Incident Number: nAPP2312834075

Release Assessment and Closure

Shudde 27 CTB

Section 18, Township 19 South, Range 26 East

Facility ID: fAPP2305374956

County: Eddy

Vertex File Number: 23E-04895

Prepared for:
Silverback Exploration

Prepared by:
Vertex Resource Services Inc.

Date:
July 2024

Release Assessment and Closure
Shudde 27 CTB
Section 26, Township 18 South, Range 26 East
Facility ID: fAPP2305374956
County: Eddy

Prepared for:
Silverback Exploration
108 South 4th Street
Artesia, New Mexico 88210

New Mexico Oil Conservation Division – District 2 – Artesia
811 South 1st Street
Artesia, New Mexico 88210

Prepared by:
Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad, New Mexico 88220

Fernando Rodriguez, B.Sc.
ENVIRONMENTAL TECHNICIAN, REPORTING

July 16, 2024
Date

Michael Moffitt, B.Sc.
PROJECT MANAGER, REPORT REVIEW

July 16, 2024
Date

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1.0 Introduction

Silverback Exploration (Silverback) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a crude oil spill that occurred on April 30, 2023, at Shudde 27 CTB Facility ID: fAPP2305374956 (hereafter referred to as the "site"). Silverback submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 2 on May 8, 2023. Incident ID number nAPP2312834075 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 April 30, 2023, due to a failure in the generator which cut off supply air to the dump valves on the separator and caused oil to go to the flare. This resulted in a fire that burned off residual fluids and burned areas around the flare system. Immediate notice was given on April 30, 2023, and the volumes of the release were estimated to be <1 barrel (bbl.) of crude oil. No free fluids were recovered but impacted soils were scraped off during the initial clean-up. Additional details relevant to the release are presented in the C-141 Report. Daily Field Report (DFR) with site photographs are included in Appendix C.

3.0 Site Characteristics

The site is located approximately 8.47 miles south/southeast of Artesia, New Mexico (Google Inc., 2023). The legal location for the site is Section 26, Township 18 South and Range 26 East in Eddy County, New Mexico. The spill area is located on private property. An aerial photograph and site schematic are presented on Figure 1.

The location is typical of oil and gas exploration and production sites in the Permian Basin and is currently used for oil and gas production and storage. The following sections specifically describe the release area surrounding the central tank battery on the constructed pad.

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2023) indicates the site's surface geology primarily comprises Qp – Piedmont alluvial deposits (Holocene to lower Pleistocene) which include uplands landforms, mainly on hill slopes, ridges, plains, terraces and some fan remnants. The predominant soil texture on the site is loam. Soil can be classified as well-drained with a moderate runoff class. There is medium potential for karst geology at the site (United States Department of the Interior, Bureau of Land Management, 2018).

The surrounding landscape is associated with uplands landforms, mainly on hill slopes, ridges, plains, terraces and some fan remnants with elevations ranging between 2,842 and 5,000 feet. The climate is semiarid with average annual

precipitation ranging between 8 and 25 inches. Using information from the United States Department of Agriculture, the dominant vegetation was determined to be alkali sacaton and other mixed shrubs. Grasses with shrubs and half-shrubs dominate the historic plant community (United States Department of Agriculture, Natural Resources Conservation Service, 2023). Limited to no vegetation is allowed to grow on the compacted production pad and access road.

4.0 Closure Criteria Determination

The nearest active well to the site is a New Mexico Office of the State Engineer (NMOSE) monitoring well located approximately 0.24 miles southwest of the site (New Mexico Office of the State Engineer, 2023b). Data from 2023 shows the NMOSE borehole had a recorded groundwater depth of 75ft in 2004. 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 the Pecos River located approximately 3 miles east 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 Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater (nearest reference)	**75**	feet
	Distance between release and nearest DTGW reference	**1,292**	feet
		0.24	miles
	Date of nearest DTGW reference measurement	**April 20, 2004**	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	15,802	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	16,917	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	1,493	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**	1,292	feet
	ii) Within 1000 feet of any fresh water well or spring	1,292	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	17,923	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	**22,321**	feet
9	Within an unstable area (Karst Map)	Medium	Critical High Medium Low
	Distance between release and nearest unstable area	**15,746**	feet
10	Within a 100-year Floodplain	500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	**5,843**	feet
11	Soil Type	PE: Pima silt loam	
12	Ecological Classification	R070BC017NM - Bottomland	
13	Geology	Qp- Piedmont alluvial deposits	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	51-100'	<50' 51-100' >100'

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

Table 2. Closure Criteria for Soils 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
51 feet - 100 feet	Chloride	10,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

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

5.0 Remedial Actions Taken

An initial site inspection of the release area began on September 21, 2023, which identified the area of the release specified in the initial C-141 Report and assessed the contaminant concentrations throughout the flare area. Vertical and horizontal delineation was completed on September 21, 2023. Field screening consisted of analysis using a Photo Ionization Detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons), and Silver Nitrate titration (chlorides). A total of 5 sample points were established in the release area. From these points, 10 samples were collected and submitted to Hall Environmental Analysis Laboratory for laboratory analysis. The main impacted area was determined to be approximately 26 feet long and 28 feet wide; the total affected area was 522 square feet. Field screen and laboratory analysis results are presented in Table 3. The DFR associated with the site inspection is included in Appendix C.

Since laboratory analysis of samples showed to be under applicable criteria, further remediation efforts were not deemed necessary. Exceedances in impacted soils were removed during the initial scrape of the flare area. During this initial scrape, contaminants were scraped off the surface and it was determined that backfill wasn't necessary. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. The final DFR with photographs of the remediated site is included in Appendix C.

Notification that confirmatory samples were being collected was provided to the NMOCD on October 31, 2023 and is included in Appendix D. Confirmatory composite samples were collected from the surface of the initial scrape in 200 square foot increments. A total of five 5pt composite samples, were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Hall Environmental Analysis Laboratory 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 remedial actions at the site. Laboratory analyses of confirmation samples collected at the site show final analysis values below NMOCD closure criteria for areas where depth to groundwater is between 51-100 feet bgs and meet the reclamation requirements of 19.15.29.13 NMAC. There are no anticipated risks to human, ecological, or hydrological receptors at this site.

Vertex requests that this incident (nAPP2312834075) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. Silverback certifies that all information in this report and the attachments are correct and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the site.

Should you have any questions or concerns, please do not hesitate to contact Fernando Rodriguez at 575.361.4509 or frodriguez@vertex.ca.

7.0 References

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8.0 Limitations

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

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

FIGURES

Point of Release

Approximate Release Area (~522sq.ft.)

Borehole (Prefixed by "BH23-")

N

VERTEX

0 5 10 20 25 ft.

NAD 1983 UTM Zone 13N

Date: Jul 11/24

Map Center:
Lat/Long
32.723181,
-104.360519

Characterization Sampling Site Schematic
Shudde 27 CTB

FIGURE:
1

SILVERBACK EXPLORATION

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 Google, 2024. Site features from GPS, Vertex Professional Services Ltd., 2024.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Silverback Exploration\23E-04895\Figure 1 Shudde 27 CTB Characterization Sampling Site Schematic (23E-04895).mxd

Surface Scrape and Confirmation Sampling Area (~ 485 sq. ft.)

Confirmation Sampling Location (Prefixed by "SS23-")

VERTEX

0 5 10 20 25 ft.

NAD 1983 UTM Zone 13N
Date: Jul 11/24

Map Center:
Lat/Long
32.723181,
-104.360519

Confirmation Sampling Site Schematic
Shudde 27 CTB

FIGURE:
2

SILVERBACK EXPLORATION

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 Google, 2024. Site features from GPS, Vertex Professional Services Ltd., 2024.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Silverback Exploration\23E-04895\Figure 2 Shudde 27 CTB Confirmation Sampling Site Schematic (23E-04895).mxd

TABLES

Client Name: Silverback Exploration
Site Name: Shudde 27 CTB
NMOCD Tracking #: nAPP2312834075
Project #: 23E-04895
Lab Report(sX): 2309D00, 2311280

Table 3. Initial Characterization/Confirmatory Field Screen and Laboratory Results

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)
			Depth to Groundwater 51-100 feet bgs										
Initial Characterization													
BH23-01	0ft	9/21/2023	ND	32	340	ND	ND	ND	ND	ND	ND	ND	ND
BH23-01	2ft	9/21/2023	ND	38	363	ND	ND	ND	ND	ND	ND	ND	ND
BH23-02	0ft	9/21/2023	ND	25	373	ND	ND	ND	ND	ND	ND	ND	ND
BH23-02	2ft	9/21/2023	ND	24	380	ND	ND	ND	ND	ND	ND	ND	ND
BH23-03	0ft	9/21/2023	ND	40	275	ND	ND	ND	ND	ND	ND	ND	ND
BH23-03	2ft	9/21/2023	ND	43	298	ND	ND	ND	ND	ND	ND	ND	ND
BH23-04	0ft	9/21/2023	ND	45	393	ND	ND	ND	ND	ND	ND	ND	ND
BH23-04	2ft	9/21/2023	ND	49	388	ND	ND	ND	ND	ND	ND	ND	ND
BH23-05	0ft	9/21/2023	ND	198	330	ND	ND	ND	10	ND	10	10	130
BH23-05	2ft	9/21/2023	ND	48	378	ND	ND	ND	ND	ND	ND	ND	ND
Confirmatory Sampling													
SS23-01	0ft	11/03/23	ND	54	467	ND	ND	ND	ND	ND	ND	ND	ND
SS23-02	0ft	11/03/23	ND	58	483	ND	ND	ND	ND	ND	ND	ND	ND
SS23-03	0ft	11/03/23	ND	60	508	ND	ND	ND	ND	ND	ND	ND	ND
SS23-04	0ft	11/03/23	ND	45	493	ND	ND	ND	ND	ND	ND	ND	ND
SS23-05	0ft	11/03/23	ND	51	392	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)

VERTEX

APPENDIX A - NMOCD C-141 Report

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

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.
☐ The impacted area has been secured to protect human health and the environment.
☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

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

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.

