E	606282.0	3584363.0 *		2710	651		
C 03679 POD1		C	ED	NW	SE	NE	14	24S	33E	603567.1	3581547.1		2767	700	575	125
C 03587 POD3		CUB	ED	NE	SE	NW	07	22S	29E	601446.7	3586271.3		2888	80	47	33
C 02724		CUB	ED	SE	SE	NE	29	22S	30E	603860.0	3581329.0 *		2999	503		
C 03015		CUB	ED	NW	SE	SW	22	22S	30E	606099.0	3582353.0 *		3199	1316	262	1054
C 03531 POD7		CUB	ED	NW	NW	NE	12	22S	29E	600008.2	3586695.5		4285	100		
C 03531 POD2		CUB	ED	NW	NW	NE	12	22S	29E	600007.7	3586696.1		4286	110	68	42
C 03531 POD1		CUB	ED	NW	NW	NE	12	22S	29E	600001.2	3586721.9		4306	100	68	32
C 03531 POD6		CUB	ED	NW	NW	NE	12	22S	29E	599974.4	3586681.9		4306	100		
C 03531 POD3		CUB	ED	NW	NW	NE	12	22S	29E	599995.0	3586714.4		4307	105	68	37
C 03531 POD4		CUB	ED	NW	NW	NE	12	22S	29E	599994.5	3586761.8		4334	100		
C 03531 POD5		CUB	ED	NW	NW	NE	12	22S	29E	599991.5	3586804.9		4361	100		
C 02111		CUB	ED	NE	NE	NE	33	22S	30E	605505.0	3580336.0 *		4423	248	155	93
C 03531 POD8		CUB	ED	SW	SW	SE	01	22S	29E	600000.7	3586926.4		4424	100		
C 03587 POD4		CUB	ED	NE	SE	SE	14	22S	29E	599005.7	3583977.3		4578	79	57	22

Average Depth to Water: **162 feet**

Minimum Depth: **47 feet**

Maximum Depth: **575 feet**

Record Count: 15

UTM Filters (in meters):
Easting: 603572
Northing: 3584315
Radius: 005000

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

Point of Diversion Summary

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

NAD83 UTM in meters

Well Tag	POD Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
	C 03679 POD1	NW	SE	NE	14	24S	33E	603567.1	3581547.1	

* UTM location was derived from PLSS - see Help

Driller License:	1654	**Driller Company:**	NOT WORKING FOR HIRE--SIRMAN DRILLING AND CONSTRUC		
Driller Name:	JOHN SIRMAN				
Drill Start Date:	2013-10-23	**Drill Finish Date:**	2013-10-29	**Plug Date:**	
Log File Date:	2013-11-07	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	20
Casing Size:	6.00	**Depth Well:**	700	**Depth Water:**	575

Water Bearing Stratifications:

Top	Bottom	Description
565	665	Sandstone/Gravel/Conglomerate

Casing Perforations:

Top	Bottom
560	620
660	700

Meter Information

Meter Number:	16576	**Meter Make:**	MASTERMETER
Meter Serial Number:	8112524	**Meter Multiplier:**	100.0000
Number of Dials:	6	**Meter Type:**	Diversion

Unit of Measure: Gallons **Reading Frequency:** Monthly (No Reading Expected)

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
2014-03-01	2014	29030.000	A	RPT		0.000	
2014-07-01	2014	49261.000	A	RPT		6.209	
2014-10-01	2014	68901.000	A	RPT		6.027	
2014-12-31	2014	84036.000	A	RPT		4.645	
2015-02-01	2015	89806.000	A	RPT		1.771	
2015-03-02	2015	92350.000	A	RPT		0.781	
2015-04-01	2015	96582.000	A	RPT		1.299	
2015-04-30	2015	104711.000	A	RPT		2.495	
2015-05-31	2015	111086.000	A	RPT		1.956	
2015-07-01	2015	118700.000	A	RPT		2.337	
2015-08-01	2015	123816.000	A	RPT		1.570	
2015-08-31	2015	130025.000	A	RPT		1.905	
2015-10-01	2015	135622.000	A	RPT		1.718	

YTD Meter Amounts:

Year	Amount
2014	16.881
2015	15.832

Water Right Summary

get image list

WR File Number:	C 03679	**Subbasin:**	C	**Cross Reference:**
Primary Purpose:	STK 72-12-1 LIVESTOCK WATERING			
Primary Status:	PMT Permit			
Total Acres:		**Subfile:**		**Header:**
Total Diversion:	3.000	**Cause/Case:**		
Owner:	MARK MCCLOY DOUBLE M RANCH			
Contact:	SCOTT DBA:GRR, INC GREGORY			

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
get images	535375	72121	2013-10-11	PMT	LOG	C 03679	T		3.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
C 03679 POD1		Shallow	NW	SE	NE	14	24S	33E	603567.1	3581547.1		

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

12/10/24 3:27 PM MST **Water Rights Summary**

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

STATE ENGINEER OFFICE
ROSWELL

2013 NOV -7 A 11:11

1. GENERAL AND WELL LOCATION

OSE POD NUMBER (WELL NUMBER): C-3679	OSE FILE NUMBER(S): C-3679
WELL OWNER NAME(S): Mark McCloy McCloy Ranches	PHONE (OPTIONAL): 432-940-4459
WELL OWNER MAILING ADDRESS: P.O. Box 1076	CITY: Jal STATE: NM ZIP: 88252

WELL LOCATION (FROM GPS): LATITUDE 32 DEGREES 12 MINUTES 57.31 SECONDS N; LONGITUDE 103 32 15.31 W

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

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE: Hwy 128 mm 30 1/4 North

2. DRILLING & CASING INFORMATION

LICENSE NUMBER: 1654	NAME OF LICENSED DRILLER: John Sirmen		NAME OF WELL DRILLING COMPANY: Sirmen Drilling & Const. LLC
DRILLING STARTED: 10/23/13	DRILLING ENDED: 10/29/13	DEPTH OF COMPLETED WELL (FT): 700'-0	BORE HOLE DEPTH (FT): 700'-0
DEPTH WATER FIRST ENCOUNTERED (FT): 575			
COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)			STATIC WATER LEVEL IN COMPLETED WELL (FT): 405.0
DRILLING FLUID: ☑ AIR ☐ MUD ☐ ADDITIVES – SPECIFY:			
DRILLING METHOD: ☑ ROTARY ☑ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:			

DEPTH (feet bgl) FROM	TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	560	10	PVC	Certa-Lok	6	DR-17	Blank
560	620	10	PVC	Certa lok	6	DR-17	.032 screen
620	660	10	PVC	Certa lok	6	DR-17	Blank
660	700	10	PVC	Certa lok	6	DR-17	.032 screen

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	20	10	3/8 hole plug Bentonite	6 sacks	gravity
65	700	10	3/8 gravel pack	4 yds	gravity

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	POD NUMBER	TRN NUMBER
C-3679		535375

LOCATION 24S.33E.14 2-4-1

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	15	15	Red sand	☐ Y ☑ N	
15	35	20	white caliche	☐ Y ☑ N	
35	55	20	red sandstone	☐ Y ☑ N	
55	70	15	yellow sand	☐ Y ☑ N	
70	90	20	gray sandstone	☐ Y ☑ N	
90	110	20	red clay	☐ Y ☑ N	
110	120	10	gray shale	☐ Y ☑ N	
120	300	180	gray sandstone	☐ Y ☑ N	
300	335	35	brown shale	☐ Y ☑ N	
335	375	40	Brown sandstone	☐ Y ☑ N	
375	565	190	Red clay	☐ Y ☑ N	
565	665	100	Red sandstone	☑ Y ☐ N	20
665	700	35	Red clay	☐ Y ☐ N	
				☐ Y ☐ N	
				☐ Y ☐ N	
				☐ Y ☐ N	
				☐ Y ☐ N	
		700		☐ Y ☐ N	
				☐ Y ☐ N	
				☐ Y ☐ N	
				☐ Y ☐ N	
				☐ Y ☐ N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: ☑ PUMP ☑ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 20

5. TEST; RIG SUPERVISION

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

MISCELLANEOUS INFORMATION:

none

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

none

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

John Sirman — John Sirman — 11/3/13

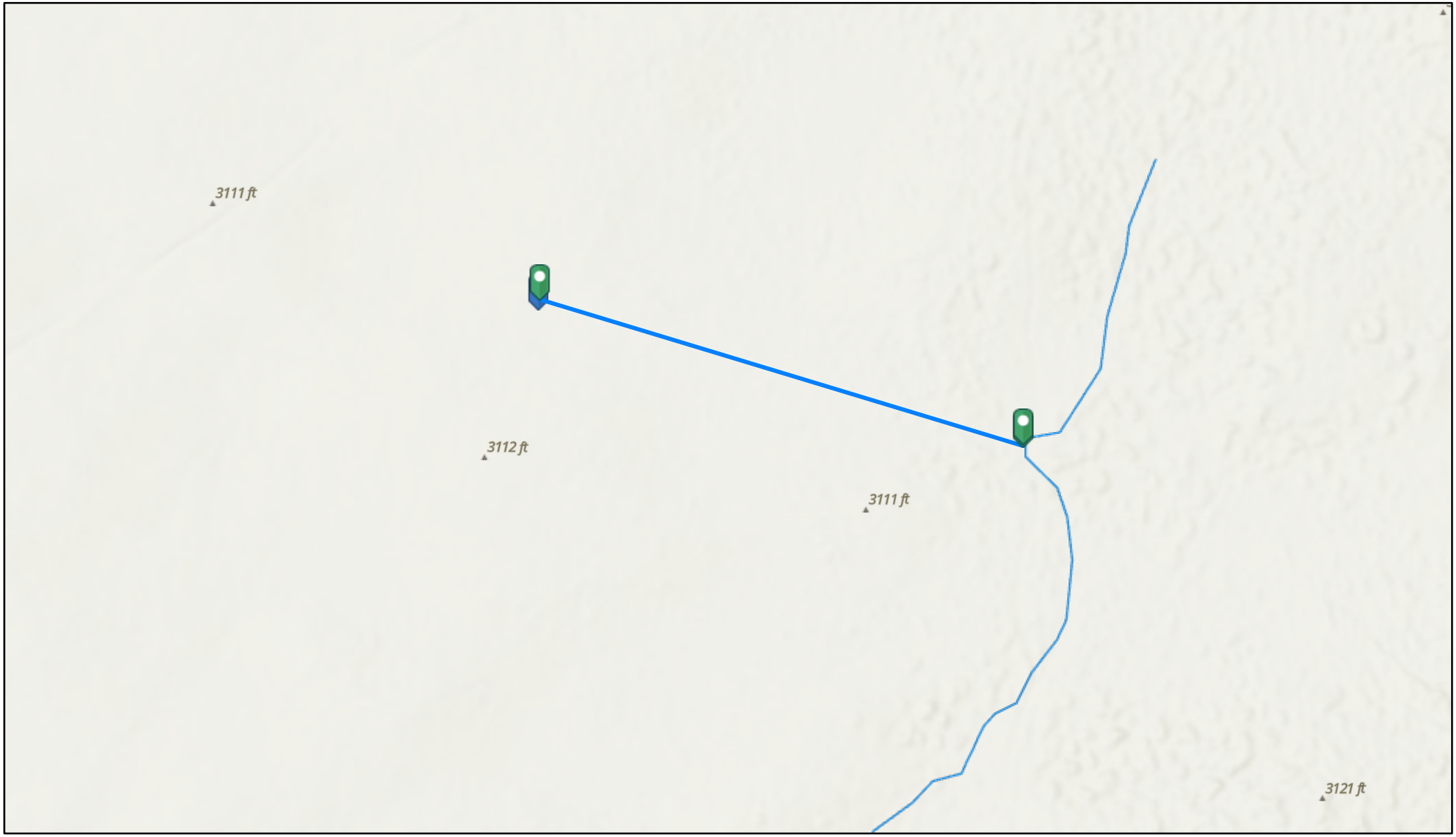
SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

STATE ENGINEER OFFICE
RECEIVED
2013 NOV -4 A 11:14

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION		PAGE 2 OF 2

02. JRU DI 11 1125ft from a watercourse



11/18/2024, 5:02:13 PM

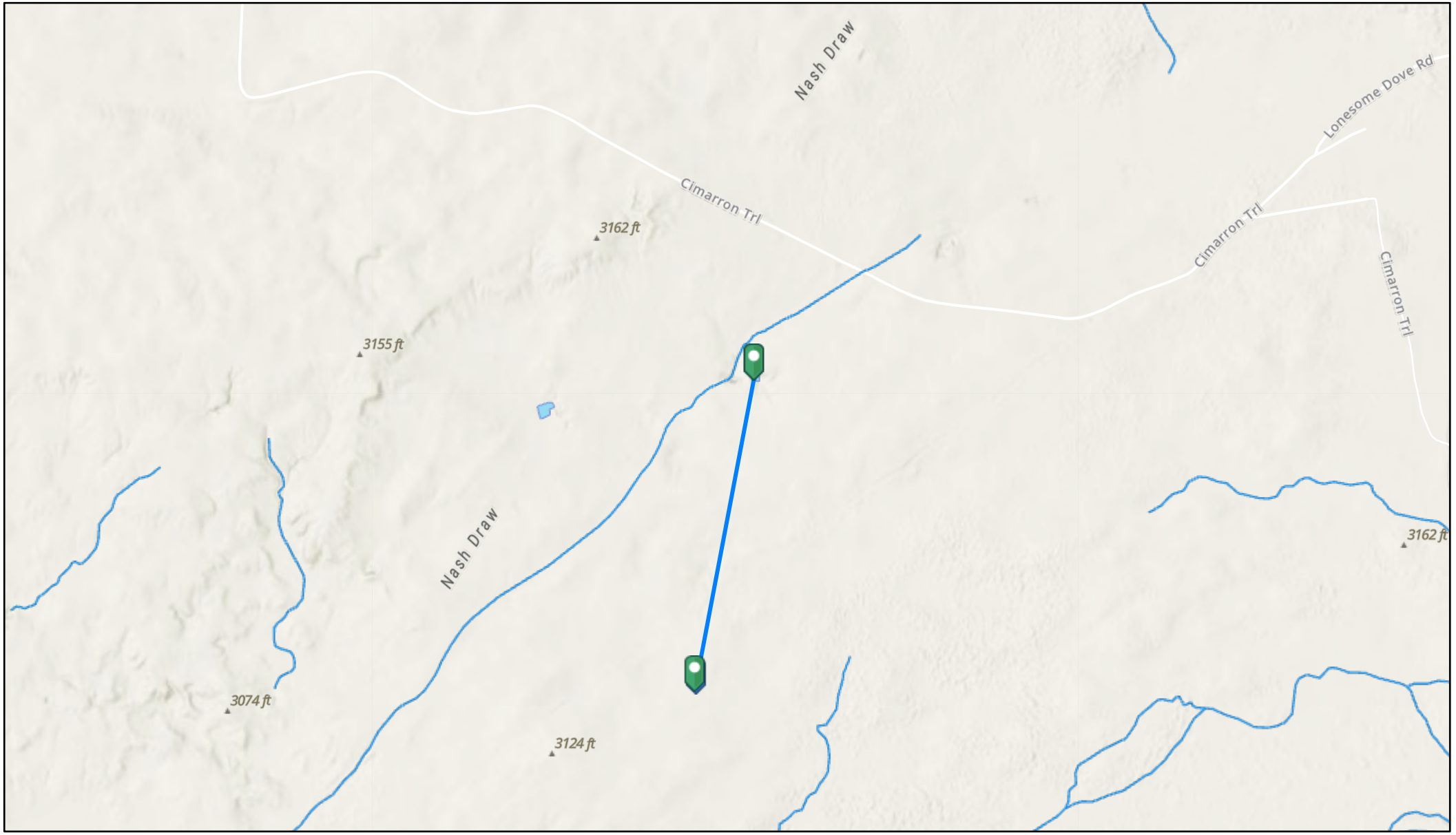
OSE Streams

1:4,514

0 0.03 0.07 0.13 mi

0 0.05 0.1 0.2 km

03. JRU DI 11 3025ft from a lake



11/18/2024, 5:06:23 PM

OSW Water Bodys

OSE Streams

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

James Ranch Unit DI 11 Battery

Nearest Residence

Legend

- James Ranch Unit DI 11 Battery Release
- Nearest Residence 8,278 feet (1.57 miles)

James Ranch Unit DI 11 Battery Release

N

4000 ft

Google Earth

Active & Inactive Points of Diversion

(with Ownership Information)

