Incident Number: nAPP2402250064

Release Assessment and Closure

Poseidon CTB

Section 09, Township 24 South, Range 33 East
Facility ID: [fAPP2126032846] Poseidon CTB
County: Lea
Vertex File Number: 24E-00245

Prepared for:
Tap Rock Resources

Prepared by:
Vertex Resource Services Inc.

Date:
February 2024

Release Assessment and Closure
Tap Rock Resources
Section 09, Township 24 South, Range 33 East
Facility ID: [fAPP2126032846] Poseidon CTB
County: Lea

Prepared for:
Tap Rock Resources
523 Park Point Drive
Golden, Colorado 80401

New Mexico Oil Conservation Division – District #1 Hobbs
1625 N. French North Drive
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3/1/2024
Date:

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Project Manager, REPORT REVIEW

3/1/2024
Date:

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1.0 Introduction

Tap Rock Resources (Tap Rock) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a crude oil release that occurred on January 22, 2024, at Poseidon CTB (hereafter referred to as the "site"). Vertex and Tap Rock submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 1 on January 23, 2024. Incident ID number nAPP2402250064 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 restoration of the release site will be deferred until such time as all oil and gas activities are terminated and the site is reclaimed as per NMAC 19.15.29.13.

2.0 Incident Description

The release occurred on January 22, 2024, due to equipment failure causing oil to release out of the flare. The incident was reported on January 23, 2024, and involved the release of approximately 9 barrels (bbl.) of Crude Oil on the pad site. Approximately 9 bbl. of free fluid were removed during the initial clean-up. Additional details relevant to the release are presented in the C-141 Report. Daily Field Report (DFRs) with site photographs are included in Appendix C.

3.0 Site Characteristics

The site is located approximately 23 miles Southeast of Jal, New Mexico. The legal location for the site is Section 09, Township 24 South and Range 33 East in Lea County, New Mexico. The release area is located on New Mexico State Land Office. An aerial photograph and site schematic are presented in Figure 1.

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2024) indicates the site's surface geology primarily comprises QEP - Eolian and piedmont deposits (Holocene to middle Pleistocene) — Interlayer eolian sands and piedmont-slope deposits. The predominant soil texture on the site is Sandy Loam.

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 of Poseidon CTB on or in proximity to the constructed pad, pipeline right-of-way (Figure 1).

The surrounding landscape is associated with Fan Piedmont, Alluvial, Dune with elevations ranging between 3,000 and 3,900 feet. The climate is semiarid with average annual precipitation Between 10 and 15 inches. Using information from the United States Department of Agriculture, the dominant vegetation was determined to be Black Grama, Dropseed species, Bluestem Species and Sand Sage. Grasses with shrubs and half-shrubs dominate the historic plant community (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 **QEP** – Eolian and piedmont deposits (Holocene to middle Pleistocene) – **Interlayer** eolian sands and piedmont-slope deposits (New Mexico Bureau of Geology and Mineral Resources, 2024) and the soil at the site is characterized as Sandy Loam (United States Department of Agriculture, Natural Resources Conservation Service, 2024). The site is well drained with low runoff. The karst geology potential for the site is Low (United States Department of the Interior, Bureau of Land Management, 2018).

4.0 Closure Criteria Determination

The nearest active well to the site is a New Mexico Office of the State Engineer (NMOSE) monitoring well located approximately 0.85 miles west of the location (United States Geological Survey, 2024). Data from 2012 shows the NMOSE borehole recorded a depth to groundwater of 1533 feet below ground surface (bgs). Information pertaining to the depth to ground water determination is included in Appendix B.

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream (National Wetlands Inventory) located approximately 3907 ft/ .73 miles North of the site (United States Fish and Wildlife Service, 2023).

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

Table 1. Closure Criteria Determination			
Site Name: Poseidon CTB			
Spill Coordinates: 32.227377,-103.576565		X: UTM easting	Y: UTM northing
Site Specific Conditions		Value	Unit
1	Depth to Groundwater (nearest reference)	<50	feet
	Distance between release and nearest DTGW reference	4,494	feet
		0.85	miles
	Date of nearest DTGW reference measurement	September 27, 2012	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	3,907	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	2,429	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	26,900	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	13,320	feet
	ii) Within 1000 feet of any fresh water well or spring	13,320	feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	950	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	104,720	feet
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest unstable area	70,224	feet
10	Within a 100-year Floodplain	500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	81,537	feet
11	Soil Type	Ratliff-Wink, Wink	
12	Ecological Classification	Sandy Loam	
13	Geology	QEP	
	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	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS – total dissolved solids

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

BTEX – benzene, toluene, ethylbenzene and xylenes

5.0 Remedial Actions Taken

On January 22, 2024, Tap Rock contracted with Vertex to complete release delineation and remediation at the site through field screening procedures, oversight of the remediation fieldwork, and final confirmatory sampling. The initial spill inspection and delineation activities at the site were completed by Vertex on January 29, 2024. The extent of the release was determined to be approximately 2,700 square feet. Initial sample locations are presented in Figure 1 and laboratory results are presented in Table 3. Exceedances for TPH were discovered at sample points BH24-02, BH24-03, and BH24-05.

Remediation efforts began and were completed on February 2, 2024. Vertex personnel supervised the excavation of impacted soils. Field screening was completed and consisted of analysis using a Photo Ionization Detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and titration (chlorides). Field screening results were used to identify areas requiring further remediation. Soils in the areas of exceedance including BH24-02, BH24-03, BH24-05 were removed to a depth of 0.5 feet bgs. All base and wall samples of the excavation were analyzed within closure criteria with the exception of the west wall (WS24-01). The west wall was extended out approximately six inches and recollected. The recollected sample was then analyzed at the lab within closure criteria. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Field screening results and DFRs documenting various phases of the remediation are presented in Appendix C. Excavation was completed with approximately 70 total cubic yards excavated and hauled to the disposal.

Notifications that confirmatory samples were being collected was provided to the NMOCD before each sampling event and are 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 18 samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Envirotech 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 E. All confirmatory samples collected and analyzed were below closure criteria for the site.

6.0 Closure Request

Vertex Recommends no additional action to address the release of Poseidon CTB. Laboratory analyses of confirmation samples collected at the site show final values below NMOCD closure criteria areas where depth to ground water is less than 50 feet bgs as presented in Table 1. There are no anticipated risks to human, ecological or hydrological receptors at the release.

The release area was fully delineated, remediated, and backfilled with local soils by February 26, 2024. Confirmatory samples were analyzed by the laboratory and found to be below allowable concentrations as per the NMAC Closure Criteria for Soils Impacted by a Release locations “under 50 feet to groundwater”. Based on these findings, Tap Rock Resources requests that this release be closed.

Should you have any questions or concerns, please do not hesitate to contact Chance Dixon at 575-988-1472 or cdixon@vertex.ca.

7.0 References

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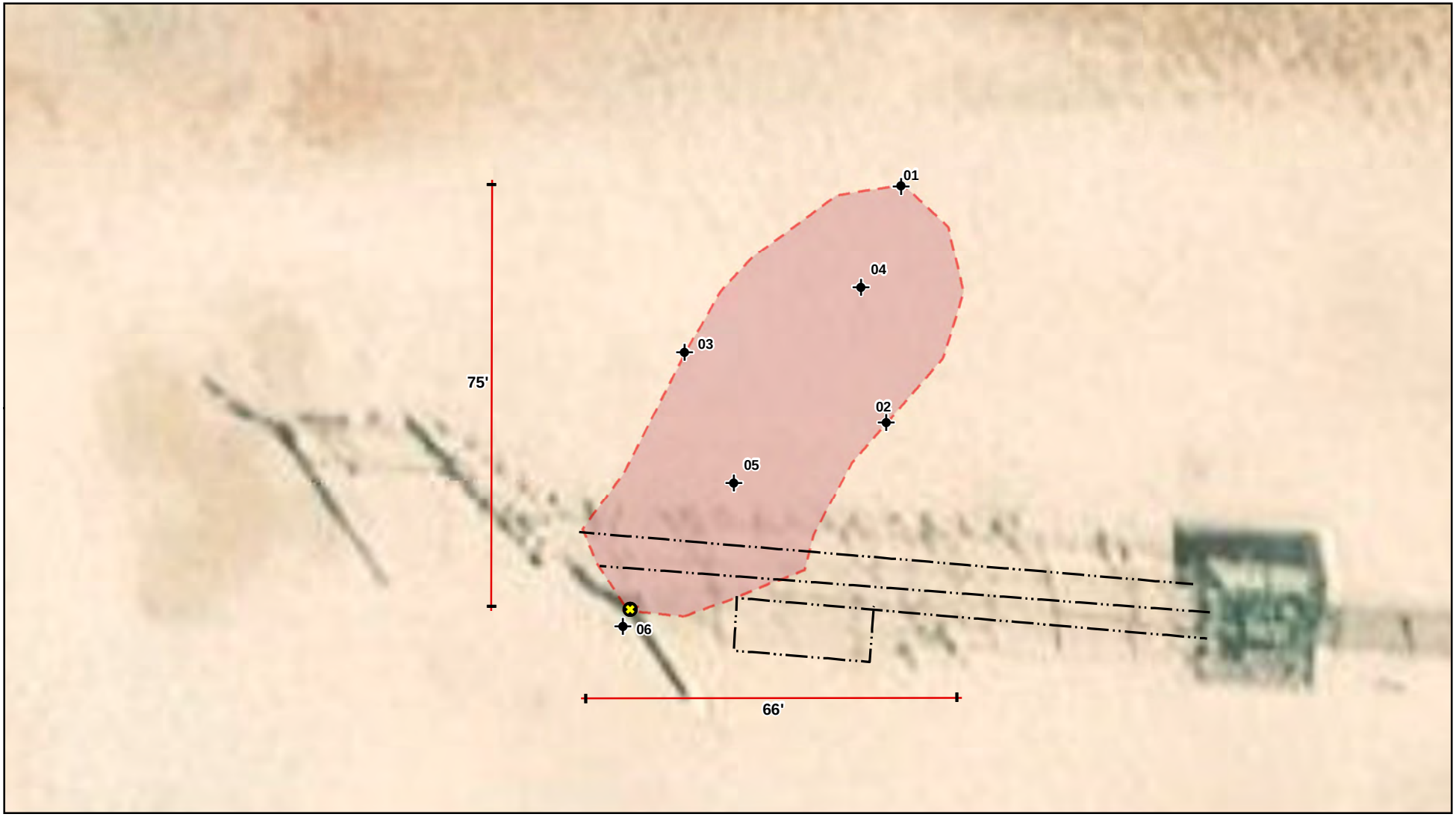
8.0 Limitations

This report has been prepared for the sole benefit of Tap Rock Resources. This document may not be used by any other person or entity, except for the New Mexico Oil Conservation Division and the New Mexico State Land Office, without the express written consent of Vertex Resource Services Inc. (Vertex) and Tap Rock Resources. Any use of this report by a third party, or any reliance on decisions made based on it, or damage 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 arrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

FIGURES



Borehole (Prefixed "BH24-")

Point of Release

Pipeline (Underground)

Approximate Release Area (~2,709 sq.ft.)

VERTEX

0 10 20 ft

Map Center:
Lat/Long: 32.227357, -103.576592

NAD 1983 UTM Zone 13N
Date: Feb 09/24

N

Characterization Schematic
Poseidon CTB

FIGURE:
1

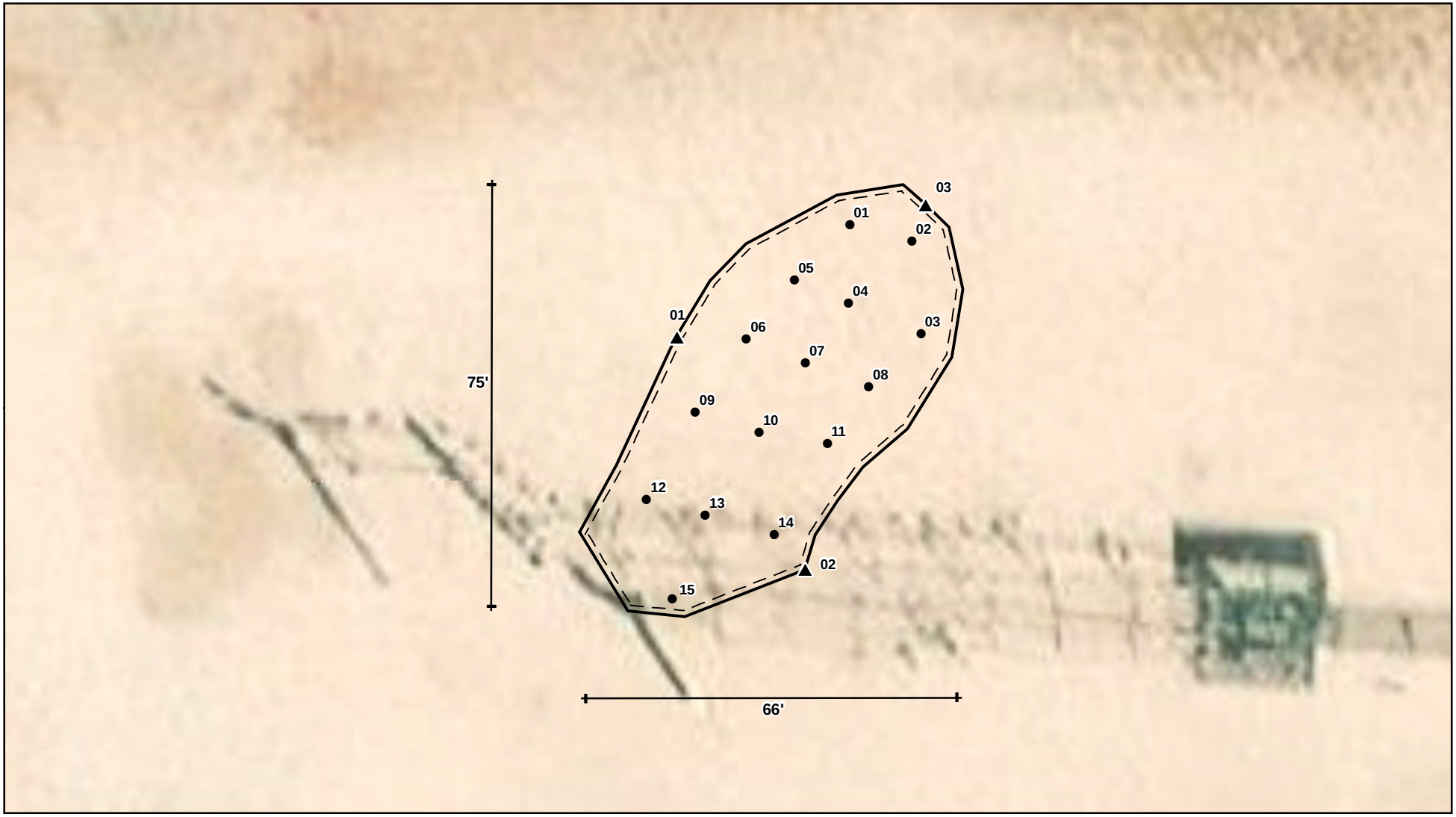
TAP ROCK RESOURCES

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

Note: Georeferenced image from Esri, 2023. Site features from GPS, Vertex, 2024.

VERSATILITY. EXPERTISE.

Document Path: S:\04 - Geomatics\1-Projects_US PROJECTS\Tap Rock\24E-00245\Figure 1 Characterization Schematic (24E-00245) ID17734.mxd



● Base Sample (Prefixed by "BES24") ▲ Wall Sample (Prefixed by "WES24") Excacation to .5' bgs (~2,935 sq.ft.)

VERTEX

0 10 20 ft

Map Center:
Lat/Long: 32.227357, -103.576592

NAD 1983 UTM Zone 13N
Date: Feb 09/24

N

Confirmatory Schematic
Poseidon CTB

FIGURE:
2

TAP ROCK RESOURCES

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

Note: Georeferenced image from Esri, 2023. Site features from GPS, Vertex, 2024.

VERSATILITY. EXPERTISE.

