



April 29, 2025

Scout Energy Management, LLC.
13800 Montfort Dr
Dallas, TX 75240

Attn: New Mexico State Lands Office
310 Old Santa Fe Trail
P.O. Box 1148
Santa Fe, NM 87504-1148

RE: **Remediation Work Plan – Revised 2.0**
Scout Energy Management, LLC.
WDDU #042
Unit A, Section 32, Township 24 South, Range 38 East
32.179328°, -103.076061°
NMOCD Incident No: nPRS0433653517
Lea County, New Mexico
Terracon Project No. KH247046

To Whom It May Concern:

Terracon Consultants, Inc. (Terracon) is pleased to submit our Remediation Work Plan on behalf of Scout Energy Management, LLC (Scout) for the site referenced above. The scope of services was developed in accordance with the New Mexico Oil Conservation Division (NMOCD) regulations (19.15.29 NMAC). The below sections detail Terracon's proposed reclamation actions in response to the produced water release at the site referenced above.

Schedule of Implementation

Proposed Actions

- 1) Terracon will prepare any necessary Right of Entry (ROE) permits needed for the site, following the approval of this Remediation Work Plan.
- 2) Excavate and delineate the inferred release area to the extent required to attain the NMOCD RAL's, dispose of the affected material at an approved facility and backfill the excavation with suitable fill material..
- 3) Terracon will conduct confirmation sampling of the inferred release area after completion of the remedial activities. This work will take approximately two days to execute following the execution of the approved Remediation Work Plan.
- 4) Remediation timeline is dependent on the lateral and vertical extent of constituents encountered during the excavation that are present above the NMOCD Remediation Action Levels (RALs) as detailed below.

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Scout Energy Management, LLC.
Remediation Work Plan – Rev. 2.0
WDDU #042
Terracon Project # KH247046



Terracon appreciates this opportunity to provide environmental services to Scout Energy Management, LLC. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.

A handwritten signature in black ink, appearing to be 'C. Smith'.

Charles F. Smith
Senior Project Manager
Lubbock, TX

A handwritten signature in black ink, appearing to be 'J. Grams'.

John Grams, P.G. (TX)
Senior Geologist
Lubbock, TX

Scout Energy Management, LLC.
 Remediation Work Plan – Rev. 2.0
 WDDU #042 / Incident # nPRS0433653517
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Appendix A – Exhibits

- Exhibit 1 – Topographic Map
- Exhibit 2 – Site Location Map
- Exhibit 3 – Boring Location Map
- Exhibit 4 – Designated Wetland Area Map
- Exhibit 5 – Cave Karst Public UCP Map
- Exhibit 6 – Ecological Site Description Map
- Exhibit 7 – Delineation Sample Location Map

Appendix B – Tables and Attachments

- Table 1 – Laboratory Analytical Results
- Attachment 1 – Trinity Oilfield Services Boring Log
- Attachment 2 – NRCS Ecological Site Description
- Attachment 3 – Laboratory Analytical Report

Appendix C – NMSLO Cultural Resources Cover Sheet

Appendix D – Desktop Protected Species Review

Appendix E – Terracon Standard of Care, Limitation, and Reliance

Scout Energy Management, LLC.
 Remediation Work Plan – Rev. 2.0
 WDDU #042 / Incident # nPRS0433653517
 Terracon Project # KH247046



Section 1 – Site Information

The following table provides detailed information regarding the Reclamation information for the off pad produced water release at the WDDU #042 site in Lea County, New Mexico:

Required Information	Site and Release information	
Responsible Party:	The site is operated by Scout Energy Management, LLC. OGRID #: 330949	
Local Contact:	Contact: Mr. Spencer Jackson	P: (972)965-5580 E: spencer.jackson@scoutep.com
Site Name API #	West Dollarhide Drinkard Unit (WDDU) #42 30-025-12321	
Facility Description:	WDDU #042, Incident No. nPRS0433653517 is a former well location located in Lea County, New Mexico. It is an area located within Unit A, Section 32, Township 24 South, Range 38 East, approximately 8.10 miles northeast of Jal, New Mexico. The area around the site is predominantly undeveloped native State-owned pastureland. A Topographic Map and Site location Map are included in Appendix A, Exhibit 1, and Exhibit 2, respectively.	
Lease #	B096130006	
BLM Lessee:	Hyperion Oil & Gas LLC	
NMOCD Incidents:	Following a review of the New Mexico Oil Conservation Division Permitting site, incident NPRS0433653517 was noted. The incident involved a 3-inch fiberglass line that leaked in the valve box releasing approximately 35 bbls of produced water and 3 bbls of crude oil. As per the C-141 "The fluid ran down the lease road east and south approximately 1000' by 2' wide area and produced water ran off location approximately 450' x 30" in the pasture".	
Type of Discharge:	Produced Water & Crude Oil / Incident ID No: nPRS0433653517	
Quantity of Spilled Material:	Total Fluids: 38 bbls	Volume recovered: 10 bbls
Site Characteristics:	Relatively flat with drainage following the natural ground surface; sloping very gently southerly.	
Immediate Corrective Actions:	The Initial C-141 Form stated the line was shut in and 10 bbls of water was recovered.	