		(acre ft per annum)				(R=POD has been replaced and no longer serves this file, C=the file is closed)				(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)			(meters)
WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q64	q16	q4	Sec	Tws	Range	X	Y	Map	Distance
C 01916	C	PRO	0.000	PERRY R BASS	ED	C 01916					SE	SW	NE	21	22S	30E	605068.0	3582947.0 *		2,027.2
C 02723	CUB	MON	0.000	U.S. DEPT. OF ENERGY, WIPP	ED	C 02723				Shallow	NE	NE	SW	15	22S	30E	606282.0	3584363.0 *		2,710.4
C 03679	C	STK	3.000	MARK MCCLOY DOUBLE M RANCH	ED	C 03679 POD1				Shallow	NW	SE	NE	14	24S	33E	603567.1	3581547.1		2,767.9
C 03696	C	PRO	0.000	CONCHO OIL AND GAS	ED	C 03679 POD1				Shallow	NW	SE	NE	14	24S	33E	603567.1	3581547.1		2,767.9
C 03697	C	PRO	0.000	CONCHO OIL AND GAS	ED	C 03679 POD1				Shallow	NW	SE	NE	14	24S	33E	603567.1	3581547.1		2,767.9
C 03698	C	PRO	0.000	CONCHO OIL AND GAS	ED	C 03679 POD1				Shallow	NW	SE	NE	14	24S	33E	603567.1	3581547.1		2,767.9
C 03928	C	PRO	0.000	CONCHO OIL & GAS	ED	C 03679 POD1				Shallow	NW	SE	NE	14	24S	33E	603567.1	3581547.1		2,767.9
C 03929	C	PRO	0.000	CONCHO OIL & GAS	ED	C 03679 POD1				Shallow	NW	SE	NE	14	24S	33E	603567.1	3581547.1		2,767.9
C 03930	C	PRO	0.000	CONCHO OIL & GAS	ED	C 03679 POD1				Shallow	NW	SE	NE	14	24S	33E	603567.1	3581547.1		2,767.9
C 03587	CUB	MON	0.000	MOSAIC POTASH CARLSBAD INC	ED	C 03587 POD3				Shallow	NE	SE	NW	07	22S	29E	601446.7	3586271.3		2,888.6
C 02724	CUB	MON	0.000	U.S. DEPT. OF ENERGY, WIPP	ED	C 02724					SE	SE	NE	29	22S	30E	603860.0	3581329.0 *		2,999.9
C 03015	CUB	MON	0.000	U.S. DEPT OF ENERGY - WIPP	ED	C 03015				Artesian	NW	SE	SW	22	22S	30E	606099.0	3582353.0 *		3,199.2
C 04420	CUB	MON	0.000	TETRA TECH INC	ED	C 04420 POD1	NA				SW	SE	SE	32	21S	30E	603624.0	3588504.2		4,189.5
C 03531	CUB	EXP	0.000	MOSAIC CARLSBAD POTASH INC.	ED	C 03531 POD7				Shallow	NW	NW	NE	12	22S	29E	600008.2	3586695.5		4,285.7
					ED	C 03531 POD2				Shallow	NW	NW	NE	12	22S	29E	600007.7	3586696.1		4,286.5
					ED	C 03531 POD1				Shallow	NW	NW	NE	12	22S	29E	600001.2	3586721.9		4,306.2
					ED	C 03531 POD6				Shallow	NW	NW	NE	12	22S	29E	599974.4	3586681.9		4,306.4
					ED	C 03531 POD3				Shallow	NW	NW	NE	12	22S	29E	599995.0	3586714.4		4,307.2
					ED	C 03531 POD4				Shallow	NW	NW	NE	12	22S	29E	599994.5	3586761.8		4,334.2
					ED	C 03531 POD5				Shallow	NW	NW	NE	12	22S	29E	599991.5	3586804.9		4,361.1
C 02111	CUB	MIN	47.000	WESTERN AG-MINERALS CO.	ED	C 02111				Shallow	NE	NE	NE	33	22S	30E	605505.0	3580336.0 *		4,423.7
C 03531	CUB	EXP	0.000	MOSAIC CARLSBAD POTASH INC.	ED	C 03531 POD8				Shallow	SW	SW	SE	01	22S	29E	600000.7	3586926.4		4,424.2
C 03587	CUB	MON	0.000	MOSAIC POTASH CARLSBAD INC	ED	C 03587 POD4					NE	SE	SE	14	22S	29E	599005.7	3583977.3		4,578.8

Record Count: 23

Filters Applied:

UTM Filters (in meters):
Easting: 603572
Northing: 3584315
Radius: 005000

Sorted By: Distance

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

Water Right Summary

get image list

WR File Number:	C 01916	**Subbasin:**	C	**Cross Reference:**
Primary Purpose:	PRO 72-12-1 PROSPECTING OR DEVELOPMENT OF NATURAL RESOURCE			
Primary Status:	PMT Permit			
Total Acres:		**Subfile:**		**Header:**
Total Diversion:	0.000	**Cause/Case:**		
Owner:	PERRY R BASS			

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
get images	465776	72121	1980-08-04	EXP	EXP	C 01916	T		3.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
C 01916			SE	SW	NE	21	22S	30E	605068.0	3582947.0 *		28 MILES ESE OF CARLSBAD NM

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

National Flood Hazard Layer FIRMette

FEMA

103°54'14"W 32°23'43"N

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

1:6,000

103°53'37"W 32°23'13"N

Basemap Imagery Source: USGS National Map 2023

Legend

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

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

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

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

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

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

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

N

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

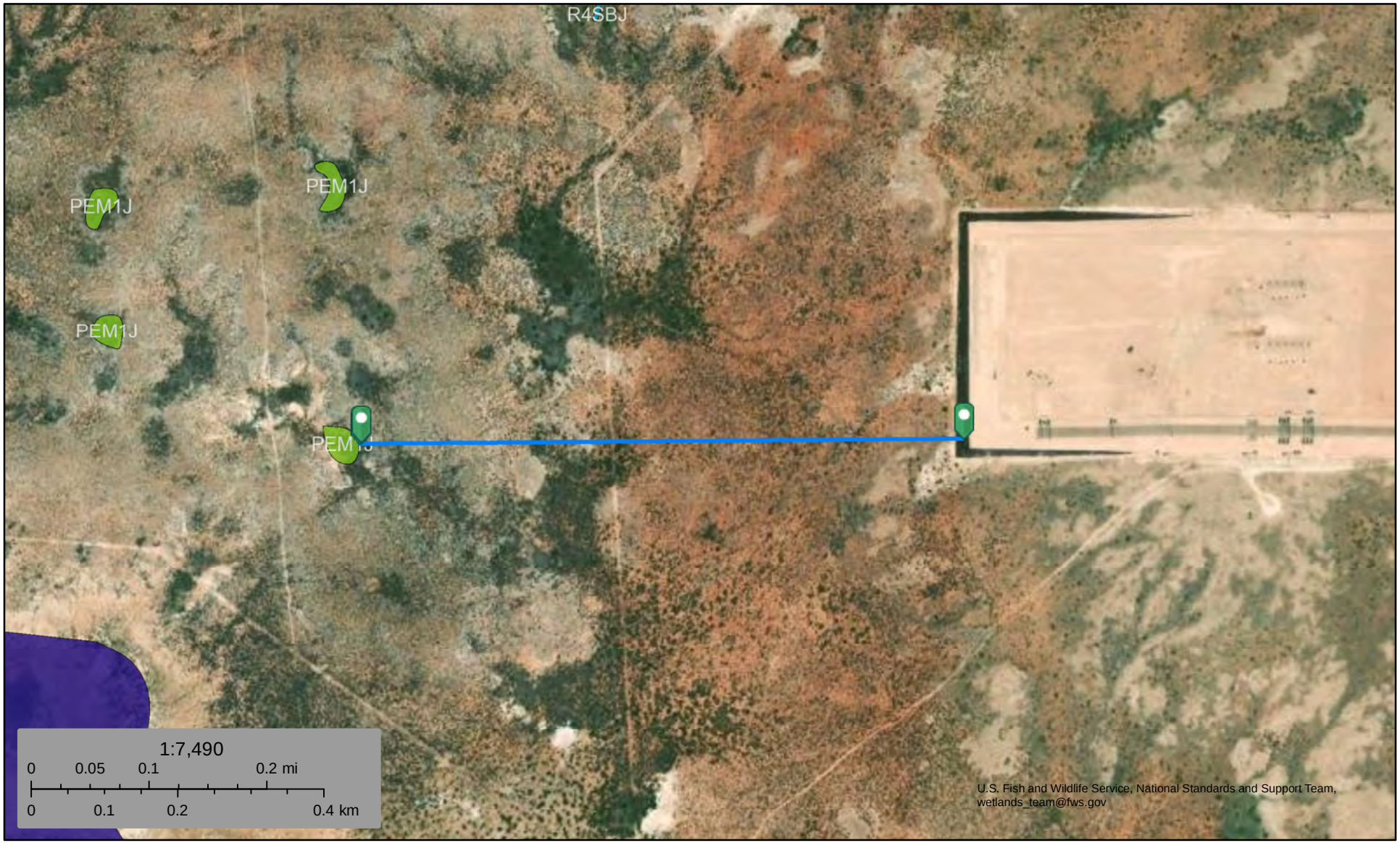
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/11/2024 at 1:36 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

JRU DI 11 0.43mi to a wetland



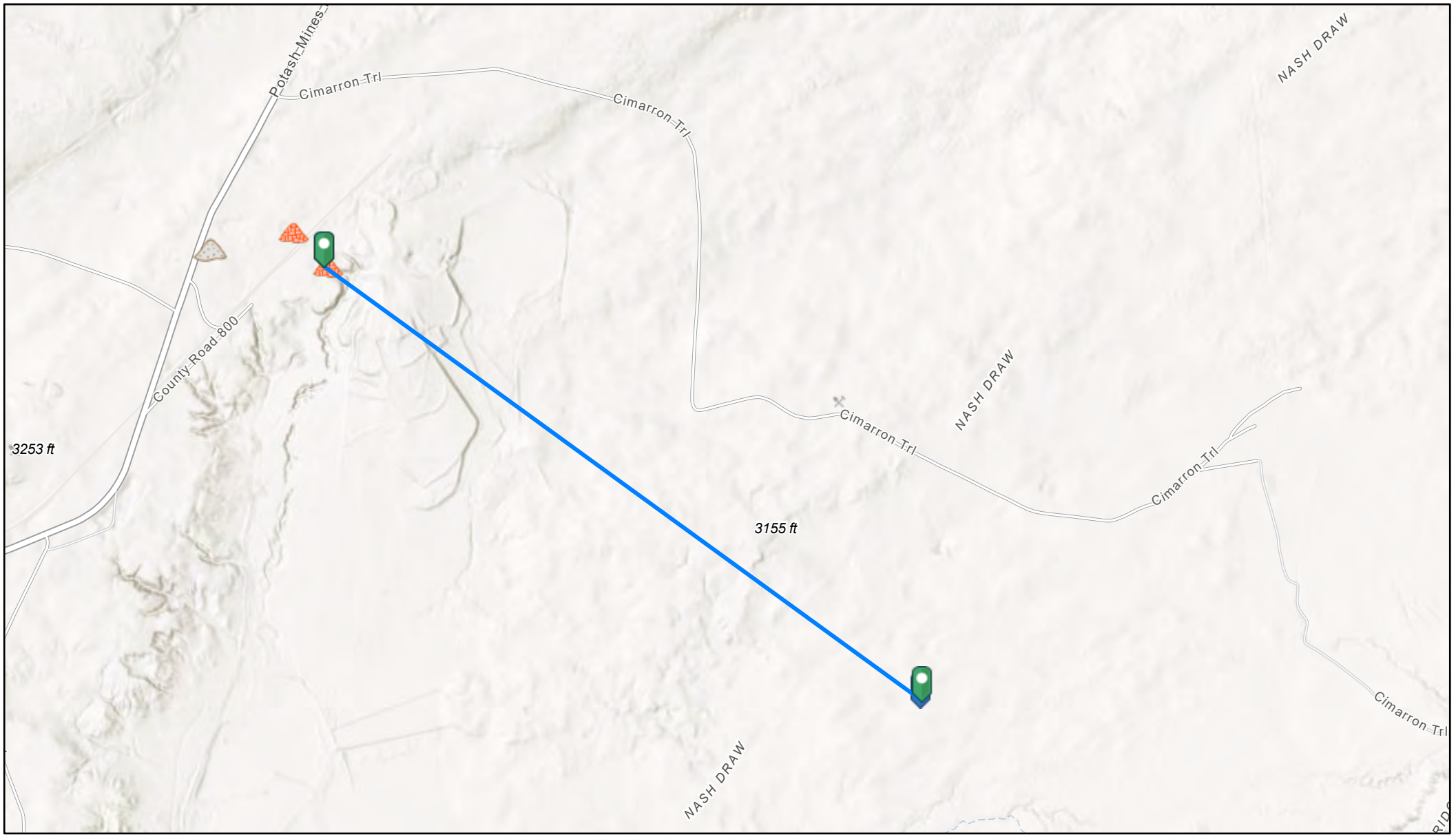
November 19, 2024

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.

JRU DI 11 2.69mi from a mine



11/18/2024, 5:59:10 PM

Registered Mines

Aggregate, Stone etc.

Potash

Salt

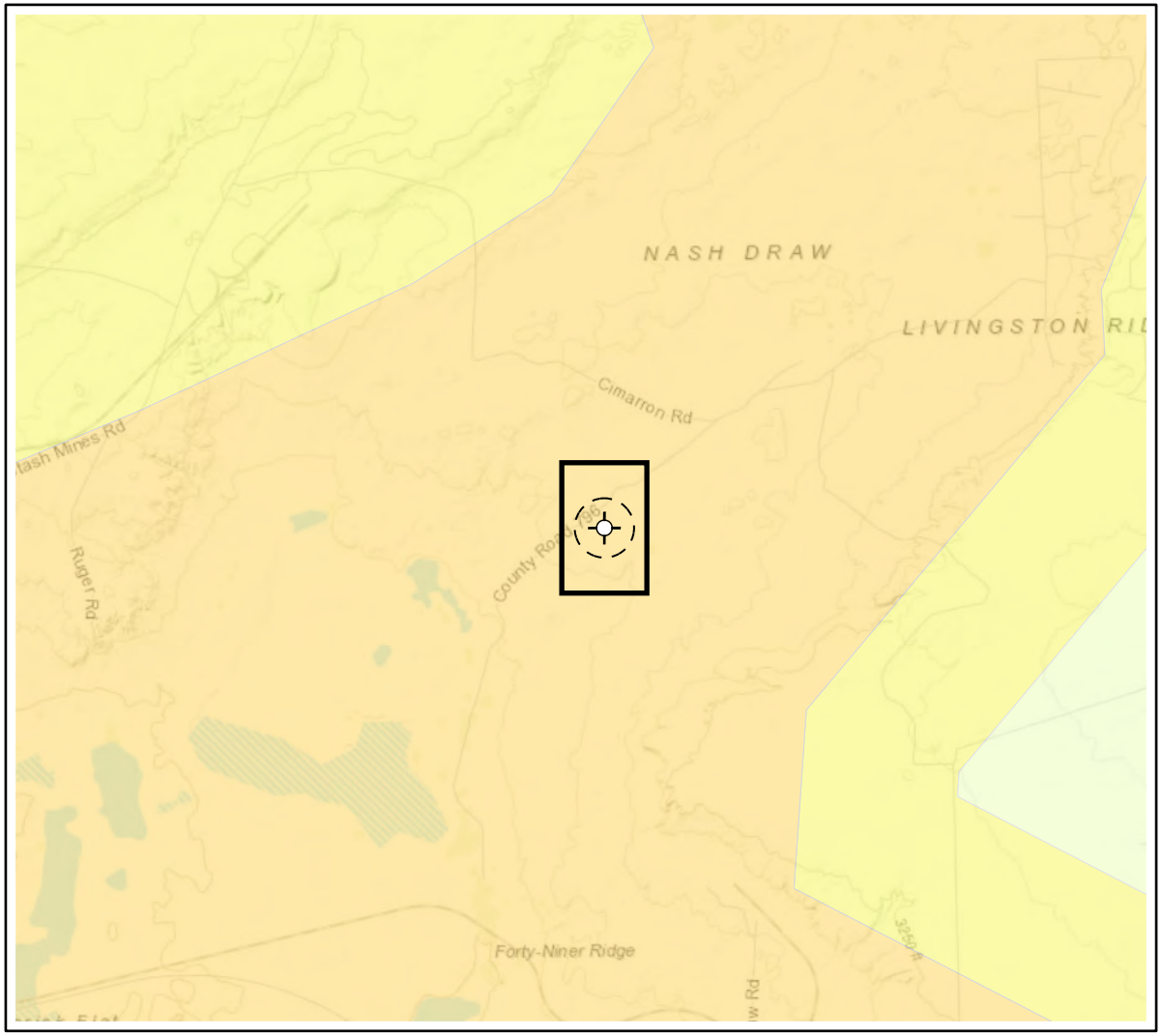
1:36,112

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

EMNRD MMD GIS Coordinator

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



Overview Map
0 0.25 0.5 1 mi

Detail Map
0 150 300 600 ft

Karst Potential
- Critical
- High
- Medium
- Low

Site Location
Site Location Buffer (1000 ft)

VERTEX

Map Center:
Lat/Long
32.3906°,-103.89861°

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

N

Karst Potential Map
JRU DI 11 Battery

Figure:
X

XTO ENERGY

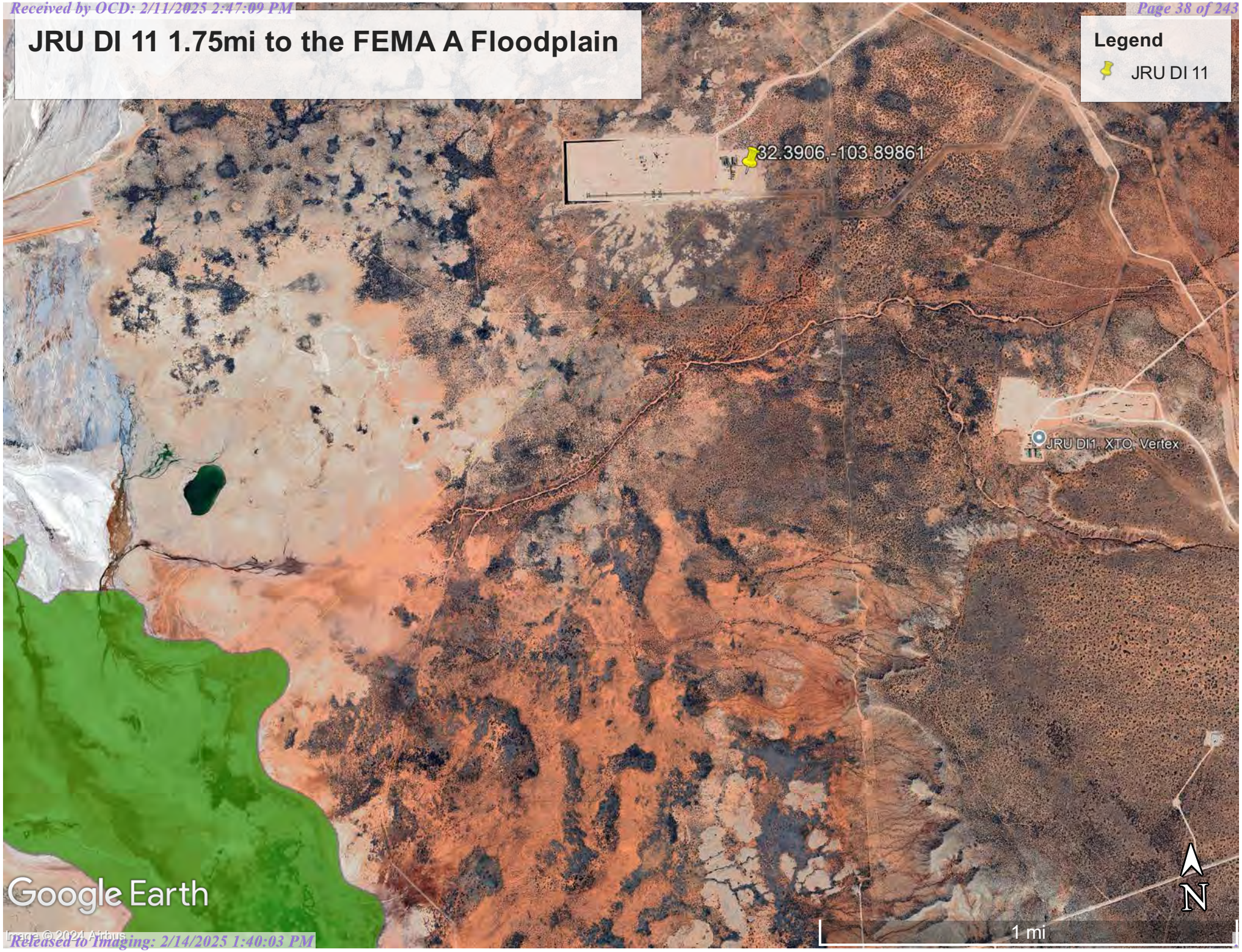
Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Inset Map, Esri 2022; Overview Map: Esri World Topographic. Karst potential data sources from Roswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management, (2018). Karst Potential.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\XTO Energy\2024\24E-04947 - JRU DI 11 Battery\Project\24E-04947.aprx