Document Path: S:\04 - Geomatics\1-Projects_US PROJECTS\Tap Rock\24E-00245\Figure 2 Confirmation Schematic (24E-00245) ID177770.mxd

TABLES

Client Name: Tap Rock Resources
Site Name: Poseidon CTB
NMOCD Tracking #: nAPP2402250064
Project #: 24E-00245
Lab Report(sX):

Table 3. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH24-01	0	1/29/2024	0	64	150	ND	ND	ND	ND	ND	ND	ND	47.7
BH24-01	2	1/29/2024	0	4	73	ND	ND	ND	ND	ND	ND	ND	ND
BH24-02	0	1/29/2024	0	**121**	160	ND	ND	ND	**255**	163	**255**	**418**	134
BH24-02	2	1/29/2024	1	10	89	ND	ND	ND	ND	ND	ND	ND	39.6
BH24-03	0	1/29/2024	1	**232**	133	ND	ND	ND	**169**	**111**	**169**	**280**	58.6
BH24-03	2	1/29/2024	1	15	72	ND	ND	ND	31.4	ND	31.4	31.4	31.5
BH24-04	0	1/29/2024	0	64	72	ND	ND	ND	58	ND	58	58	362
BH24-04	2	1/29/2024	0	7	94	ND	ND	ND	ND	ND	ND	ND	73.4
BH24-04	4	1/29/2024	0	8	75	ND	ND	ND	ND	ND	ND	ND	29
BH24-05	0	1/29/2024	1	6	61	ND	ND	ND	**127**	68.4	**127**	**195.4**	ND
BH24-05	2	1/29/2024	1	6	61	ND	ND	ND	ND	ND	ND	ND	78.4
BH24-06	0	1/29/2024	1	42	60	ND	ND	ND	ND	ND	ND	ND	50.9
BH24-06	2	1/29/2024	1	7	58	ND	ND	ND	ND	ND	ND	ND	70.6

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

Client Name: Tap Rock Resources
Site Name: Poseidon CTB
NMOCD Tracking #: nAPP2402250064
Project #: 24E-00245
Lab Report: E402057, E402207

Table 4. Confirmation Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BES24-01	0.5	2/2/2024	-	20	298	ND	ND	ND	ND	ND	ND	ND	44.5
BES24-02	0.5	2/2/2024	-	20	195	ND	ND	ND	ND	ND	ND	ND	ND
BES24-03	0.5	2/2/2024	-	39	223	ND	ND	ND	ND	ND	ND	ND	46.5
BES24-04	0.5	2/2/2024	-	45	195	ND	ND	ND	ND	ND	ND	ND	100
BES24-05	0.5	2/2/2024	-	33	248	ND	ND	ND	ND	ND	ND	ND	130
BES24-06	0.5	2/2/2024	-	23	230	ND	ND	ND	ND	ND	ND	ND	51.5
BES24-07	0.5	2/2/2024	-	33	230	ND	ND	ND	ND	ND	ND	ND	71.5
BES24-08	0.5	2/2/2024	-	23	223	ND	ND	ND	ND	ND	ND	ND	84
BES24-09	0.5	2/2/2024	-	41	130	ND	ND	ND	ND	ND	ND	ND	49
BES24-10	0.5	2/2/2024	-	58	130	ND	ND	ND	28	ND	28	28	91
BES24-11	0.5	2/2/2024	-	51	195	ND	ND	ND	ND	ND	ND	ND	60
BES24-12	0.5	2/2/2024	-	61	193	ND	ND	ND	ND	ND	ND	ND	44
BES24-13	0.5	2/2/2024	-	40	275	ND	ND	ND	ND	ND	ND	ND	53
BES24-14	0.5	2/2/2024	-	34	300	ND	ND	ND	ND	ND	ND	ND	61
BES24-15	0.5	2/2/2024	-	39	118	ND	ND	ND	ND	ND	ND	ND	66
WES24-01	0-0.5	2/2/2024	-	40	248	ND	ND	ND	39	87	39	**126**	ND
WES24-01	0-0.5	2/21/2024	-	61	400	ND	ND	ND	ND	ND	ND	ND	187
WES24-02	0-0.5	2/2/2024	-	62	270	ND	ND	ND	31	55	31	86	211
WES24-03	0-0.5	2/2/2024	-	46	165	ND	ND	ND	ND	ND	ND	ND	ND

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

APPENDIX A - NMOCD C-141 Report

Liquid Volume Release Report

Liquid Release Volume Calculator							
Date:	12.28.2023						
Site or Line Name:	Prometheus State #121H						
Soil Type	Porosity	Length	Width	Depth (.083 per inch)	Cubic Feet	Estimated Barrels	Soil Type
Clay	0.15				0	0.00	Clay
Sandy Clay	0.12				0	0.00	Sandy Clay
Silt	0.16				0	0.00	Silt
Fine Sand	0.16				0	0.00	Fine Sand
Medium Sand	0.25				0	0.00	Medium Sand
Coarse Sand	0.26				0	0.00	Coarse Sand
Gravely Sand	0.26				0	0.00	Gravely Sand
Fine Gravel	0.26				0	0.00	Fine Gravel
Medium Gravel	0.20				0	0.00	Medium Gravel
Coarse Gravel	0.18				0	0.00	Coarse Gravel
Sandstone	0.25				0	0.00	Sandstone
Siltstone	0.18				0	0.00	Siltstone
Limestone	0.13	40	20	0.5	400	9.27	Limestone
Basalt	0.19				0	0.00	Basalt
Standing Liquids	X				0	0.00	Standing Liquids

Choose the one prevailing ground type for estimating spill volumes at a single location. Standing liquids are figured separately using the green cell.

Note that the depth should be measured in feet and tenths of feet (1 inch = .083)

Cubic Feet = L x W x D

Estimated Barrels = ((Cubic Feet x Porosity) / 5.61)

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS

Action 306963

QUESTIONS

Operator: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 306963
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2402250064**
Incident Name	**NAPP2402250064 POSEIDON CTB @ 0**
Incident Type	**Fire**
Incident Status	**Initial C-141 Received**
Incident Facility	**[fAPP2126032846] Poseidon CTB**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	Poseidon CTB
Date Release Discovered	01/22/2024
Surface Owner	State

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Fire | Other (Specify) | Crude Oil | Released: 9 BBL | Recovered: 0 BBL | Lost: 9 BBL.
Produced Water Released (bbls) Details	*Not answered.*
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Oil spill/fire from LP/MP flare. Root cause - Heater Treater for 201, 202, 205 East side LSH failed mechanically which caused oil to go into treater gas line. Oil traveled to MP/VRU knockout, LSH internal tuning fork failed which caused oil to travel into LP flare scrubber. LP flare scrubber level switch kicked on pump LSH activated and SI wells but also per C&E activated LP flare valve to open which caused surge of gas to extinguish fluid out of flare. Initial barrel amount has not been gathered. Report will be updated on C-141.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS (continued)

Operator: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 306963
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(2) an unauthorized release of a volume that:** **(a) results in a fire or is the result of a fire.**
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: Chance Dixon Title: Project Manager Email: cdixon@vertex.ca Date: 01/23/2024

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS (continued)

Operator: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 306963
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

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)	*Not answered.*
What method was used to determine the depth to ground water	*Not answered.*
Did this release impact groundwater or surface water	*Not answered.*
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	*Not answered.*
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	*Not answered.*
An occupied permanent residence, school, hospital, institution, or church	*Not answered.*
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	*Not answered.*
Any other fresh water well or spring	*Not answered.*
Incorporated municipal boundaries or a defined municipal fresh water well field	*Not answered.*
A wetland	*Not answered.*
A subsurface mine	*Not answered.*
An (non-karst) unstable area	*Not answered.*
Categorize the risk of this well / site being in a karst geology	*Not answered.*
A 100-year floodplain	*Not answered.*
Did the release impact areas not on an exploration, development, production, or storage site	*Not answered.*

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	No
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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

CONDITIONS

Action 306963

CONDITIONS

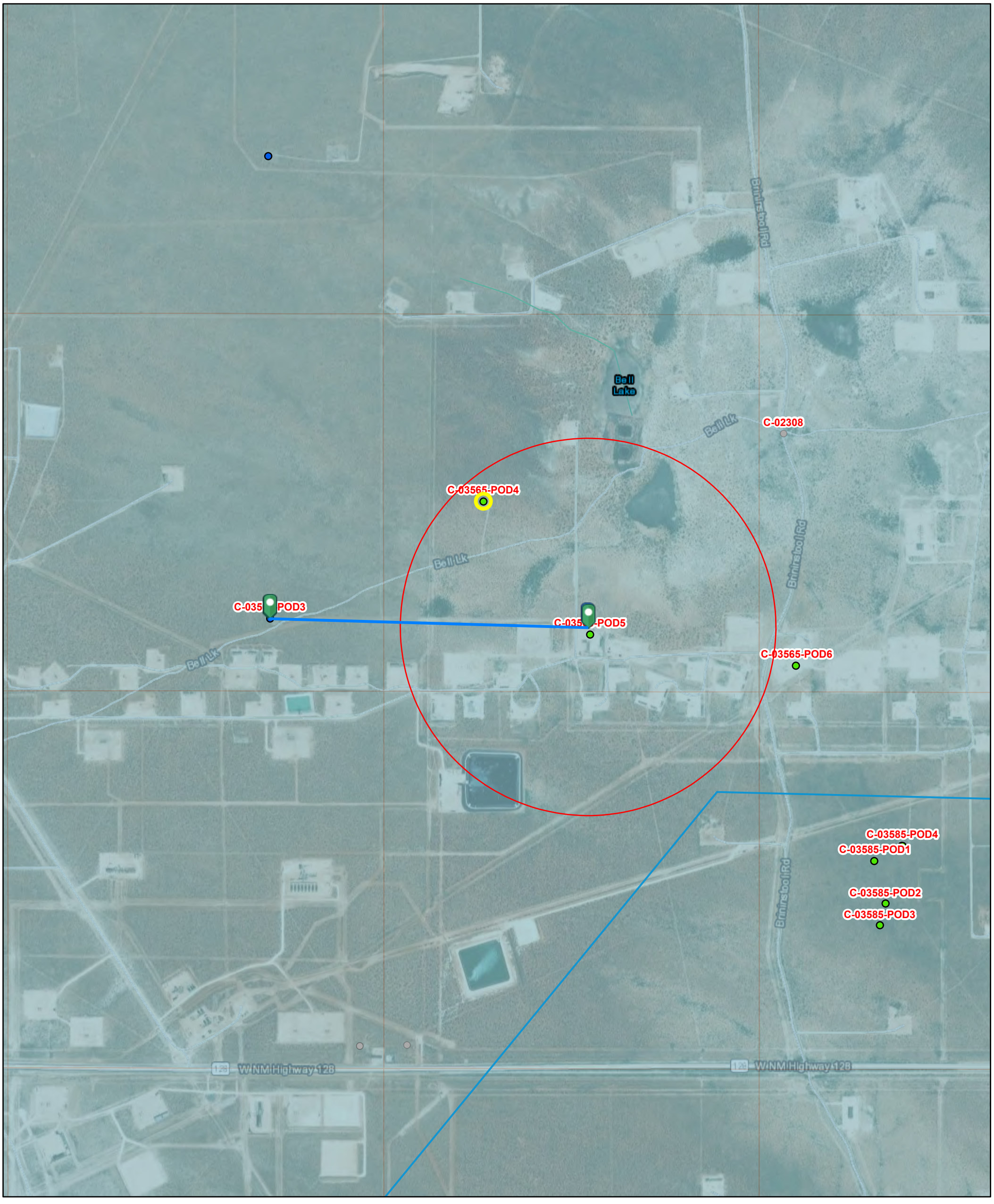
Operator: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 306963
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	1/23/2024

APPENDIX B – Closure Criteria Research Documentation

OSE POD Location Map



2/5/2024, 12:18:10 PM

Override 1

GIS WATERS PODs

Active

Pending

OSE District Boundary

Water Right Regulations

Closure Area

Artesian Planning Area

New Mexico State Trust Lands

Both Estates

NHD Flowlines

Artificial Path

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.

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	C 03565 POD3		3	4	08	24S	33E	632763	3566546

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)
(NAD83 UTM in meters)

Driller License: 331
Driller Company: SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.
Driller Name:

Drill Start Date: 09/27/2012
Drill Finish Date: 10/21/2012
Plug Date:
Log File Date: 12/11/2012
PCW Rcv Date:
Source:
Pump Type:
Pipe Discharge Size:
Estimated Yield:
Casing Size: 8.90
Depth Well:
Depth Water: 1533 feet

Water Bearing Stratifications:	Top	Bottom	Description
	0	20	Other/Unknown
	20	55	Sandstone/Gravel/Conglomerate
	55	1227	Shale/Mudstone/Siltstone
	1227	1262	Other/Unknown
	1262	1295	Other/Unknown
	1295	1310	Other/Unknown
	1310	1330	Other/Unknown
	1330	1375	Other/Unknown
	1479	1489	Other/Unknown
	1489	1533	Other/Unknown

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

2012 DEC 11 P 4: 02

1. GENERAL AND WELL LOCATION

POD NUMBER (WELL NUMBER)	OSE FILE NUMBER(S)
ICP-085	C-3565 POD 3
WELL OWNER NAME(S)	PHONE (OPTIONAL)
Intercontinental Potash (USA)	575-942-2799
WELL OWNER MAILING ADDRESS	CITY / STATE / ZIP
600 West Bender Boulevard	Hobbs / NM / 88240

WELL LOCATION (FROM GPS)

	DEGREES	MINUTES	SECONDS	
LATITUDE	32	13	39.75	N
LONGITUDE	103	35	27.62	W

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

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS

2. OPTIONAL

(2.5 ACRE)	(10 ACRE)	(40 ACRE)	(160 ACRE)	SECTION	TOWNSHIP	RANGE
¼	¼	¼	¼	8	24 ☐ NORTH ☑ SOUTH	33 ☑ EAST ☐ WEST

SUBDIVISION NAME	LOT NUMBER	BLOCK NUMBER	UNIT/TRACT

HYDROGRAPHIC SURVEY	MAP NUMBER	TRACT NUMBER

3. DRILLING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD #331	Phillip Stewart	Stewart Brothers Drilling Co.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
9/27/2012	10/21/2012	NA	1533 FT	NA

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT): NA

DRILLING FLUID: ☐ AIR ☑ MUD ☐ ADDITIVES – SPECIFY: ETH GEL, PLATINUM PAC, BI-CARB, SODA ASH,

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY: TACKLE, MYLOGEL, NaCl

DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
0	1250	12.625	J-55 #36 steel	theaded	8.921	0.302	
1250	1533	8.75	NA				

4. WATER BEARING STRATA

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	YIELD (GPM)
NA		NA	NA	NA

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA	TOTAL ESTIMATED WELL YIELD (GPM)
Bypass flow	na

FOR OSE INTERNAL USE — WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION		PAGE 1 OF 2

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2012 DEC 11 P 1:03

5. SEAL AND PUMP

TYPE OF PUMP: ☐ SUBMERSIBLE ☐ JET ☑ NO PUMP – WELL NOT EQUIPPED
☐ TURBINE ☐ CYLINDER ☐ OTHER – SPECIFY:

ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
	NA		NA	NA	NA	NA

6. GEOLOGIC LOG OF WELL

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?
0	20	20	Caliche	☐ YES ☑ NO
20	55	35	Gutuna Fm. - red siltstones and sandstones	☐ YES ☑ NO
55	1227	1181	Dewey Lake Fm.Red siltstones and mudstones, gray/green mottling	☐ YES ☑ NO
1227	1262	35	Rustler Fm./A-5, white anhydrite	☐ YES ☑ NO
1262	1295	33	H-4 sub-mbr. - milky white halite	☐ YES ☑ NO
1295	1310	15	A-4 sub-mbr. - white anhydrite	☐ YES ☑ NO
1310	1330	20	Magenta Dolomite	☐ YES ☑ NO
1330	1375	45	A-3 sub-mbr. white anhydrite	☐ YES ☑ NO
1375	1479	112	H-3 sub-mbr. - milky halite	☐ YES ☑ NO
1479	1489	10	Ore zone, anhydrite and white polyhalite	☐ YES ☑ NO
1489	1533	44	Halite, with some anhydrite	☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO

ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL

7. TEST & ADDITIONAL INFO

WELL TEST: METHOD: ☐ BAILER ☐ PUMP ☐ AIR LIFT ☐ OTHER – SPECIFY: NA

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

ADDITIONAL STATEMENTS OR EXPLANATIONS:

8. 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:

Rodney D. Stout — SIGNATURE OF DRILLER

12-10-12 — DATE

FOR OSE INTERNAL USE — WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION		PAGE 2 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

2012 DEC 11 P 4: 02

1. GENERAL AND WELL LOCATION

POD NUMBER (WELL NUMBER)	OSE FILE NUMBER(S)
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Intercontinental Potash (USA)	575-942-2799
WELL OWNER MAILING ADDRESS	**CITY / STATE / ZIP**
600 West Bender Boulevard	Hobbs / NM / 88240

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	13	39.75	N
	LONGITUDE	103	35	27.62	W

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

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS

2. OPTIONAL

(2.5 ACRE)	(10 ACRE)	(40 ACRE)	(160 ACRE)	SECTION	TOWNSHIP	RANGE
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SUBDIVISION NAME	LOT NUMBER	BLOCK NUMBER	UNIT/TRACT

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1250	1533	8.75	NA				

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DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	YIELD (GPM)
NA		NA	NA	NA

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA	TOTAL ESTIMATED WELL YIELD (GPM)
Bypass flow	na

FOR OSE INTERNAL USE — WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION		PAGE 1 OF 2

5. SEAL AND PUMP

TYPE OF PUMP: ☐ SUBMERSIBLE ☐ JET ☑ NO PUMP – WELL NOT EQUIPPED ☐ TURBINE ☐ CYLINDER ☐ OTHER – SPECIFY:

ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
	NA		NA	NA	NA	NA

6. GEOLOGIC LOG OF WELL

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?
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1489	1533	44	Halite, with some anhydrite	☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO

ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL

7. TEST & ADDITIONAL INFO

WELL TEST — METHOD: ☐ BAILER ☐ PUMP ☐ AIR LIFT ☐ OTHER – SPECIFY: NA

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

ADDITIONAL STATEMENTS OR EXPLANATIONS:

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Rusty D. Hurd — SIGNATURE OF DRILLER

12-10-12 — DATE

FOR OSE INTERNAL USE — WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION		PAGE 2 OF 2

2017 DEC 11 P 4:02

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

U.S. Fish and Wildlife Service
National Wetlands Inventory

02_Posiedon CTB_Watercourse_3907ft

January 25, 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.

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

02_Posiedon CTB_Lake_2429ft

January 25, 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.

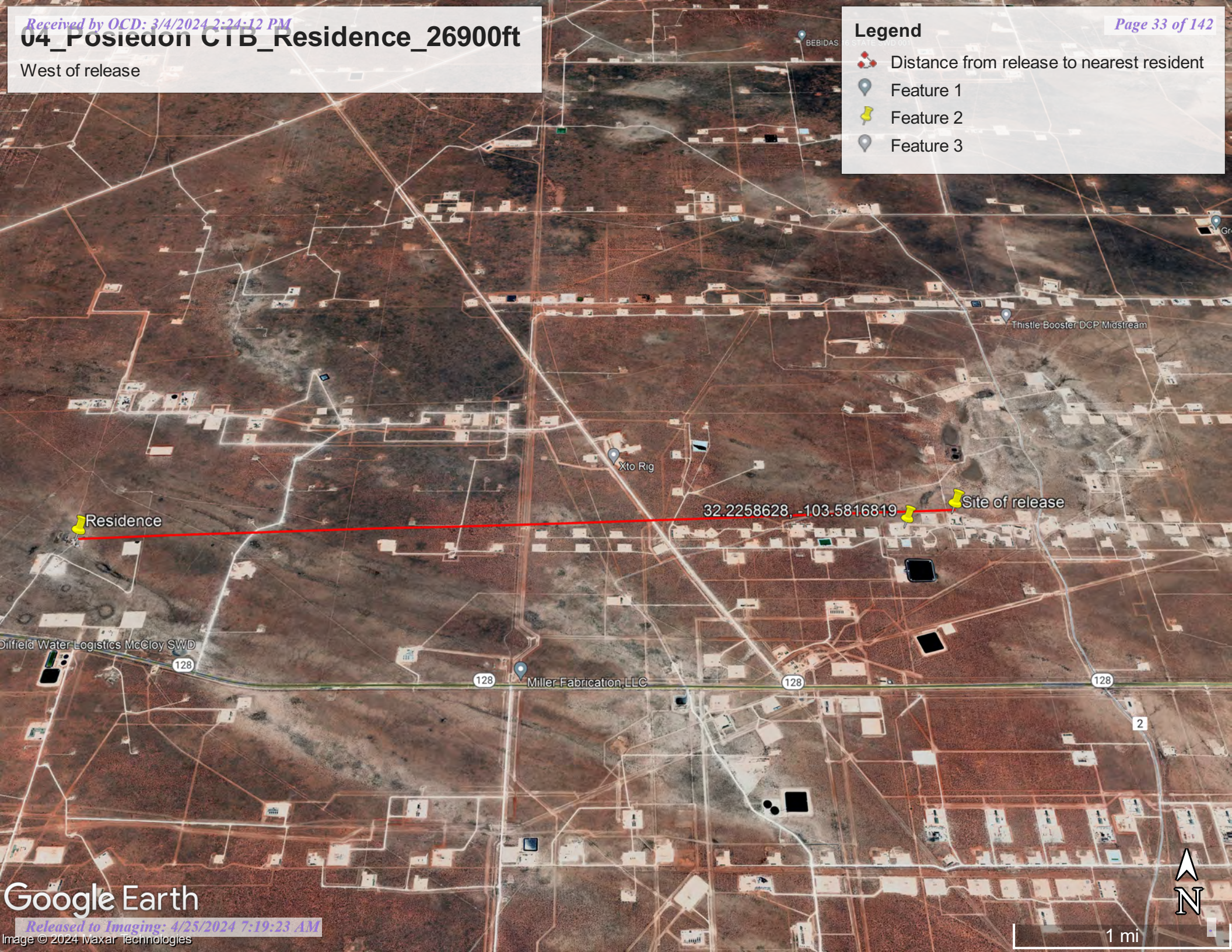
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

04_Poseidon CTB_Residence_26900ft

West of release

Legend

- Distance from release to nearest resident
- Feature 1
- Feature 2
- Feature 3



05_Poseidon CTB_Well/Spring_13320ft

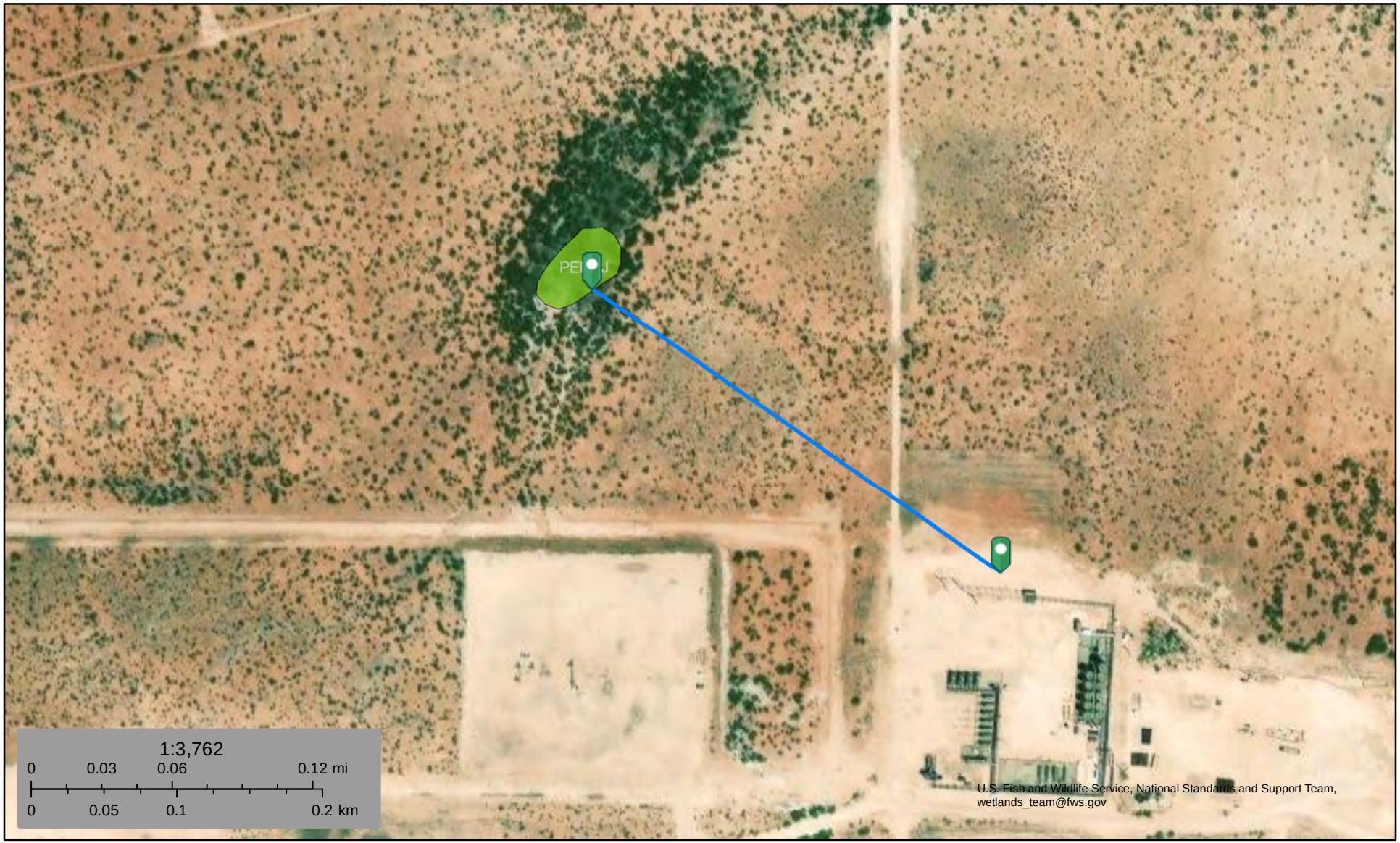
Southwest of release

Legend

- Distance from release to nearest resident
- Feature 1
- Feature 2
- Feature 3

U.S. Fish and Wildlife Service
National Wetlands Inventory

02_Posiedon CTB_Wetalnd_950ft



January 25, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
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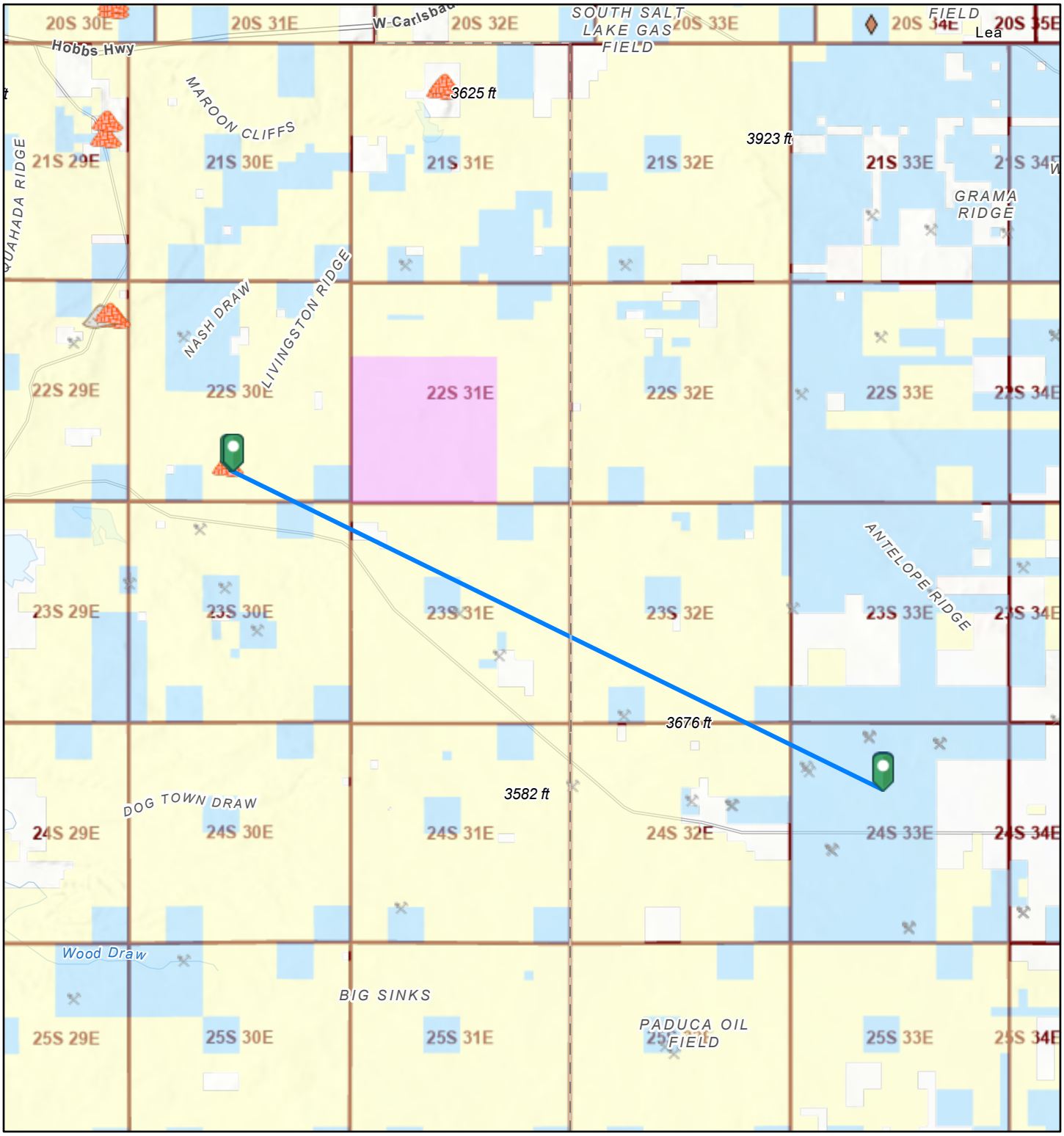
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

08_Posiedon CTB_ Mine_104720



1/25/2024, 10:04:43 AM

1:288,895

0 2 4 8 mi

0 3.25 6.5 13 km

Registered Mines

- Aggregate, Stone etc.
- Aggregate, Stone etc.
- Aggregate, Stone etc.
- Industrial Minerals (Other)
- Potash
- Salt