Printed Name: _____ Title: _____

Signature: Mark Ritchie Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

APPENDIX B – Closure Criteria Research Documentation

Closure Criteria Determination			
Site Name: Shudde 27 CTB			
Spill Coordinates: 32.723030, -104.360338		**X: 559941**	**Y: 3620764**
Table 1. Closure Criteria Determination			
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater (nearest reference)	**75**	feet
	Distance between release and nearest DTGW reference	**1,292**	feet
		0.24	miles
	Date of nearest DTGW reference measurement	**April 20, 2004**	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	15,802	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	16,917	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	1,493	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**	1,292	feet
	ii) Within 1000 feet of any fresh water well or spring	1,292	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	17,923	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	**22,321**	feet
9	Within an unstable area (Karst Map)	Medium	Critical High Medium Low
	Distance between release and nearest unstable area	**15,746**	feet
10	Within a 100-year Floodplain	500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	**5,843**	feet
11	Soil Type	PE: Pima silt loam	
12	Ecological Classification	R070BC017NM - Bottomland	
13	Geology	Qp- Piedmont alluvial deposits	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	51-100'	<50' 51-100' >100'

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

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

(NAD83 UTM in meters)

(In feet)

POD Number		POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 10490		RA	ED		4	2	27	18S	26E	559659	3620486*	395	200	75	125
RA 11890 POD1		RA	ED	1	1	4	28	18S	26E	559161	3620210	956	175	85	90
RA 01881		RA	ED		3	3	26	18S	26E	560060	3619681*	1089	2450		
RA 03055		RA	ED	1	2	1	27	18S	26E	558757	3620986*	1204	146	85	61
RA 01296		RA	ED	3	3	1	23	18S	26E	559954	3622001*	1237	180	80	100
RA 01144 -S		RA	CH		3	1	23	18S	26E	560055	3622102*	1342	809		
RA 04003		RA	ED	3	3	4	27	18S	26E	559161	3619578*	1419	100		
RA 09437		RA	ED	3	3	4	27	18S	26E	559161	3619578*	1419	120	60	60
RA 07242 EXP		RA	ED		3	4	26	18S	26E	560863	3619682*	1421	102	55	47
RA 07243 EXP		RA	ED		3	4	26	18S	26E	560863	3619682*	1421	110	50	60
RA 07219		RA	ED			4	26	18S	26E	561064	3619883*	1427	110	50	60
RA 01296 CLW229885	O	RA	ED	1	3	1	23	18S	26E	559954	3622201*	1437	180	70	110
RA 04018		RA	CH	3	3	4	26	18S	26E	560762	3619581*	1439	250		
RA 04022		RA	CH		2	1	35	18S	26E	560465	3619281*	1572	520		
RA 09874		RA	ED		2	1	35	18S	26E	560465	3619281*	1572	150		
RA 04701		RA	ED		3	3	22	18S	26E	558456	3621290*	1575	80	55	25
RA 03598		RA	ED	1	3	2	22	18S	26E	559154	3622198*	1635	1815		
RA 06979		RA	ED		1	1	25	18S	26E	561660	3620896*	1724	100		
RA 11506 POD1		RA	ED	1	3	3	22	18S	26E	558290	3621345	1750	160	78	82
RA 11952 POD1		RA	ED	4	2	2	28	18S	26E	558153	3620727	1787	170	90	80
RA 03771		RA	ED	3	1	3	22	18S	26E	558354	3621592*	1790	110	75	35
RA 09374		RA	ED	2	1	1	25	18S	26E	561759	3620995*	1832	101		
RA 02627		RA	ED	1	2	2	35	18S	26E	561169	3619382*	1848	75	40	35
RA 12961 POD1		RA	ED	4	3	3	27	18S	26E	558578	3619477	1874	215	180	35
RA 07408		RA	ED	2	4	4	21	18S	26E	558152	3621389*	1895	155	85	70
RA 11784 POD1		RA	ED	1	2	2	22	18S	26E	559480	3622632	1924	154	98	56

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

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	RA 10490	4	2		27	18S	26E	559659	3620486*

Driller License:	1229	**Driller Company:**	CARTER'S WELL DRILLING		
Driller Name:	CARTER, RICHARD M.				
Drill Start Date:	03/18/2004	**Drill Finish Date:**	04/20/2004	**Plug Date:**	
Log File Date:	06/01/2004	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:	SUBMER	**Pipe Discharge Size:**		**Estimated Yield:**	5 GPM
Casing Size:	4.50	**Depth Well:**	200 feet	**Depth Water:**	75 feet

Water Bearing Stratifications:	Top	Bottom	Description
	100	110	Other/Unknown
	185	190	Other/Unknown

Casing Perforations:	Top	Bottom
	100	200

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

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well SARAH Joiner / Eric Kilmer Owner's Well No. 1

Street or Post Office Address 201 E Daton Rd.

City and State ARTESIA N. MEX 88210

Well was drilled under Permit No. RA 10490 and is located in the:

a. ___ ¼ ___ ¼ SE ¼ NE ¼ of Section 27 Township 18S Range 26E N.M.P.M.

b. Tract No. ___ of Map No. ___ of the ___

c. Lot No. ___ of Block No. ___ of the ___
Subdivision, recorded in Eddy County.

d. X= ___ feet, Y= ___ feet, N.M. Coordinate System ___ Zone in the ___ Grant.

(B) Drilling Contractor ___ License No. 1227

Address ___

Drilling Began 3/18/04 Completed 4/20/04 Type tools Mud Rotary Size of hole 8 3/4 in.

Elevation of land surface or ___ at well is ___ ft. Total depth of well 200 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 75' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
100	110	10	Blue Shale	10
185	190	5	Blue SHALE	5

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4 1/2	Sch 40	PVC	3	200	197	—	100	200

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor ___

Address ___

Plugging Method ___

Date Well Plugged ___

Plugging approved by:

___
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

Date Received 6-1-04 FOR USE OF STATE ENGINEER ONLY 291173

Quad ___ FWL ___ FSL ___

File No. RA-10490 Use Com Location No. 18.26.27.24

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	8	8	~~Caliche~~ Red dirt
8	14	6	Caliche
14	50	36	Red Clay
50	70	20	Red Sand
70	100	30	Gray Clay
100	110	10	Blue Shale
110	185	75	[redacted] Gray Clay
185	190	5	Blue Shale
190	200		Gray Clay

Section 7. REMARKS AND ADDITIONAL INFORMATION

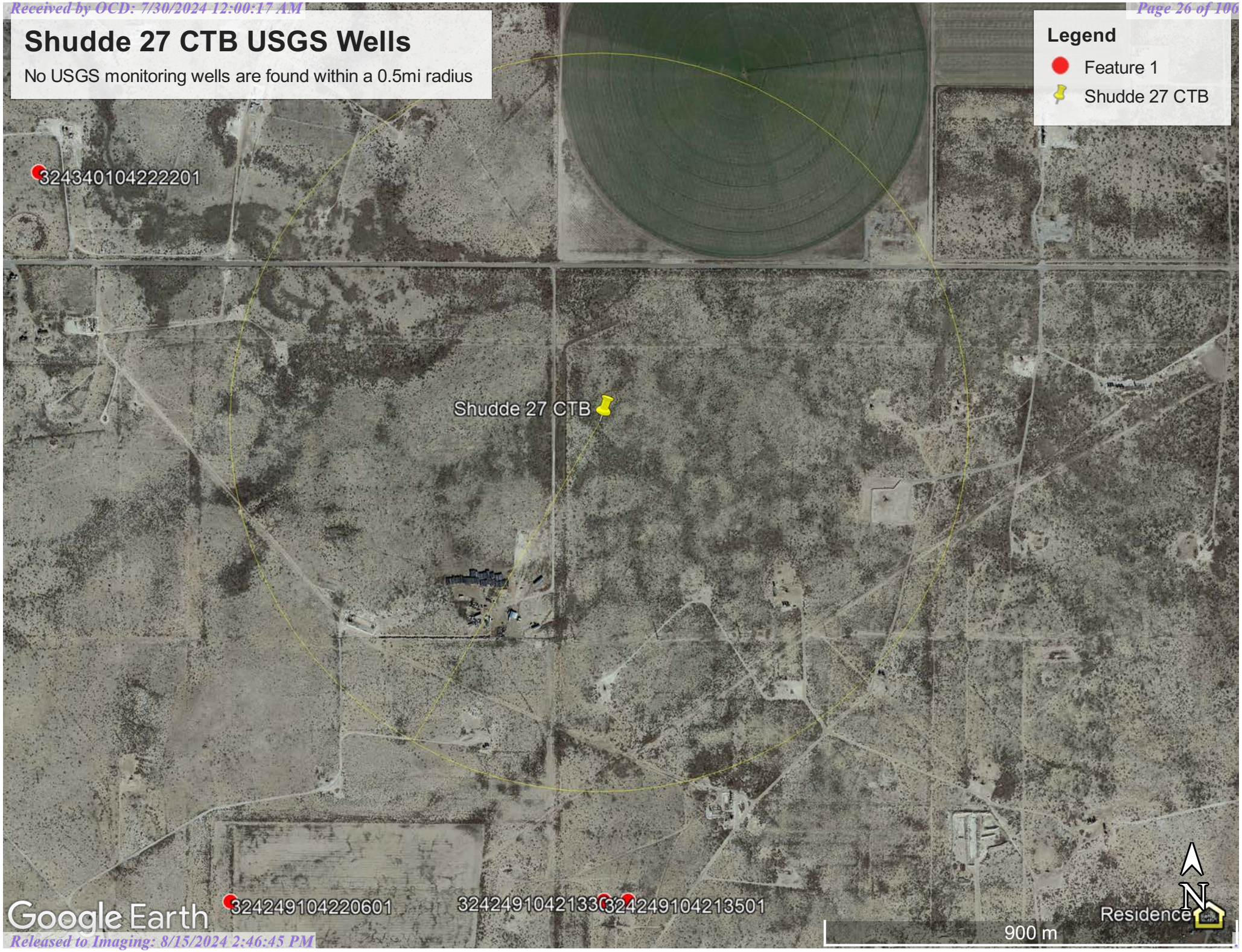
The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Richard Carter
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