JRU DI 11 1.75mi to the FEMA A Floodplain



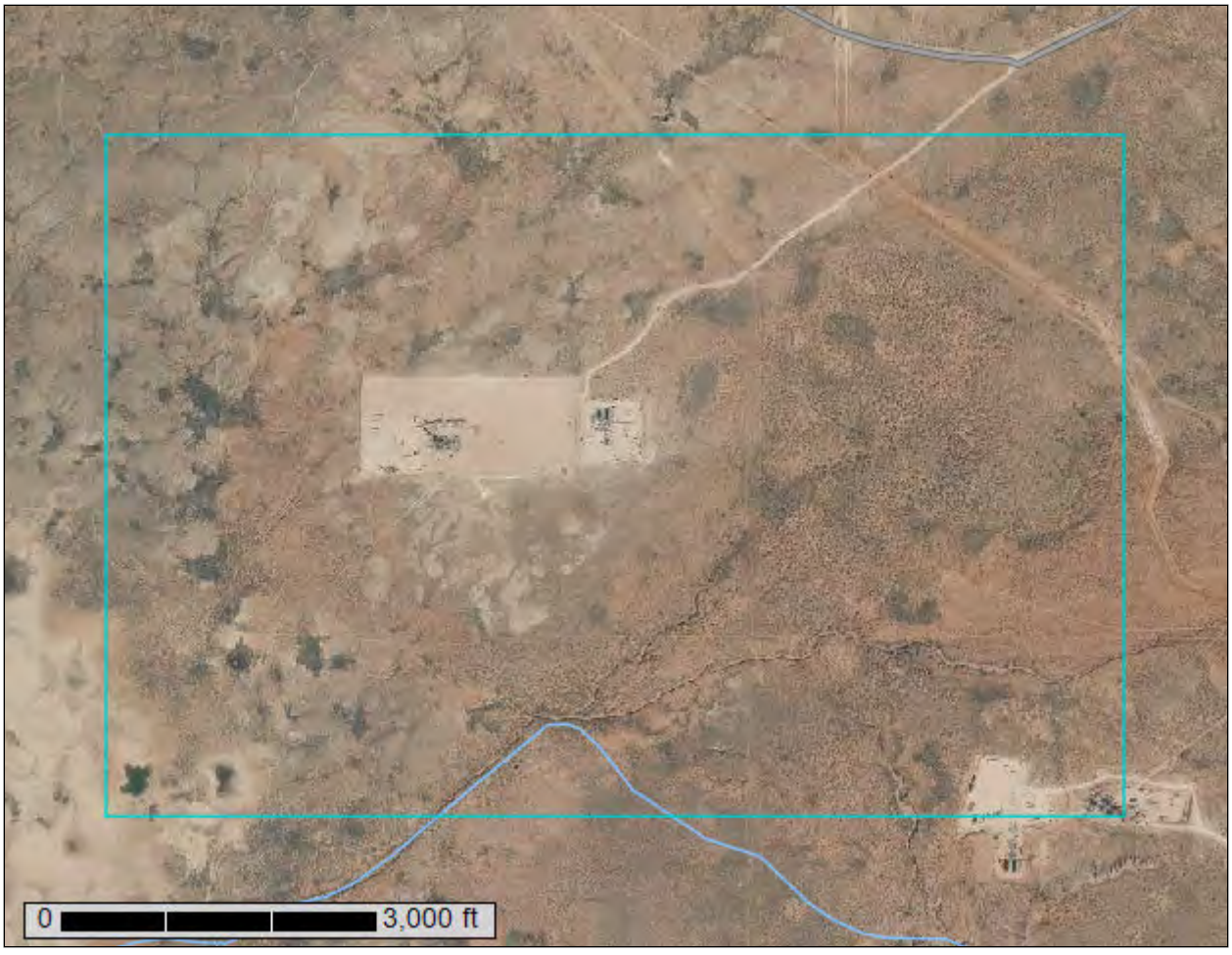
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

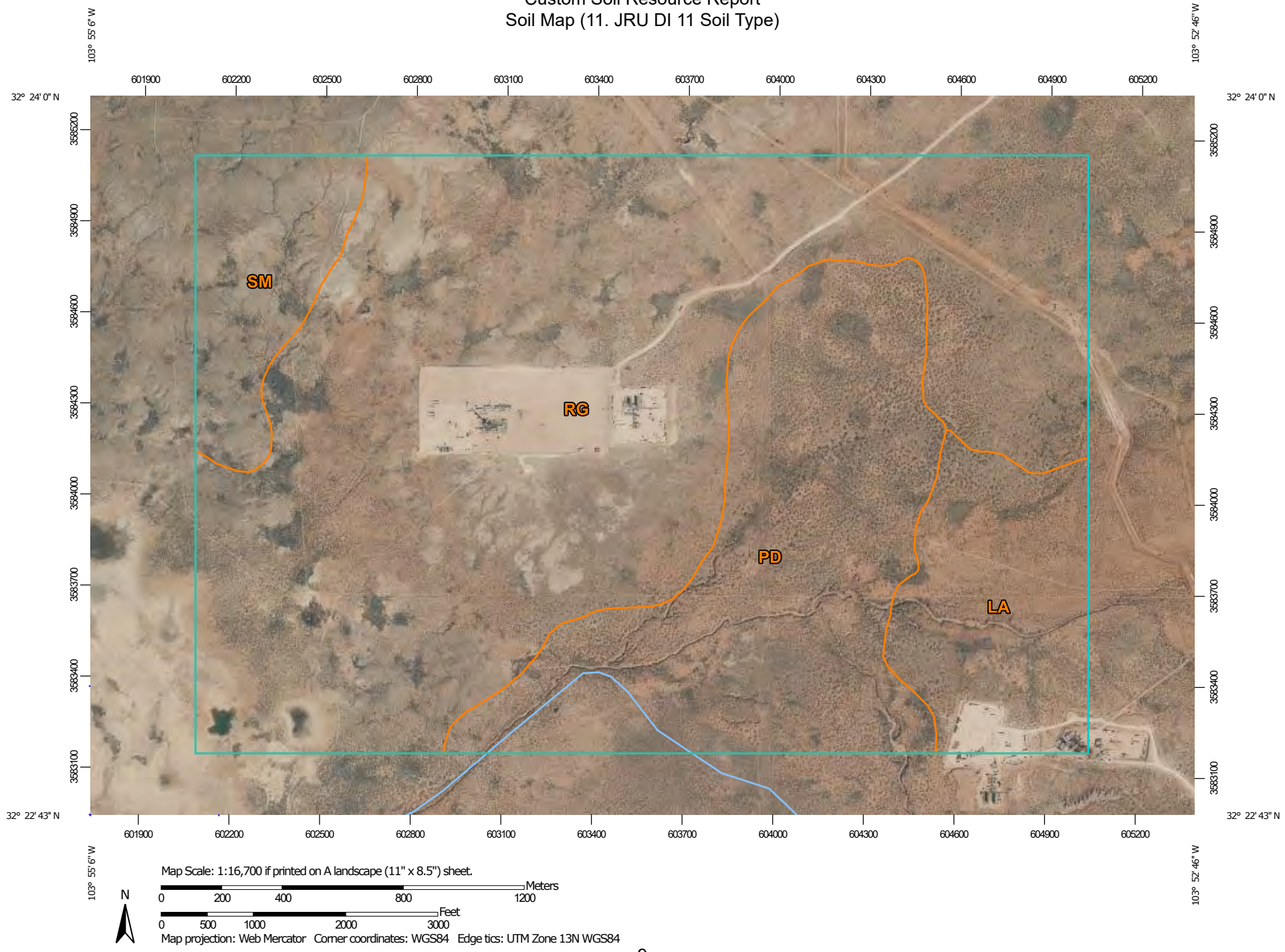
A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Eddy Area, New Mexico



November 18, 2024

Custom Soil Resource Report
Soil Map (11. JRU DI 11 Soil Type)



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.

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: Feb 7, 2020—May 12, 2020

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

Map Unit Legend (11. JRU DI 11 Soil Type)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
LA	Largo loam, 1 to 5 percent slopes	140.1	9.7%
PD	Pajarito-Dune land complex, 0 to 3 percent slopes	340.6	23.6%
RG	Reeves-Gypsum land complex, 0 to 3 percent slopes	867.3	60.0%
SM	Simona-Bippus complex, 0 to 5 percent slopes	96.3	6.7%
Totals for Area of Interest		**1,444.3**	**100.0%**

Map Unit Descriptions (11. JRU DI 11 Soil Type)

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

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

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

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

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

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

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

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

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

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

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

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

Eddy Area, New Mexico

LA—Largo loam, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1w4y
Elevation: 2,000 to 5,700 feet
Mean annual precipitation: 6 to 14 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Largo

Setting

Landform: Plains, alluvial fans
Landform position (three-dimensional): Talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Calcareous alluvium

Typical profile

H1 - 0 to 4 inches: loam
H2 - 4 to 47 inches: silt loam
H3 - 47 to 65 inches: loam

Properties and qualities

Slope: 1 to 5 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 (0.20 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: 15 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: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Minor Components

Largo

Percent of map unit: 1 percent
Ecological site: R070BC017NM - Bottomland
Hydric soil rating: No

Pajarito

Percent of map unit: 1 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

PD—Pajarito-Dune land complex, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w55
Elevation: 3,000 to 5,000 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 190 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Pajarito and similar soils: 46 percent
Dune land: 45 percent
Minor components: 9 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pajarito

Setting

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

Typical profile

H1 - 0 to 9 inches: fine sandy loam
H2 - 9 to 36 inches: fine sandy loam
H3 - 36 to 72 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 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: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Description of Dune Land

Setting

Landform: Dune fields
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 6 inches: sandy loam
H2 - 6 to 60 inches: sandy loam

Interpretive groups

Land capability classification (irrigated): None specified
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: No

Largo

Percent of map unit: 4 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

RG—Reeves-Gypsum land complex, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w5f
Elevation: 1,250 to 5,000 feet
Mean annual precipitation: 10 to 25 inches
Mean annual air temperature: 57 to 70 degrees F

Frost-free period: 190 to 235 days
Farmland classification: Not prime farmland

Map Unit Composition

Reeves and similar soils: 55 percent
Gypsum land: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reeves

Setting

Landform: Ridges, plains, hills
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Side slope, head slope, nose slope, crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from gypsum

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 32 inches: clay loam
H3 - 32 to 60 inches: gypsiferous material

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Gypsum, maximum content: 80 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Description of Gypsum Land

Setting

Landform: Ridges, plains, hills
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Side slope, head slope, nose slope, crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from gypsum

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Minor Components

Largo

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

Reagan

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

Cottonwood

Percent of map unit: 5 percent
Ecological site: R070BC033NM - Salty Bottomland
Hydric soil rating: No

SM—Simona-Bippus complex, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1w5x
Elevation: 1,800 to 5,000 feet
Mean annual precipitation: 8 to 24 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Simona and similar soils: 55 percent
Bippus and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Simona

Setting

Landform: Plains, alluvial fans
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 19 inches: gravelly fine sandy loam
H2 - 19 to 23 inches: indurated

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 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 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R070BD002NM - Shallow Sandy
Hydric soil rating: No

Description of Bippus

Setting

Landform: Flood plains, alluvial fans
Landform position (three-dimensional): Talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

H1 - 0 to 37 inches: silty clay loam
H2 - 37 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 40 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: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R070BC017NM - Bottomland
Hydric soil rating: No

Minor Components

Simona

Percent of map unit: 8 percent
Ecological site: R070BD002NM - Shallow Sandy
Hydric soil rating: No

Bippus

Percent of map unit: 7 percent
Ecological site: R070BC017NM - Bottomland
Hydric soil rating: No

Soil Information for All Uses

Ecological Sites

Individual soil map unit components can be correlated to a particular ecological site. The Ecological Site Assessment section includes ecological site descriptions, plant growth curves, state and transition models, and selected National Plants database information.

All Ecological Sites — (12. JRU DI 11 Ecological)

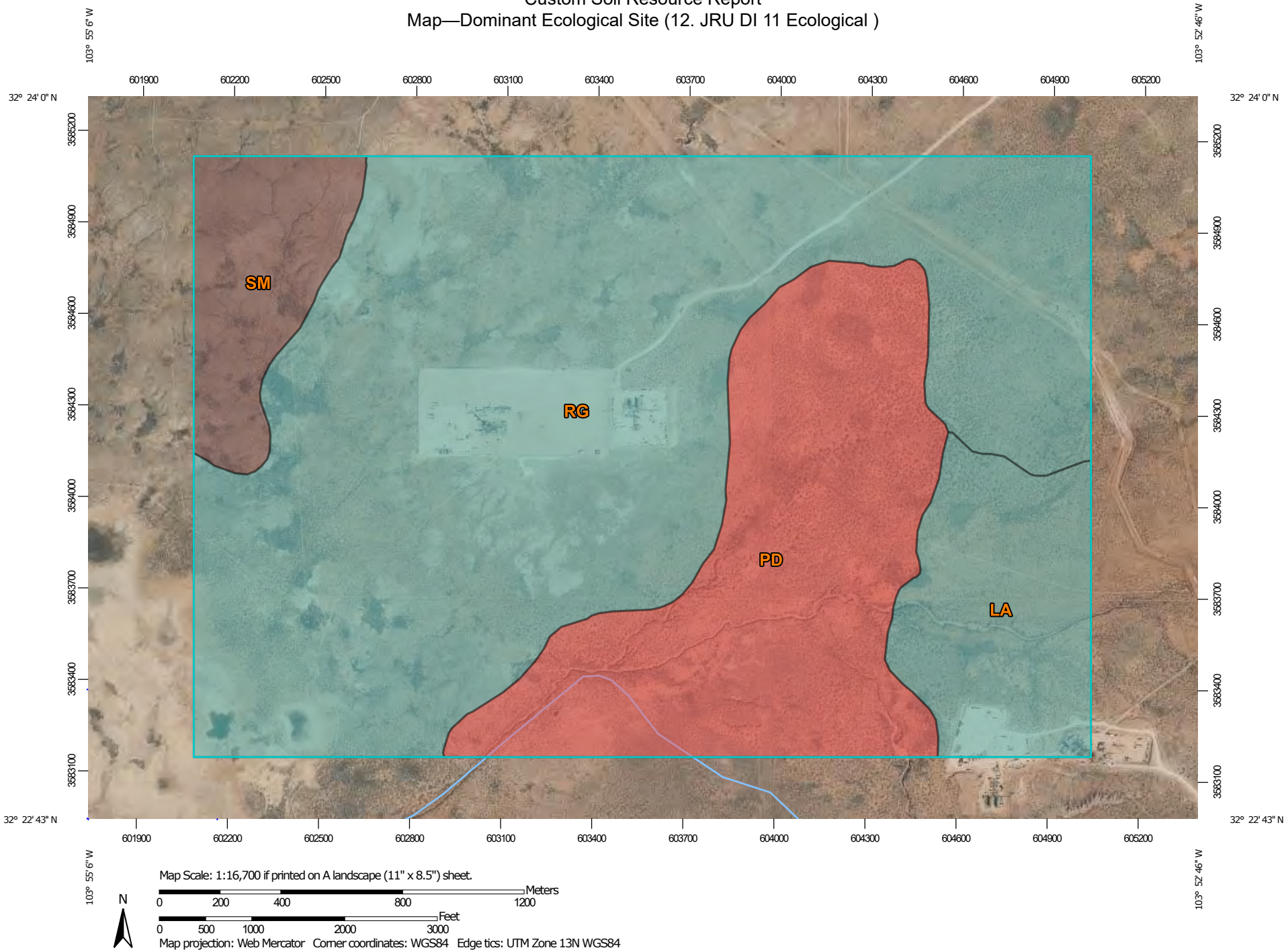
An "ecological site" is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. For example, the hydrology of the site is influenced by development of the soil and plant community. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production.

An ecological site name provides a general description of a particular ecological site. For example, "Loamy Upland" is the name of a rangeland ecological site. An "ecological site ID" is the symbol assigned to a particular ecological site.