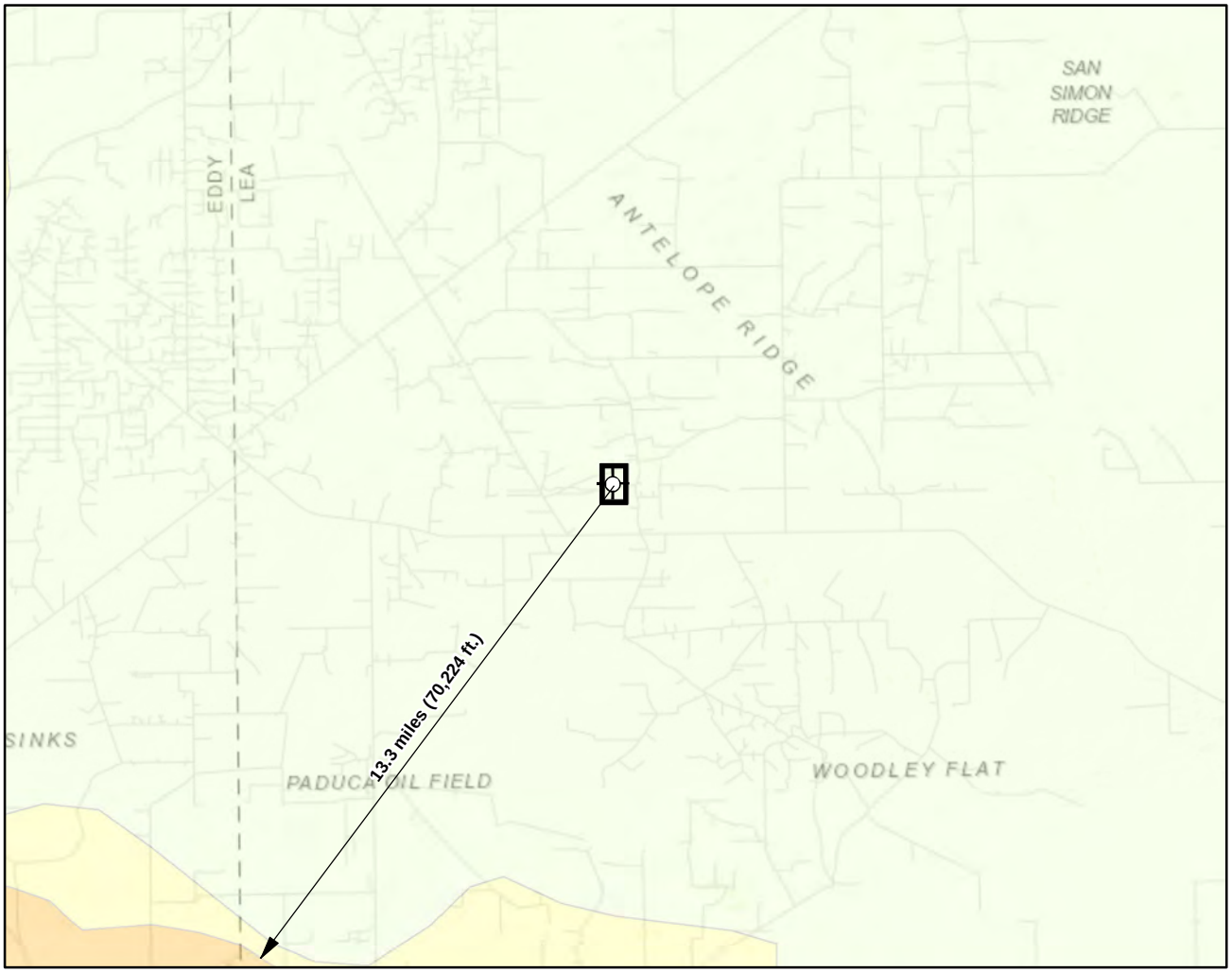
Land Ownership

- BLM
- DOE
- P
- S
- PLSS Townships

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

EMNRD MMD GIS Coordinator

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



Overview Map

0 1 2 4 mi

Detail Map

0 150 300 600 ft

Karst Potential

- Critical
- High
- Medium
- Low

- Site Location
- Site Buffer (1000 ft.)

VERTEX

Map Center:
Lat/Long: 32.226542, -103.576015

NAD 1983 UTM Zone 13N
Date: Jan 29/24

N

Karst Potential Map
Poseidon CTB

FIGURE:
X

TAP ROCK RESOURCES

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.

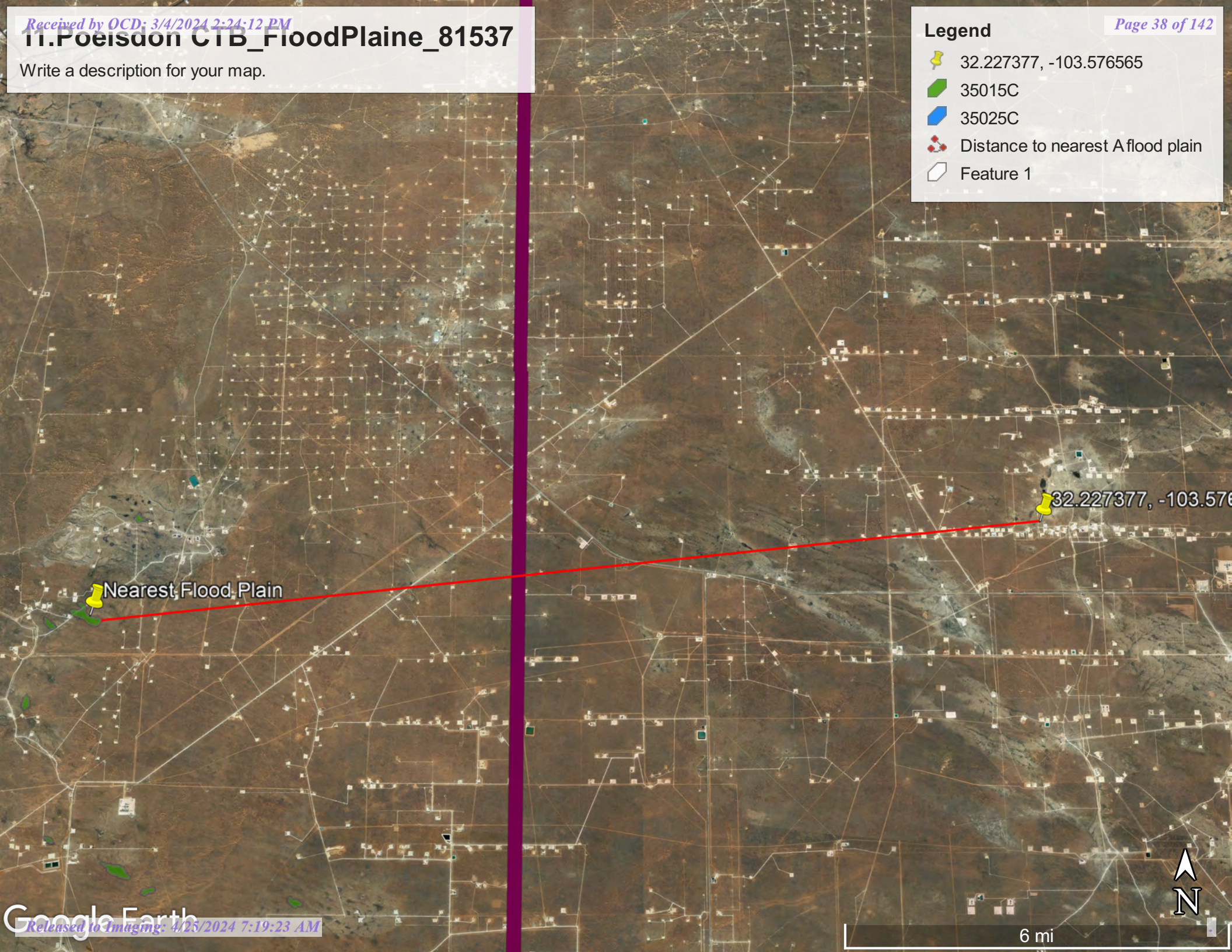
Note: Inset Map, Esri 2024; Overview Map: Esri World Topographic. Karst potential data sourced from Roswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Tap Rock\24E-00245\Figure X Karst Potential (24E-00245).mxd

11.Poelsdon CTB_FloodPlaine_81537

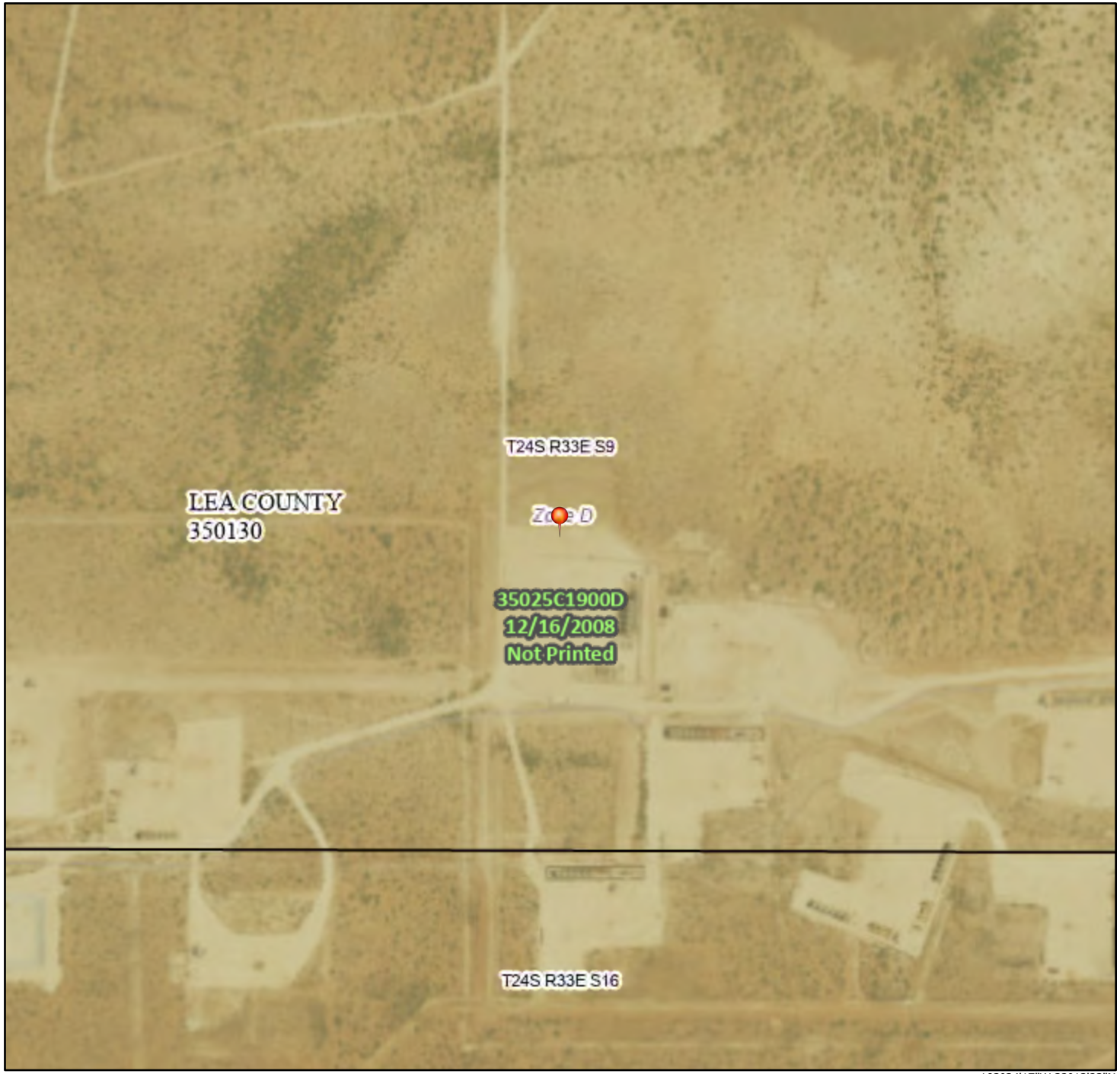
Write a description for your map.



National Flood Hazard Layer FIRMette

FEMA

103°34'54"W 32°13'54"N



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

1:6,000

103°34'17"W 32°13'23"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 1/25/2024 at 12:14 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Lea County, New Mexico

January 25, 2024

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

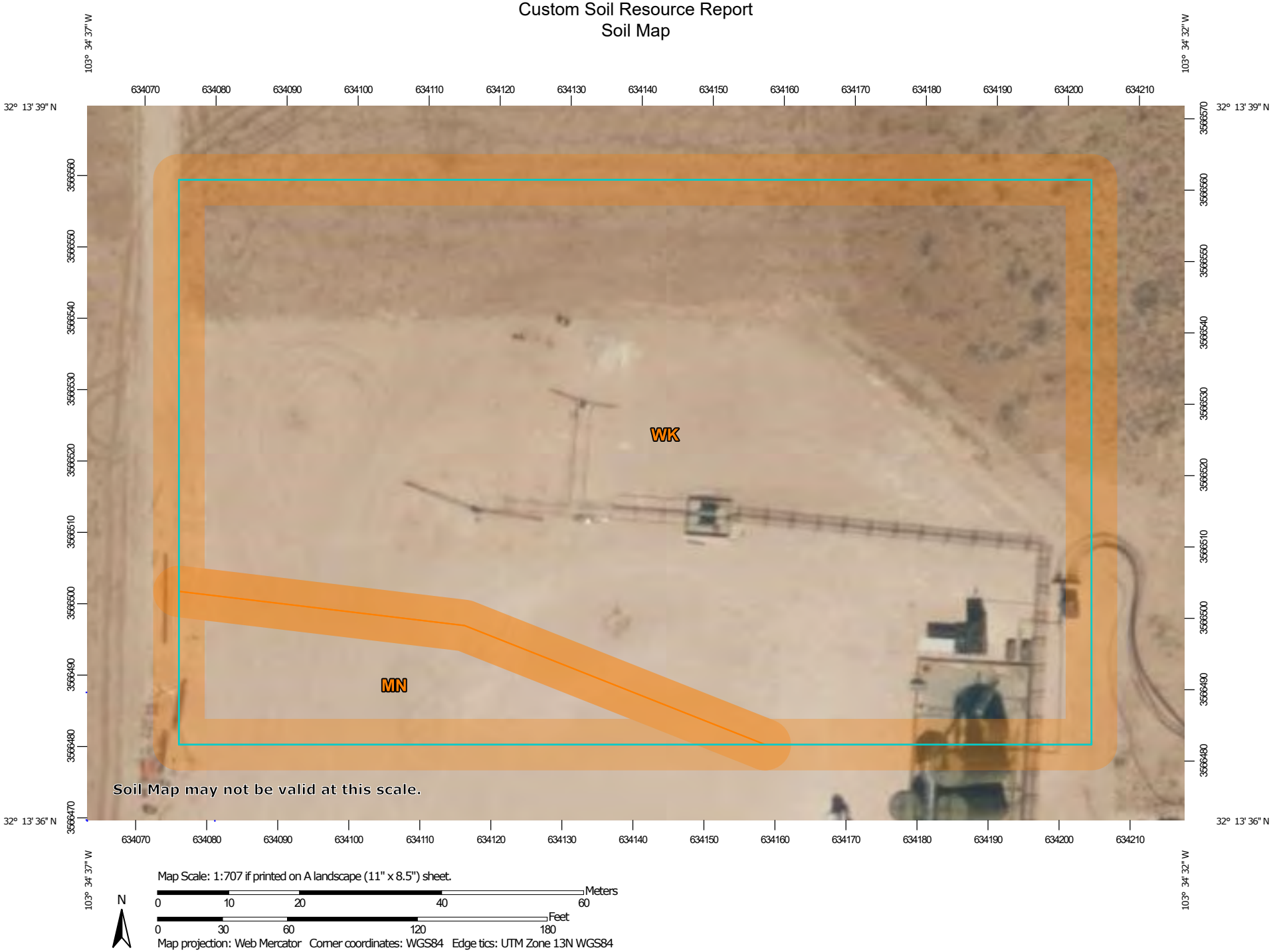
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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

Soil Map

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

Custom Soil Resource Report
Soil Map



MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 20, Sep 6, 2023

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

Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
MN	Ratliff-Wink fine sandy loams	0.3	11.0%
WK	Wink loamy fine sand	2.2	89.0%
Totals for Area of Interest		**2.5**	**100.0%**

Map Unit Descriptions

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

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

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

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

onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Lea County, New Mexico

MN—Ratliff-Wink fine sandy loams

Map Unit Setting

National map unit symbol: dmqf
Elevation: 3,000 to 3,900 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ratliff and similar soils: 45 percent
Wink and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ratliff

Setting

Landform: Plains
Landform position (three-dimensional): Dip
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous alluvium and/or calcareous eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 4 inches: fine sandy loam
Bw - 4 to 22 inches: clay loam
Bk - 22 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 50 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: B
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Description of Wink

Setting

Landform: Plains
Landform position (three-dimensional): Dip
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous sandy alluvium and/or calcareous sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 12 inches: fine sandy loam
Bk - 12 to 23 inches: sandy loam
BCk - 23 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R070BD004NM - Sandy
Hydric soil rating: No

Minor Components

Kermit

Percent of map unit: 6 percent
Ecological site: R070BC022NM - Sandhills
Hydric soil rating: No

Maljamar

Percent of map unit: 5 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Palomas

Percent of map unit: 4 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

WK—Wink loamy fine sand

Map Unit Setting

National map unit symbol: dmrm
Elevation: 3,000 to 3,400 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Wink and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wink

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Calcareous sandy alluvium and/or calcareous sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 12 inches: loamy fine sand
Bk - 12 to 23 inches: sandy loam
BCk - 23 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

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

Minor Components

Berino
Percent of map unit: 5 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

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

Jal
Percent of map unit: 4 percent
Ecological site: R070BC030NM - Limy
Hydric soil rating: No

Cacique
Percent of map unit: 2 percent
Ecological site: R070BD004NM - Sandy
Hydric soil rating: No

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USDA Natural Resources Conservation Service

Ecological site R070BD003NM
Loamy Sand

Accessed: 01/25/2024

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.