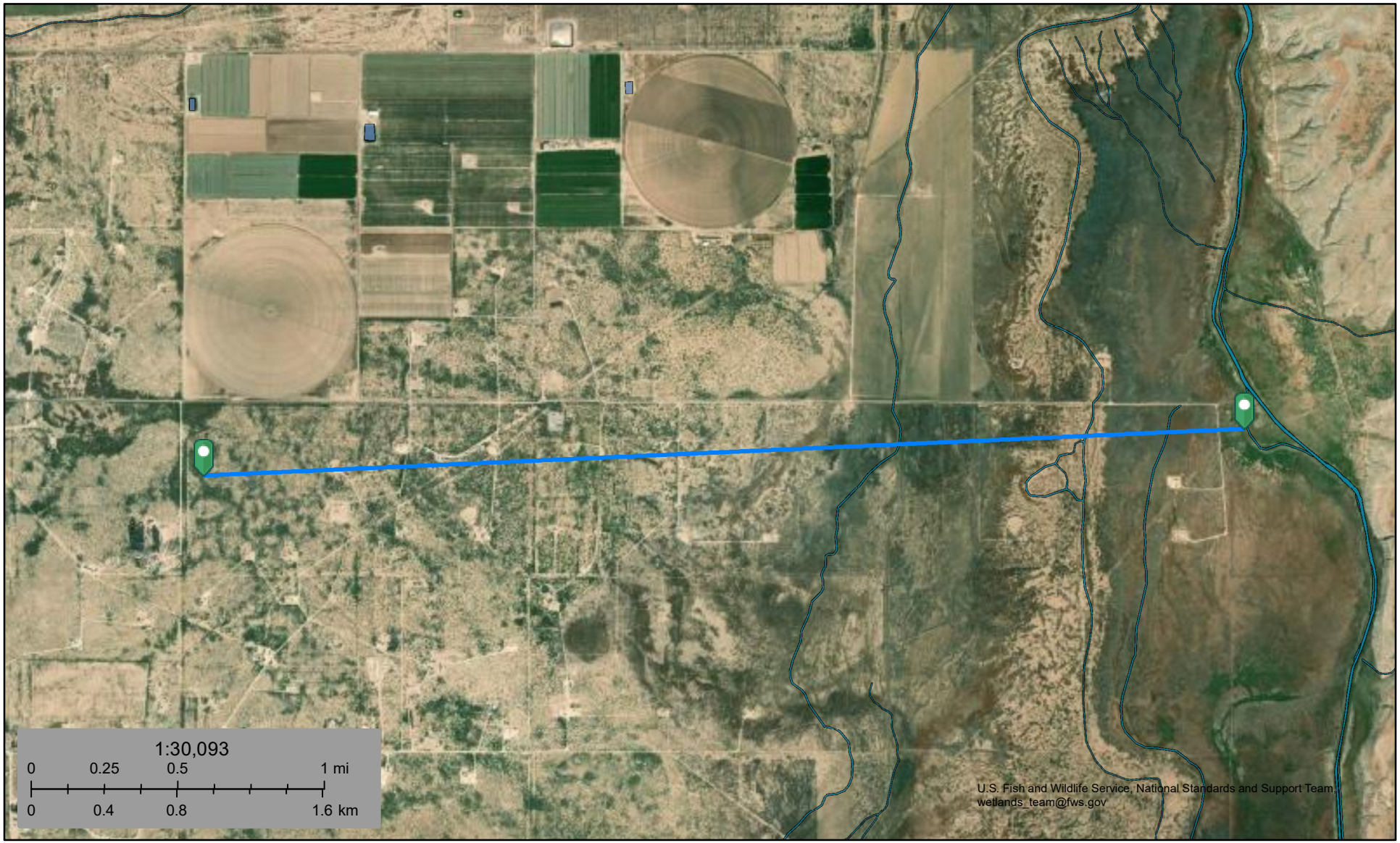
Shudde 27 CTB USGS Wells

No USGS monitoring wells are found within a 0.5mi radius



U.S. Fish and Wildlife Service
National Wetlands Inventory

Shudde 27 CTB Watercourse



September 20, 2023

Wetlands

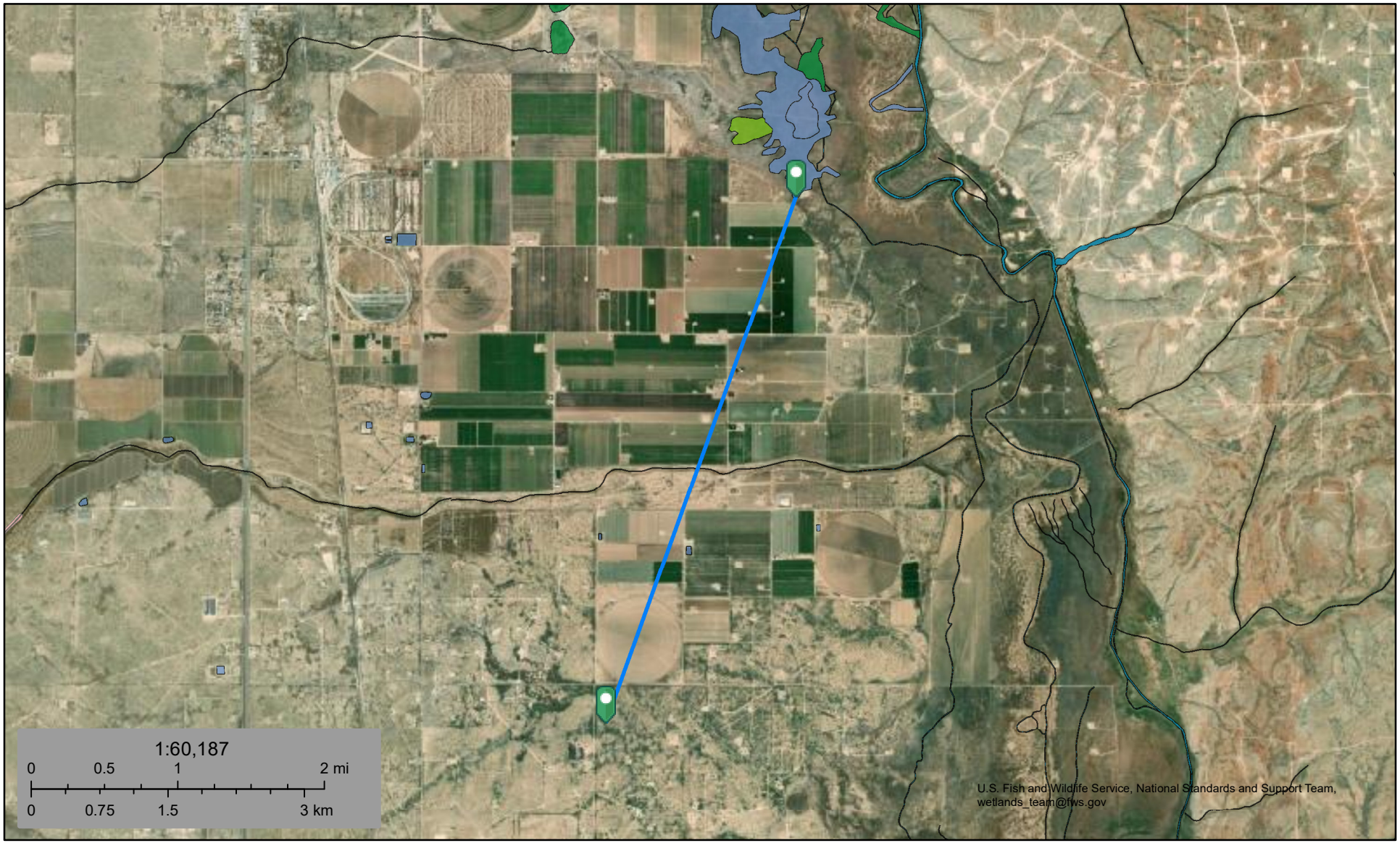
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Shudde 27 CTB Lake



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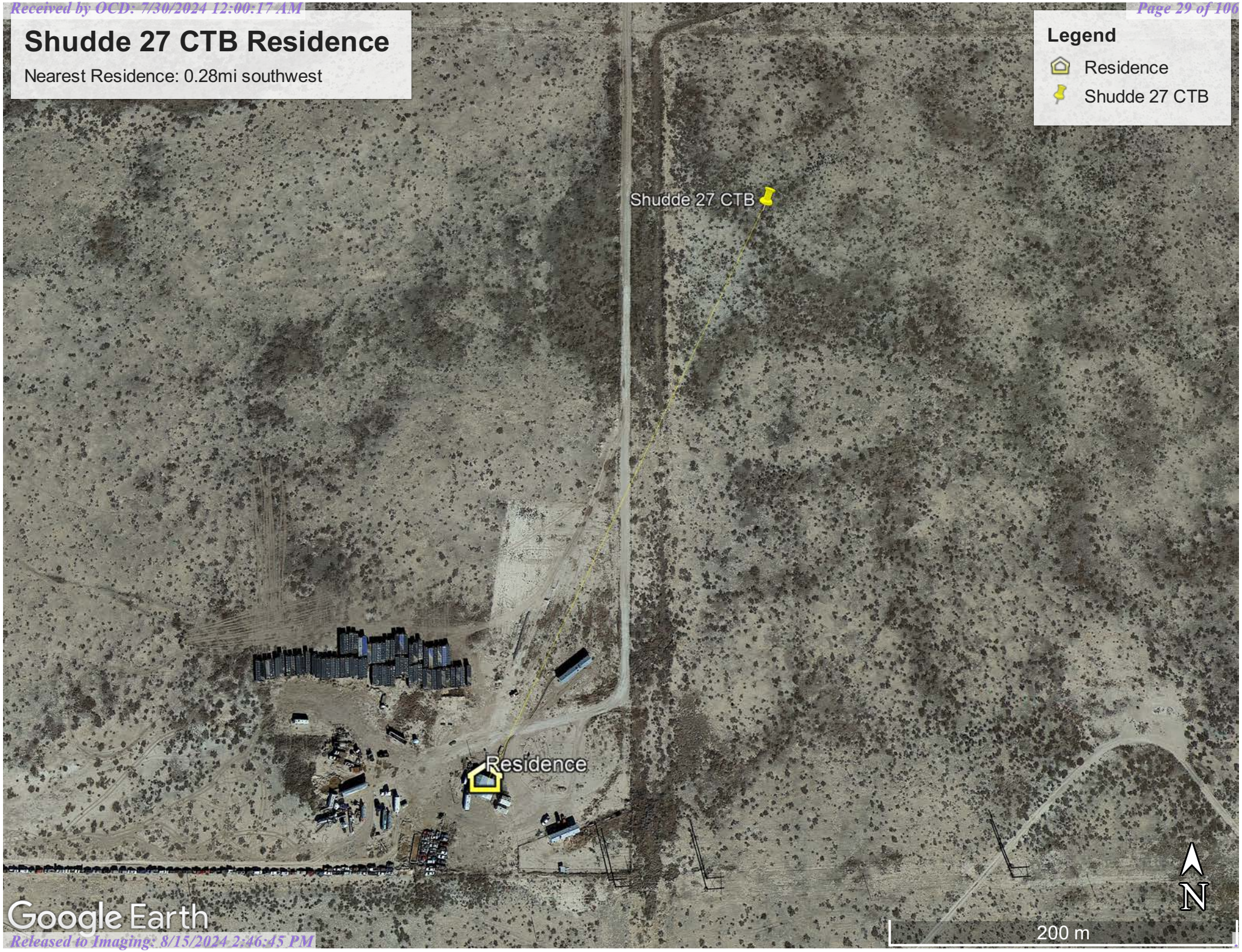
This page was produced by the NWI mapper