The map identifies the dominant ecological site for each map unit, aggregated by dominant condition. Other ecological sites may occur within each map unit. Each map unit typically consists of one or more components (soils and/or miscellaneous areas). Each soil component is associated with an ecological site. Miscellaneous areas, such as rock outcrop, sand dunes, and badlands, have little or no soil material and support little or no vegetation and therefore are not linked to an ecological site. The table below the map lists all of the ecological sites for each map unit component in your area of interest.

Custom Soil Resource Report

Map—Dominant Ecological Site (12. JRU DI 11 Ecological)



MAP LEGEND

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

Soils

Soil Rating Polygons
- R070BC007NM
- R070BD002NM
- R070BD003NM
- Not rated or not available

Soil Rating Lines
- R070BC007NM
- R070BD002NM
- R070BD003NM
- Not rated or not available

Soil Rating Points
- R070BC007NM
- R070BD002NM
- R070BD003NM
- Not rated or not available

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.

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: Feb 7, 2020—May 12, 2020

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

Table—Ecological Sites by Map Unit Component (12. JRU DI 11 Ecological)

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
LA	Largo loam, 1 to 5 percent slopes	Largo (98%)	R070BC007NM — Loamy	140.1	9.7%
		Largo (1%)	R070BC017NM — Bottomland		
		Pajarito (1%)	R070BD003NM — Loamy Sand		
PD	Pajarito-Dune land complex, 0 to 3 percent slopes	Pajarito (46%)	R070BD003NM — Loamy Sand	340.6	23.6%
		Dune land (45%)	R070BD003NM — Loamy Sand		
		Rock outcrop (5%)			
		Largo (4%)	R070BC007NM — Loamy		
RG	Reeves-Gypsum land complex, 0 to 3 percent slopes	Reeves (55%)	R070BC007NM — Loamy	867.3	60.0%
		Gypsum land (30%)			
		Cottonwood (5%)	R070BC033NM — Salty Bottomland		
		Largo (5%)	R070BC007NM — Loamy		
		Reagan (5%)	R070BC007NM — Loamy		
SM	Simona-Bippus complex, 0 to 5 percent slopes	Simona (55%)	R070BD002NM — Shallow Sandy	96.3	6.7%
		Bippus (30%)	R070BC017NM — Bottomland		
		Simona (8%)	R070BD002NM — Shallow Sandy		
		Bippus (7%)	R070BC017NM — Bottomland		
Totals for Area of Interest				**1,444.3**	**100.0%**

USDA Natural Resources Conservation Service

Ecological site R070BC007NM
Loamy

Accessed: 12/11/2024

General information

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

Figure 1. Mapped extent

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

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

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

Table 2. Representative physiographic features

Landforms	(1) Plain (2) Terrace (3) Fan piedmont
Flooding frequency	None
Ponding frequency	None
Elevation	2,842–5,000 ft
Slope	0–5%
Aspect	E, S, W

Climatic features

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common. Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity short duration thunderstorms.

Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer.

The average frost-free season is 207 to 220 days. The last killing frost is in late March or early April, and the first killing frost is in late October or early November.

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

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

Table 3. Representative climatic features

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

Influencing water features

This site is not influenced by wetland or streams.

Soil features

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

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

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

Characteristic Soils:

Atoka (petrocalcic)
Bigetty
Reagan
Reakor
Reeves (gypsum)
Russler (gypsum)
Largo
Russler (gypsum)
Largo
Berino
Tinney
Midessa
Ratliff
Holloman (gypsum)
Milner (gypsum)

Table 4. Representative soil features

Surface texture	(1) Loam (2) Very fine sandy loam (3) Silt loam
Family particle size	(1) Loamy
Drainage class	Well drained to somewhat excessively drained
Permeability class	Moderate to slow
Soil depth	30–72 in

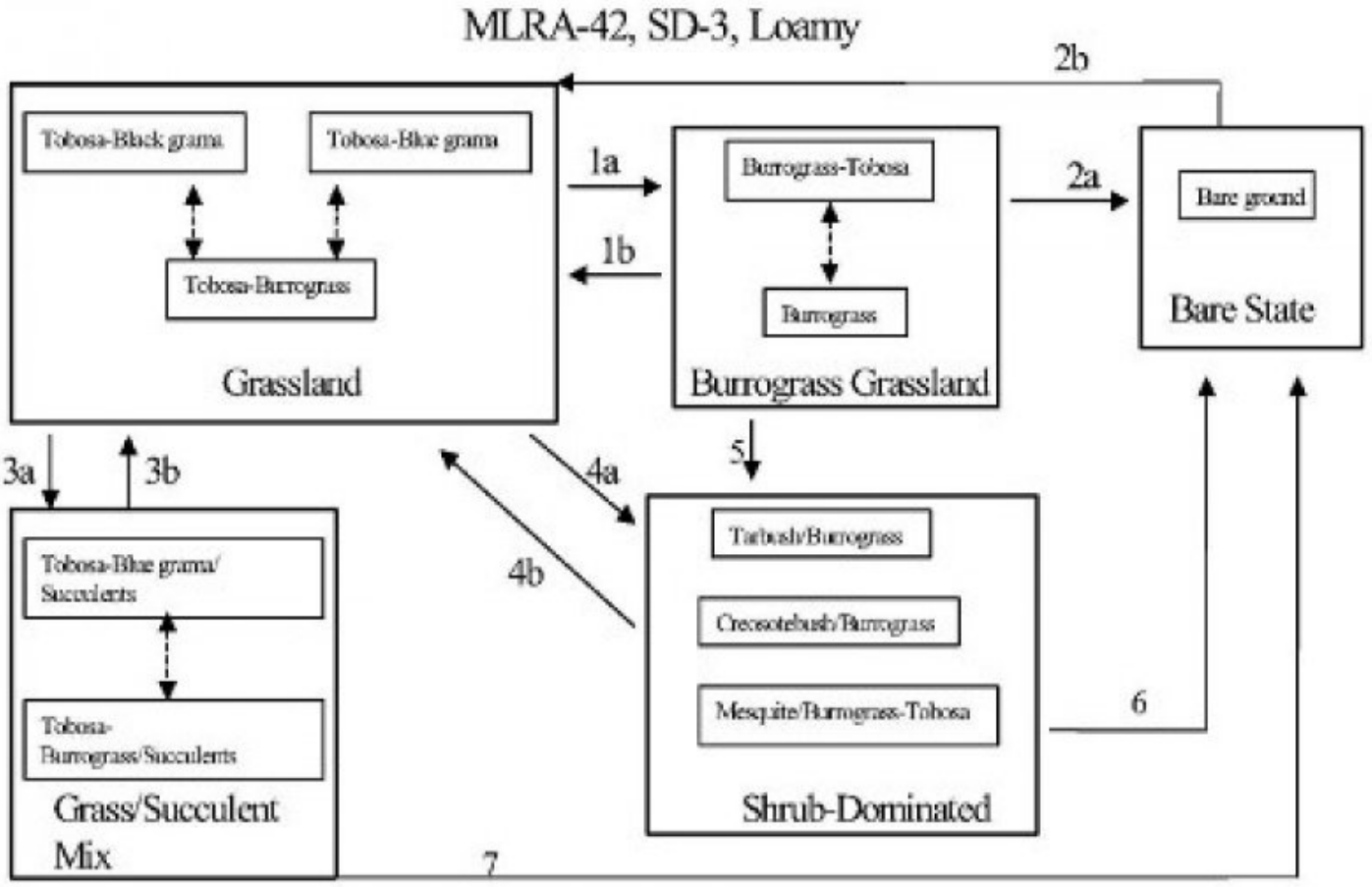
Surface fragment cover <=3"	0–5%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	5–12 in
Calcium carbonate equivalent (0-40in)	0–10%
Electrical conductivity (0-40in)	0–8 mmhos/cm
Sodium adsorption ratio (0-40in)	0–6
Soil reaction (1:1 water) (0-40in)	6.6–8.4
Subsurface fragment volume <=3" (Depth not specified)	0–5%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

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

State and transition model

Plant Communities and Transitional Pathways (diagram)



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

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

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

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

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

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

State 1
Historic Climax Plant Community

Community 1.1
Historic Climax Plant Community

State Containing Historic Climax Plant Community Grassland: The historic plant community has a grassland aspect, dominated by grasses with shrubs and half-shrubs sparse and evenly distributed. Black grama, blue grama, and tobosa are the dominant grass species. There are a variety of perennial forbs and their production varies widely by season and year. Globemallow, verbena, groundsels, croton and filaree are forbs commonly found on this site. Fourwing saltbush and winterfat are two of the more palatable shrubs. The Loamy ecological site encompasses a

wide variety of soils, with surface textures ranging from sandy loams to clay loams. Soil depths range from shallow to very deep and can include sub surface features such as calcic, petrocalcic, and gypsic horizons. These variations cause differences in plant community composition and dynamics. Black grama is found at highest densities on coarser textured sandy loams, with blue grama preferring finer textured loam and silt loam, and tobosa favoring lower landscape positions and loam to clay loam surface textures. Burrograss may often be the dominant grass species on silty soils, perhaps in part due to the seedlings ability to auger into and establish on physically crusted soils. Gypsum influenced soils typically have greater amounts of tobosa, burrograss, and ephedra. There is greater representation of sideoats and vine mesquite within the tobosa-blue grama community. Retrogression under continuous heavy grazing results in a decrease of black grama, blue grama, sideoats grama, plains bristlegrass, bush muhly, cane bluestem, vine mesquite, winterfat, and fourwing saltbush. Species such as burrograss, threeawns, sand dropseed, sand muhly, and broom snakeweed increase under continuous heavy grazing or prolonged periods of drought. Under continued retrogression burrograss can completely dominate the site. Creosotebush, tarbush, and mesquite, can also dominate. Cholla and prickly pear can increase on areas that are disturbed or overgrazed. Diagnosis: Tobosa, black grama, and blue grama are the dominant species. Grass cover is uniformly distributed with few large bare areas. Shrubs are sparse and evenly distributed. Slopes range from level to gently sloping and usually display limited evidence of active rills and gully formation if plant cover remains intact. Litter movement associated with overland flow is limited to smaller size class litter and short distances. Other shrubs include: yucca, mesquite, tarbush, cholla and creosote bush. Other forbs include: desert holly, scorpionweed, bladderpod, flax, nama, fleabane, Indianwheat, Indian blanket flower, groundcherry, deerstongue, and rayless goldenrod.

Table 5. Annual production by plant type

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

Table 6. Ground cover

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

Figure 5. Plant community growth curve (percent production by month). NM2807, R042XC007NM Loamy HCPC. R042XC007NM Loamy HCPC Warm Season Plant Community..

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

State 2

Burrograss-Grassland

Community 2.1
Burrograss-Grassland

Burrograss-Grassland: Changes in hydrology resulting in decreased available soil moisture, reduces grass cover and increases bare ground. Burrograss is the dominant grass. Tobosa cover is variable and can range from sizeable areas to small patches occupying only depressions or the lowest and wettest positions within the site. Threeawns, ear muhly, sand muhly, and fluffgrass occur at increased densities compared to the grassland state. Shrub densities may increase especially mesquite, creosotebush or tarbush. Retrogression within this state is characterized by a further decrease in grass cover and increased bare ground. Further deterioration of this site can result in the transition to a bare state or becoming shrub dominated. Diagnosis: Burrograss is the dominant species. Grass cover is no longer uniformly distributed, instead tending to be patchy with large areas of bare ground present. Physical crusts are present in bare areas reducing infiltration and suppressing seedling establishment by any grass species other than burrograss. Transition to Burrograss-Grassland (1a): Transitions from grassland to a burrograss-grassland state may occur due to changes in hydrology. Gullies, roads or obstructions that alter natural water flow patterns may cause this transition. Changes in surface hydrology may also occur due to overgrazing or drought. The reduction in grass cover promotes increased soil physical crusts and reduces infiltration. 5 Key indicators of approach to transition: ? Diversion of overland flow resulting in decreased soil moisture. ? Increase in amount of burrograss cover ? Reduction in grass cover and increase in size and frequency of bare patches. ? Formation of physical crusts—indicating reduced infiltration. ? Evidence of litter movement—indicating loss or redistribution of organic matter. Transition back to Grassland (1b) The natural hydrology of the site must be returned. Culverts, turnouts, or rerouting roads may help re-establish natural overland flow, if roads or trails have altered the hydrology. Erosion control structures or shaping and filling gullies may help regain natural flow patterns and establish vegetation if the flow has been channeled. Breaking up physical crusts by soil disturbance may promote infiltration and seedling emergence. Allow natural revegetation to take place. Prescribed grazing will help ensure proper forage utilization and reduce grass loss due to grazing.

State 3
Bare State

Community 3.1
Bare State

Bare State: Extremely low ground cover, soil degradation and erosion characterize this state. Very little vegetation remains. Burrograss is the dominant grass and cover is extremely patchy. Physical soil crusts are extensive. Erosion and resource depletion increase as site degrades. Diagnosis: Very little cover remains. Erosion is evident by soil sealing, water flow patterns, pedestals or terracettes. Rills and gullies may be present and active. Transition to Bare State (2a): Extended drought, continuous heavy grazing, or other disturbance that severely depletes grass cover can effect this transition. As grass cover decreases, sheet flow and erosion increase, and physical soil crusts form, thereby further reducing infiltration. Key indicators of approach to transition: ? Continued reduction in grass cover. ? Increased soil surface sealing. ? Increased erosion. ? Reduced aggregate stability in bare areas. Transition back to Grassland (2b) Restore the hydrology, see (1a). With the extent of grass loss range seeding may be necessary. Utilizing livestock or mechanical means to break up the physical crusts may increase infiltration and aid seedling establishment. Prescribed grazing will help ensure adequate deferment period following seeding, and proper forage utilization once the grass stand is well established. The degree to which this site is capable of recovery depends on the restoration of hydrology, extent of degradation to soil resources, and adequate rainfall necessary to establish grasses.

State 4
Grass/Succulent Mix

Community 4.1
Grass/Succulent Mix

Grass / Succulent Mix: Increased representations of succulents characterize this site. Increased densities of cholla or pricklypear is recognized as a management concern, but their impact on grass production is unclear. Light to

medium cholla or prickly pear infestation doesn't seem to greatly reduce grass production, however it limits access to palatable grasses and interferes with livestock movement and handling. Tobosa and blue grama are the dominant species on this site. Retrogression within this site is characterized by a decrease in blue grama and an increase in succulents, tobosa and burrograss. Diagnosis: Cholla or prickly pear is found at increased densities. Grass cover is variable ranging from uniformly distributed to patchy with frequent areas of bare ground present. Tobosa or blue grama is the dominant grass species. Transition to Grass/Succulent Mix (3a): If fire was historically a part of desert grassland ecosystem and played a role in suppressing seedlings of shrubs and succulents, then fire suppression may favor the increase of succulents.1 Heavy grazing by livestock or other physical disturbances may help disseminate seed and increase the establishment of succulents. Areas historically overgrazed by sheep are sometimes associated with higher densities of Succulents. Intense hailstorms can spread pricklypear by breaking off joints causing new plants to take root.3 During severe drought perennial grass cover can decline significantly, leaving resources available for use by more drought tolerant succulents. Cholla and pricklypear are both adapted to and favored by drought due to the ability of their shallow, wide spreading root systems to absorb and store water.4 Key indicators of approach to transition: ? Decrease or change in distribution of grass cover. ? Increase in amount of succulent seedlings. ? Increased cover of succulents. Transition back to Grassland (3b) Fire is an effective means of controlling cholla and prickly pear if adequate grass cover remains to carry fire.2 Cholla greater than two feet tall or pricklypear with a large amount of pads (>15-20) are harder to kill. Chemical control is effective in controlling prickly pear and cholla; apply when growth starts in May. Hand grubbing is also effective if cholla or pricklypear is severed 2-4 inches below ground and care is taken not to let broken joints or pads take root. Stacking and burning piles and grubbing during winter or drought help keeps broken joints and pads from rooting. Prescribed grazing will help ensure proper forage utilization and sustain grass cover.