Associated sites

R070BD004NM	**Sandy** Sandy
R070BD005NM	**Deep Sand** Deep Sand

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

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

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

Table 2. Representative physiographic features

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

Climatic features

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common. Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity-short duration thunderstorms.
Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes.

The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer.
The average frost-free season is 207 to 220 days. The last killing frost being late March or early April and the first killing frost being in later October or early November.
Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of this site. Strong winds blow from the southwest from January through June, which accelerates soil drying during a critical period for cool season plant growth.

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

Table 3. Representative climatic features

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

Influencing water features

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

Soil features

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

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

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

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

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

Characteristic soils are:
Maljamar
Berino
Parjarito
Palomas
Wink
Pyote

Table 4. Representative soil features

Surface texture	(1) Fine sand (2) Fine sandy loam (3) Loamy fine sand
Family particle size	(1) Sandy
Drainage class	Well drained to somewhat excessively drained
Permeability class	Moderate to moderately rapid

Soil depth	40–72 in
Surface fragment cover <=3"	0–10%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	5–7 in
Calcium carbonate equivalent (0-40in)	3–40%
Electrical conductivity (0-40in)	2–4 mmhos/cm
Sodium adsorption ratio (0-40in)	0–2
Soil reaction (1:1 water) (0-40in)	6.6–8.4
Subsurface fragment volume <=3" (Depth not specified)	4–12%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

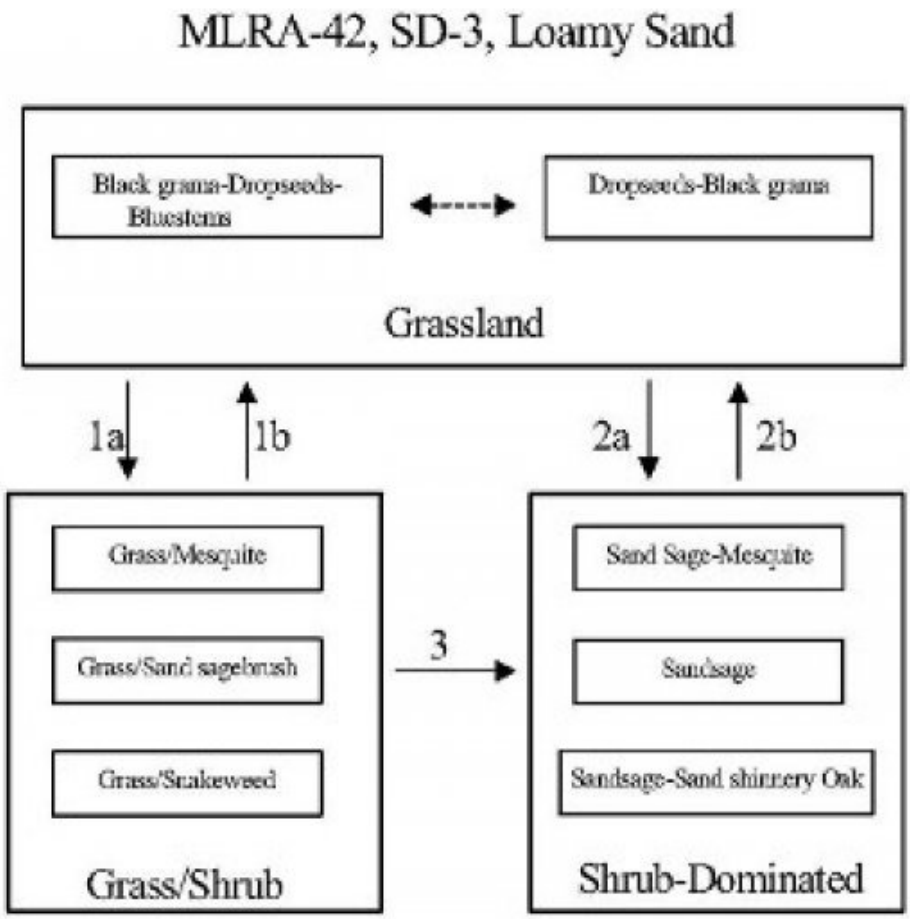
Overview

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

The historic plant community of Loamy Sand sites is dominated by black grama (*Bouteloua eriopoda*), dropseeds (*Sporobolus flexuosus*, *S. contractus*, *S. cryptandrus*), and bluestems (*Schizachyrium scoparium* and *Andropogon hallii*), with scattered shinnery oak (*Quercus havardii*) and sand sage (*Artemisia filifolia*). Perennial and annual forb abundance and distribution are dependent on precipitation. Litter and to a lesser extent, bare ground, are a significant proportion of ground cover while grasses compose the remainder. Decreases in black grama indicate a transition to either a grass/shrub or shrub-dominated state. The grass/shrub state is composed of grasses/honey mesquite (*Prosopis glandulosa*), grasses/broom snakeweed (*Gutierrezia sarothrae*), or grasses/sand sage. The shrub-dominated state occurs after a severe loss of grass cover and a prevalence of sand sage with secondary shinnery oak and mesquite. Heavy grazing intensity and/or drought are influential drivers in decreasing black grama and bluestems and subsequently increasing shrub cover, erosion, and bare patches. Historical fire suppression also encourages shrub pervasiveness and a competitive advantage over grass species (McPherson 1995). Brush and grazing management, however, may reverse grass/shrub and shrub-dominated states toward the grassland-dominated historic plant community.

State and transition model

Plant Communities and Transitional Pathways (diagram):



1a. Drought, over grazing, fire suppression.
1b. Brush control, prescribed grazing

2.a Severe loss of grass cover, fire suppression, erosion.
2b. Brush control, seeding, prescribed grazing.

3. Continued loss of grass cover, erosion.

State 1
Historic Climax Plant Community

Community 1.1
Historic Climax Plant Community

Grassland: The historic plant community is a uniformly distributed grassland dominated by black grama, dropseeds, and bluestems. Sand sage and shinnery oak are evenly dispersed throughout the grassland due to the coarse soil

surface texture. Perennial and annual forbs are common but their abundance and distribution are reflective of precipitation. Bluestems initially, followed by black grama, decrease with drought and heavy grazing intensity. Historical fire frequency is unknown but likely occurred enough to remove small shrubs to the competitive advantage of grass species. Fire suppression, drought conditions, and excessive grazing drive most grass species out of competition with shrub species. Diagnosis: Grassland dominated by black grama, dropseeds, and bluestems. Shrubs, such as sand sage, shinnery oak, and mesquite are dispersed throughout the grassland. Forbs are present and populations fluctuate with precipitation variability.

Table 5. Annual production by plant type

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

Table 6. Ground cover

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

Figure 5. Plant community growth curve (percent production by month). NM2803, R042XC003NM-Loamy Sand-HCPC. SD-3 Loamy Sand - Warm season plant community .

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

State 2
Grass/Shrub

Community 2.1
Grass/Shrub

Grass/Shrub State: The grass/shrub state is dominated by communities of grasses/mesquite, grasses/snakeweed, or grasses/sand sage. Decreases in black grama and bluestem species lead to an increase in bare patches and mesquite which further competes with grass species. An increase of dropseeds and threeawns occurs. Grass distribution becomes more patchy with an absence or severe decrease in black grama and bluestems. Mesquite provides nitrogen and soil organic matter to co-dominant grasses (Ansley and Jacoby 1998, Ansley et al. 1998). Mesquite mortality when exposed to fire is low due to aggressive resprouting abilities. Herbicide application combined with subsequent prescribed fire may be more effective in mesquite reduction (Britton and Wright 1971). Diagnosis: This state is dominated by an increased abundance of communities including grass/mesquite, grass/snakeweed, or grass/sand sage. Dropseeds and threeawns have a patchy distribution. Transition to Grass/Shrub State (1a): The historic plant community begins to shift toward the grass/shrub state as drivers such as drought, fire suppression, interspecific competition, and excessive grazing contribute to alterations in soil properties and herbaceous cover. Cover loss and surface soil erosion are initial indicators of transition followed by a decrease in black grama with a subsequent increase of dropseeds, threeawns, mesquite, and snakeweed. Snakeweed has been documented to outcompete black grama especially under conditions of fire suppression and drought (McDaniel et al. 1984). Key indicators of approach to transition: • Loss of black grama cover • Surface soil erosion • Bare patch expansion • Increased dropseed/threeawn and mesquite, snakeweed, or sand sage abundances Transition to Historic Plant Community (1b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community.

State 3
Shrub Dominated

Community 3.1
Shrub Dominated

Shrub-Dominated State: The shrub-dominated state results from a severe loss of grass cover. This state's primary species is sand sage. Shinnery oak and mesquite also occur; however, grass cover is limited to intershrub distribution. Sand sage stabilizes light sandy soils from wind erosion, which enhances protected grass/forb cover (Davis and Bonham 1979). However, shinnery oak also responds to the sandy soils with dense stands due to an

aggressive rhizome system. Shinnery oak's extensive root system promotes competitive exclusion of grasses and forbs. Sand sage, shinnery oak, and mesquite can be controlled with herbicide (Herbel et al. 1979, Pettit 1986). Transition to Shrub-Dominated (2a): Severe loss of grass species with increased erosion and fire suppression will result in a transition to a shrub-dominated state with sand sage, Shin oak, and honey mesquite directly from the grassland-dominated state. Key indicators of approach to transition: • Severe loss of grass species cover • Surface soil erosion • Bare patch expansion • Increased sand sage, shinnery oak, and mesquite abundance Transition to Historic Plant Community (2b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community. In addition, seeding with native grass species will augment the transition to a grassland-dominated state. Transition to Shrub-Dominated (3): If the grass/shrub site continues to lose grass cover with soil erosion, the site will transition to a shrub-dominated state with sand sage, shinnery oak, and honey mesquite. Key indicators of approach to transition: • Continual loss of dropseeds/threeawns cover • Surface soil erosion • Bare patch expansion • Increased sand sage, shinnery oak, and mesquite/dropseed/threeawn and mesquite/snakeweed abundance

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1	**Warm Season**			61–123	
	little bluestem	SCSC	*Schizachyrium scoparium*	61–123	–
2	**Warm Season**			37–61	
	sand bluestem	ANHA	*Andropogon hallii*	37–61	–
3	**Warm Season**			37–61	
	cane bluestem	BOBA3	*Bothriochloa barbinodis*	37–61	–
	silver bluestem	BOSA	*Bothriochloa saccharoides*	37–61	–
4	**Warm Season**			123–184	
	black grama	BOER4	*Bouteloua eriopoda*	123–184	–
	bush muhly	MUPO2	*Muhlenbergia porteri*	123–184	–
5	**Warm Season**			123–184	
	thin paspalum	PASE5	*Paspalum setaceum*	123–184	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	123–184	–
	fringed signalgrass	URCI	*Urochloa ciliatissima*	123–184	–
6	**Warm Season**			123–184	
	spike dropseed	SPCO4	*Sporobolus contractus*	123–184	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	123–184	–
	mesa dropseed	SPFL2	*Sporobolus flexuosus*	123–184	–
7	**Warm Season**			61–123	
	hooded windmill grass	CHCU2	*Chloris cucullata*	61–123	–
	Arizona cottontop	DICA8	*Digitaria californica*	61–123	–
9	**Other Perennial Grasses**			37–61	
	Grass, perennial	2GP	*Grass, perennial*	37–61	–
Shrub/Vine					
8	**Warm Season**			37–61	
	New Mexico feathergrass	HENE5	*Hesperostipa neomexicana*	37–61	–
	giant dropseed	SPGI	*Sporobolus giganteus*	37–61	–
10	**Shrub**			61–123	

	sand sagebrush	ARFI2	*Artemisia filifolia*	61–123	–
	Havard oak	QUHA3	*Quercus havardii*	61–123	–
11	**Shrub**			34–61	
	fourwing saltbush	ATCA2	*Atriplex canescens*	37–61	–
	featherplume	DAFO	*Dalea formosa*	37–61	–
12	**Shrub**			37–61	
	jointfir	EPHED	*Ephedra*	37–61	–
	littleleaf ratany	KRER	*Krameria erecta*	37–61	–
13	**Other Shrubs**			37–61	
	Shrub (>.5m)	2SHRUB	*Shrub (>.5m)*	37–61	–
Forb					
14	**Forb**			61–123	
	leatherweed	CRPOP	*Croton pottsii var. pottsii*	61–123	–
	Indian blanket	GAPU	*Gaillardia pulchella*	61–123	–
	globemallow	SPHAE	*Sphaeralcea*	61–123	–
15	**Forb**			12–37	
	woolly groundsel	PACA15	*Packera cana*	12–37	–
16	**Forb**			61–123	
	touristplant	DIWI2	*Dimorphocarpa wislizeni*	61–123	–
	woolly plantain	PLPA2	*Plantago patagonica*	61–123	–
17	**Other Forbs**			37–61	
	Forb (herbaceous, not grass nor grass-like)	2FORB	*Forb (herbaceous, not grass nor grass-like)*	37–61	–

Animal community

This Ecological Site provides habitat which supports a resident animal community that is characterized by pronghorn antelope, desert cottontail, spotted ground squirrel, black-tailed prairie dog, yellow faced pocket gopher, Ord's kangaroo rat, northern grasshopper mouse, southern plains woodrat, badger, roadrunner, meadowlark, burrowing owl, white necked raven, lesser prairie chicken, morning dove, scaled quail, Harris hawk, side blotched lizard, marbled whiptail, Texas horned lizard, western diamondback rattlesnake, dusty hognose snake and ornate box turtle.
Where mesquite has invaded, most resident birds and scissor-tailed flycatcher, morning dove and Swainson's hawk, nest. Vesper and grasshopper sparrows utilize the site during migration.

Hydrological functions

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.
Hydrologic Interpretations
Soil Series Hydrologic Group
Berino B
Kinco A
Maljamar B
Pajarito B
Palomas B
Wink B
Pyote A

Recreational uses

This site offers recreation potential for hiking, borseback riding, nature observation, photography and hunting. During years of abundant spring moisture, this site displays a colorful array of wildflowers during May and June.

Wood products

This site has no potential for wood products.

Other products

This site is suitable for grazing by all kinds and classes of livestock at any time of year. In cases where this site has been invaded by brush species it is especially suited for goats. Mismanagement of this site will cause a decrease in species such as the bluestems, blsck grama, bush muhly, plains bristlegrass, New Mexico feathergrass, Arizona cottontop and fourwing saltbush. A corresponding increase in the dropseeds, windmill grass, fall witchgrass, silver bluestem, sand sagebrush, shinery oak and ephedra will occur. This will also cause an increase in bare ground which will increase soil erodibility. This site will respond well to a system of management that rotates the season of use.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month
Similarity Index Ac/AUM
100 - 76 2.3 – 3.5
75 – 51 3.0 – 4.5
50 – 26 4.6 – 9.0
25 – 0 9.1 +

Inventory data references

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

Other references

Literature Cited:

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Britton, Carlton M.; Wright, Henry A. 1971. Correlation of weather and fuel variables to mesquite damage by fire. Journal of Range Management 24:136-141.

Davis, Joseph H., III and Bonham, Charles D. 1979. Interference of sand sagebrush canopy with needleandthread. Journal of Range Management 32(5):384-386.

Herbel, C. H, Steger, R, Gould, W. L. 1974. Managing semidesert ranges of the Southwest Circular 456. Las Cruces, NM: New Mexico State University, Cooperative Extension Service. 48 p.

McDaniel, Kirk C.; Pieper, Rex D.; Loomis, Lyn E.; Osman, Abdelgader A. 1984. Taxonomy and ecology of perennial snakeweeds in New Mexico. Bulletin 711. Las Cruces, NM: New Mexico State University, Agricultural Experiment Station. 34 p.