Shudde 27 CTB Residence

Nearest Residence: 0.28mi southwest



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

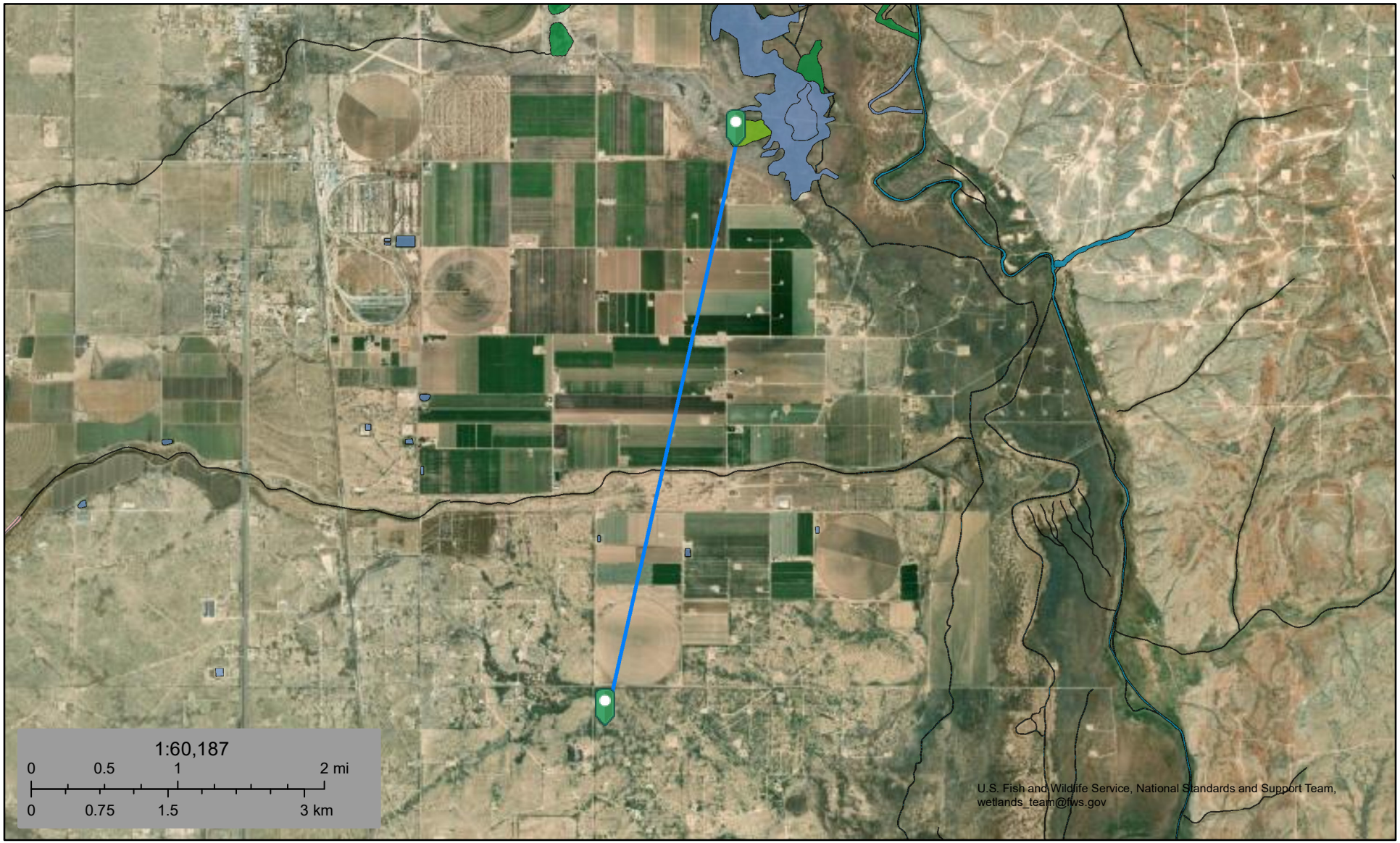
(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q q q 6416 4	Sec	Tws	Rng	X	Y	Distance
RA 06423	RA	DOM	0	TODD TIDWELL	CH	RA 06423					4 2	27	18S	26E	559659	3620486*	395
RA 10490	RA	DOM	3	SARAH JOINER	ED	RA 10490				Shallow	4 2	27	18S	26E	559659	3620486*	395
RA 13152	RA	MON	0	SILVERBACK NEW MEXICO LLC	ED	RA 13152 POD4	NA				2 3 2	27	18S	26E	559442	3620644	512
					ED	RA 13152 POD5					4 3 2	27	18S	26E	559385	3620459	633
					ED	RA 13152 POD6					4 3 2	27	18S	26E	559437	3620374	636
					ED	RA 13152 POD1					2 3 2	27	18S	26E	559335	3620543	644
					ED	RA 13152 POD3					2 3 2	27	18S	26E	559294	3620616	663
RA 01210	RA	IRR	673.75	ROGERS INC A NM CORPORATION	ED	RA 01210				Shallow	2 3 3	23	18S	26E	560156	3621392*	663
RA 13152	RA	MON	0	SILVERBACK NEW MEXICO LLC	ED	RA 13152 POD7	NA				3 3 2	27	18S	26E	559236	3620444	773
					ED	RA 13152 POD2					1 3 2	27	18S	26E	559150	3620652	798
RA 11890	RA	DOL	3	GUILLERMO CAMACHO	ED	RA 11890 POD1				Shallow	1 1 4	28	18S	26E	559160	3620210	956
RA 11902	RA	MON	0	YATES PETROLEUM	ED	RA 11902 POD1					1 3 4	22	18S	26E	559183	3621391	983
					ED	RA 11902 POD2					1 3 4	22	18S	26E	559183	3621391	983
RA 00297	RA	IRR	1188.25	CHARLES MARTIN, INC.	ED	RA 01296 S				Shallow	1 1 3	23	18S	26E	559955	3621797*	1033
RA 01296	RA	IRR	1067.15	CHARLES MARTIN INC.	ED	RA 01296 S				Shallow	1 1 3	23	18S	26E	559955	3621797*	1033
RA 01881	RA	PRO	0	BASSETT & BIRNEY ET AL	ED	RA 01881					3 3	26	18S	26E	560060	3619681*	1089
RA 03055	RA	DOM	3	MARK FANNING	ED	RA 03055				Shallow	1 2 1	27	18S	26E	558757	3620986*	1204
RA 13337	RA	MON	0	SILVERBACK OPERATING II LLC	ED	RA 13337 POD1	NA				3 2 1	27	18S	26E	558734	3620771	1206

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Shudde 27 CTB Wetland



September 20, 2023

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

Shudde 27 CTB Mine

9/20/2023, 3:45:10 PM

1:2,257

0 0.01 0.03 0.06 mi

0 0.03 0.05 0.1 km

Land Ownership

P

PLSS Second Division

PLSS First Division

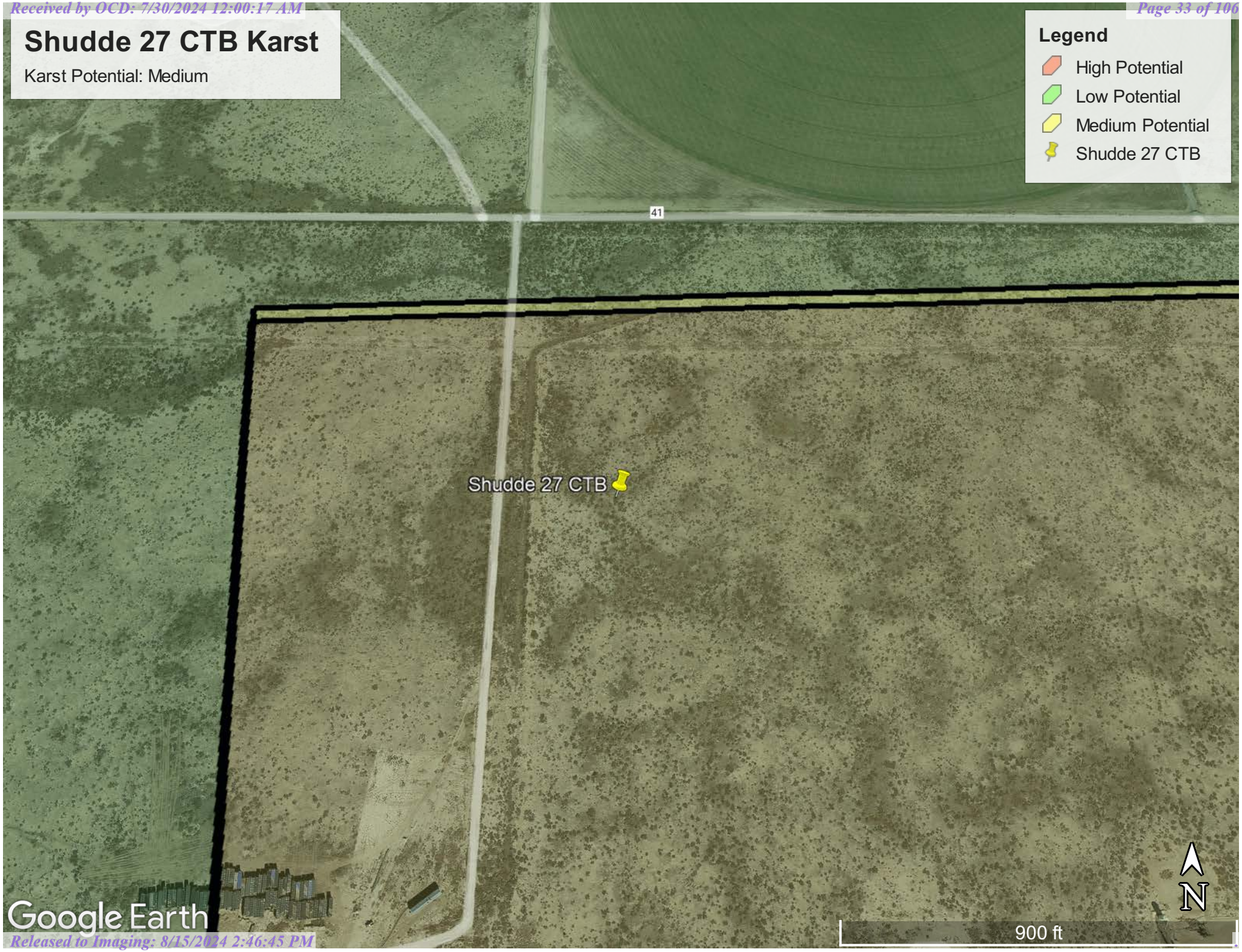
U.S. BLM, Maxar, Microsoft, Esri, HERE, Garmin, iPC, BLM

EMNRD MMD GIS Coordinator

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

Shudde 27 CTB Karst

Karst Potential: Medium



National Flood Hazard Layer FIRMette

FEMA

104°21'56"W 32°43'38"N

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

1:6,000

104°21'18"W 32°43'8"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

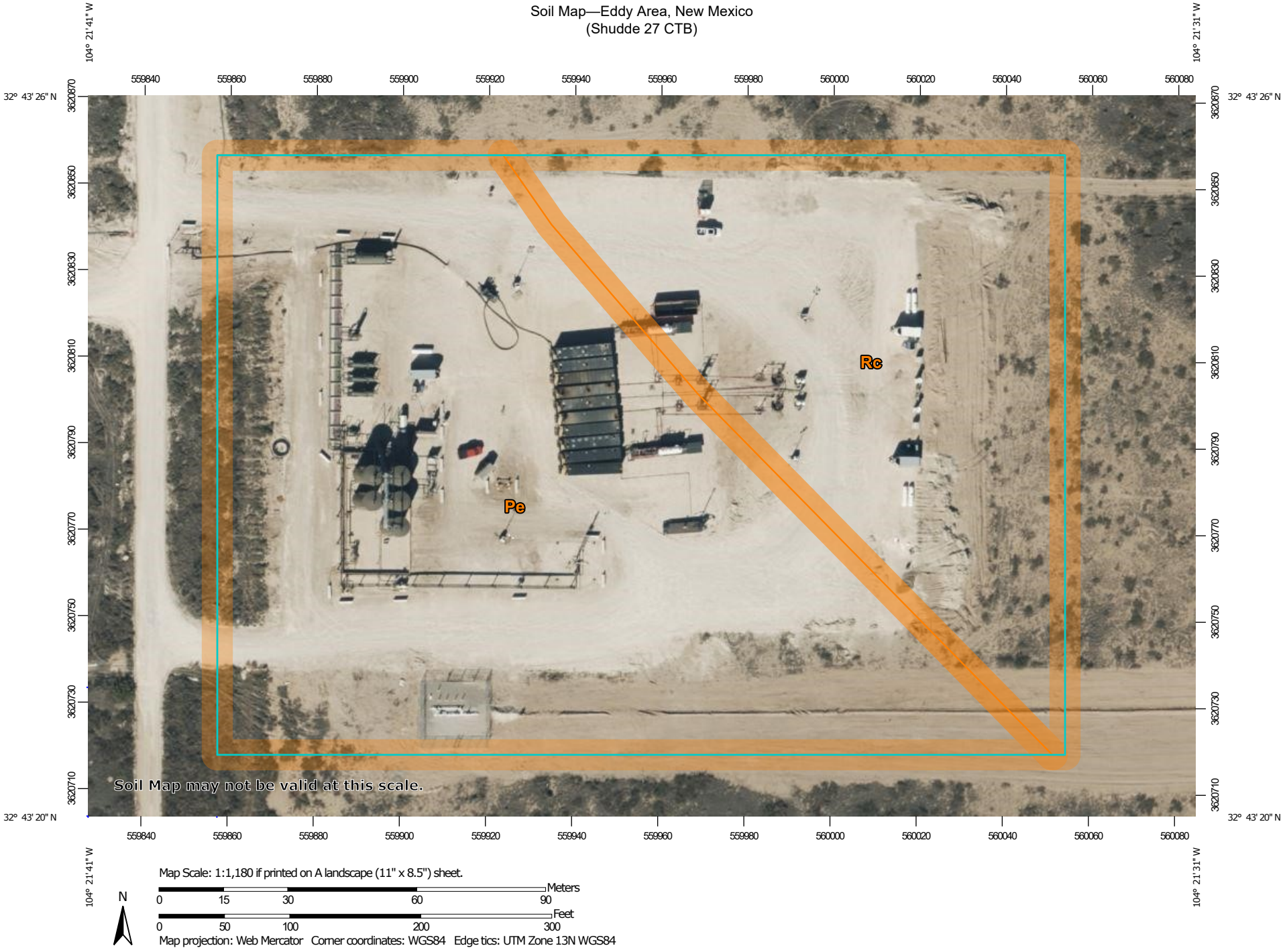
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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 9/20/2023 at 5:55 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.