State 5
Shrub Dominated

Community 5.1
Shrub Dominated

Shrub Dominated: Increased shrub cover characterizes this state. Mesquite, creosotebush, and/or tarbush are the dominant shrub species. Burrograss or tobosa is the dominant grass species. Grass cover is decreased, typically patchy with large bare areas present; however, sometimes grass cover can remain relatively high for extended periods when associated with light to moderate infestations of mesquite. Variations in soil characteristics play a part in determining which shrub species increase. Mesquite is well adapted to a wide range of soil types, but increases more often on deep soils low in carbonates, that have a sandy surface overlying finer textured soils. Tarbush prefers finer textured, calcareous soils, usually in lower positions that receive some extra water. Creosotebush is less tolerant of fine textured soils, preferring sandy, calcareous soils that have some gravel. Creosotebush also does well on soils that are shallow over caliche. Retrogression within this state is characterized by a decrease in tobosa, and an increase in burrograss. As the site continues to degrade shrub cover continues to increase and grass cover is severely reduced. Diagnosis: Mesquite, Creosotebush, and/or tarbush are the dominant shrubs. Blue grama and black grama cover is low or absent. Burrograss or tobosa are the dominant grasses. Typically grass cover is patchy with large interconnected bare areas present. Physical soil crusts are present, especially on silt loam surface soils. Transition to Shrub Dominated (4a): Wildlife and livestock consume and disperse mesquite seeds. Flood events may wash creosote or tarbush seeds off adjacent gravelly sites onto the loamy site and supply adequate moisture for germination. Persistent loss of grass cover due to overgrazing or drought can cause large bare patches, providing competition free areas for shrub seedling establishment. As shrub cover increases, competition for soil resources, especially water, becomes a major factor in further reducing grass cover. Reduction of fire, due to either fire suppression policy or loss of adequate fine fuels may increase the probability of shrub encroachment. Increased soil surface physical crusts and associated decreased infiltration, may prevent the establishment of grass seedlings. Transition to Shrub Dominated (5): The dispersal of creosotebush, tarbush or mesquite seed, combined with loss of grass cover and resource competition by shrubs may cause this transition. Key indicators of approach to transition: ? Decreased grass and litter cover. ? Increased bare patch size. ? Increased physical soil crusts. ? Increased amount of mesquite, creosotebush, or tarbush seedlings. ? Increased shrub cover. Transition back to Grassland (4b) Brush control will be necessary to remove shrubs and eliminate competition for resources necessary for grass establishment or reproduction. Seeding may be necessary on those sites where desired grass species are absent or very limited. Pitting and seeding may increase the chances of successful grass establishment. Prescribed grazing will help ensure adequate time is elapsed before grazing seeded area is allowed and proper forage utilization following seeding establishment. Transition to Bare State (6): If grass cover on the shrub-dominated state is

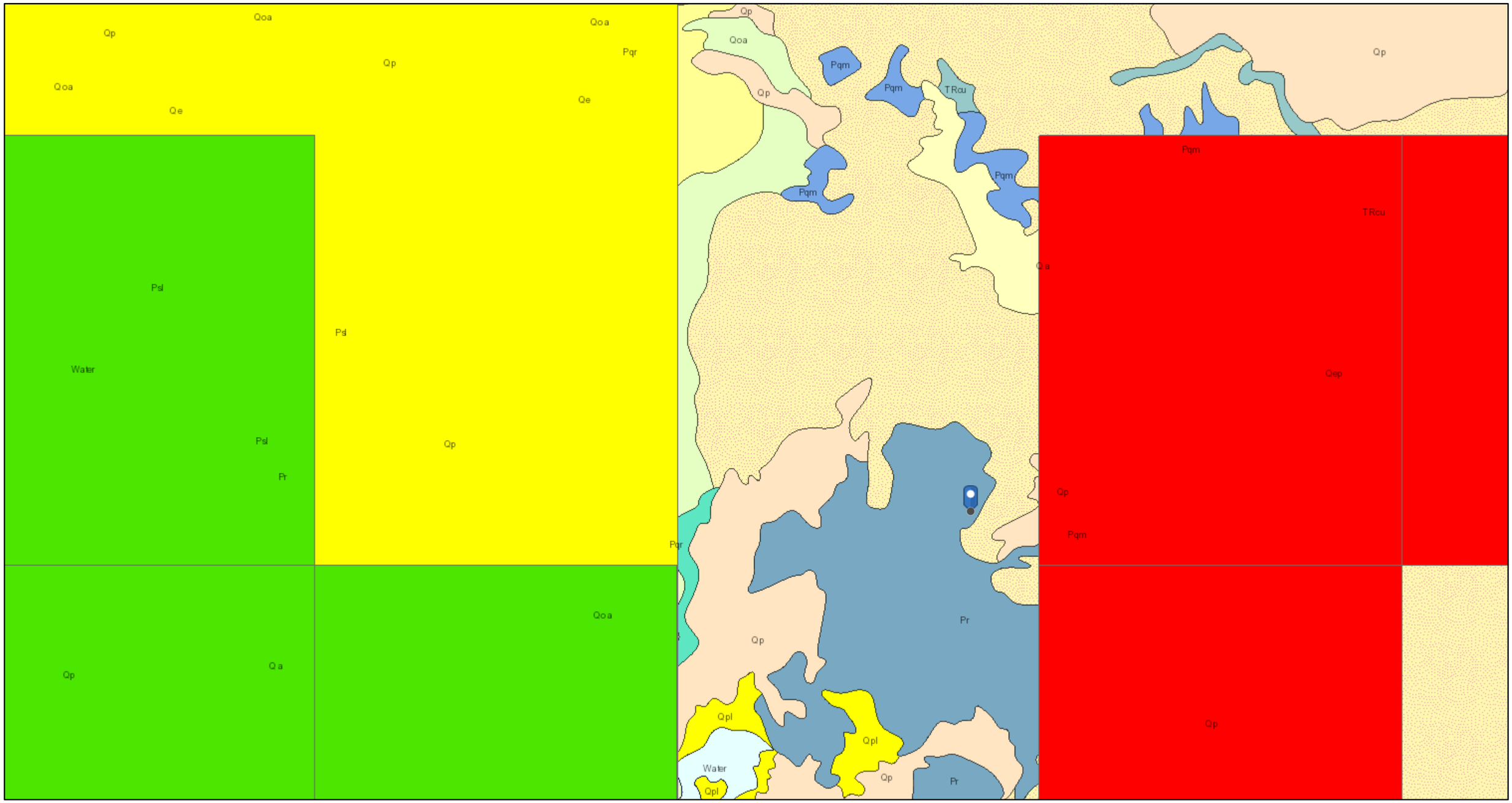
severely limited and shrubs are removed a bare state may result. This transition will depend on amount of grasses or seed remaining, whether site is seeded, or if seeding is successful. Transition to Bare State (7): Removal of succulents and continued overgrazing or drought may cause loss of remaining grasses and erosion. Soil surface physical crusting may also be an important factor in inhibiting grass seedling establishment

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1	**Warm Season**			278–324	
	tobosagrass	PLMU3	*Pleuraphis mutica*	278–324	–
2	**Warm Season**			9–46	
	burrograss	SCBR2	*Scleropogon brevifolius*	9–46	–
3	**Warm Season**			231–278	
	black grama	BOER4	*Bouteloua eriopoda*	231–278	–
	blue grama	BOGR2	*Bouteloua gracilis*	231–278	–
4	**Warm Season**			28–46	
	sideoats grama	BOCU	*Bouteloua curtipendula*	28–46	–
5	**Warm Season**			46–93	
	bush muhly	MUPO2	*Muhlenbergia porteri*	46–93	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	46–93	–
6	**Warm Season**			9–28	
	Arizona cottontop	DICA8	*Digitaria californica*	9–28	–
7	**Warm Season**			46–93	
	threeawn	ARIST	*Aristida*	46–93	–
	muhly	MUHLE	*Muhlenbergia*	46–93	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	46–93	–
8	**Warm Season**			28–46	
	Graminoid (grass or grass-like)	2GRAM	*Graminoid (grass or grass-like)*	28–46	–
Shrub/Vine					
9	**Shrub**			9–28	
	fourwing saltbush	ATCA2	*Atriplex canescens*	9–28	–
	jointfir	EPHED	*Ephedra*	9–28	–
	winterfat	KRLA2	*Krascheninnikovia lanata*	9–28	–
	cane bluestem	BOBA3	*Bothriochloa barbinodis*	5–24	–
	Arizona cottontop	DICA8	*Digitaria californica*	5–24	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	5–24	–
10	**Shrub**			9–28	
	javelina bush	COER5	*Condalia ericoides*	9–28	–
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	9–28	–
	Grass, annual	2GA	*Grass, annual*	5–15	–
11	**Shrubs**			9–28	
	Shrub (>.5m)	2SHRUB	*Shrub (>.5m)*	9–28	–
Forb					

13. JRU DI 11 Geology



11/18/2024, 6:13:18 PM

1:144,448

Lithologic Units

- Playa——Alluvium and evaporite deposits (Holocene)
- Water——Perenial standing water
- Qa——Alluvium (Holocene to upper Pleistocene)
- Ql——Landslide deposits and colluvium (Holocene to Pleistocene) — Landslide deposits on western flanks of Socorro Mountains not shown for clarity
- Qpl——Lacustrine and playa deposits (Holocene) — Includes associated alluvial and eolian deposits of major lake basins
- Qp——Piedmont alluvial deposits (Holocene to lower Pleistocene)
- Qe——Eolian deposits (Holocene to middle Pleistocene)
- Qeg——Gypsiferous eolian deposits (Holocene to middle Pleistocene)

0 1.5 3 6 mi

0 2.5 5 10 km

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

ArcGIS Web AppBuilder

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

APPENDIX D – Notification(s)

From: Hall, Brittany, EMNRD
To: Riley Plogger
Cc: Bratcher, Michael, EMNRD; Wells, Shelly, EMNRD
Subject: RE: [EXTERNAL] JRU Di 11 Variance request for Monday 1-20-25

I'm sorry there seems to be some confusion.

Please include a copy of this email chain approving the variance to extend the confirmation sampling notice to Monday, January 20, 2025, due to XTO shutting down operations today because of high winds is approved and ff sampling is to extend past January 20, 2025, an additional C-141N must be submitted in the next submittal.

Please let me know if this clears up the confusion or if I am off base in my assumption.

Thank you,
Brittany Hall ● Environmental Specialist
Environmental Bureau Projects Group
EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87110
505.517.5333 | Brittany.Hall@emnrd.nm.gov
http://www.emnrd.nm.gov/ocd/

Effective 12/1/2024: OCD has updated guidance on karst potential occurrence zones. This notice can be found at: https://www.emnrd.nm.gov/ocd/ocd-announcements-and-notifications/ under "2024 OCD ANNOUNCEMENTS AND NOTIFICATIONS".

The Digital C-141 guidance documents can be found at https://www.emnrd.nm.gov/ocd/ocd-announcements-and-notifications/ or https://www.emnrd.nm.gov/ocd/ocd-forms/.

From: Riley Plogger <RPlogger@vertexresource.com>
Sent: Friday, January 17, 2025 1:34 PM
To: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
Subject: Re: [EXTERNAL] JRU Di 11 Variance request for Monday 1-20-25

Here is the correspondence. Thank you

Get Outlook for iOS

From: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Sent: Friday, January 17, 2025 1:27:13 PM
To: Riley Plogger <RPlogger@vertexresource.com>; Chad Hensley <CHensley@vertexresource.com>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
Subject: RE: [EXTERNAL] JRU Di 11 Variance request for Monday 1-20-25

Riley,

The variance to extend the confirmation sampling notice to Monday, January 20, 2025, due to XTO shutting down operations today because of high winds is approved. If sampling is to extend past January 20, 2025, an additional C-141N must be submitted.

Please include a copy of this correspondence in the next submittal.

Thank you,
Brittany Hall ● Environmental Specialist
Environmental Bureau Projects Group
EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87110
505.517.5333 | Brittany.Hall@emnrd.nm.gov
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The Digital C-141 guidance documents can be found at https://www.emnrd.nm.gov/ocd/ocd-announcements-and-notifications/ or https://www.emnrd.nm.gov/ocd/ocd-forms/.

From: Riley Plogger <RPlogger@vertexresource.com>
Sent: Friday, January 17, 2025 1:12 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Chad Hensley <CHensley@vertexresource.com>
Subject: [EXTERNAL] JRU Di 11 Variance request for Monday 1-20-25

Location name: James Ranch Unit DI 11
Submission ID: 420675
Incident number: nAPP2431945579

Good afternoon, I am requesting a variance to extend my confirmation sampling notice to Monday, January 20, 2025, due to XTO shutting down operations today because of

high winds.

Riley Plogger
Environmental Field Technician

Vertex Resource Services Inc.

Houston, TX 77380-1335

C 575.361.9639

www.vertex.ca
Connect with LinkedIn

APPENDIX B – Daily Field and Sampling Report(s)

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	11/15/2024
Site Location Name:	JRU DI 11 Battery	Report Run Date:	12/2/2024 4:06 PM
Client Contact Name:	Amy Ruth	API #:	
Client Contact Phone #:	432-661-0571		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	11/15/2024 9:30 AM
Departed Site	11/15/2024 11:05 AM

Daily Site Visit Report

Site Sketch

Site Sketch

Daily Site Visit Report

Field Notes

10:20 Map out spill area

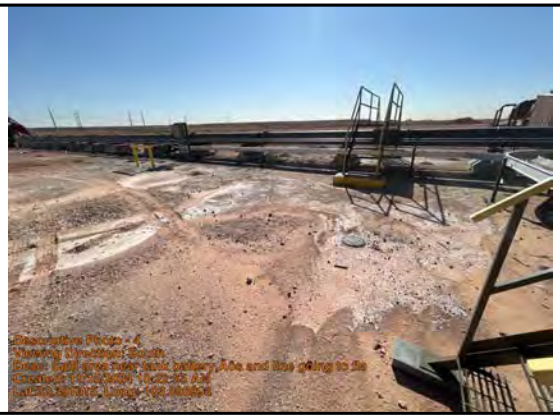
10:20 Flag area for 811

Next Steps & Recommendations

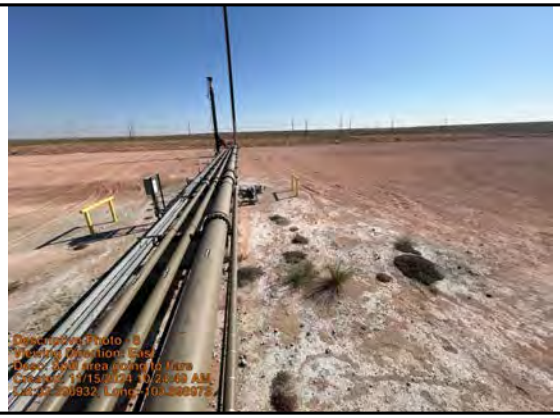
1 Delineate spill

Daily Site Visit Report

Site Photos

Viewing Direction: West	**Viewing Direction**: West
	
Spill area around pumps	Spill area around pumps
Viewing Direction: South	**Viewing Direction**: South
	
Spill area around pumps	Spill area near tank battery’s and line going to flare

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: West
	
Spill area towards pumps	Spill area
Viewing Direction: South	**Viewing Direction**: East
	
Spill area on pad	Spill area going to flare

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: North
	
Spill area under flare line by tank battery	Spill area on North side of pad
Viewing Direction: North	**Viewing Direction**: East
	
Spill on North side of pad	Spill area on North side of pad

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: South
	
Spill area on North side of pad	Spill area on north side of pad

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Riley Plogger

Signature: 

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	11/25/2024
Site Location Name:	JRU DI 11 Battery	Report Run Date:	12/2/2024 3:44 PM
Client Contact Name:	Amy Ruth	API #:	
Client Contact Phone #:	432-661-0571		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	11/25/2024 9:45 AM
Departed Site	11/25/2024 3:30 PM

Daily Site Visit Report

Site Sketch

Site Sketch

Daily Site Visit Report

Field Notes

15:11 Delineate spill area

Next Steps & Recommendations

1 Send samples to lab for analysis

Daily Site Visit Report

Site Photos

Viewing Direction: West	**Viewing Direction**: West
	
BH24-01 @ 2’	BH24-02 @ 2’
Viewing Direction: Southwest	**Viewing Direction**: North
	
BH24-03 @ 2’	BH24-04 @ 2’

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: Southeast
	
BH24-05 @ 2’	BH24-06 @ 2’

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Riley Plogger

Signature: 

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	11/26/2024
Site Location Name:	JRU DI 11 Battery	Report Run Date:	12/2/2024 3:44 PM
Client Contact Name:	Amy Ruth	API #:	
Client Contact Phone #:	432-661-0571		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	11/26/2024 10:15 AM
Departed Site	11/26/2024 3:15 PM

Daily Site Visit Report

Site Sketch

Site Sketch

Daily Site Visit Report

Field Notes

14:33 Finish delineation on spill area

Next Steps & Recommendations

1 Send samples off to lab for analysis

Daily Site Visit Report

Site Photos

Viewing Direction: West	**Viewing Direction**: East
	
BH24-07 @ 2’	BH24-08 @ 2’
Viewing Direction: West	**Viewing Direction**: North
	
BH24-09 @ 2’	BH24-10 @ 2’

Daily Site Visit Report

Viewing Direction: West

BH24-11 @ 2’

Viewing Direction: West

BH24-12 @ 2’

Viewing Direction: West

BH24-13 @ 2’

Viewing Direction: South

BH24-14 @ 2’

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Riley Plogger

Signature: 

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	1/13/2025
Site Location Name:	JRU DI 11 Battery	Report Run Date:	1/24/2025 5:59 PM
Client Contact Name:	Amy Ruth	API #:	
Client Contact Phone #:	432-661-0571		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	1/13/2025 8:15 AM
Departed Site	1/13/2025 3:45 PM

Daily Site Visit Report

Site Sketch

Site Sketch

Daily Site Visit Report

Field Notes

15:33 Walk out excavation areas with dirt work crew

Next Steps & Recommendations

1 Begin excavation

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: North
	
Excavation areas	Excavation areas
Viewing Direction: North	**Viewing Direction**: North
	
Excavation areas	Excavation areas

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: North
	
Excavation areas	Excavation areas
Viewing Direction: North	**Viewing Direction**: North
	
areas hydro vac to window out electrical lines	Area hydro vac to window lines

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Riley Plogger

Signature: 

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	1/14/2025
Site Location Name:	JRU DI 11 Battery	Report Run Date:	1/24/2025 3:32 PM
Client Contact Name:	Amy Ruth	API #:	
Client Contact Phone #:	432-661-0571		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	1/14/2025 8:15 AM
Departed Site	1/14/2025 3:30 PM

Daily Site Visit Report

Site Sketch

Site Sketch

Daily Site Visit Report

Field Notes

15:01 Continue excavation on the 2’ area and begin hand digging around the 1’ area

15:01 Field screen excavated areas

Next Steps & Recommendations

1 Continue excavation. Begin on 4’ area once 3’ area is finished

2 Hand digging crews will continue on areas needing to be dug

Daily Site Visit Report

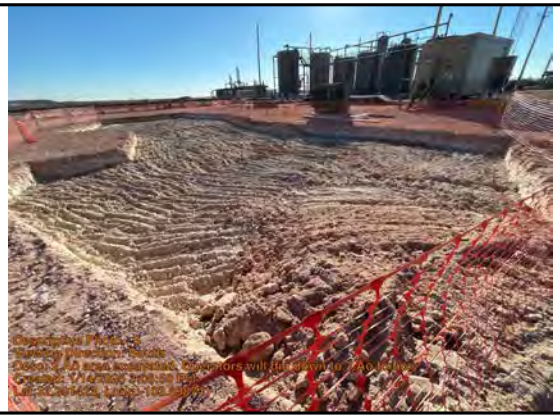
Site Photos

Viewing Direction: West	**Viewing Direction**: West
	
1’ area hand dug near compressors	1’ area hand dug near compressors
Viewing Direction: North	**Viewing Direction**: East
	
1’ area hand dug in front of containment	1’ area hand dug under stairs in front of containment