McPherson, Guy R. 1995. The role of fire in the desert grasslands. In: McClaran, Mitchel P.; Van Devender, Thomas R., eds. The desert grassland. Tucson, AZ: The University of Arizona Press: 130-151.

Pettit, Russell D. 1986. Sand shinnery oak: control and management. Management Note 8. Lubbock, TX: Texas Tech University, College of Agricultural Sciences, Department of Range and Wildlife Management. 5 p.

Contributors

Don Sylvester
Quinn Hodgson

Rangeland health reference sheet

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

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

Indicators

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

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

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

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

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

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

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

---

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

---

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

---

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

---

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

---

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

    Dominant:

    Sub-dominant:

    Other:

    Additional:

---

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

---

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

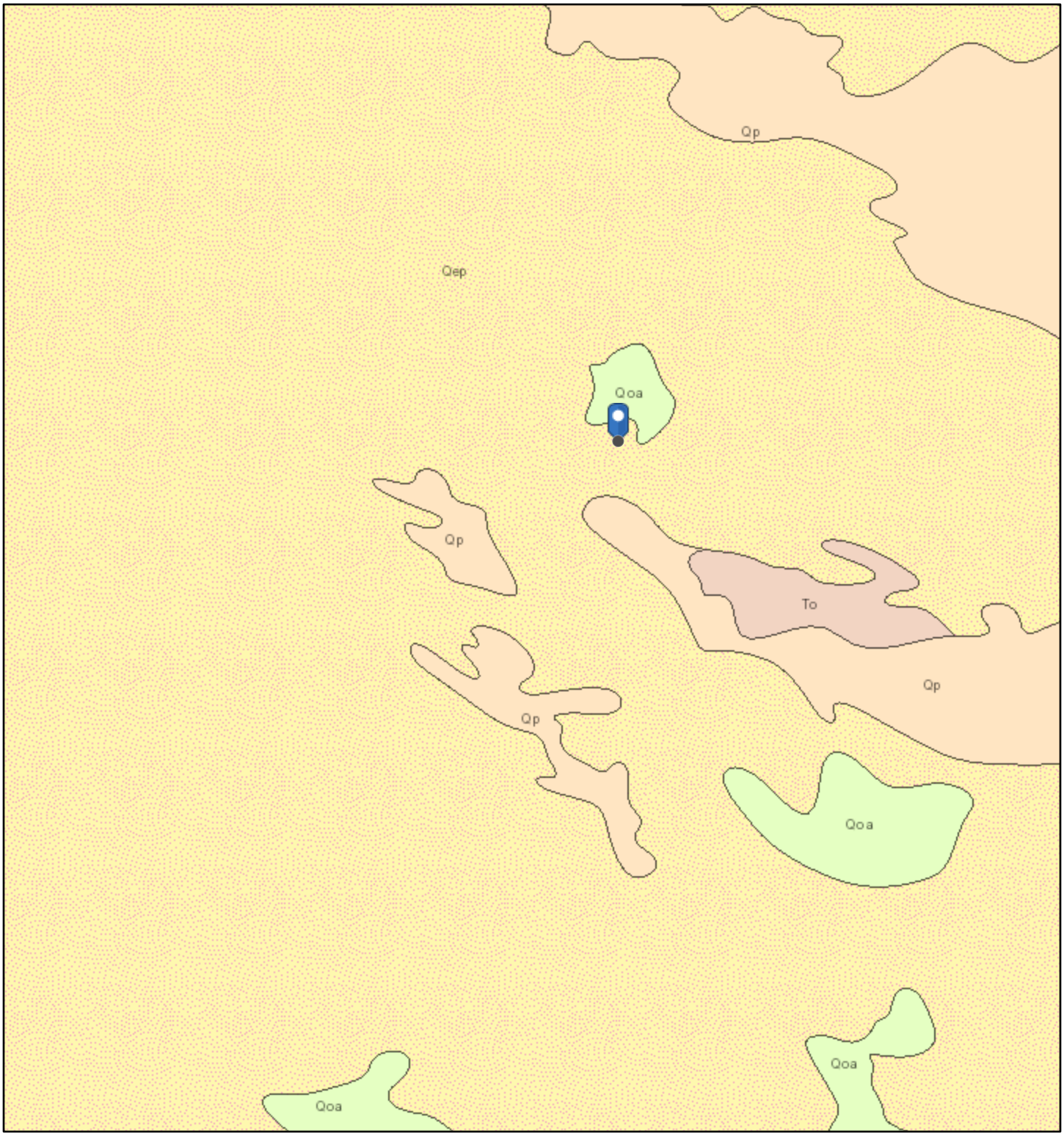
---

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

---

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

ArcGIS Web Map



1/25/2024, 11:44:14 AM

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Lithologic Units

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

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 Bureau TIGER/Line data; USFS

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

APPENDIX C – Daily Field Reports

Daily Site Visit Report

Client:	Tap Rock	Inspection Date:	1/22/2024
Site Location Name:	Poseidon CTB	Report Run Date:	1/22/2024 11:54 PM
Client Contact Name:	Bill Ramsey	API #:	
Client Contact Phone #:	720-238-2787		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	1/22/2024 3:45 PM
Departed Site	1/22/2024 3:09 PM

Daily Site Visit Report

Field Notes

15:00 Arrived on site and completed safety briefing.

16:23 Mapped spill and noted pipes or other obstructions around flare on field maps.

16:23 Gary and crew is ready to proceed with scrapping the spill.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: Northeast	**Viewing Direction**: North
	
Spill around fire flare.	Spill around fire flare.
Viewing Direction: North	**Viewing Direction**: South
	
Spill area.	Spill looking south.

Daily Site Visit Report

Viewing Direction: Southeast	**Viewing Direction**: Northeast
	
Spill	Equipment near spill area.

Daily Site Visit Report

Client:	Tap Rock	Inspection Date:	
Site Location Name:	Poseidon CTB	Report Run Date:	2/3/2024 8:01 PM
Client Contact Name:	Bill Ramsey	API #:	
Client Contact Phone #:	720-238-2787		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	
Departed Site	

Field Notes

9:31 Arrived on site had safety meeting

9:31 Began excavating on the north side

9:32 Had crew start excavating with shovels on the south end

11:19 Tested WES24-3 at.5 ft and BES24-1 through 5 at .5ft they were within criteria

16:26 Tested WES24-1 and 2 at .5 ft and BES24-6 though 15 at .5 ft all writhing strictest criteria

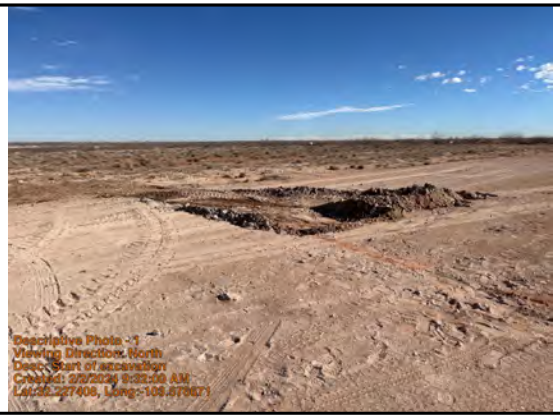
Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North



Start of excavation

Viewing Direction: North

Excavation completed

Viewing Direction: North

Southern excavation south side of the spill,

Viewing Direction: South

North side excavation of the spill facing south

Daily Site Visit Report

Client:	Tap Rock	Inspection Date:	2/21/2024
Site Location Name:	Poseidon CTB	Report Run Date:	2/21/2024 11:31 PM
Client Contact Name:	Bill Ramsey	API #:	
Client Contact Phone #:	720-238-2787		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	2/21/2024 12:42 PM
Departed Site	

Field Notes

12:42 Arrived on site field out safety paper work

12:42 Took sample for WS24-1

13:15 Sample was below criteria and jarred

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: West

WS24-1 sampling area

Daily Site Visit Report

Client:	Tap Rock	Inspection Date:	
Site Location Name:	Poseidon CTB	Report Run Date:	3/1/2024 12:55 AM
Client Contact Name:	Bill Ramsey	API #:	
Client Contact Phone #:	720-238-2787		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	
Departed Site	

Field Notes

15:23 Backfill of the release area excavation is complete and done with sand and caliche

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: East

Western side of release area facing east

Viewing Direction: South

Northern side of release area facing south

Viewing Direction: West

Western side of release facing east

Viewing Direction: North

Southern side of release area facing north

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Wyatt Wadleigh

Signature:

APPENDIX D – Notifications

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS

Operator: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 309747
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2402250064**
Incident Name	**NAPP2402250064 POSEIDON CTB @ 0**
Incident Type	**Fire**
Incident Status	**Initial C-141 Approved**
Incident Facility	**[fAPP2126032846] Poseidon CTB**

Location of Release Source	
Site Name	**Poseidon CTB**
Date Release Discovered	**01/22/2024**
Surface Owner	**State**

Sampling Event General Information *Please answer all the questions in this group.*	
What is the sampling surface area in square feet	3,000
What is the estimated number of samples that will be gathered	20
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	02/02/2024
Time sampling will commence	09:00 AM
Please provide any information necessary for observers to contact samplers	Wyatt Wadleigh will be on site to collect confirmatory samples. If you need directions or any additional information, do not hesitate to contact him at 832-392-4807.
Please provide any information necessary for navigation to sampling site	32.227271, -103.576643

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 309747
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
vertex1	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	1/31/2024

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS

Operator: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 315371
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2402250064**
Incident Name	**NAPP2402250064 POSEIDON CTB @ 0**
Incident Type	**Fire**
Incident Status	**Initial C-141 Approved**
Incident Facility	**[fAPP2126032846] Poseidon CTB**

Location of Release Source	
Site Name	**Poseidon CTB**
Date Release Discovered	**01/22/2024**
Surface Owner	**State**

Sampling Event General Information *Please answer all the questions in this group.*	
What is the sampling surface area in square feet	200
What is the estimated number of samples that will be gathered	1
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	02/21/2024
Time sampling will commence	08:00 AM
Please provide any information necessary for observers to contact samplers	Wyatt Wadleigh will be on site to collect confirmation samples. He can be reached at 832-392-4807. If you need directions to the site or any other additional information, do not hesitate to contact him.
Please provide any information necessary for navigation to sampling site	32.2258628, -103.5816819

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CONDITIONS

Operator: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 315371
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
vertex1	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	2/19/2024

APPENDIX E – Laboratory Data Reports and Chain of Custody Forms

Report to:

Chance Dixon

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com

envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Tap Rock

Project Name: Poseidon CTB

Work Order: E402057

Job Number: 19031-0001

Received: 2/6/2024

Revision: 3

Report Reviewed By:

Draft

Walter Hinchman
Laboratory Director
2/16/24

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc, holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.

Date Reported: 2/16/24

Chance Dixon
7 W. Compress Road
Artesia, NM 88210

Project Name: Poseidon CTB
Workorder: E402057
Date Received: 2/6/2024 7:51:00AM

Chance Dixon,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 2/6/2024 7:51:00AM, under the Project Name: Poseidon CTB.

The analytical test results summarized in this report with the Project Name: Poseidon CTB apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Alexa Michaels
Sample Custody Officer
Office: 505-632-1881
labadmin@envirotech-inc.com

Field Offices:

Southern New Mexico Area

Lynn Jarboe
Laboratory Technical Representative
Office: 505-421-LABS(5227)
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ljarboe@envirotech-inc.com

Michelle Golzales
Client Representative
Office: 505-421-LABS(5227)
Cell: 505-947-8222
mgonzales@envirotech-inc.com

Table of Contents

Table of Contents (continued)

Sample Summary

Tap Rock	Project Name:	Poseidon CTB	**Reported:**
7 W. Compress Road	Project Number:	19031-0001	
Artesia NM, 88210	Project Manager:	Chance Dixon	02/16/24 16:31

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BES24-01 0.5FT	E402057-01A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-2 0.5FT	E402057-02A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-3 0.5FT	E402057-03A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-4 0.5FT	E402057-04A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-05 0.5FT	E402057-05A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-06 .5FT	E402057-06A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-07 .5FT	E402057-07A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-08 .5FT	E402057-08A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-09 .5FT	E402057-09A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-10 .5FT	E402057-10A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-11 0.5FT	E402057-11A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-12 0.5FT	E402057-12A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-13 0.5FT	E402057-13A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-14 0.5FT	E402057-14A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
BES24-15 0.5FT	E402057-15A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
WES24-01 0.5FT	E402057-16A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
WES24-02 0.5FT	E402057-17A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.
WES24-03 0.5FT	E402057-18A	Soil	02/02/24	02/06/24	Glass Jar, 4 oz.

Case Narative:

Project Name: Poseidon CTB
Workorder: E402057
Date Received: 2/13/2024

The client requested the following sample(s) to be re-extracted and re-analyzed:

Sample Name	Laboratory ID	Analysis
BES24-10 .5ft	E402057-10	EPA 8015D DRO/ORO

The analytical test results summarized in this revised report represent this re-extration and re-analysis.

If you have any questions reguarding this report please feel free to contact Envirotech Inc.

Respectfully,

Walter Hinchman

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-01 0.5FT

E402057-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*94.4 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*93.0 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*101 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**44.4**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-2 0.5FT

E402057-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*94.3 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*91.7 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*102 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	ND	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-3 0.5FT

E402057-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*94.5 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*92.5 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*102 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**46.4**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-4 0.5FT

E402057-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*94.7 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*92.2 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*103 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**100**	20.0	1	02/08/24	02/08/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-05 0.5FT

E402057-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*94.5 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*91.9 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*107 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**130**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-06 .5FT

E402057-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*93.6 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*92.0 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*104 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**51.6**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-07 .5FT

E402057-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*94.1 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*91.8 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*106 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**71.6**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-08 .5FT

E402057-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*93.3 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*92.2 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*105 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**83.8**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-09 .5FT

E402057-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*93.2 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*91.8 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*102 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**48.5**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-10 .5FT

E402057-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*94.2 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*91.2 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2407066
Diesel Range Organics (C10-C28)	**28.0**	25.0	1	02/15/24	02/15/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/15/24	02/15/24	
Surrogate: n-Nonane		*98.9 %*	*50-200*	*02/15/24*	*02/15/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**91.0**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-11 0.5FT

E402057-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*93.5 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*91.3 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*105 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**59.9**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-12 0.5FT

E402057-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*94.5 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*92.3 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*107 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**43.6**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-13 0.5FT

E402057-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*94.7 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*92.1 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*117 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**53.1**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-14 0.5FT

E402057-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*93.8 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*91.6 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*115 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**61.1**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

BES24-15 0.5FT

E402057-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*95.4 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*92.1 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*108 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**65.7**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

WES24-01 0.5FT

E402057-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*96.2 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*91.6 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	**39.1**	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	**87.0**	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*107 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	ND	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

WES24-02 0.5FT

E402057-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*97.2 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*91.5 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	**30.9**	25.0	1	02/09/24	02/09/24	
Oil Range Organics (C28-C36)	**55.2**	50.0	1	02/09/24	02/09/24	
Surrogate: n-Nonane		*102 %*	*50-200*	*02/09/24*	*02/09/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	**211**	20.0	1	02/08/24	02/09/24	

Sample Data

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

WES24-03 0.5FT

E402057-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Benzene	ND	0.0250	1	02/07/24	02/09/24	
Ethylbenzene	ND	0.0250	1	02/07/24	02/09/24	
Toluene	ND	0.0250	1	02/07/24	02/09/24	
o-Xylene	ND	0.0250	1	02/07/24	02/09/24	
p,m-Xylene	ND	0.0500	1	02/07/24	02/09/24	
Total Xylenes	ND	0.0250	1	02/07/24	02/09/24	
Surrogate: 4-Bromochlorobenzene-PID		*97.7 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA			Batch: 2406074
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/07/24	02/09/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*90.9 %*	*70-130*	*02/07/24*	*02/09/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2406097
Diesel Range Organics (C10-C28)	ND	25.0	1	02/09/24	02/10/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/09/24	02/10/24	
Surrogate: n-Nonane		*105 %*	*50-200*	*02/09/24*	*02/10/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2406091
Chloride	ND	20.0	1	02/08/24	02/09/24	