Soil Map—Eddy Area, New Mexico
(Shudde 27 CTB)



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
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Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 18, Sep 8, 2022

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

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

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Pe	Pima silt loam, 0 to 1 percent slopes	4.4	64.5%
Rc	Reagan loam, 0 to 1 percent slopes	2.4	35.5%
Totals for Area of Interest		**6.8**	**100.0%**

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Eddy Area, New Mexico

September 20, 2023

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.

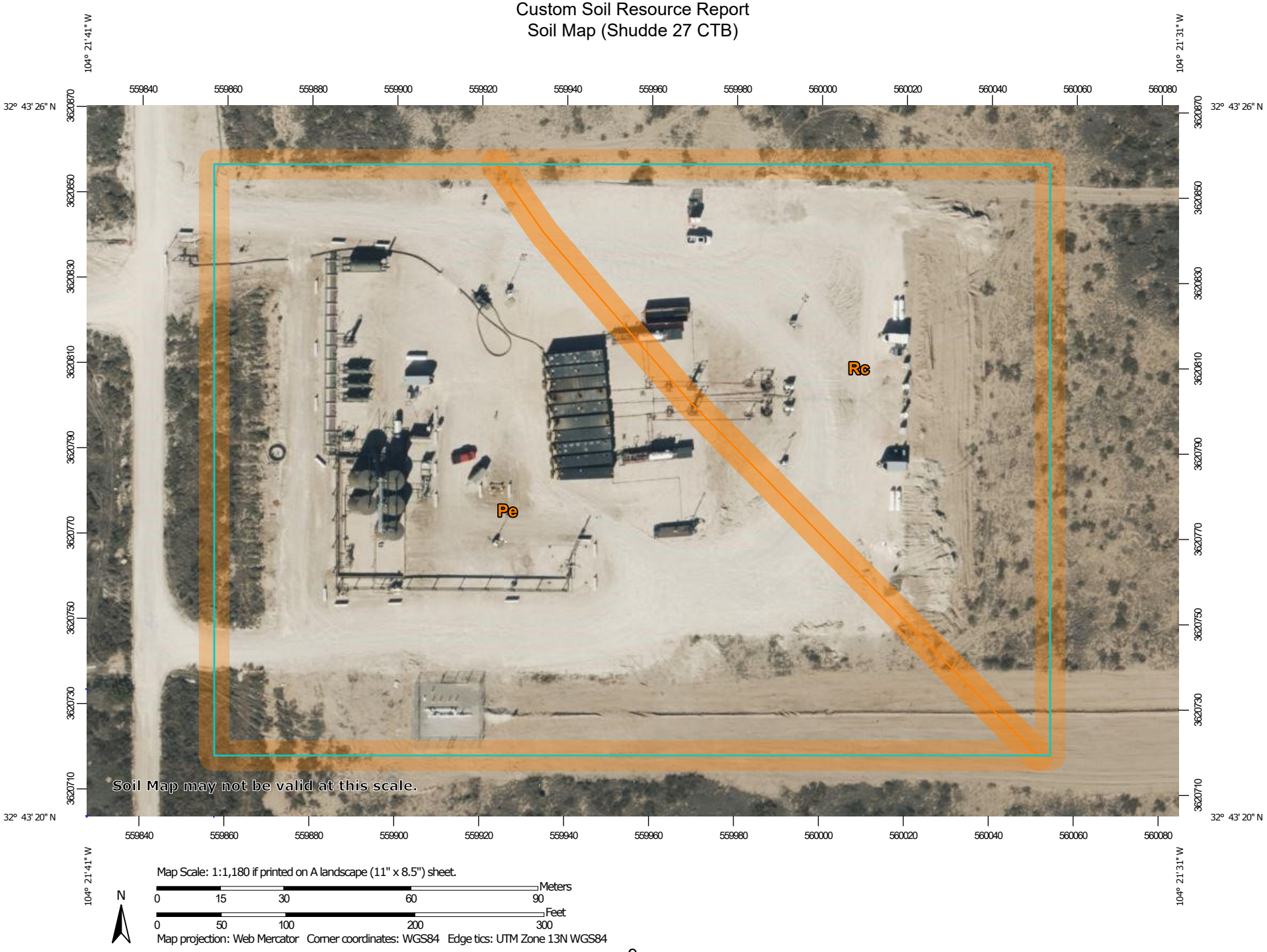
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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 (Shudde 27 CTB)



MAP LEGEND

Area of Interest (AOI)

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

Special Point Features

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- Landfill
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- Major Roads
- Local Roads

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- Aerial Photography

MAP INFORMATION

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 18, Sep 8, 2022

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

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

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

Map Unit Legend (Shudde 27 CTB)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Pe	Pima silt loam, 0 to 1 percent slopes	4.4	64.5%
Rc	Reagan loam, 0 to 1 percent slopes	2.4	35.5%
Totals for Area of Interest		**6.8**	**100.0%**

Map Unit Descriptions (Shudde 27 CTB)

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

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

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

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

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

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

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

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

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

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

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

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

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

Eddy Area, New Mexico

Pe—Pima silt loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 1w58
Elevation: 600 to 4,200 feet
Mean annual precipitation: 8 to 25 inches
Mean annual air temperature: 60 to 70 degrees F
Frost-free period: 195 to 290 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Pima

Setting

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

Typical profile

H1 - 0 to 3 inches: silt loam
H2 - 3 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: RareNone
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: High (about 11.9 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: C
Ecological site: R070BC017NM - Bottomland
Hydric soil rating: No

Minor Components

Reagan

Percent of map unit: 1 percent

Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Dev

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

Rc—Reagan loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 1w5l
Elevation: 1,100 to 5,300 feet
Mean annual precipitation: 7 to 15 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Reagan and similar soils: 97 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reagan

Setting

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

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 82 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

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

Minor Components

Reagan

Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Upton

Percent of map unit: 1 percent
Ecological site: R070BC025NM - Shallow
Hydric soil rating: No

Reeves

Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

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All Ecological Sites -- —Eddy Area, New Mexico
(Shudde 27 CTB)

All Ecological Sites -- —Eddy Area, New Mexico
(Shudde 27 CTB)

MAP LEGEND

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

Soils

Soil Rating Polygons
- R070BC007NM
- R070BC017NM
- Not rated or not available

Soil Rating Lines
- R070BC007NM
- R070BC017NM
- Not rated or not available

Soil Rating Points
- R070BC007NM
- R070BC017NM
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 18, Sep 8, 2022

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

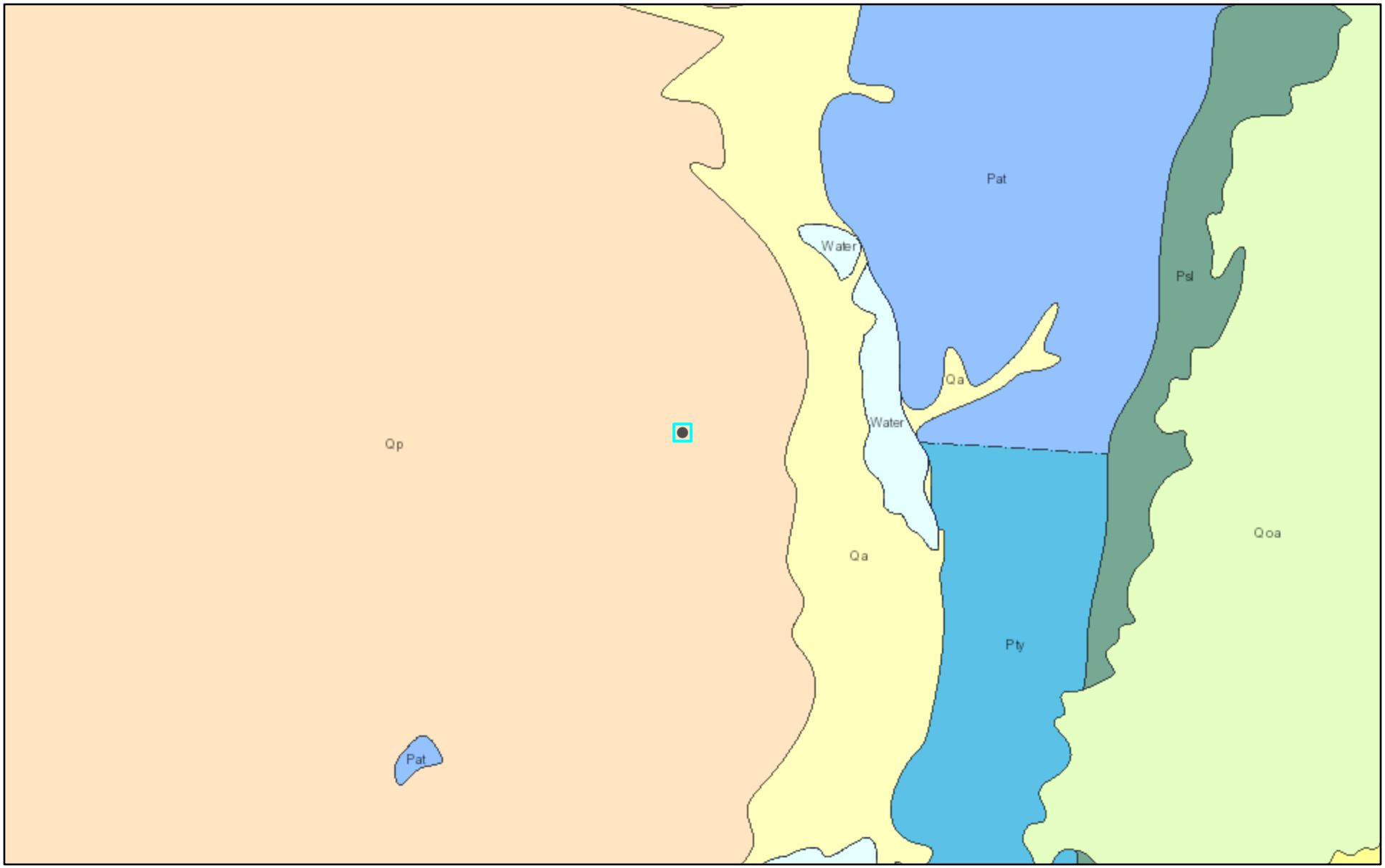
Date(s) aerial images were photographed: Nov 12, 2022—Dec 2, 2022

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

All Ecological Sites —

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
Pe	Pima silt loam, 0 to 1 percent slopes	Pima (98%)	R070BC017NM — Bottomland	4.4	64.5%
		Dev (1%)	R070BC017NM — Bottomland		
		Reagan (1%)	R070BC007NM — Loamy		
Rc	Reagan loam, 0 to 1 percent slopes	Reagan (97%)	R070BC007NM — Loamy	2.4	35.5%
		Reagan (1%)	R070BC007NM — Loamy		
		Reeves (1%)	R070BC007NM — Loamy		
		Upton (1%)	R070BC025NM — Shallow		
Totals for Area of Interest				**6.8**	**100.0%**

Shudde 27 CTB Geology



9/20/2023, 4:03:29 PM

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

ArcGIS Web AppBuilder

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

APPENDIX C – Daily Field Report with Photographs

Daily Site Visit Report

Client:	Silverback Exploration	Inspection Date:	9/21/2023
Site Location Name:	Shudde 27 CTB	Report Run Date:	9/21/2023 9:30 PM
Client Contact Name:	Mark Ritchie	API #:	
Client Contact Phone #:	713-553-8320		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	9/21/2023 8:00 AM
Departed Site	9/21/2023 10:30 AM

Field Notes

8:16 Arrived at location and filled out safety paperwork. On site to characterize the release around the flare area. Will start by collecting a borehole for each cardinal direction and one vertical in the middle.