Daily Site Visit Report

Viewing Direction: North

2’ area excavated. Operators will dig down to 3’

Viewing Direction: South

2’ area excavated. Operators will dig down to 3’ tomorrow

Viewing Direction: South

Excavated material

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Riley Plogger

Signature: 

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	1/16/2025
Site Location Name:	JRU DI 11 Battery	Report Run Date:	1/24/2025 3:33 PM
Client Contact Name:	Amy Ruth	API #:	
Client Contact Phone #:	432-661-0571		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	1/16/2025 8:20 AM
Departed Site	1/16/2025 3:30 PM

Daily Site Visit Report

Site Sketch

Site Sketch

Daily Site Visit Report

Field Notes

13:56 Continue excavation on the 4’ and 1’ area

Next Steps & Recommendations

1. Finish 4’ excavation area
2. Field screen samples

Daily Site Visit Report

Site Photos

Viewing Direction: South

4’ excavation area

Viewing Direction: East

4’ excavation

Viewing Direction: East

1’ excavation

Viewing Direction: East

3’ excavation

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: North
	
3’ excavation	3’ excavation

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Riley Plogger

Signature: 

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	1/17/2025
Site Location Name:	JRU DI 11 Battery	Report Run Date:	1/24/2025 3:34 PM
Client Contact Name:	Amy Ruth	API #:	
Client Contact Phone #:	432-661-0571		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	1/17/2025 8:30 AM
Departed Site	1/17/2025 12:20 PM

Daily Site Visit Report

Site Sketch

Site Sketch

Daily Site Visit Report

Field Notes

12:07 Confirmation sampling event

12:07 Collect samples

Next Steps & Recommendations

1 XTO shut down site due to high winds. NMOCD gave us a variance extension to Monday 1-20-25 to continue

Daily Site Visit Report

Site Photos

Viewing Direction: West

BES25-01 to 17 @ 3’

Viewing Direction: South

BES25-01 to 17 @ 3’

Viewing Direction: West

BES25-18 to 20 @ 4’

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Riley Plogger

Signature: 

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	1/20/2025
Site Location Name:	JRU DI 11 Battery	Report Run Date:	1/24/2025 3:34 PM
Client Contact Name:	Amy Ruth	API #:	
Client Contact Phone #:	432-661-0571		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	1/20/2025 8:33 AM
Departed Site	1/20/2025 3:07 PM

Daily Site Visit Report

Site Sketch

Site Sketch

Daily Site Visit Report

Field Notes

15:35 Continue collecting samples for confirmation sampling event

Next Steps & Recommendations

1 Send confirmation samples off to lab for analysis

Daily Site Visit Report

Site Photos

Viewing Direction: West

Confirmation sampling area @ 4’

Viewing Direction: West

Confirmation sampling area @ 4’

Viewing Direction: East

Confirmation sampling area @ 3’

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Riley Plogger

Signature: 

APPENDIX C – Laboratory Data Report(s) and Chain of Custody Form(s)

CARDINAL Laboratories

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

December 05, 2024

CHAD HENSLEY

VERTEX RESOURCE

3101 BOYD DRIVE

CARLSBAD, NM 88220

RE: JRU DIII BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 11/27/24 12:55.

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 accreditated 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,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 01 @ 0' (H247288-01)

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	12/03/2024	ND	2.25	113	2.00	4.29	
Toluene*	<0.050	0.050	12/03/2024	ND	2.17	109	2.00	3.40	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.19	109	2.00	2.97	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.52	109	6.00	2.82	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.2 %* *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	**48.0**	16.0	12/03/2024	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	12/02/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/02/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/02/2024	ND					

Surrogate: 1-Chlorooctane *89.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *74.7 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 01 @ 2' (H247288-02)

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	12/03/2024	ND	2.25	113	2.00	4.29	
Toluene*	<0.050	0.050	12/03/2024	ND	2.17	109	2.00	3.40	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.19	109	2.00	2.97	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.52	109	6.00	2.82	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *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	**128**	16.0	12/03/2024	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	12/02/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/02/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/02/2024	ND					

Surrogate: 1-Chlorooctane *88.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *75.0 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 02 @ 0' (H247288-03)

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	12/03/2024	ND	2.25	113	2.00	4.29	
Toluene*	<0.050	0.050	12/03/2024	ND	2.17	109	2.00	3.40	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.19	109	2.00	2.97	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.52	109	6.00	2.82	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *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	**128**	16.0	12/03/2024	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	12/02/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/02/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/02/2024	ND					

Surrogate: 1-Chlorooctane *95.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *81.6 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 02 @ 2' (H247288-04)

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	12/03/2024	ND	2.25	113	2.00	4.29	
Toluene*	<0.050	0.050	12/03/2024	ND	2.17	109	2.00	3.40	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.19	109	2.00	2.97	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.52	109	6.00	2.82	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *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	**112**	16.0	12/03/2024	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	12/02/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/02/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/02/2024	ND					

Surrogate: 1-Chlorooctane *82.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *68.5 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 03 @ 0' (H247288-05)

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	12/03/2024	ND	2.25	113	2.00	4.29	
Toluene*	<0.050	0.050	12/03/2024	ND	2.17	109	2.00	3.40	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.19	109	2.00	2.97	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.52	109	6.00	2.82	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.3 %* *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	**176**	16.0	12/03/2024	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	12/02/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/02/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/02/2024	ND					

Surrogate: 1-Chlorooctane *92.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *76.3 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 03 @ 2' (H247288-06)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *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	**32.0**	16.0	12/03/2024	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	12/02/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/02/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/02/2024	ND					

Surrogate: 1-Chlorooctane *97.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *81.5 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 04 @ 0' (H247288-07)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *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	**64.0**	16.0	12/03/2024	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	12/02/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/02/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/02/2024	ND					

Surrogate: 1-Chlorooctane *80.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *66.2 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 04 @ 2' (H247288-08)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *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	**64.0**	16.0	12/03/2024	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	12/02/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/02/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/02/2024	ND					

Surrogate: 1-Chlorooctane *85.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *72.6 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 05 @ 0' (H247288-09)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *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	**32.0**	16.0	12/03/2024	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	12/02/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/02/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/02/2024	ND					

Surrogate: 1-Chlorooctane *87.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *72.4 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 05 @ 2' (H247288-10)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *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	**48.0**	16.0	12/03/2024	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	12/02/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/02/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/02/2024	ND					

Surrogate: 1-Chlorooctane *86.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *74.7 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 06 @ 0' (H247288-11)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *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	**32.0**	16.0	12/03/2024	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	12/02/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/02/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/02/2024	ND					

Surrogate: 1-Chlorooctane *92.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *76.8 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 06 @ 2' (H247288-12)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *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	**64.0**	16.0	12/03/2024	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	12/03/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *97.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *82.4 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 07 @ 0' (H247288-13)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *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	**96.0**	16.0	12/03/2024	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	12/03/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *91.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *76.8 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 07 @ 2' (H247288-14)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *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	**80.0**	16.0	12/03/2024	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	12/03/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *101 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *85.3 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 08 @ 0' (H247288-15)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3440**	16.0	12/03/2024	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	12/03/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *103 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *85.7 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 08 @ 2' (H247288-16)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1860**	16.0	12/03/2024	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	12/03/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *93.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *78.4 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 09 @ 0' (H247288-17)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2220**	16.0	12/03/2024	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	12/03/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *92.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *78.6 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 09 @ 2' (H247288-18)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-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	12/03/2024	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	12/03/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *111 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *94.3 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 10 @ 0' (H247288-19)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1200**	16.0	12/03/2024	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	12/03/2024	ND	186	93.2	200	1.74	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	179	89.5	200	0.345	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *94.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *78.8 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 10 @ 2' (H247288-20)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-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	12/03/2024	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	12/02/2024	ND	190	95.1	200	3.63	
DRO >C10-C28*	<10.0	10.0	12/02/2024	ND	173	86.6	200	3.43	
EXT DRO >C28-C36	<10.0	10.0	12/02/2024	ND					

Surrogate: 1-Chlorooctane *87.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *83.3 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 11 @ 0' (H247288-21)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1280**	16.0	12/03/2024	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	12/03/2024	ND	190	95.1	200	3.63	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	173	86.6	200	3.43	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *86.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *82.2 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 11 @ 2' (H247288-22)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	12/03/2024	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	12/03/2024	ND	190	95.1	200	3.63	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	173	86.6	200	3.43	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *92.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *87.9 %* *49.1-148*

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 12 @ 0' (H247288-23)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	12/03/2024	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	12/03/2024	ND	190	95.1	200	3.63	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	173	86.6	200	3.43	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *97.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *92.2 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 12 @ 2' (H247288-24)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	12/03/2024	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	12/03/2024	ND	190	95.1	200	3.63	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	173	86.6	200	3.43	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *96.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *90.6 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 13 @ 0' (H247288-25)

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	12/03/2024	ND	2.19	110	2.00	4.00	
Toluene*	<0.050	0.050	12/03/2024	ND	2.24	112	2.00	0.856	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.20	110	2.00	0.463	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.89	115	6.00	0.432	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2760**	16.0	12/03/2024	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	12/03/2024	ND	190	95.1	200	3.63	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	173	86.6	200	3.43	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *100 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.2 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 13 @ 2' (H247288-26)

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	12/03/2024	ND	2.06	103	2.00	3.96	
Toluene*	<0.050	0.050	12/03/2024	ND	2.14	107	2.00	3.38	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.13	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.34	106	6.00	3.20	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3400**	16.0	12/03/2024	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	12/03/2024	ND	190	95.1	200	3.63	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	173	86.6	200	3.43	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *97.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *90.3 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 14 @ 0' (H247288-27)

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	12/03/2024	ND	2.06	103	2.00	3.96	
Toluene*	<0.050	0.050	12/03/2024	ND	2.14	107	2.00	3.38	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.13	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.34	106	6.00	3.20	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**7520**	16.0	12/03/2024	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	12/03/2024	ND	190	95.1	200	3.63	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	173	86.6	200	3.43	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *105 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *101 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE
CHAD HENSLEY
3101 BOYD DRIVE
CARLSBAD NM, 88220
Fax To: NA

Received:	11/27/2024	Sampling Date:	11/26/2024
Reported:	12/05/2024	Sampling Type:	Soil
Project Name:	JRU DIII BATTERY	Sampling Condition:	Cool & Intact
Project Number:	23E-04947	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: BH 24 - 14 @ 2' (H247288-28)

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	12/03/2024	ND	2.06	103	2.00	3.96	
Toluene*	<0.050	0.050	12/03/2024	ND	2.14	107	2.00	3.38	
Ethylbenzene*	<0.050	0.050	12/03/2024	ND	2.13	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	12/03/2024	ND	6.34	106	6.00	3.20	
Total BTEX	<0.300	0.300	12/03/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**496**	16.0	12/03/2024	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	12/03/2024	ND	190	95.1	200	3.63	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	173	86.6	200	3.43	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane *96.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *93.1 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-05	The surrogate recovery is outside of lab established statistical control 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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: vertex
Project Manager: Chad Hensley
Address: 3101 Boyd dr
City: Carlsbad State: NM Zip: 88220
Phone #: 575-200-6167 Fax #:
Project #: 24E-04947 Project Owner: Amy Ruth
Project Name: Jru D111Battery
Project Location:
Sampler Name: Riley Plogger

BILL TO

P.O. #: 2147571001
Company: XTO
Attn:
Address: 3104 E Greene
City: Carlsbad
State: NM Zip: 88220
Phone #: 575-887-7329
Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING DATE	SAMPLING TIME	Chloride	TPH (GRO, DRO, MRO)	BTEX
H247288 1	BH24-01 @ 0'	X	X			X					X		11-26-24	9:39	X	X	X
2	01 @ 2'													9:43			
3	02 @ 0'													9:50			
4	02 @ 2'													9:55			
5	03 @ 0'													10:01			
6	03 @ 2'													10:07			
7	04 @ 0'													10:15			
8	04 @ 2'													10:22			
9	05 @ 0'													10:30			
10	05 @ 2'													10:37			

Relinquished By: R. M. Date: ~~12:55~~ 11-27-24 Time: 12:55
Received By: S Rodriguez
Relinquished By: Date: Time:
Received By:

Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp. °C 0.3 Corrected Temp. °C 0.3
Sample Condition Cool Yes No Intact Yes No
CHECKED BY: (Initials) SR

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address: CHensley@vertexresource.com
RPlogger@vertexresource.com
REMARKS:
Incident #nAPP2427862444

Turnaround Time: Standard ☑ Rush ☐
Thermometer ID #140
Correction Factor -0.6°C
Bacteria (only) Sample Condition Cool Yes No Intact Yes No
Observed Temp. °C
Corrected Temp. °C

FORM-006 R 3.3 08/05/24

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

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Vertex	**BILL TO**	
Project Manager:	C. Hensley	P.O. #:	214757 1001
Address:	3101 Boyd dr	Company:	XTO
City:	Carlsbad, NM	State: NM Zip: 88220	Attn:
Phone #:	575-200-6167	Fax #:	Address: 3104 E Greene
Project #:	24E-04947	Project Owner: Amy Ruth	City: Carlsbad
Project Name:	JRU D111 Battery		State: NM Zip: 88220
Project Location:			Phone #:
Sampler Name:	R. Plogger		Fax #:

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	Chloride	TPH (GRO, DRO, MRO)	BTEX
H247288																	
11	BH24-06 @ 0'	X	X			X					X		11-26-24	10:45	X	X	X
12	06 2'													10:55			
13	07 0'													11:05			
14	07 2'													11:15			
15	08 0'													11:27			
16	08 2'													11:39			
17	09 0'													11:47			
18	09 2'													11:54			
19	10 0'													12:05			
20	10 2'	↓	↓			↓					↓		↓	12:17	↓	↓	↓

Relinquished By:	Date: 11-27-24	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 12:55		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		Incident # nAPP2427862444

Delivered By: (Circle One) Sampler - UPS - Bus - Other:

Observed Temp. °C 0.3 Corrected Temp. °C -0.3

Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No

CHECKED BY: (Initials) SR

Turnaround Time: Standard ☑ Rush ☐

Thermometer ID #140 Correction Factor -0.6°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.3 08/05/24

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

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Vertex
Project Manager: C. Hensley
Address: 3101 Boyd dr
City: Carlsbad State: NM Zip: 88220
Phone #: 575-200-6167 Fax #:
Project #: 24E-04947 Project Owner: Amy Ruth
Project Name: JRU D1 11 Battery
Project Location:
Sampler Name: R. Plogger

BILL TO
P.O. #: 2147571001
Company: XTO
Attn:
Address: 3104 E Greene
City: Carlsbad
State: NM Zip: 88220
Phone #:
Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	(C)E / COOL	OTHER :	SAMPLING DATE	SAMPLING TIME	Chloride	TPH (GRO, DRO, MRO)	BTEX
H247288	BH24 - 11 @ 0'	C	1			X							11-26-24	12:50	X	X	X
21	11 @ 2'													1:02			
22	12 @ 0'													1:15			
23	12 @ 2'													1:24			
24	13 @ 0'													1:45			
25	13 @ 2'													1:58			
26	14 @ 0'													2:17			
27	14 @ 2'													2:27			
28																	

Relinquished By: Date: 11-27-24 Time: 12:55 Received By: S Rodriguez
Relinquished By: Date: Time: Received By:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:

REMARKS: Incident # nAPP2427862444

Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp. °C 0.3 Corrected Temp. °C -0.3
Sample Condition Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No
CHECKED BY: (Initials) SR

Turnaround Time: Standard ☑ Rush ☐
Thermometer ID #140 Correction Factor -0.6°C
Bacteria (only) Sample Condition Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.3 08/05/24

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

CARDINAL Laboratories

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

February 07, 2025

CHANCE DIXON

VERTEX RESOURCE GROUP

420 SOUTH MAIN, SUITE 202

TULSA, OK 74103

RE: JAMES RANCH UNIT DI 11

Enclosed are the results of analyses for samples received by the laboratory on 01/22/25 15:20.