QC Summary Data

Tap Rock	Project Name:	Poseidon CTB	**Reported:**
7 W. Compress Road	Project Number:	19031-0001	
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

Volatile Organics by EPA 8021B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2406074-BLK1)									Prepared: 02/07/24 Analyzed: 02/09/24
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	*7.75*		*8.00*		*96.8*	*70-130*			
LCS (2406074-BS1)									Prepared: 02/07/24 Analyzed: 02/09/24
Benzene	4.91	0.0250	5.00		98.2	70-130			
Ethylbenzene	4.80	0.0250	5.00		96.0	70-130			
Toluene	4.91	0.0250	5.00		98.2	70-130			
o-Xylene	4.85	0.0250	5.00		97.1	70-130			
p,m-Xylene	9.81	0.0500	10.0		98.1	70-130			
Total Xylenes	14.7	0.0250	15.0		97.8	70-130			
Surrogate: 4-Bromochlorobenzene-PID	*7.86*		*8.00*		*98.2*	*70-130*			
Matrix Spike (2406074-MS1)				**Source: E402057-03**					Prepared: 02/07/24 Analyzed: 02/09/24
Benzene	4.54	0.0250	5.00	ND	90.8	54-133			
Ethylbenzene	4.43	0.0250	5.00	ND	88.7	61-133			
Toluene	4.54	0.0250	5.00	ND	90.9	61-130			
o-Xylene	4.49	0.0250	5.00	ND	89.7	63-131			
p,m-Xylene	9.08	0.0500	10.0	ND	90.8	63-131			
Total Xylenes	13.6	0.0250	15.0	ND	90.4	63-131			
Surrogate: 4-Bromochlorobenzene-PID	*7.86*		*8.00*		*98.2*	*70-130*			
Matrix Spike Dup (2406074-MSD1)				**Source: E402057-03**					Prepared: 02/07/24 Analyzed: 02/09/24
Benzene	5.02	0.0250	5.00	ND	100	54-133	10.1	20	
Ethylbenzene	4.90	0.0250	5.00	ND	98.1	61-133	10.1	20	
Toluene	5.03	0.0250	5.00	ND	101	61-130	10.1	20	
o-Xylene	4.97	0.0250	5.00	ND	99.3	63-131	10.2	20	
p,m-Xylene	10.0	0.0500	10.0	ND	100	63-131	9.87	20	
Total Xylenes	15.0	0.0250	15.0	ND	99.9	63-131	9.98	20	
Surrogate: 4-Bromochlorobenzene-PID	*7.87*		*8.00*		*98.4*	*70-130*			

QC Summary Data

Tap Rock	Project Name:	Poseidon CTB	**Reported:**
7 W. Compress Road	Project Number:	19031-0001	
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2406074-BLK1)									Prepared: 02/07/24 Analyzed: 02/09/24
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.30*		*8.00*		*91.3*	*70-130*			
LCS (2406074-BS2)									Prepared: 02/07/24 Analyzed: 02/09/24
Gasoline Range Organics (C6-C10)	50.3	20.0	50.0		101	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.41*		*8.00*		*92.6*	*70-130*			
Matrix Spike (2406074-MS2)				**Source: E402057-03**					Prepared: 02/07/24 Analyzed: 02/09/24
Gasoline Range Organics (C6-C10)	49.4	20.0	50.0	ND	98.7	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.37*		*8.00*		*92.1*	*70-130*			
Matrix Spike Dup (2406074-MSD2)				**Source: E402057-03**					Prepared: 02/07/24 Analyzed: 02/09/24
Gasoline Range Organics (C6-C10)	46.3	20.0	50.0	ND	92.6	70-130	6.44	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.35*		*8.00*		*91.8*	*70-130*			

QC Summary Data

Tap Rock	Project Name:	Poseidon CTB	**Reported:**
7 W. Compress Road	Project Number:	19031-0001	
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2406097-BLK1)									Prepared: 02/09/24 Analyzed: 02/09/24
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*52.9*		*50.0*		*106*	*50-200*			
LCS (2406097-BS1)									Prepared: 02/09/24 Analyzed: 02/09/24
Diesel Range Organics (C10-C28)	302	25.0	250		121	38-132			
Surrogate: n-Nonane	*57.1*		*50.0*		*114*	*50-200*			
Matrix Spike (2406097-MS1)				**Source: E402057-03**					Prepared: 02/09/24 Analyzed: 02/09/24
Diesel Range Organics (C10-C28)	315	25.0	250	ND	126	38-132			
Surrogate: n-Nonane	*33.3*		*50.0*		*66.7*	*50-200*			
Matrix Spike Dup (2406097-MSD1)				**Source: E402057-03**					Prepared: 02/09/24 Analyzed: 02/09/24
Diesel Range Organics (C10-C28)	313	25.0	250	ND	125	38-132	0.586	20	
Surrogate: n-Nonane	*56.6*		*50.0*		*113*	*50-200*			

QC Summary Data

Tap Rock	Project Name:	Poseidon CTB	**Reported:**
7 W. Compress Road	Project Number:	19031-0001	
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2407066-BLK1)									Prepared: 02/15/24 Analyzed: 02/15/24
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*56.5*		*50.0*		*113*	*50-200*			
LCS (2407066-BS1)									Prepared: 02/15/24 Analyzed: 02/15/24
Diesel Range Organics (C10-C28)	288	25.0	250		115	38-132			
Surrogate: n-Nonane	*55.1*		*50.0*		*110*	*50-200*			
Matrix Spike (2407066-MS1)				**Source: E402109-03**					Prepared: 02/15/24 Analyzed: 02/15/24
Diesel Range Organics (C10-C28)	289	25.0	250	ND	116	38-132			
Surrogate: n-Nonane	*48.8*		*50.0*		*97.6*	*50-200*			
Matrix Spike Dup (2407066-MSD1)				**Source: E402109-03**					Prepared: 02/15/24 Analyzed: 02/15/24
Diesel Range Organics (C10-C28)	286	25.0	250	ND	114	38-132	1.10	20	
Surrogate: n-Nonane	*50.0*		*50.0*		*100*	*50-200*			

QC Summary Data

Tap Rock	Project Name:	Poseidon CTB	**Reported:**
7 W. Compress Road	Project Number:	19031-0001	
Artesia NM, 88210	Project Manager:	Chance Dixon	2/16/2024 4:31:02PM

Anions by EPA 300.0/9056A

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2406091-BLK1)									Prepared: 02/08/24 Analyzed: 02/08/24
Chloride	ND	20.0							
LCS (2406091-BS1)									Prepared: 02/08/24 Analyzed: 02/08/24
Chloride	250	20.0	250		100	90-110			
Matrix Spike (2406091-MS1)				**Source: E402057-04**					Prepared: 02/08/24 Analyzed: 02/08/24
Chloride	356	20.0	250	100	102	80-120			
Matrix Spike Dup (2406091-MSD1)				**Source: E402057-04**					Prepared: 02/08/24 Analyzed: 02/08/24
Chloride	347	20.0	250	100	98.6	80-120	2.69	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Definitions and Notes

Tap Rock	Project Name:	Poseidon CTB	
7 W. Compress Road	Project Number:	19031-0001	**Reported:**
Artesia NM, 88210	Project Manager:	Chance Dixon	02/16/24 16:31

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite
DNR	Did not react with the addition of acid or base.

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Chain of Custody

Client Information	Invoice Information	Lab Use Only	TAT	State
Client: TAPROCK Resources/Vertex	Company: TAP ROCK	Lab WO# E402057	Job Number 19031-0001	1D 2D 3D Std
Project Name: Poseidon CTB	Address: On File			NM CO UT TX
Project Manager: Chance Dixon	City, State, Zip:			✓
Address: 310 S Boyd Drive	Phone:			
City, State, Zip: Carlsbad NM 88220	Email:			
Phone: 575 988 1472	Miscellaneous:			
Email:				

Sample Information

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	Chloride 300.0	BGDOC - NM	TCEQ 1005 - TX	RCRA 8 Metals	Remarks
9:30	02/02/24	Soil	1	BES24-01 0.5 ft		1	✓	✓	✓	✓				
9:45	02/02/24	Soil	1	BES 24-2 0.5 ft		2								
10:00	02/02/24	Soil	1	BES 24-3 0.5 ft		3								
10:15	02/02/24	Soil	1	BES 24-4 0.5 ft		4								
10:30	02/02/24	Soil	1	BES 24-05 0.5 ft		5								
10:45	02/02/24	Soil	1	BES 24-06 .5 ft		6								
11:00	02/02/24	Soil	1	BES 24-07 .5 ft		7								
11:15	02/02/24	Soil	1	BES 24-08 .5 ft		8								
11:30	02/02/24	Soil	1	BES 24-09 .5 ft		9								
11:45	02/02/24	Soil	1	BES 24-10 .5 ft		10								

Additional Instructions: coixen@vertex.ca CC: wwadleish@vertex.ca

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Sampled by: Wyatt Wadleish

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Wyatt W.	2/5	11:00	Michelle Cuyle	2-5-24	1100
Michelle Cuyle	2-5-24	1730	Andrew Moss	2-5-24	1730
Andrew Moss	2-5-24	2330		2-6-24	0751
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6C on subsequent days.

Lab Use Only
Received on ice: (Y) / N
T1 T2 T3
AVG Temp °C 4

Sample Matrix: **S** - Soil, **Sd** - Solid, **Sg** - Sludge, **A** - Aqueous, **O** - Other
Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, **v** - VOA

Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

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Chain of Custody

Client Information	Invoice Information	Lab Use Only	TAT	State
Client: Taf Rock Resources	Company: Taprock	Lab WO# E402057	Job Number 19031-0001	1D 2D 3D Std: Std ✓
Project Name: Poseidon CTB	Address: on file			NM ✓ CO UT TX
Project Manager: Chance Dixon	City, State, Zip:			
Address: 3104 Boyd Drive	Phone:			
City, State, Zip: Carlsbad NM 88220	Email:			
Phone: 575 988 1472	Miscellaneous:			
Email: COixon@vertex.ca				

Sample Information

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCEQ 1005 - TX	RCRA 8 Metals				Remarks
12:00	02/02/24	soil	1	BES 24-110.5 ft		11	✓	✓	✓		✓							
12:15	02/02/24	soil	1	BES 24-120.5 ft		12												
12:30	02/02/24	soil	1	BES24-130.5 ft		13												
12:45	02/02/24	soil	1	BES 24-14 0.5 ft		14												
13:00	02/02/24	soil	1	BES 24-15 0.5 ft		15												
13:15	02/02/24	soil	1	WES 24- 0.5 ft		16												
13:30	02/02/24	soil	1	WES 24-02 0.5 ft		17												
13:45	02/02/24	soil	1	WES 21-B0.5 ft		18	↓	↓	↓									
14:00	02/02/24																	
14:15	02/02/24																	

Analysis and Method

EPA Program

SDWA	CWA	RCRA

Compliance Y or N

PWSID #

Additional Instructions: COixon@vertex.ca and CC: wwadleigh@vertex.ca

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Sampled by: Wyatt Wadleigh

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Wyatt W.	2/5	11:00	Michelle Cruz	2-5-24	1100
Michelle Cruz	2.5.24	1730	Alyssa Morales	2-5-24	1730
Andrew Morales	2-5-24	2330		2-6-24	0751
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6C on subsequent days.

Lab Use Only
Received on ice: (Y) / N
T1 T2 T3
AVG Temp °C 4

Sample Matrix: **S** - Soil, **Sd** - Solid, **Sg** - Sludge, **A** - Aqueous, **O** - Other

Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, v - VOA

Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech

Envirotech Analytical Laboratory

Printed: 2/7/2024 12:10:06PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Tap Rock	Date Received:	02/06/24 07:51	Work Order ID:	E402057
Phone:	(575) 746-9547	Date Logged In:	02/06/24 10:43	Logged In By:	Angelina Pineda
Email:	cdixon@vertex.ca	Due Date:	02/12/24 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: Courier
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes	

Comments/Resolution

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT?	Yes	

Sample Cooler

7. Was a sample cooler received?	Yes	
8. If yes, was cooler received in good condition?	Yes	
9. Was the sample(s) received intact, i.e., not broken?	Yes	
10. Were custody/security seals present?	No	
11. If yes, were custody/security seals intact?	NA	
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling	Yes	
13. If no visible ice, record the temperature. Actual sample temperature: 4°C		

Sample Container

14. Are aqueous VOC samples present?	No	
15. Are VOC samples collected in VOA Vials?	NA	
16. Is the head space less than 6-8 mm (pea sized or less)?	NA	
17. Was a trip blank (TB) included for VOC analyses?	NA	
18. Are non-VOC samples collected in the correct containers?	Yes	
19. Is the appropriate volume/weight or number of sample containers collected?	Yes	

Field Label

20. Were field sample labels filled out with the minimum information:		
Sample ID?	Yes	
Date/Time Collected?	Yes	
Collectors name?	Yes	

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved?	No	
22. Are sample(s) correctly preserved?	NA	
24. Is lab filteration required and/or requested for dissolved metals?	No	

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase?	No	
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA	

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date

envirotech Inc.

Chain of Custody

Client Information	Invoice Information	Lab Use Only	TAT	State
Client: Talon Resources/Vertex	Company: Talon Rock	Lab WO# E402057	Job Number 19031-0001	1D 2D 3D Std: Std ✓
Project Name: Poseidon CTB	Address: On File			NM ✓ CO UT TX
Project Manager: Chance Dixon	City, State, Zip:			
Address: 505 Boyd Drive	Phone:			
City, State, Zip: Carlsbad NM 88220	Email:			
Phone: 575 988 1472	Miscellaneous:			
Email:				

Analysis and Method

DRO/ORO by 8015 | GRO/DRO by 8015 | BTEX by 8021 | [illegible] | Chloride 300.0 | BGDOC - NM | TCEQ 1005 - TX | RCRA 8 Metals | D2000 Ref Am

EPA Program

SDWA | CWA | RCRA

Compliance Y or N

PWSID #

Sample Information

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	Remarks
9:30	02/02/24	Soil	1	BES 24-01 0.5 ft		1	
9:45	02/02/24	Soil	1	BES 24-02 0.5 ft		2	
10:00	02/02/24	Soil	1	BES 24-03 0.5 ft		3	
10:15	02/02/24	Soil	1	BES 24-04 0.5 ft		4	
10:30	02/02/24	Soil	1	BES 24-05 0.5 ft		5	
10:45	02/02/24	Soil	1	BES 24-06 .5 ft		6	
11:00	02/02/24	Soil	1	BES 24-07 .5 ft		7	
11:15	02/02/24	Soil	1	BES 24-08 .5 ft		8	
11:30	02/02/24	Soil	1	BES 24-09 .5 ft		9	
11:45	02/02/24	Soil	1	BES 24-10 .5 ft		10	X

per C. Dixon 2/14/24

Additional Instructions:

cdixon@vertex.ca CC wwells@vertex.ca

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: Wyatt Wells

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Wyatt W	2/5	11:00	Michelle Cuyl	2-5-24	1100
Michelle Cuyl	2.5.24	1730	Andrew Mella	2-5-24	1730
Andrew Mella	2.5.24	2330	[illegible]	2-6-24	0751
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6C on subsequent days.