10:22 Collected five boreholes at 0ft and 2ft bgs. Labeled them as BH23-01, 02, 03, 04, and 05 @ 0 & 2ft. Field screened them for chlorides and TPH. All samples tested under the applicable criteria. Placed samples into glass jars and will send in for laboratory analysis.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

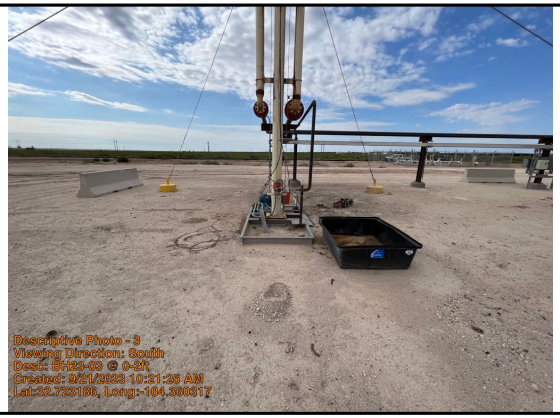
Viewing Direction: North

BH23-01 @ 0-2ft

Viewing Direction: West

BH23-02 @ 0-2ft

Viewing Direction: South

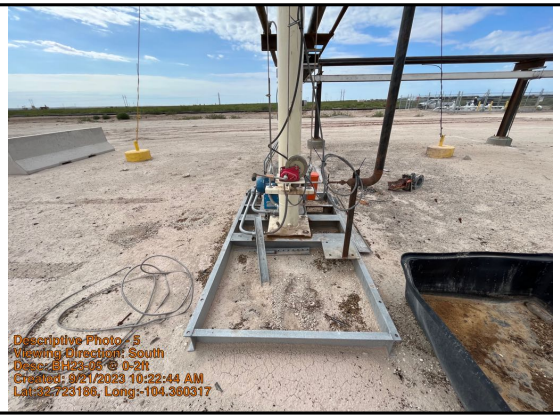
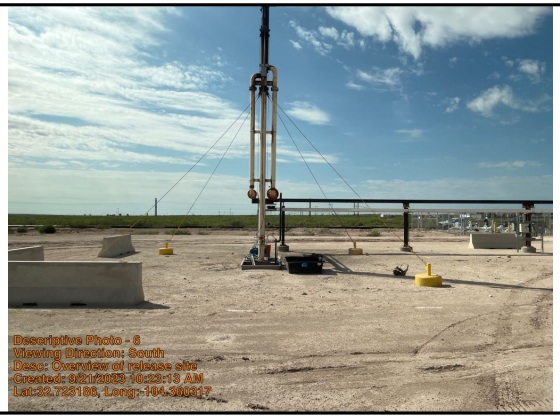


BH23-03 @ 0-2ft

Viewing Direction: East

BH23-04 @ 0-2ft

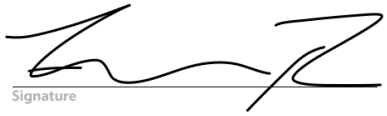
Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: South
	
BH23-05 @ 0-2ft	Overview of release site

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Fernando Rodriguez

Signature: 

Daily Site Visit Report

Client:	Silverback Exploration	Inspection Date:	11/3/2023
Site Location Name:	Shudde 27 CTB	Report Run Date:	11/3/2023 6:28 PM
Client Contact Name:	Mark Ritchie	API #:	
Client Contact Phone #:	713-553-8320		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	11/3/2023 7:30 AM
Departed Site	11/3/2023 10:30 AM

Field Notes

7:59 Arrived at location and filled out safety paperwork. On site to collect confirmatory samples around the flare area. Will field screen them for chlorides and TPH.

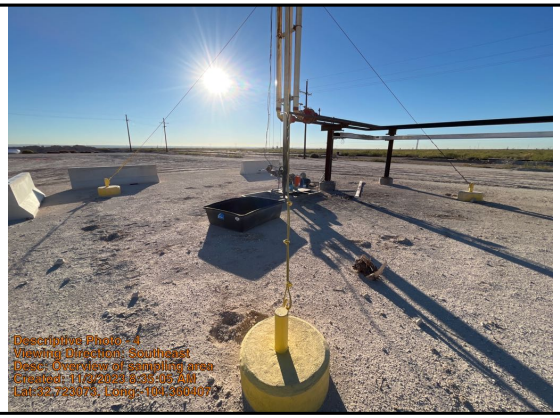
10:29 Collected a total of five surface samples from the flare area. Field screened soil samples for chlorides and TPH. All samples tested under applicable criteria. Placed samples into glass jars and will send in for laboratory analysis. Added sample points to Field Maps and DSS.

Next Steps & Recommendations

1

Daily Site Visit Report

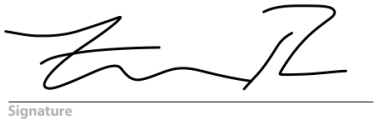
Site Photos

Viewing Direction: Northeast	**Viewing Direction**: Northwest
	
Overview of sampling area	Overview of sampling area
Viewing Direction: Southwest	**Viewing Direction**: Southeast
	
Overview of sampling area	Overview of sampling area

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Fernando Rodriguez

Signature: 
Signature

APPENDIX D – Notification

RE: [EXTERNAL] 48-Hour Notification - Shudde 27 CTB

Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
Tue 10/31/2023 1:36 PM

To:Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Cc:cdixon@vertex.ca <cdixon@vertex.ca>;mritchie@silverbackexp.com <mritchie@silverbackexp.com>;Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>;Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>

Hi Fernando,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

Shelly

Shelly Wells * Environmental Specialist-Advanced
Environmental Bureau
EMNRD-Oil Conservation Division
1220 S. St. Francis Drive|Santa Fe, NM 87505
(505)469-7520|Shelly.Wells@emnrd.nm.gov
http://www.emnrd.state.nm.us/OCD/

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Tuesday, October 31, 2023 12:45 PM
To: Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: cdixon@vertex.ca; mritchie@silverbackexp.com
Subject: [EXTERNAL] 48-Hour Notification - Shudde 27 CTB

Shelly,

Please accept this email as notification that Vertex Resource Services has scheduled a sampling event to be conducted at the following release.

Shudde 27 CTB, nAPP2312834075

Confirmation sampling is scheduled to begin Friday, November 3, 2023, at approximately 8:00 a.m. and will continue through Saturday, November 4, 2023. If you have any questions regarding this notification, please contact 575-361-4509.

Thanks,

Fernando Rodriguez B.Sc
Intermediate Biologist

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

APPENDIX E – Laboratory Data Reports and Chain of Custody Forms

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 04, 2023

Mike Moffit

Silverback Exploration
19707 IH10 W Suit 201
San Antonio, TX 78257
TEL: (210) 585-3316
FAX:

RE: Shudde 27 CTB OrderNo.: 2309D00

Dear Mike Moffit:

Hall Environmental Analysis Laboratory received 10 sample(s) on 9/23/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2309D00**
Date Reported: **10/4/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Silverback Exploration
Client Sample ID: BH23-01 0ft
Project: Shudde 27 CTB
Collection Date: 9/21/2023 9:00:00 AM
Lab ID: 2309D00-001 **Matrix:** SOIL **Received Date:** 9/23/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/26/2023 2:22:39 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/26/2023 2:22:39 PM
Surr: DNOP	100	69-147		%Rec	1	9/26/2023 2:22:39 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/26/2023 10:02:00 PM
Surr: BFB	97.9	15-244		%Rec	1	9/26/2023 10:02:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/26/2023 10:02:00 PM
Toluene	ND	0.049		mg/Kg	1	9/26/2023 10:02:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/26/2023 10:02:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/26/2023 10:02:00 PM
Surr: 4-Bromofluorobenzene	88.4	39.1-146		%Rec	1	9/26/2023 10:02:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	9/26/2023 9:29:18 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2309D00**
Date Reported: **10/4/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Silverback Exploration
Client Sample ID: BH23-01 2ft
Project: Shudde 27 CTB
Collection Date: 9/21/2023 9:05:00 AM
Lab ID: 2309D00-002 **Matrix:** SOIL **Received Date:** 9/23/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/26/2023 2:55:40 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/26/2023 2:55:40 PM
Surr: DNOP	94.8	69-147		%Rec	1	9/26/2023 2:55:40 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/26/2023 11:07:00 PM
Surr: BFB	99.3	15-244		%Rec	1	9/26/2023 11:07:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/26/2023 11:07:00 PM
Toluene	ND	0.050		mg/Kg	1	9/26/2023 11:07:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/26/2023 11:07:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/26/2023 11:07:00 PM
Surr: 4-Bromofluorobenzene	91.2	39.1-146		%Rec	1	9/26/2023 11:07:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	9/26/2023 9:41:43 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2309D00**
Date Reported: **10/4/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Silverback Exploration
Client Sample ID: BH23-02 0ft
Project: Shudde 27 CTB
Collection Date: 9/21/2023 9:10:00 AM
Lab ID: 2309D00-003 **Matrix:** SOIL **Received Date:** 9/23/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/26/2023 3:06:56 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/26/2023 3:06:56 PM
Surr: DNOP	97.4	69-147		%Rec	1	9/26/2023 3:06:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/27/2023 12:12:00 AM
Surr: BFB	99.7	15-244		%Rec	1	9/27/2023 12:12:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 12:12:00 AM
Toluene	ND	0.048		mg/Kg	1	9/27/2023 12:12:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/27/2023 12:12:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	9/27/2023 12:12:00 AM
Surr: 4-Bromofluorobenzene	89.6	39.1-146		%Rec	1	9/27/2023 12:12:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	9/26/2023 9:54:07 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2309D00**
Date Reported: **10/4/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Silverback Exploration
Client Sample ID: BH23-02 2ft
Project: Shudde 27 CTB
Collection Date: 9/21/2023 9:15:00 AM
Lab ID: 2309D00-004 **Matrix:** SOIL **Received Date:** 9/23/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/26/2023 3:18:15 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/26/2023 3:18:15 PM
Surr: DNOP	90.9	69-147		%Rec	1	9/26/2023 3:18:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/27/2023 12:34:00 AM
Surr: BFB	99.1	15-244		%Rec	1	9/27/2023 12:34:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 12:34:00 AM
Toluene	ND	0.049		mg/Kg	1	9/27/2023 12:34:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/27/2023 12:34:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/27/2023 12:34:00 AM
Surr: 4-Bromofluorobenzene	89.5	39.1-146		%Rec	1	9/27/2023 12:34:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	9/26/2023 10:06:31 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2309D00**
Date Reported: **10/4/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Silverback Exploration
Client Sample ID: BH23-03 0ft
Project: Shudde 27 CTB
Collection Date: 9/21/2023 9:20:00 AM
Lab ID: 2309D00-005 **Matrix:** SOIL **Received Date:** 9/23/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/26/2023 3:29:33 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/26/2023 3:29:33 PM
Surr: DNOP	94.6	69-147		%Rec	1	9/26/2023 3:29:33 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/27/2023 12:56:00 AM
Surr: BFB	98.1	15-244		%Rec	1	9/27/2023 12:56:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 12:56:00 AM
Toluene	ND	0.047		mg/Kg	1	9/27/2023 12:56:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/27/2023 12:56:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	9/27/2023 12:56:00 AM
Surr: 4-Bromofluorobenzene	89.0	39.1-146		%Rec	1	9/27/2023 12:56:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	9/27/2023 7:17:41 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2309D00**
Date Reported: **10/4/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Silverback Exploration
Client Sample ID: BH23-03 2ft
Project: Shudde 27 CTB
Collection Date: 9/21/2023 9:25:00 AM
Lab ID: 2309D00-006 **Matrix:** SOIL **Received Date:** 9/23/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/26/2023 3:40:51 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/26/2023 3:40:51 PM
Surr: DNOP	98.8	69-147		%Rec	1	9/26/2023 3:40:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/27/2023 1:17:00 AM
Surr: BFB	96.1	15-244		%Rec	1	9/27/2023 1:17:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 1:17:00 AM
Toluene	ND	0.048		mg/Kg	1	9/27/2023 1:17:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/27/2023 1:17:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/27/2023 1:17:00 AM
Surr: 4-Bromofluorobenzene	85.7	39.1-146		%Rec	1	9/27/2023 1:17:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	9/27/2023 7:30:05 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2309D00**
Date Reported: **10/4/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Silverback Exploration
Client Sample ID: BH23-04 0ft
Project: Shudde 27 CTB
Collection Date: 9/21/2023 9:30:00 AM
Lab ID: 2309D00-007 **Matrix:** SOIL **Received Date:** 9/23/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/26/2023 3:52:09 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/26/2023 3:52:09 PM
Surr: DNOP	96.1	69-147		%Rec	1	9/26/2023 3:52:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/27/2023 1:39:00 AM
Surr: BFB	97.8	15-244		%Rec	1	9/27/2023 1:39:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 1:39:00 AM
Toluene	ND	0.048		mg/Kg	1	9/27/2023 1:39:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/27/2023 1:39:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/27/2023 1:39:00 AM
Surr: 4-Bromofluorobenzene	87.2	39.1-146		%Rec	1	9/27/2023 1:39:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	9/27/2023 7:42:30 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2309D00**
Date Reported: **10/4/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Silverback Exploration
Client Sample ID: BH23-04 2ft
Project: Shudde 27 CTB
Collection Date: 9/21/2023 9:35:00 AM
Lab ID: 2309D00-008 **Matrix:** SOIL **Received Date:** 9/23/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/26/2023 4:03:27 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/26/2023 4:03:27 PM
Surr: DNOP	101	69-147		%Rec	1	9/26/2023 4:03:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/27/2023 2:01:00 AM
Surr: BFB	99.6	15-244		%Rec	1	9/27/2023 2:01:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	9/27/2023 2:01:00 AM
Toluene	ND	0.050		mg/Kg	1	9/27/2023 2:01:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/27/2023 2:01:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/27/2023 2:01:00 AM
Surr: 4-Bromofluorobenzene	88.0	39.1-146		%Rec	1	9/27/2023 2:01:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	9/27/2023 7:54:54 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2309D00**
Date Reported: **10/4/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Silverback Exploration
Client Sample ID: BH23-05 0ft
Project: Shudde 27 CTB
Collection Date: 9/21/2023 9:40:00 AM
Lab ID: 2309D00-009 **Matrix:** SOIL **Received Date:** 9/23/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	10	9.7		mg/Kg	1	9/26/2023 4:25:43 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/26/2023 4:25:43 PM
Surr: DNOP	96.9	69-147		%Rec	1	9/26/2023 4:25:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/27/2023 2:23:00 AM
Surr: BFB	102	15-244		%Rec	1	9/27/2023 2:23:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	9/27/2023 2:23:00 AM
Toluene	ND	0.048		mg/Kg	1	9/27/2023 2:23:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/27/2023 2:23:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	9/27/2023 2:23:00 AM
Surr: 4-Bromofluorobenzene	86.7	39.1-146		%Rec	1	9/27/2023 2:23:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	130	60		mg/Kg	20	9/27/2023 8:07:18 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2309D00**
Date Reported: **10/4/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Silverback Exploration
Client Sample ID: BH23-05 2ft
Project: Shudde 27 CTB
Collection Date: 9/21/2023 9:45:00 AM
Lab ID: 2309D00-010 **Matrix:** SOIL **Received Date:** 9/23/2023 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/26/2023 4:52:54 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/26/2023 4:52:54 PM
Surr: DNOP	92.2	69-147		%Rec	1	9/26/2023 4:52:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/27/2023 2:44:00 AM
Surr: BFB	99.6	15-244		%Rec	1	9/27/2023 2:44:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	9/27/2023 2:44:00 AM
Toluene	ND	0.046		mg/Kg	1	9/27/2023 2:44:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	9/27/2023 2:44:00 AM
Xylenes, Total	ND	0.092		mg/Kg	1	9/27/2023 2:44:00 AM
Surr: 4-Bromofluorobenzene	88.0	39.1-146		%Rec	1	9/27/2023 2:44:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **KCB**
Chloride	ND	60		mg/Kg	20	9/27/2023 8:19:43 AM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309D00**

04-Oct-23

Client: Silverback Exploration

Project: Shudde 27 CTB

Sample ID: **MB-77772**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **77772**	RunNo: **100018**
Prep Date: **9/26/2023**	Analysis Date: **9/26/2023**	SeqNo: **3659446** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77772**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **77772**	RunNo: **100018**
Prep Date: **9/26/2023**	Analysis Date: **9/26/2023**	SeqNo: **3659447** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309D00**

04-Oct-23

Client: Silverback Exploration

Project: Shudde 27 CTB

Sample ID: **2309D00-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-01 0ft**	Batch ID: **77762**	RunNo: **100003**
Prep Date: **9/26/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658184** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	49.85	0	106	54.2	135			
Surr: DNOP	4.8		4.985		95.4	69	147			

Sample ID: **2309D00-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-01 0ft**	Batch ID: **77762**	RunNo: **100003**
Prep Date: **9/26/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658186** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.8	49.02	0	103	54.2	135	4.54	29.2	
Surr: DNOP	4.5		4.902		91.7	69	147	0	0	

Sample ID: **LCS-77762**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77762**	RunNo: **100003**
Prep Date: **9/26/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658233** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.1	61.9	130			
Surr: DNOP	4.6		5.000		91.4	69	147			

Sample ID: **MB-77762**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77762**	RunNo: **100003**
Prep Date: **9/26/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658241** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.2		10.00		91.7	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309D00**

04-Oct-23

Client: Silverback Exploration

Project: Shudde 27 CTB

Sample ID: **lcs-77741**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77741**	RunNo: **100014**
Prep Date: **9/25/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658960** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.4	70	130			
Surr: BFB	2200		1000		216	15	244			

Sample ID: **mb-77741**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77741**	RunNo: **100014**
Prep Date: **9/25/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658961** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		97.5	15	244			

Sample ID: **2309D00-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-01 0ft**	Batch ID: **77741**	RunNo: **100014**
Prep Date: **9/25/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658963** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.9	24.46	0	91.3	70	130			
Surr: BFB	2100		978.5		219	15	244			

Sample ID: **2309D00-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-01 0ft**	Batch ID: **77741**	RunNo: **100014**
Prep Date: **9/25/2023**	Analysis Date: **9/26/2023**	SeqNo: **3658964** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.41	0	94.2	70	130	2.87	20	
Surr: BFB	2300		976.6		234	15	244	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309D00**

04-Oct-23

Client: Silverback Exploration

Project: Shudde 27 CTB

Sample ID: **lcs-77741**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77741**	RunNo: **100014**
Prep Date: **9/25/2023**	Analysis Date: **9/26/2023**	SeqNo: **3659114** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	84.8	70	130			
Toluene	0.85	0.050	1.000	0	85.3	70	130			
Ethylbenzene	0.87	0.050	1.000	0	87.2	70	130			
Xylenes, Total	2.6	0.10	3.000	0	87.0	70	130			
Surr: 4-Bromofluorobenzene	0.88		1.000		88.2	39.1	146			

Sample ID: **mb-77741**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77741**	RunNo: **100014**
Prep Date: **9/25/2023**	Analysis Date: **9/26/2023**	SeqNo: **3659115** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.88		1.000		87.7	39.1	146			

Sample ID: **2309D00-002ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-01 2ft**	Batch ID: **77741**	RunNo: **100014**
Prep Date: **9/25/2023**	Analysis Date: **9/26/2023**	SeqNo: **3659118** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	0.9921	0	89.8	70	130			
Toluene	0.92	0.050	0.9921	0	92.6	70	130			
Ethylbenzene	0.94	0.050	0.9921	0	94.5	70	130			
Xylenes, Total	2.8	0.099	2.976	0	94.7	70	130			
Surr: 4-Bromofluorobenzene	0.90		0.9921		91.1	39.1	146			

Sample ID: **2309D00-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-01 2ft**	Batch ID: **77741**	RunNo: **100014**
Prep Date: **9/25/2023**	Analysis Date: **9/26/2023**	SeqNo: **3659119** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	0.9940	0	91.0	70	130	1.51	20	
Toluene	0.93	0.050	0.9940	0	93.2	70	130	0.843	20	
Ethylbenzene	0.95	0.050	0.9940	0	96.0	70	130	1.69	20	
Xylenes, Total	2.9	0.099	2.982	0	96.0	70	130	1.57	20	
Surr: 4-Bromofluorobenzene	0.89		0.9940		89.5	39.1	146	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Silverback Exploration Work Order Number: 2309D00 RcptNo: 1

Received By: Juan Rojas 9/23/2023 7:20:00 AM Juan Rojas

Completed By: Juan Rojas 9/23/2023 7:28:32 AM Juan Rojas

Reviewed By: JR 9/23/23

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: JR 9/23/23

Special Handling (if applicable)

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

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

Client missing mailing address, phone number and email address. JR 9/23/23

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	No	Yogi		

Chain-of-Custody Record

Client: Silvertack Exploration (Vertex) Onfile

Mailing Address:

Phone #:

email or Fax#:

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

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

Turn-Around Time:
☐ Standard ☒ Rush 48Hr

Project Name: Shuade 27 CTB

Project #: 23E-04895

Project Manager: Michael Moffitt

Sampler: Fernando Rodriguez

On Ice: ☒ Yes ☐ No

# of Coolers: 1 Yeqi

Cooler Temp(including CF): 1.1-0=1.1 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2309D00	(BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
9/21	9:00	Soil	BH23-01 0ft	4oz Jar	Ice	-001	✓	✓					✓			
	9:05		BH23-01 2ft			-002	✓	✓					✓			
	9:10		BH23-02 0ft			-003	✓	✓					✓			
	9:15		BH23-02 2ft			-004	✓	✓					✓			
	9:20		BH23-03 0ft			-005	✓	✓					✓			
	9:25		BH23-03 2ft			-006	✓	✓					✓			
	9:30		BH23-04 0ft			-007	✓	✓					✓			
	9:35		BH23-04 2ft			-008	✓	✓					✓			
	9:40		BH23-05 0ft			-009	✓	✓					✓			
	9:45		BH23-05 2ft			-010	✓	✓					✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9/21	16:00				9/22/23	900
9/22/23	1900				9/23/23	7:20

Remarks:
CC: Michael Moffitt & Fernando Rodriguez

Direct bill to Silvertack

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

eurofins | Environment Testing

Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 17, 2023

Michael Moffitt

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX:

RE: Shudde 27 CTB OrderNo.: 2311280

Dear Michael Moffitt:

Eurofins Environment Testing South Central, LLC received 5 sample(s) on 11/7/2023 for the analyses presented in the following report.