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 accreditated 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,

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 01 @ 3' (H250393-01)

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	01/22/2025	ND	1.89	94.7	2.00	3.64	
Toluene*	<0.050	0.050	01/22/2025	ND	2.02	101	2.00	3.70	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.96	98.1	2.00	4.14	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.74	95.7	6.00	4.04	
Total BTEX	<0.300	0.300	01/22/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.8 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	01/23/2025	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	01/22/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/22/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/22/2025	ND					

Surrogate: 1-Chlorooctane *85.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *83.7 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 02 @ 3' (H250393-02)

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	01/22/2025	ND	1.89	94.7	2.00	3.64	
Toluene*	<0.050	0.050	01/22/2025	ND	2.02	101	2.00	3.70	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.96	98.1	2.00	4.14	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.74	95.7	6.00	4.04	
Total BTEX	<0.300	0.300	01/22/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.9 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg **Analyzed By: KV**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	01/23/2025	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	01/22/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/22/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/22/2025	ND					

Surrogate: 1-Chlorooctane *88.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *86.2 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 03 @ 3' (H250393-03)

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	01/22/2025	ND	1.89	94.7	2.00	3.64	
Toluene*	<0.050	0.050	01/22/2025	ND	2.02	101	2.00	3.70	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.96	98.1	2.00	4.14	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.74	95.7	6.00	4.04	
Total BTEX	<0.300	0.300	01/22/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.1 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg **Analyzed By: KV**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	01/23/2025	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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *78.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *75.2 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 04 @ 3' (H250393-04)

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	01/22/2025	ND	1.89	94.7	2.00	3.64	
Toluene*	<0.050	0.050	01/22/2025	ND	2.02	101	2.00	3.70	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.96	98.1	2.00	4.14	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.74	95.7	6.00	4.04	
Total BTEX	<0.300	0.300	01/22/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *90.0 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *81.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *78.4 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 05 @ 3' (H250393-05)

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	01/22/2025	ND	1.89	94.7	2.00	3.64	
Toluene*	<0.050	0.050	01/22/2025	ND	2.02	101	2.00	3.70	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.96	98.1	2.00	4.14	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.74	95.7	6.00	4.04	
Total BTEX	<0.300	0.300	01/22/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.6 %* *71.5-134*

Chloride, SM4500Cl-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	01/23/2025	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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *79.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *76.4 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 06 @ 3' (H250393-06)

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	01/23/2025	ND	1.89	94.7	2.00	3.64	
Toluene*	<0.050	0.050	01/23/2025	ND	2.02	101	2.00	3.70	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.96	98.1	2.00	4.14	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.74	95.7	6.00	4.04	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.2 %* *71.5-134*

Chloride, SM4500Cl-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	01/23/2025	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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *75.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.7 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 07 @ 3' (H250393-07)

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	01/23/2025	ND	1.89	94.7	2.00	3.64	
Toluene*	<0.050	0.050	01/23/2025	ND	2.02	101	2.00	3.70	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.96	98.1	2.00	4.14	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.74	95.7	6.00	4.04	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.6 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *82.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *80.0 %* *49.1-148*

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 08 @ 3' (H250393-08)

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	01/23/2025	ND	1.89	94.7	2.00	3.64	
Toluene*	<0.050	0.050	01/23/2025	ND	2.02	101	2.00	3.70	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.96	98.1	2.00	4.14	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.74	95.7	6.00	4.04	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.9 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *78.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.8 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 09 @ 3' (H250393-09)

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	01/23/2025	ND	1.89	94.7	2.00	3.64	
Toluene*	<0.050	0.050	01/23/2025	ND	2.02	101	2.00	3.70	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.96	98.1	2.00	4.14	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.74	95.7	6.00	4.04	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.1 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *79.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *76.2 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 10 @ 3' (H250393-10)

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	01/22/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/22/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *88.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *86.0 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 11 @ 3' (H250393-11)

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	01/22/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/22/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *79.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *77.4 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 12 @ 3' (H250393-12)

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	01/22/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/22/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *78.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *75.1 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 13 @ 3' (H250393-13)

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	01/22/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/22/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *85.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *81.3 %* *49.1-148*

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CARDINAL Laboratories

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 14 @ 3' (H250393-14)

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	01/22/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/22/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *77.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.5 %* *49.1-148*

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CARDINAL Laboratories

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 15 @ 3' (H250393-15)

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	01/22/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/22/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *89.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *84.8 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 16 @ 3' (H250393-16)

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	01/22/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/22/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**304**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *83.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *80.7 %* *49.1-148*

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CARDINAL Laboratories

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 17 @ 3' (H250393-17)

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	01/22/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/22/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *84.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *81.1 %* *49.1-148*

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 18 @ 4' (H250393-18)

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	01/22/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/22/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**208**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *78.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *76.4 %* *49.1-148*

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CARDINAL Laboratories

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 19 @ 4' (H250393-19)

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	01/22/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/22/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *78.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.6 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/17/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 20 @ 4' (H250393-20)

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	01/22/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/22/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	209	105	200	0.708	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	214	107	200	2.38	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *78.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.3 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 21 @ 4' (H250393-21)

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	01/23/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/23/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *74.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *72.6 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 22 @ 4' (H250393-22)

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	01/23/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/23/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *71.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *69.6 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 23 @ 4' (H250393-23)

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	01/23/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/23/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *76.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *74.5 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 24 @ 4' (H250393-24)

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	01/23/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/23/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *73.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *71.5 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 25 @ 4' (H250393-25)

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	01/23/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/23/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *68.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *66.5 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 26 @ 4' (H250393-26)

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	01/23/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/23/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**224**	16.0	01/23/2025	ND	416	104	400	7.41	

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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *67.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *64.9 %* *49.1-148*

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 27 @ 4' (H250393-27)

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	01/23/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/23/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: KV**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *75.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *74.5 %* *49.1-148*

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 28 @ 1' (H250393-28)

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	01/23/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/23/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**208**	16.0	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *76.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *74.9 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 29 @ 1' (H250393-29)

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	01/23/2025	ND	1.89	94.5	2.00	8.37	
Toluene*	<0.050	0.050	01/23/2025	ND	2.04	102	2.00	7.27	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.10	105	2.00	7.08	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.35	106	6.00	6.96	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *68.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *66.5 %* *49.1-148*

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 30 @ 1' (H250393-30)

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	01/22/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/22/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *73.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *71.6 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 31 @ 1' (H250393-31)

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	01/22/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/22/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**464**	16.0	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *67.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *66.2 %* *49.1-148*

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 32 @ 1' (H250393-32)

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	01/22/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/22/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: KV**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**416**	16.0	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *73.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *72.4 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 33 @ 1' (H250393-33)

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	01/22/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/22/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: KV**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *76.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.8 %* *49.1-148*

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 34 @ 1' (H250393-34)

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	01/22/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/22/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-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	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *76.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.8 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 35 @ 1' (H250393-35)

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	01/22/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/22/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *76.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.9 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 36 @ 1' (H250393-36)

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	01/22/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/22/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: KV**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *68.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *67.0 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 37 @ 1' (H250393-37)

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	01/22/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/22/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *69.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *66.5 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 38 @ 1' (H250393-38)

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	01/22/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/22/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-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	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *75.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.4 %* *49.1-148*

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 39 @ 1' (H250393-39)

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	01/22/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/22/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/22/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/22/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/22/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: KV**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *79.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *77.3 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 40 @ 1' (H250393-40)

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	01/23/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/23/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: KV**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	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	01/23/2025	ND	192	95.8	200	3.33	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.1	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *75.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.6 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 41 @ 1' (H250393-41)

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	01/23/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/23/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	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	01/22/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/22/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/22/2025	ND					

Surrogate: 1-Chlorooctane *84.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *89.3 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 42 @ 1' (H250393-42)

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	01/23/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/23/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-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	01/23/2025	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *89.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *95.6 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 43 @ 1' (H250393-43)

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	01/23/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/23/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: KV**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *83.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *89.2 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 44 @ 1' (H250393-44)

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	01/23/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/23/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-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	01/23/2025	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *86.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *92.1 %* *49.1-148*

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 45 @ 1' (H250393-45)

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	01/23/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/23/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-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	01/23/2025	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *86.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *93.5 %* *49.1-148*

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CARDINAL Laboratories

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 46 @ 1' (H250393-46)

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	01/23/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/23/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-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	01/23/2025	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *67.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *72.5 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 47 @ 1' (H250393-47)

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	01/23/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/23/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *89.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.1 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 48 @ 1' (H250393-48)

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	01/23/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/23/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *81.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *86.9 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 49 @ 1' (H250393-49)

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	01/23/2025	ND	1.79	89.7	2.00	10.4	
Toluene*	<0.050	0.050	01/23/2025	ND	1.83	91.7	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.94	96.9	2.00	9.89	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.75	95.8	6.00	9.51	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *89.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *94.3 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 50 @ 1' (H250393-50)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *126 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *80.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *86.9 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BES25 - 51 @ 1' (H250393-51)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *126 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *88.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *93.3 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 01 @ 0-3' (H250393-52)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *123 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *94.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *100 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 02 @ 0-3' (H250393-53)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *122 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *92.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *98.5 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 03 @ 0-3' (H250393-54)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *123 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *86.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *92.3 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 04 @ 0-3' (H250393-55)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *122 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *92.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *98.0 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 05 @ 0-3' (H250393-56)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *130 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *84.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *88.7 %* *49.1-148*

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 06 @ 0-3' (H250393-57)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *125 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *87.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *90.2 %* *49.1-148*

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 07 @ 0-4' (H250393-58)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *123 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *92.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.9 %* *49.1-148*

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 08 @ 0-4' (H250393-59)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *122 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *91.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *97.0 %* *49.1-148*

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 09 @ 0-4' (H250393-60)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *119 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	220	110	200	4.22	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	225	112	200	5.62	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *91.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.4 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 10 @ 0-4' (H250393-61)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *121 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	192	96.1	200	2.70	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.2	200	3.16	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *77.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *82.1 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 11 @ 0-4' (H250393-62)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *122 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	192	96.1	200	2.70	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.2	200	3.16	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *78.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *81.8 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 12 @ 0-1' (H250393-63)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *122 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	192	96.1	200	2.70	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.2	200	3.16	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *78.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *80.1 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 13 @ 0-1' (H250393-64)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *125 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	192	96.1	200	2.70	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.2	200	3.16	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *81.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *85.0 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 14 @ 0-1' (H250393-65)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *120 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	192	96.1	200	2.70	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.2	200	3.16	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *82.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *85.4 %* *49.1-148*

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CARDINAL Laboratories

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 15 @ 0-1' (H250393-66)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *121 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg **Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	01/23/2025	ND	432	108	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	01/23/2025	ND	192	96.1	200	2.70	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.2	200	3.16	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *76.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *79.6 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 16 @ 0-1' (H250393-67)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *122 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	01/23/2025	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	01/23/2025	ND	192	96.1	200	2.70	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.2	200	3.16	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *72.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.6 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 17 @ 0-1' (H250393-68)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *123 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg **Analyzed By: KV**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	01/23/2025	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	01/23/2025	ND	192	96.1	200	2.70	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.2	200	3.16	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *80.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *83.6 %* *49.1-148*

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Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 18 @ 0-1' (H250393-69)

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	01/23/2025	ND	2.21	111	2.00	2.84	
Toluene*	<0.050	0.050	01/23/2025	ND	2.17	109	2.00	0.496	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	2.18	109	2.00	1.09	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	6.62	110	6.00	0.255	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *124 %* *71.5-134*

Chloride, SM4500Cl-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	01/23/2025	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	01/23/2025	ND	192	96.1	200	2.70	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.2	200	3.16	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *76.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *78.3 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: WES25 - 19 @ 0-1' (H250393-70)

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	01/23/2025	ND	1.82	91.0	2.00	0.136	
Toluene*	<0.050	0.050	01/23/2025	ND	1.94	96.9	2.00	0.0302	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.88	93.9	2.00	0.00697	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.51	91.8	6.00	0.126	
Total BTEX	<0.300	0.300	01/23/2025	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**240**	16.0	01/23/2025	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	01/23/2025	ND	192	96.1	200	2.70	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.2	200	3.16	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *76.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *78.0 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

VERTEX RESOURCE GROUP
CHANCE DIXON
420 SOUTH MAIN, SUITE 202
TULSA OK, 74103
Fax To: NA

Received:	01/22/2025	Sampling Date:	01/20/2025
Reported:	02/07/2025	Sampling Type:	Soil
Project Name:	JAMES RANCH UNIT DI 11	Sampling Condition:	Cool & Intact
Project Number:	24E -04947	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: BACKFILL (H250393-71)

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	01/23/2025	ND	1.82	91.0	2.00	0.136	
Toluene*	<0.050	0.050	01/23/2025	ND	1.94	96.9	2.00	0.0302	
Ethylbenzene*	<0.050	0.050	01/23/2025	ND	1.88	93.9	2.00	0.00697	
Total Xylenes*	<0.150	0.150	01/23/2025	ND	5.51	91.8	6.00	0.126	
Total BTEX	<0.300	0.300	01/23/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.9 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**224**	16.0	01/23/2025	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	01/23/2025	ND	192	96.1	200	2.70	
DRO >C10-C28*	<10.0	10.0	01/23/2025	ND	196	98.2	200	3.16	
EXT DRO >C28-C36	<10.0	10.0	01/23/2025	ND					

Surrogate: 1-Chlorooctane *71.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *71.7 %* *49.1-148*

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	vertex (Bill to XTO)
Project Manager:	Chad Hensley
Address:	3101 Boyd dr
City:	Carlsbad State: NM Zip:
Phone #:	575-361-9639 Fax #:
Project #:	24E-04947 Project Owner: Amy Ruth
Project Name:	James Ranch unit DI 11
Project Location:	
Sampler Name:	Riley Plogger

BILL TO

P.O. #:	247571001
Company:	XTO
Attn:	
Address:	3104 Greene
City:	Carlsbad
State: NM	Zip: 88220
Phone #:	575-887-7329
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Chloride	TPH (GRO, DRO, MRO)	BTEX
H250393																	
1	BES25-01 @ 3'		1			X					X		1-17-25	10:15	X	X	X
2	02													10:18			
3	03													10:21			
4	04													10:25			
5	05													10:31			
6	06													10:36			
7	07													10:40			
8	08													10:44			
9	09													10:49			
10	10													10:53			

Relinquished By:	Date: 1-22-25	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 506		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One)	Observed Temp. °C 3.3	Sample Condition: Cool ☐ Yes ☑ Yes ☐ No ☐ No; Intact	CHECKED BY: (Initials)	Turnaround Time: Standard ☐ Rush ☒
Sampler - UPS - Bus - Other:	Corrected Temp. °C 2.7			Thermometer ID #140 Correction Factor -0.6°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No; Observed Temp. °C; Corrected Temp. °C

24 hrs

FORM-006 R 3.3 08/05/24

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2 of 8

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

		BILL TO	
Company Name:	Vertex (Bill to XTO)	P.O. #:	2147571001
Project Manager:	Chad Hensley	Company:	XTO
Address:		Attn:	
City:	State: Zip:	Address:	
Phone #:	Fax #:	City:	
Project #:	24E-04947 Project Owner: Amy Ruth	State: Zip:	
Project Name:	James Ranch unit DI 11	Phone #:	
Project Location:		Fax #:	
Sampler Name:	R. Plogger		

FOR LAB USE ONLY				MATRIX							PRESERV.		SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	Chloride	TPH (GRO, DRO, MRO)	BTEX
H550393																	
11	BES25-11 0 3'	X	1			X					X		1-17-25	10:57	X	X	X
12	12 3'													11:02			
13	13 3'													11:07			
14	14 3'													11:11			
15	15 3'													11:15			
16	16 3'													11:20			
17	17 3'													11:24			
18	18 4'													11:35			
19	19 4'													11:39			
20	20 4'													11:45			

Relinquished By:	Date: 1.22.25	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1500		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One)	Observed Temp. °C 37.2	Sample Condition Cool Intact	CHECKED BY: (Initials)	Turnaround Time: Standard ☐ Rush ☒
Sampler - UPS - Bus - Other:	Corrected Temp. °C 37.2	☑ Yes ☐ Yes ☐ No ☐ No		Thermometer ID #140 Correction Factor -0.6°C 24hrs

Bacteria (only) Sample Condition Cool Intact ☐ Yes ☐ Yes ☐ No ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.3 08/05/24

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CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Vertex (Bill to XTO)	**BILL TO**
Project Manager:	P.O. #: 214757/1001
Address:	Company: XTO
City: State: Zip:	Attn:
Phone #: Fax #:	Address:
Project #: 24E-04947 Project Owner: Amy Ruth	City:
Project Name: James Ranch unit DI 11	State: Zip:
Project Location:	Phone #:
Sampler Name:	Fax #:

FOR LAB USE ONLY				MATRIX							PRESERV.		SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.		(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chloride	TPH (GRO, DRO, MRO)	BTEX
H250393																		
21	BES25-	21	4'	X	1			X						1-20-25	10:33	X	X	X
22		22	4'												10:37			
23		23	4'												10:41			
24		24	4'												10:47			
25		25	4'												10:52			
26		26	4'												10:55			
27		27	4' *												10:59			
28		28	3' 1'												11:15			
29		29	3' 1'												11:18			
30		30	3' 1'												11:20			

Relinquished By:	Date: 1.20.25	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1520		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS: * Customer Requested Depth Changes - TO - 2/7/25
	Time:		

Delivered By: (Circle One)	Observed Temp. °C 3.3	Sample Condition Cool Intact	CHECKED BY: (Initials)	Turnaround Time: Standard ☐ Rush ☒
Sampler - UPS - Bus - Other:	Corrected Temp. °C 2.7	☐ Yes ☒ Yes ☐ No ☐ No	AT	Thermometer ID #140 Correction Factor -0.6°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C ____ Corrected Temp. °C ____

24hrs

FORM-006 R 3.3 08/05/24

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CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Vertex (Bill to XTO)
Project Manager:
Address:
City: State: Zip:
Phone #: Fax #:
Project #: 24E-04947 Project Owner: Amy Ruth
Project Name: James Ranch Unit DI 11
Project Location:
Sampler Name:

BILL TO
P.O. #: 2147571001
Company: XTO
Attn:
Address:
City:
State: Zip:
Phone #:
Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE	COOL	OTHER:	SAMPLING: DATE	TIME	Chloride	TPH (GRO, DRO, MRO)	BTEX
H250393																		
31	BES25-31 @ 3' *	1'	G	1		X						✓		1-20-25	11:22	X	X	X
32	32	1'													11:25			
33	33	1'													11:29			
34	34	1'													11:34			
35	35	1'													11:38			
36	36	1'													11:42			
37	37	1'													11:46			
38	38	1'													11:51			
39	34	1'													11:54			
40	40	1'													11:59			

Relinquished By: Date: 1.22.25 Time: 1500 Received By:
Relinquished By: Date: Time: Received By:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:

REMARKS: *Customer Requested Depth Changes. TO - 2/7/25

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:
Observed Temp. °C 3.3 C
Corrected Temp. °C 2.7
Sample Condition: Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No
CHECKED BY: (Initials)

Turnaround Time: Standard ☐ Rush ☑ 24 hrs
Thermometer ID #140
Correction Factor -0.6°C
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

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CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	vertex (Bill to XTO)
Project Manager:	
Address:	
City: State: Zip:	
Phone #: Fax #:	
Project #:	24E-04947
Project Owner:	Amy Ruth
Project Name:	James Ranch unit DI 11
Project Location:	
Sampler Name:	

BILL TO

P.O. #:	2147571001
Company:	XTO
Attn:	
Address:	
City:	
State: Zip:	
Phone #:	
Fax #:	