Lab Use Only

Received on ice: (Y) / N

T1 T2 T3

AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

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Chain of Custody

Client Information	Invoice Information	Lab Use Only	TAT	State
Client: Tap Rock Resources	Company: Tap Rock	Lab WO# E402057	Job Number 19031-0001	1D 2D 3D Std: Std ✓
Project Name: Rose Icon CTB	Address: Antile			NM ✓ CO UT TX
Project Manager: Connie Dixon	City, State, Zip:			
Address: 3103 Boss Drive	Phone:			
City, State, Zip: Carlsbad NM 88220	Email:			
Phone: 575 988 1472	Miscellaneous:			
Email: COxon@Vertex.ca				

Sample Information

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCEQ 1005 - TX	RCRA 8 Metals				Remarks
12:00	02/02/24	So.	1	BES 24-10 0.5 ft		11	✓	✓	✓		✓							
12:15	02/02/24	So.	1	BES 24-12 0.5 ft		12												
12:30	02/02/24	So.	1	BES 24-13 0.5 ft		13												
12:45	02/02/24	So.	1	BES 24-14 0.5 ft		14												
13:00	02/02/24	So.	1	BES 24-15 0.5 ft		15												
13:15	02/02/24	So.	1	WES 24-01 0.5 ft		16												
13:30	02/02/24	So.	1	WES 24-02 0.5 ft		17												
13:45	02/02/24	So.	1	WES 21-03 0.5 ft		18	✓	✓	✓									
14:00	02/02/24																	
14:15	02/02/24																	

Analysis and Method

EPA Program

SDWA	CWA	RCRA

Compliance Y or N

PWSID #

Additional Instructions: COxon@Vertex.ca and CC wwadleish@Vertex.ca

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.
Sampled by: Wyatt Wadleish

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Wyatt W.	2/5	11:00	Michelle Cruz	2.5.24	1100
Michelle Cruz	2.5.24	1730	Andrea Nesbo	2-5-24	1730
Andrea Nesbo	2-5-24	2330	AQ	2-6-24	0751
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6C on subsequent days.

Lab Use Only
Received on ice: (Y) / N
T1 T2 T3
AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

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envirotech

Report to:

Chance Dixon

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com

envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Vertex Resource Services Inc.

Project Name:	24E-00245 Poseidon CTB
Work Order:	E402207
Job Number:	19031-0001
Received:	2/23/2024

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
2/26/24

Date Reported: 2/26/24

Chance Dixon
3101 Boyd Drive
Carlsbad, NM 88220

Project Name: 24E-00245 Poseidon CTB
Workorder: E402207
Date Received: 2/23/2024 5:30:00AM

Chance Dixon,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 2/23/2024 5:30:00AM, under the Project Name: 24E-00245 Poseidon CTB.

The analytical test results summarized in this report with the Project Name: 24E-00245 Poseidon CTB apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

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Cell: 775-287-1762
whinchman@envirotech-inc.com

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Laboratory Administrator
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Sample Custody Officer
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Table of Contents

Sample Summary

Vertex Resource Services Inc.	Project Name:	24E-00245 Poseidon CTB	**Reported:**
3101 Boyd Drive	Project Number:	19031-0001	
Carlsbad NM, 88220	Project Manager:	Chance Dixon	02/26/24 14:07

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
WS24-01 .5ft	E402207-01A	Soil	02/21/24	02/23/24	Glass Jar, 4 oz.

Sample Data

Vertex Resource Services Inc.	Project Name:	24E-00245 Poseidon CTB	
3101 Boyd Drive	Project Number:	19031-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Chance Dixon	2/26/2024 2:07:20PM

WS24-01 .5ft

E402207-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: EG			Batch: 2408078
Benzene	ND	0.0250	1	02/23/24	02/23/24	
Ethylbenzene	ND	0.0250	1	02/23/24	02/23/24	
Toluene	ND	0.0250	1	02/23/24	02/23/24	
o-Xylene	ND	0.0250	1	02/23/24	02/23/24	
p,m-Xylene	ND	0.0500	1	02/23/24	02/23/24	
Total Xylenes	ND	0.0250	1	02/23/24	02/23/24	
Surrogate: 4-Bromochlorobenzene-PID		*86.4 %*	*70-130*	*02/23/24*	*02/23/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: EG			Batch: 2408078
Gasoline Range Organics (C6-C10)	ND	20.0	1	02/23/24	02/23/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*101 %*	*70-130*	*02/23/24*	*02/23/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM			Batch: 2408077
Diesel Range Organics (C10-C28)	ND	25.0	1	02/23/24	02/23/24	
Oil Range Organics (C28-C36)	ND	50.0	1	02/23/24	02/23/24	
Surrogate: n-Nonane		*116 %*	*50-200*	*02/23/24*	*02/23/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: IY			Batch: 2408082
Chloride	**187**	20.0	1	02/23/24	02/23/24	

QC Summary Data

Vertex Resource Services Inc.	Project Name:	24E-00245 Poseidon CTB	**Reported:**
3101 Boyd Drive	Project Number:	19031-0001	
Carlsbad NM, 88220	Project Manager:	Chance Dixon	2/26/2024 2:07:20PM

Volatile Organics by EPA 8021B

Analyst: EG

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2408078-BLK1)									Prepared: 02/23/24 Analyzed: 02/23/24
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	*6.96*		*8.00*		*87.0*	*70-130*			
LCS (2408078-BS1)									Prepared: 02/23/24 Analyzed: 02/23/24
Benzene	5.12	0.0250	5.00		102	70-130			
Ethylbenzene	5.12	0.0250	5.00		102	70-130			
Toluene	5.12	0.0250	5.00		102	70-130			
o-Xylene	5.01	0.0250	5.00		100	70-130			
p,m-Xylene	10.3	0.0500	10.0		103	70-130			
Total Xylenes	15.3	0.0250	15.0		102	70-130			
Surrogate: 4-Bromochlorobenzene-PID	*7.08*		*8.00*		*88.5*	*70-130*			
Matrix Spike (2408078-MS1)				**Source: E402208-03**					Prepared: 02/23/24 Analyzed: 02/23/24
Benzene	5.21	0.0250	5.00	ND	104	54-133			
Ethylbenzene	5.20	0.0250	5.00	ND	104	61-133			
Toluene	5.19	0.0250	5.00	ND	104	61-130			
o-Xylene	5.10	0.0250	5.00	ND	102	63-131			
p,m-Xylene	10.5	0.0500	10.0	ND	105	63-131			
Total Xylenes	15.6	0.0250	15.0	ND	104	63-131			
Surrogate: 4-Bromochlorobenzene-PID	*7.21*		*8.00*		*90.1*	*70-130*			
Matrix Spike Dup (2408078-MSD1)				**Source: E402208-03**					Prepared: 02/23/24 Analyzed: 02/23/24
Benzene	4.88	0.0250	5.00	ND	97.6	54-133	6.53	20	
Ethylbenzene	4.88	0.0250	5.00	ND	97.5	61-133	6.48	20	
Toluene	4.87	0.0250	5.00	ND	97.4	61-130	6.48	20	
o-Xylene	4.78	0.0250	5.00	ND	95.5	63-131	6.53	20	
p,m-Xylene	9.81	0.0500	10.0	ND	98.1	63-131	6.42	20	
Total Xylenes	14.6	0.0250	15.0	ND	97.3	63-131	6.45	20	
Surrogate: 4-Bromochlorobenzene-PID	*7.23*		*8.00*		*90.3*	*70-130*			

QC Summary Data

Vertex Resource Services Inc.	Project Name:	24E-00245 Poseidon CTB	**Reported:**
3101 Boyd Drive	Project Number:	19031-0001	
Carlsbad NM, 88220	Project Manager:	Chance Dixon	2/26/2024 2:07:20PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: EG

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2408078-BLK1)									Prepared: 02/23/24 Analyzed: 02/23/24
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.94*		*8.00*		*99.2*	*70-130*			
LCS (2408078-BS2)									Prepared: 02/23/24 Analyzed: 02/23/24
Gasoline Range Organics (C6-C10)	59.4	20.0	50.0		119	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*8.01*		*8.00*		*100*	*70-130*			
Matrix Spike (2408078-MS2)				**Source: E402208-03**					Prepared: 02/23/24 Analyzed: 02/23/24
Gasoline Range Organics (C6-C10)	55.7	20.0	50.0	ND	111	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.86*		*8.00*		*98.3*	*70-130*			
Matrix Spike Dup (2408078-MSD2)				**Source: E402208-03**					Prepared: 02/23/24 Analyzed: 02/23/24
Gasoline Range Organics (C6-C10)	54.9	20.0	50.0	ND	110	70-130	1.47	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.90*		*8.00*		*98.7*	*70-130*			

QC Summary Data

Vertex Resource Services Inc.	Project Name:	24E-00245 Poseidon CTB	**Reported:**
3101 Boyd Drive	Project Number:	19031-0001	
Carlsbad NM, 88220	Project Manager:	Chance Dixon	2/26/2024 2:07:20PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2408077-BLK1)									Prepared: 02/23/24 Analyzed: 02/23/24
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*59.1*		*50.0*		*118*	*50-200*			
LCS (2408077-BS1)									Prepared: 02/23/24 Analyzed: 02/23/24
Diesel Range Organics (C10-C28)	259	25.0	250		103	38-132			
Surrogate: n-Nonane	*61.6*		*50.0*		*123*	*50-200*			
Matrix Spike (2408077-MS1)				**Source: E402208-03**					Prepared: 02/23/24 Analyzed: 02/23/24
Diesel Range Organics (C10-C28)	252	25.0	250	ND	101	38-132			
Surrogate: n-Nonane	*63.4*		*50.0*		*127*	*50-200*			
Matrix Spike Dup (2408077-MSD1)				**Source: E402208-03**					Prepared: 02/23/24 Analyzed: 02/23/24
Diesel Range Organics (C10-C28)	291	25.0	250	ND	116	38-132	14.2	20	
Surrogate: n-Nonane	*61.2*		*50.0*		*122*	*50-200*			

QC Summary Data

Vertex Resource Services Inc.	Project Name:	24E-00245 Poseidon CTB	**Reported:**
3101 Boyd Drive	Project Number:	19031-0001	
Carlsbad NM, 88220	Project Manager:	Chance Dixon	2/26/2024 2:07:20PM

Anions by EPA 300.0/9056A

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2408082-BLK1)									Prepared: 02/23/24 Analyzed: 02/23/24
Chloride	ND	20.0							
LCS (2408082-BS1)									Prepared: 02/23/24 Analyzed: 02/23/24
Chloride	251	20.0	250		101	90-110			
Matrix Spike (2408082-MS1)				**Source: E402208-03**					Prepared: 02/23/24 Analyzed: 02/23/24
Chloride	597	20.0	250	346	100	80-120			
Matrix Spike Dup (2408082-MSD1)				**Source: E402208-03**					Prepared: 02/23/24 Analyzed: 02/23/24
Chloride	596	20.0	250	346	100	80-120	0.105	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Definitions and Notes

Vertex Resource Services Inc.	Project Name:	24E-00245 Poseidon CTB	
3101 Boyd Drive	Project Number:	19031-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Chance Dixon	02/26/24 14:07

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite
DNR	Did not react with the addition of acid or base.

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Client: Vertex
Project: 24E-00245 Poseidon CTB
Sampler: Wyatt Wadleigh
Phone: ~~[redacted]~~ 575-988-1472
Email(s): CDixon@Vertex.ca cc WWadleigh@Vertex.ca
Project Manager: Chance Dixon

RUSH? ☑ 1d ☐ 3d

Page ___ of ___

Lab Use Only	
Lab WO#	PE402207
Job Number	19031-0001

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0					Lab Number	Correct Cont/Prsrv (s) Y/N
WS24-01 .5 FT	02/21/24	13:15	So.1	4oz Jars	V	V	V	V						

Analysis and Method / lab Only

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	02/22/24	9:45	Michelle Gaylor	2-22-24	0945
Michelle Gaylor	2-22-24	1600	Andrew Muñoz	2.22.24	1730

Lab Use Only
**Received on Ice (Y) / N
T1____ T2____ T3____
AVG Temp °C 4

Sample Matrix: **S** - Soil, **Sd** - Solid, **Sg** - Sludge, **A** - Aqueous, **O** - Other S

Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Andrew Muñoz 2.22.24 2400 Keyleigh R Hall 0530 2-23-24

Notes/Billing info:

envirotech Analytical Laboratory
5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fx (505) 632-1865
Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301 Ph (970) 259-0615 Fx (800) 362-1879
envirotech-inc.com laboratory@envirotech-inc.com

Envirotech Analytical Laboratory

Printed: 2/23/2024 8:33:32AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Vertex Resource Services Inc.	Date Received:	02/23/24 05:30	Work Order ID:	E402207
Phone:	(575) 748-0176	Date Logged In:	02/22/24 18:03	Logged In By:	Alexa Michaels
Email:	cdixon@vertex.ca	Due Date:	02/23/24 17:00 (0 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: Courier
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes	

Comments/Resolution

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT?	Yes

Sample Cooler

7. Was a sample cooler received?	Yes
8. If yes, was cooler received in good condition?	Yes
9. Was the sample(s) received intact, i.e., not broken?	Yes
10. Were custody/security seals present?	No
11. If yes, were custody/security seals intact?	NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling	Yes
13. If no visible ice, record the temperature. Actual sample temperature: 4°C	

Sample Container

14. Are aqueous VOC samples present?	No
15. Are VOC samples collected in VOA Vials?	NA
16. Is the head space less than 6-8 mm (pea sized or less)?	NA
17. Was a trip blank (TB) included for VOC analyses?	NA
18. Are non-VOC samples collected in the correct containers?	Yes
19. Is the appropriate volume/weight or number of sample containers collected?	Yes

Field Label

20. Were field sample labels filled out with the minimum information:	
Sample ID?	Yes
Date/Time Collected?	Yes
Collectors name?	Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved?	No
22. Are sample(s) correctly preserved?	NA
24. Is lab filteration required and/or requested for dissolved metals?	No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase?	No
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date

envirotech Inc.

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1625 N. French Dr., Hobbs, NM 88240
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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 319831

QUESTIONS

Operator: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 319831
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2402250064**
Incident Name	**NAPP2402250064 POSEIDON CTB @ 0**
Incident Type	**Fire**
Incident Status	**Remediation Closure Report Received**
Incident Facility	**[fAPP2126032846] Poseidon CTB**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	Poseidon CTB
Date Release Discovered	01/22/2024
Surface Owner	State

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Fire | Other (Specify) | Crude Oil | Released: 9 BBL | Recovered: 0 BBL | Lost: 9 BBL.
Produced Water Released (bbls) Details	*Not answered.*
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Oil spill/fire from LP/MP flare. Root cause - Heater Treater for 201, 202, 205 East side LSH failed mechanically which caused oil to go into treater gas line. Oil traveled to MP/VRU knockout, LSH internal tuning fork failed which caused oil to travel into LP flare scrubber. LP flare scrubber level switch kicked on pump LSH activated and SI wells but also per C&E activated LP flare valve to open which caused surge of gas to extinguish fluid out of flare. Initial barrel amount has not been gathered. Report will be updated on C-141.

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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 (continued)

Operator: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 319831
	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:** **(2) an unauthorized release of a volume that:** **(a) results in a fire or is the result of a fire.**
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: Chance Dixon Title: Project Manager Email: cdixon@vertex.ca Date: 01/23/2024

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QUESTIONS (continued)

Operator: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 319831
	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)	Less than or equal 25 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between ½ and 1 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 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	Between 1 and 5 (mi.)
A wetland	Between 500 and 1000 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	362
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	418
GRO+DRO (EPA SW-846 Method 8015M)	255
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	01/29/2024
On what date will (or did) the final sampling or liner inspection occur	02/21/2024
On what date will (or was) the remediation complete(d)	02/21/2024
What is the estimated surface area (in square feet) that will be reclaimed	2935
What is the estimated volume (in cubic yards) that will be reclaimed	55
What is the estimated surface area (in square feet) that will be remediated	2935
What is the estimated volume (in cubic yards) that will be remediated	55
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: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 319831
	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	Poseidon CTB [fAPP2126032846]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Chance Dixon Title: Project Manager Email: cdixon@vertex.ca Date: 03/04/2024
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: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 319831
	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)

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QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**315371**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**02/21/2024**
What was the (estimated) number of samples that were to be gathered	**1**
What was the sampling surface area in square feet	**200**

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	2935
What was the total volume (cubic yards) remediated	55
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	2935
What was the total volume (in cubic yards) reclaimed	55
Summarize any additional remediation activities not included by answers (above)	Remediation activities took place within the lease boundary on a pad currently used for oil and gas production activities. Site has been backfilled with uncontaminated, non-waste-containing material.

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: Chance Dixon Title: Project Manager Email: cdixon@vertex.ca Date: 03/04/2024

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QUESTIONS (continued)

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	Action Number: 319831
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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CONDITIONS

Action 319831

CONDITIONS

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CONDITIONS

Created By	Condition	Condition Date
nvelez	None	4/24/2024