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

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2311280**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: SS23-01 0ft
Project: Shudde 27 CTB
Collection Date: 11/3/2023 8:00:00 AM
Lab ID: 2311280-001 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/10/2023 1:21:24 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/10/2023 1:21:24 PM
Surr: DNOP	89.9	69-147		%Rec	1	11/10/2023 1:21:24 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/12/2023 5:51:33 PM
Surr: BFB	92.0	15-244		%Rec	1	11/12/2023 5:51:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	11/12/2023 5:51:33 PM
Toluene	ND	0.048		mg/Kg	1	11/12/2023 5:51:33 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/12/2023 5:51:33 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/12/2023 5:51:33 PM
Surr: 4-Bromofluorobenzene	95.9	39.1-146		%Rec	1	11/12/2023 5:51:33 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	11/13/2023 8:04:55 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2311280**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: SS23-02 0ft
Project: Shudde 27 CTB
Collection Date: 11/3/2023 8:05:00 AM
Lab ID: 2311280-002 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/10/2023 1:31:54 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/10/2023 1:31:54 PM
Surr: DNOP	85.5	69-147		%Rec	1	11/10/2023 1:31:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/12/2023 6:15:05 PM
Surr: BFB	92.8	15-244		%Rec	1	11/12/2023 6:15:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	11/12/2023 6:15:05 PM
Toluene	ND	0.049		mg/Kg	1	11/12/2023 6:15:05 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/12/2023 6:15:05 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/12/2023 6:15:05 PM
Surr: 4-Bromofluorobenzene	95.9	39.1-146		%Rec	1	11/12/2023 6:15:05 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	11/13/2023 8:17:19 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2311280**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** SS23-03 0ft
Project: Shudde 27 CTB **Collection Date:** 11/3/2023 8:10:00 AM
Lab ID: 2311280-003 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/10/2023 1:52:52 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/10/2023 1:52:52 PM
Surr: DNOP	86.4	69-147		%Rec	1	11/10/2023 1:52:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/12/2023 6:38:36 PM
Surr: BFB	91.3	15-244		%Rec	1	11/12/2023 6:38:36 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	11/12/2023 6:38:36 PM
Toluene	ND	0.050		mg/Kg	1	11/12/2023 6:38:36 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/12/2023 6:38:36 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/12/2023 6:38:36 PM
Surr: 4-Bromofluorobenzene	93.8	39.1-146		%Rec	1	11/12/2023 6:38:36 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	11/13/2023 8:29:44 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2311280**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** SS23-04 0ft
Project: Shudde 27 CTB **Collection Date:** 11/3/2023 8:15:00 AM
Lab ID: 2311280-004 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/10/2023 2:03:24 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/10/2023 2:03:24 PM
Surr: DNOP	85.6	69-147		%Rec	1	11/10/2023 2:03:24 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/12/2023 7:25:38 PM
Surr: BFB	92.5	15-244		%Rec	1	11/12/2023 7:25:38 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	11/12/2023 7:25:38 PM
Toluene	ND	0.049		mg/Kg	1	11/12/2023 7:25:38 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/12/2023 7:25:38 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/12/2023 7:25:38 PM
Surr: 4-Bromofluorobenzene	96.5	39.1-146		%Rec	1	11/12/2023 7:25:38 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	11/13/2023 8:42:08 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2311280**
Date Reported: **11/17/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: SS23-05 0ft
Project: Shudde 27 CTB
Collection Date: 11/3/2023 8:20:00 AM
Lab ID: 2311280-005 **Matrix:** SOIL **Received Date:** 11/7/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/10/2023 2:13:56 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/10/2023 2:13:56 PM
Surr: DNOP	86.3	69-147		%Rec	1	11/10/2023 2:13:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/12/2023 7:49:06 PM
Surr: BFB	92.2	15-244		%Rec	1	11/12/2023 7:49:06 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	11/12/2023 7:49:06 PM
Toluene	ND	0.050		mg/Kg	1	11/12/2023 7:49:06 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/12/2023 7:49:06 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/12/2023 7:49:06 PM
Surr: 4-Bromofluorobenzene	95.5	39.1-146		%Rec	1	11/12/2023 7:49:06 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	11/13/2023 8:54:33 AM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311280**

17-Nov-23

Client: Vertex Resources Services, Inc.

Project: Shudde 27 CTB

Sample ID: **LCS-78715**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **78715**	RunNo: **101137**
Prep Date: **11/13/2023**	Analysis Date: **11/13/2023**	SeqNo: **3714749** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.4	90	110			

Sample ID: **MB-78715**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **78715**	RunNo: **101137**
Prep Date: **11/13/2023**	Analysis Date: **11/13/2023**	SeqNo: **3714750** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311280**

17-Nov-23

Client: Vertex Resources Services, Inc.

Project: Shudde 27 CTB

Sample ID: **LCS-78675**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **78675**	RunNo: **101089**
Prep Date: **11/9/2023**	Analysis Date: **11/10/2023**	SeqNo: **3711623** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.4	61.9	130			
Surr: DNOP	4.8		5.000		95.3	69	147			

Sample ID: **MB-78675**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **78675**	RunNo: **101089**
Prep Date: **11/9/2023**	Analysis Date: **11/10/2023**	SeqNo: **3711625** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		92.9	69	147			

Sample ID: **LCS-78701**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **78701**	RunNo: **101089**
Prep Date: **11/10/2023**	Analysis Date: **11/11/2023**	SeqNo: **3713386** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		5.000		96.9	69	147			

Sample ID: **MB-78701**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **78701**	RunNo: **101089**
Prep Date: **11/10/2023**	Analysis Date: **11/11/2023**	SeqNo: **3713388** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		101	69	147			

Sample ID: **LCS-78707**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **78707**	RunNo: **101124**
Prep Date: **11/10/2023**	Analysis Date: **11/13/2023**	SeqNo: **3714787** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		89.0	69	147			

Sample ID: **MB-78707**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **78707**	RunNo: **101124**
Prep Date: **11/10/2023**	Analysis Date: **11/13/2023**	SeqNo: **3714789** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.8		10.00		98.5	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311280**

17-Nov-23

Client: Vertex Resources Services, Inc.

Project: Shudde 27 CTB

Sample ID: **lcs-78668**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **78668**	RunNo: **101125**
Prep Date: **11/8/2023**	Analysis Date: **11/12/2023**	SeqNo: **3713948** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.3	70	130			
Surr: BFB	2000		1000		200	15	244			

Sample ID: **mb-78668**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **78668**	RunNo: **101125**
Prep Date: **11/8/2023**	Analysis Date: **11/12/2023**	SeqNo: **3713954** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		93.8	15	244			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311280**

17-Nov-23

Client: Vertex Resources Services, Inc.

Project: Shudde 27 CTB

Sample ID: **LCS-78668**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **78668**	RunNo: **101125**
Prep Date: **11/8/2023**	Analysis Date: **11/12/2023**	SeqNo: **3714080** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.9	70	130			
Toluene	0.94	0.050	1.000	0	94.1	70	130			
Ethylbenzene	0.95	0.050	1.000	0	94.8	70	130			
Xylenes, Total	2.9	0.10	3.000	0	95.5	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.5	39.1	146			

Sample ID: **mb-78668**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **78668**	RunNo: **101125**
Prep Date: **11/8/2023**	Analysis Date: **11/12/2023**	SeqNo: **3714083** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		96.2	39.1	146			

Qualifiers:

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

eurofins | Environment Testing

Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Vertex Resources Work Order Number: 2311280 RcptNo: 1

Received By: Juan Rojas 11/7/2023 7:25:00 AM

Completed By: Cheyenne Cason 11/7/2023 8:21:02 AM

Reviewed By: SCM 11/7/23

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: JM 11/7/23

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Not Present	Yogi		

Chain-of-Custody Record

Client: Silverback (Vertex)

Mailing Address: On file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other_____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☒ Rush 5 Day

Project Name: Shudde 27 CTB

Project #: 23E-04895

Project Manager: Michael Moffitt

Sampler: Fernando Rodriguez

On Ice: ☐ Yes ☐ No

# of Coolers: 1 4oz

Cooler Temp(including CF): 1.7+0.1=1.8

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2311280	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
11/03/23	8:00	Soil	SS23-01 0ft	1, 4oz jar	Ice	001	X	X					X			
11/03/23	8:05	Soil	SS23-02 0ft	1, 4oz jar	Ice	002	X	X					X			
11/03/23	8:10	Soil	SS23-03 0ft	1, 4oz jar	Ice	003	X	X					X			
11/03/23	8:15	Soil	SS23-04 0ft	1, 4oz jar	Ice	004	X	X					X			
11/03/23	8:20	Soil	SS23-05 0ft	1, 4oz jar	Ice	005	X	X					X			

Analysis Request

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
11/03	15:00				11/6/23	1015
11/6/23	1900			courier	11/7/23	7:25

Remarks:
CC: Michael Moffitt & Fernando Rodriguez
Direct bill to Silverback

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

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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 368056

QUESTIONS

Operator: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 368056
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2312834075**
Incident Name	**NAPP2312834075 SHUDDE 27 CTB @ 0**
Incident Type	**Oil Release**
Incident Status	**Remediation Closure Report Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	SHUDDE 27 CTB
Date Release Discovered	04/30/2023
Surface Owner	Private

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

Nature and Volume of Release	
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: Equipment Failure | Generator | Crude Oil | Released: 1 BBL | Recovered: 0 BBL | Lost: 1 BBL.
Produced Water Released (bbls) Details	*Not answered.*
Is the concentration of chloride in the produced water >10,000 mg/l	*Not answered.*
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)	Generator failed which cut off supply air to the dumps on the separator which then sent oil to the flare which ignited.

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QUESTIONS (continued)

Operator: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 368056
	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)	**More info needed to determine if this will be treated as a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**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: Heather Treffert Title: Field Operations Analyst Email: htreffert@silverbackexp.com Date: 07/29/2024

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QUESTIONS (continued)

Operator: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 368056
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 51 and 75 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1000 (ft.) and ½ (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1000 (ft.) and ½ (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	130
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	10
GRO+DRO (EPA SW-846 Method 8015M)	10
BTEX (EPA SW-846 Method 8021B or 8260B)	0.2
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	05/01/2023
On what date will (or did) the final sampling or liner inspection occur	11/03/2023
On what date will (or was) the remediation complete(d)	09/21/2023
What is the estimated surface area (in square feet) that will be reclaimed	522
What is the estimated volume (in cubic yards) that will be reclaimed	8
What is the estimated surface area (in square feet) that will be remediated	522
What is the estimated volume (in cubic yards) that will be remediated	8
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: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 368056
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	LEA LAND LANDFILL [fEEM0112342028]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Heather Treffert Title: Field Operations Analyst Email: htreffert@silverbackexp.com Date: 07/29/2024
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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District II
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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: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 368056
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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QUESTIONS (continued)

Operator: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 368056
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**368142**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**11/03/2023**
What was the (estimated) number of samples that were to be gathered	**5**
What was the sampling surface area in square feet	**485**

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	522
What was the total volume (cubic yards) remediated	8
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	522
What was the total volume (in cubic yards) reclaimed	8
Summarize any additional remediation activities not included by answers (above)	N/A

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: Heather Treffert Title: Field Operations Analyst Email: htreffert@silverbackexp.com Date: 07/29/2024

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QUESTIONS (continued)

Operator: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 368056
	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 368056

CONDITIONS

Operator:	OGRID:
Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	330968
	Action Number: 368056
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAPP2312834075 SHUDDE 27 CTB, thank you. This Remediation Closure Report is approved.	8/15/2024