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	Chloride	TPH (GRO, DRO, MRO)	BTEX
H250393 41	BES25-41 @ 3' * 1'	X	1			X					X		1-20-25	12:04	X	X	X
42	42 1'	↓	↓			↓					↓		↓	12:19	↓	↓	↓
43	43 1'	↓	↓			↓					↓		↓	12:24	↓	↓	↓
44	44 1'	↓	↓			↓					↓		↓	12:29	↓	↓	↓
45	45 1'	↓	↓			↓					↓		↓	12:33	↓	↓	↓
46	46 1'	↓	↓			↓					↓		↓	12:37	↓	↓	↓
47	47 1'	↓	↓			↓					↓		↓	12:41	↓	↓	↓
48	48 1'	↓	↓			↓					↓		↓	12:45	↓	↓	↓
49	49 1'	↓	↓			↓					↓		↓	12:52	↓	↓	↓
50	50 1'	↓	↓			↓					↓		↓	12:56	↓	↓	↓

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Relinquished By: [signature] Date: 1-22-25 Time: 1520 Received By: apauas

Relinquished By: Date: Time: Received By:

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:

Observed Temp. °C 3.3
Corrected Temp. °C 2.7

Sample Condition: Cool ☒ Yes ☐ No; Intact ☒ Yes ☐ No

CHECKED BY: (Initials) AP

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:

REMARKS: * Customer requested Depth Changes - AP - 2/7/25

Turnaround Time: Standard ☐ Rush ☒ 24hrs
Thermometer ID #140
Correction Factor -0.6°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No; Observed Temp. °C; Corrected Temp. °C

FORM-006 R 3.3 08/05/24

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CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Vertex (Bill to XTO)
Project Manager: Chad Hensley
Address:
City: State: Zip:
Phone #: Fax #:
Project #: 24E-04947 Project Owner: Amy Ruth
Project Name: James Ranch Unit DI 11
Project Location:
Sampler Name: Riley Plogger

BILL TO
P.O. #: 2147571001
Company: XTO
Attn:
Address:
City:
State: Zip:
Phone #:
Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE / COOL	OTHER:	SAMPLING DATE	SAMPLING TIME	Chloride	TPH (GRO, DRO, MRO)	BTEX
H250393																	
51	BES25-51 @ 3'*	X	1			X					X		1-20-25	1:01	X	X	X
52	WES25-01 @ 0-3													1:17			
53	02 @ 0-3													1:27			
54	03 @ 0-3													1:35			
55	04 @ 0-3													1:42			
56	05 @ 0-3													1:49			
57	06 @ 0-3													1:54			
58	07 @ 0-4													2:01			
59	08 @ 0-4													2:07			
60	09 @ 0-4													2:14			

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Relinquished By: Date: 1.22.25 Received By:
Time: 1520
Relinquished By: Date: Received By:
Time:

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:
Observed Temp. °C 3.3 Corrected Temp. °C 2.7
Sample Condition: Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No
CHECKED BY: (Initials) AP

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:

REMARKS: *Customer requested Depth Changes. TE. 2/7/25

Turnaround Time: Standard ☐ Rush ☒ 24 hrs
Thermometer ID #140
Correction Factor -0.6°C
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No
Observed Temp. °C
Corrected Temp. °C

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FORM-006 R 3.3 08/08/24

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Vertex (Bill to XTO)
Project Manager: Chad Hensley
Address:
City: State: Zip:
Phone #: Fax #:
Project #: 24E-04947 Project Owner: Amy Ruth
Project Name: James Ranch unit DI 11
Project Location:
Sampler Name: Riley Plogger

BILL TO
P.O. #: 2147571001
Company: XTO
Attn:
Address:
City:
State: Zip:
Phone #:
Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.			(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE / COOL	OTHER	SAMPLING: DATE	TIME	Chloride	TPH (GRO, DRO, MRO)	BTEX
H250393			*																
01	WES25	10	0-4'	X	1			X					X		1-20-25	2:14	X	X	X
02		11	0-4'													2:25			
03		12	0-4'													2:32			
04		13	0-4'													2:35			
05		14	0-4'													2:39			
06		15	0-4'													2:43			
07		16	0-4'													2:48			
08		17	0-4'													2:52			
09		18	0-4'													2:59			
10		19	0-4'													3:04			

Relinquished By: Date: 1.22.25 Time: 1520 Received By: Aparas
Relinquished By: Date: Time: Received By:

Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp. °C 3.3 Corrected Temp. °C 3.7
Sample Condition: Cool Yes / No; Intact Yes / No
CHECKED BY: (Initials) AP

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:

REMARKS: * Customer requested Depth Changes to. 2/7/25

Turnaround Time: Standard ☐ Rush ☒ 24hrs
Thermometer ID #140
Correction Factor -0.6°C
Bacteria (only) Sample Condition: Cool Yes / No; Intact Yes / No
Observed Temp. °C
Corrected Temp. °C

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

FORM-006 R 3.3 08/05/24

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Vertex (Bill to XTO)
Project Manager:	Chad Hensley
Address:	
City:	State: Zip:
Phone #:	Fax #:
Project #:	24E-04947 Project Owner: Amy Ruth
Project Name:	James Ranch unit DI 11
Project Location:	
Sampler Name:	Riley Plogger

BILL TO

P.O. #:	2147571001
Company:	XTO
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE	COOL	OTHER:	SAMPLING: DATE	TIME	Chloride	TPH (GRO, DRO, MRO)	BTEX
H250393 71	Backfill	X	1			Y						X		1-20-24	3:10	X	X	X

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Relinquished By:	Date: 1.22.25	Received By:	
Relinquished By:	Time: 1520	Received By:	
Delivered By: (Circle One)	Date:	Time:	
Sampler - UPS - Bus - Other:	Observed Temp. °C 3.3	Corrected Temp. °C 2.7	Sample Condition: Cool Yes / Intact Yes / No / No

CHECKED BY: (Initials) AT

Verbal Result: ☐ Yes ☐ No Add'l Phone #:

All Results are emailed. Please provide Email address:

REMARKS:

Turnaround Time: Standard ☐ Rush ☒

Thermometer ID #140
Correction Factor -0.6°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No / Intact ☐ Yes ☐ No

Observed Temp. °C 24hrs

Corrected Temp. °C

FORM-000 R 3.3 08/05/24

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Vertex (Direct Bill To XTO)	**BILL TO**	
Project Manager:	Chad Hensley	**P.O. #:**	2147571001
Address:		**Company:**	XTO
City:	**State:** **Zip:**	**Attn:**	
Phone #:	**Fax #:**	**Address:**	
Project #:	24E-04947 **Project Owner:** Amy Ruth	**City:**	
Project Name:	James Ranch Unit DI 11	**State:** **Zip:**	
Project Location:		**Phone #:**	
Sampler Name:	Riley Plogger	**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	**DATE**	**TIME**	Chlorides	TPH	BTEX								
	BES25 - 28 @ 1'	C	1			X					X		1/20/25	11:15	X	X	X								
	BES25 - 29 @ 1'	C	1			X					X		1/20/25	11:18	X	X	X								
	BES25 - 30 @ 1'	C	1			X					X		1/20/25	11:20	X	X	X								
	BES25 - 31 @ 1'	C	1			X					X		1/20/25	11:22	X	X	X								
	BES25 - 32 @ 1'	C	1			X					X		1/20/25	11:25	X	X	X								
	BES25 - 33 @ 1'	C	1			X					X		1/20/25	11:29	X	X	X								
	BES25 - 34 @ 1'	C	1			X					X		1/20/25	11:34	X	X	X								
	BES25 - 35 @ 1'	C	1			X					X		1/20/25	11:38	X	X	X								
	BES25 - 36 @ 1'	C	1			X					X		1/20/25	11:42	X	X	X								
	BES25 - 37 @ 1'	C	1			X					X		1/20/25	11:46	X	X	X								

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Relinquished By:	**Date:** / **Time:**	**Received By:**	**Verbal Result:** ☐ Yes ☐ No **Add'l Phone #:**
			All Results are emailed. Please provide Email address:
Relinquished By:	**Date:** / **Time:**	**Received By:**	**REMARKS:** CoC was filled out in error. Samples BES25-28 through BES-51 and WES25-11 through WES25-19 were labeled Incorrectly. Samples depths adjusted to depict correct depth of sampling. Chad Hensley

Delivered By: (Circle One)	**Observed Temp. °C**	**Sample Condition** Cool Intact	**CHECKED BY: (Initials)**	**Turnaround Time:** Standard ☐ Rush ☐
Sampler - UPS - Bus - Other:	**Corrected Temp. °C**	☐ Yes ☐ Yes ☐ No ☐ No		**Thermometer ID #113** **Correction Factor -0.5°C**

Bacteria (only) Sample Condition Cool Intact **Observed Temp. °C** ☐ Yes ☐ Yes ☐ No ☐ No **Corrected Temp. °C**

FORM-006 R 3.2 10/07/21

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Vertex (Direct Bill To XTO)	**BILL TO**	
Project Manager:	Chad Hensley	**P.O. #:**	2147571001
Address:		**Company:**	XTO
City:	**State:** **Zip:**	**Attn:**	
Phone #:	**Fax #:**	**Address:**	
Project #:	24E-04947 **Project Owner:** Amy Ruth	**City:**	
Project Name:	James Ranch Unit DI 11	**State:**	**Zip:**
Project Location:		**Phone #:**	
Sampler Name:	Riley Plogger	**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	**DATE**	**TIME**	Chlorides	TPH	BTEX									
	BES25 - 38 @ 1'	C	1			X					X		1/20/25	11:51	X	X	X								
	BES25 - 39 @ 1'	C	1			X					X		1/20/25	11:54	X	X	X								
	BES25 - 40 @ 1'	C	1			X					X		1/20/25	11:59	X	X	X								
	BES25 - 41 @ 1'	C	1			X					X		1/20/25	12:04	X	X	X								
	BES25 - 42 @ 1'	C	1			X					X		1/20/25	12:19	X	X	X								
	BES25 - 43 @ 1'	C	1			X					X		1/20/25	12:24	X	X	X								
	BES25 - 44 @ 1'	C	1			X					X		1/20/25	12:29	X	X	X								
	BES25 - 45 @ 1'	C	1			X					X		1/20/25	12:33	X	X	X								
	BES25 - 46 @ 1'	C	1			X					X		1/20/25	12:37	X	X	X								
	BES25 - 47 @ 1'	C	1			X					X		1/20/25	12:41	X	X	X								

Relinquished By:	**Date:**	**Received By:**	**Verbal Result:** ☐ Yes ☐ No **Add'l Phone #:**
	Time:		**All Results are emailed. Please provide Email address:**
Relinquished By:	**Date:**	**Received By:**	**REMARKS:** CoC was filled out in error. Samples BES25-28 through BES-51 and WES25-11 through WES25-19 were labeled Incorrectly. Samples depths adjusted to depict correct depth of sampling. Chad Hensley
	Time:		

Delivered By: (Circle One)	**Observed Temp. °C**	**Sample Condition** Cool Intact ☐ Yes ☐ Yes ☐ No ☐ No	**CHECKED BY: (Initials)**
Sampler - UPS - Bus - Other:	**Corrected Temp. °C**		

Turnaround Time: Standard ☐ Rush ☐

Thermometer ID #113
Correction Factor -0.5°C

Bacteria (only) Sample Condition
Cool Intact Observed Temp. °C
☐ Yes ☐ Yes
☐ No ☐ No Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Vertex (Direct Bill To XTO)	**BILL TO**	
Project Manager:	Chad Hensley	**P.O. #:**	2147571001
Address:		**Company:**	XTO
City:	**State:** **Zip:**	**Attn:**	
Phone #:	**Fax #:**	**Address:**	
Project #:	24E-04947 **Project Owner:** Amy Ruth	**City:**	
Project Name:	James Ranch Unit DI 11	**State:** **Zip:**	
Project Location:		**Phone #:**	
Sampler Name:	Riley Plogger	**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	**DATE**	**TIME**	Chlorides	TPH	BTEX									
	BES25 - 48 @ 1'	C	1			X					X		1/20/25	12:45	X	X	X								
	BES25 - 49 @ 1'	C	1			X					X		1/20/25	12:52	X	X	X								
	BES25 - 50 @ 1'	C	1			X					X		1/20/25	12:56	X	X	X								
	BES25 - 51 @ 1'	C	1			X					X		1/20/25	1:01	X	X	X								
	WES25-11 @ (0-4)'	C	1			X					X		1/20/25	2:25	X	X	X								
	WES25-12 @ (0-1)'	C	1			X					X		1/20/25	2:32	X	X	X								
	WES25-13 @ (0-1)'	C	1			X					X		1/20/25	2:35	X	X	X								
	WES25-14 @ (0-1)'	C	1			X					X		1/20/25	2:39	X	X	X								
	WES25-15 @ (0-1)'	C	1			X					X		1/20/25	2:43	X	X	X								
	WES25-16 @ (0-1)'	C	1			X					X		1/20/25	2:48	X	X	X								

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Relinquished By:	**Date:**	**Received By:**	**Verbal Result:** ☐ Yes ☐ No **Add'l Phone #:**
	Time:		**All Results are emailed. Please provide Email address:**
Relinquished By:	**Date:**	**Received By:**	**REMARKS:** CoC was filled out in error. Samples BES25-28 through BES-51 and WES25-11 through WES25-19 were labeled Incorrectly. Samples depths adjusted to depict correct depth of sampling. Chad Hensley
	Time:		

Delivered By: (Circle One)	**Observed Temp. °C**	**Sample Condition** Cool Intact ☐ Yes ☐ Yes ☐ No ☐ No	**CHECKED BY: (Initials)**
Sampler - UPS - Bus - Other:	**Corrected Temp. °C**		

Turnaround Time: **Standard** ☐ **Rush** ☐

Thermometer ID #113
Correction Factor -0.5°C

Bacteria (only) Sample Condition
Cool Intact Observed Temp. °C
☐ Yes ☐ Yes
☐ No ☐ No Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Vertex (Direct Bill To XTO)	**BILL TO**	
Project Manager:	Chad Hensley	**P.O. #:**	2147571001
Address:		**Company:**	XTO
City:	**State:** **Zip:**	**Attn:**	
Phone #:	**Fax #:**	**Address:**	
Project #:	24E-04947 **Project Owner:** Amy Ruth	**City:**	
Project Name:	James Ranch Unit DI 11	**State:** **Zip:**	
Project Location:		**Phone #:**	
Sampler Name:	Riley Plogger	**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	**DATE**	**TIME**	Chlorides	TPH	BTEX								
	WES25-16 @ (0-1)'	C	1			X					X		1/20/25	2:48	x	X	X								
	WES25-17 @ (0-1)'	C	1			X					X		1/20/25	2:52	X	X	X								
	WES25-18 @ (0-1)'	C	1			X					X		1/20/25	2:59	X	X	X								
	WES25-19 @ (0-1)'	C	1			X					X		1/20/25	3:04	X	X	X								

Relinquished By:	**Date:**	**Received By:**	**Verbal Result:** ☐ Yes ☐ No **Add'l Phone #:**
	Time:		**All Results are emailed. Please provide Email address:**
Relinquished By:	**Date:**	**Received By:**	**REMARKS:** CoC was filled out in error. Samples BES25-28 through BES-51 and WES25-11 through WES25-19 were labeled Incorrectly. Samples depths adjusted to depict correct depth of sampling. Chad Hensley
	Time:		

Delivered By: (Circle One)	**Observed Temp. °C**	**Sample Condition** Cool Intact	**CHECKED BY: (Initials)**	**Turnaround Time:** Standard ☐ Rush ☐
Sampler - UPS - Bus - Other:	**Corrected Temp. °C**	☐ Yes ☐ Yes ☐ No ☐ No		**Thermometer ID #113** **Correction Factor -0.5°C**

Bacteria (only) Sample Condition Cool Intact **Observed Temp. °C** ☐ Yes ☐ Yes ☐ No ☐ No **Corrected Temp. °C**

FORM-006 R 3.2 10/07/21

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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 430911

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430911
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2431945579**
Incident Name	**NAPP2431945579 JRU DI 11 BATTERY @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Facility	**[fAPP2123053374] JAMES RANCH UNIT DI 11**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	JRU DI 11 BATTERY
Date Release Discovered	11/13/2024
Surface Owner	State

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Equipment Failure | Pump | Produced Water | Released: 55 BBL | Recovered: 15 BBL | Lost: 40 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430911
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**

With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*

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

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 02/11/2025

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Oil Conservation Division
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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430911
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 26 and 50 (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 500 and 1000 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between ½ and 1 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Zero feet, overlying, or within area
Categorize the risk of this well / site being in a karst geology	High
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	7520
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	01/15/2025
On what date will (or did) the final sampling or liner inspection occur	01/15/2025
On what date will (or was) the remediation complete(d)	01/20/2025
What is the estimated surface area (in square feet) that will be reclaimed	0
What is the estimated volume (in cubic yards) that will be reclaimed	0
What is the estimated surface area (in square feet) that will be remediated	8416
What is the estimated volume (in cubic yards) that will be remediated	600
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430911
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	LEA LAND LANDFILL [fEEM0112342028]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	No
OR is the **off-site** disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 02/11/2025
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430911
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430911
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**420675**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**01/17/2025**
What was the (estimated) number of samples that were to be gathered	**65**
What was the sampling surface area in square feet	**9902**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	8416
What was the total volume (cubic yards) remediated	600
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	0
What was the total volume (in cubic yards) reclaimed	0
Summarize any additional remediation activities not included by answers (above)	N/A

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 02/11/2025

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QUESTIONS (continued)

Operator:	OGRID:
XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	5380
	Action Number: 430911
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 430911
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
bhall	Remediation closure approved.	2/14/2025
bhall	A reclamation report will not be accepted until reclamation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	2/14/2025
bhall	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. The OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	2/14/2025
bhall	A revegetation report will not be accepted until revegetation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	2/14/2025
bhall	All revegetation activities will need to be documented and included in the revegetation report. The revegetation report will need to include: An executive summary of the revegetation activities including: Seed mix, Method of seeding, dates of when the release area was reseeded, information pertinent to inspections, information about any amendments added to the soil, information on how the vegetative cover established meets the life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds per 19.15.29.13 D.(3) NMAC, and any additional information; a scaled Site Map including area that was revegetated in square feet; and pictures of the revegetated areas during reseeding activities, inspections, and final pictures when revegetation is achieved.	2/14/2025