Scout Energy Management, LLC.
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Section 2 – General Site Characteristics and History

Physical Characteristic	Site Ranking Characteristics
Groundwater Boring Location Map (Appendix A, Exhibit 3)	<u>Boring Information:</u> (Trinity Oilfield Services Boring Log SB-04) <u>Depth of Well:</u> 102 ft. bgs <u>Depth to Water:</u> >102 ft. bgs <u>Distance to Well:</u> 0.50 miles to the southeast <u>Date Drilled:</u> September 7, 2022. Boring log included as Appendix B, Attachment 1. <u>Groundwater Quality:</u> Groundwater in the area of the site is predominately for domestic use.
Surface Water Designated Wetland Map (Appendix A, Exhibit 4)	Freshwater Emergent Wetland within 0.5 miles northeast of the site.
100-Year Flood Plain	This site is located outside of the 100-year flood plain.
Desktop Cultural Resources Assessment (Appendix C)	Terracon conducted a desktop cultural resources assessment in compliance with the Cultural Properties Protection Rule (19.2.24 NMAC). Based on the available information and the results of the review, Terracon does not recommend further archaeological surveys at this time. The NMSLO Cultural Resources Cover Sheet is included as Appendix C.
Desktop Protected Species Review (Appendix D)	Terracon conducted a desktop protected species review. The review did not identify the presence of suitable habitat for federally protected species listed within the IPaC, sensitive habitats, or designated critical habitats within the project area. The project area may represent marginally suitable migratory stop-over habitat for the proposed threatened monarch butterfly. The Desktop Protected Species Review is included in Appendix D.
Soil Characteristics United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS)	Soils at the site are mapped as the Simona-Upton Association (SR), 0 to 3 percent slopes, well-drained to somewhat excessively drained, moderate to moderately rapid permeability, and soils shallow to very shallow, well drained soils formed in calcareous sandy sediments of fractured indurated caliche on upland plains, mesa tops, and low ridges. The A-horizon ranges from 0 to 8-inches while the B-Horizon ranges from 1 to 16-inches. The USDA NRCS Ecological Site Description is included in Appendix B, Attachment 2.
Karst Characterization Cave Karst Public UCP Map – (Appendix A, Exhibit 5)	A review of the geospatial data obtained from the Bureau of Land Management (BLM) Carlsbad Field Office website indicated that the site is within an area of low risk for Karst formations, as indicated in the Cave Karst Public UCP Map (Appendix A, Exhibit 5).

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Section 3 – Regulatory Framework and Response Action Levels

Oil and gas exploration and production facilities in New Mexico are generally regulated by the New Mexico Oil Conservation Division (NMOCD). Standards governing the remediation and reclamation of sites impacted by releases from oil and gas exploration and production activities are contained in 19.15.29 NMAC.

Section 3.1 – Reclamation and Remediation Levels (Surface to 4 ft. bgs)

The below Reclamation Limits for chlorides, TPH (GRO+DRO+MRO), BTEX (includes benzene, toluene, ethylbenzene, and xylenes), and benzene are defined within New Mexico Administration Code (NMAC) *Restoration, Reclamation, and Re-vegetation* (19.15.29.13) *New Mexico Administration Code (NMAC) – D (Reclamation of areas no longer in use)* for soils extending from surface to 4 ft. bgs.:

Parameters	Closure Criteria	Analytical Method
Total Benzene, Toluene, Ethylbenzene and Xylenes (Total BTEX)	50 mg/kg	EPA Method 8021B
Benzene	10 mg/kg	EPA Method 8021B
Chlorides	600 mg/kg	EPA Method 300
Total Petroleum Hydrocarbons (TPH) GRO, DRO and MRO	100 mg/kg	EPA Method 8015M

Section 4 – Site Characterization/Delineation

Site Characterization

According to the USDA NRCS the area is defined as ecological site R070BD002NM Shallow Sandy and R07BC025NM Shallow. The Shallow Sandy and Shallow Ecological Sites are mapped as the Simona-Upton Association (SR). An Ecological Site Description Map is included in Appendix A, Exhibit 6, and a USDA Soil Survey Report is included in Appendix B, Attachment 2.

Site Assessment/Delineation

On December 26, 2024, Terracon personnel collected 24 soil samples from 12 locations (DSV-1 through DSV-12). The soil samples were collected using a hand auger from depths of 0.5-feet bgs and 1-foot bgs. Hand auger refusal was encountered at approximately 1-foot bgs at sample locations DSV-01, DSV-02, DSV-05, DSV-06, DSV -07, DSV-08 and DSV-11. The soil samples collected were submitted for analysis of BTEX, Chloride and TPH. Analytical results indicate six of the twelve sample locations (DSV-01 (1.0 ft.), DSV-02 (1.0 ft.), DSV-06 (1.0 ft.), DSV-07 (1.0 ft.), DSV-10 (1.0 ft.) and DSV-11 (1.0 ft.)) exceeded the NMOCD RAL's for either Chloride and/or TPH. The sample results are depicted on the Delineation Sample Map included in Appendix A, Exhibit 7. The analytical results are tabulated and included in Appendix B, Table 1 and the laboratory analytical report along with the Chain of Custody are included in Appendix B, Attachment 3.

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Section 5 – Remediation

Proposed Remediation Technique

Scout proposes to remediate the site by excavating material that exceeds NMOCD closure criteria. Additional soil delineation will occur during the remedial activities to confirm material remaining in place does not exceed the NMOCD RAL's. The excavated material will be stockpiled on site and on plastic pending disposal at an approved facility. Five-point composite closure samples will be collected from the floor of the excavation on 200 square foot intervals and the walls of the excavation on 200 linear foot intervals. Once the closure criteria are attained, the excavation will be backfilled with suitable fill material. A sample of the backfill material will be collected and analyzed for BTEX, Chloride and TPH to evaluate suitability.

Proposed Remediation Timeline

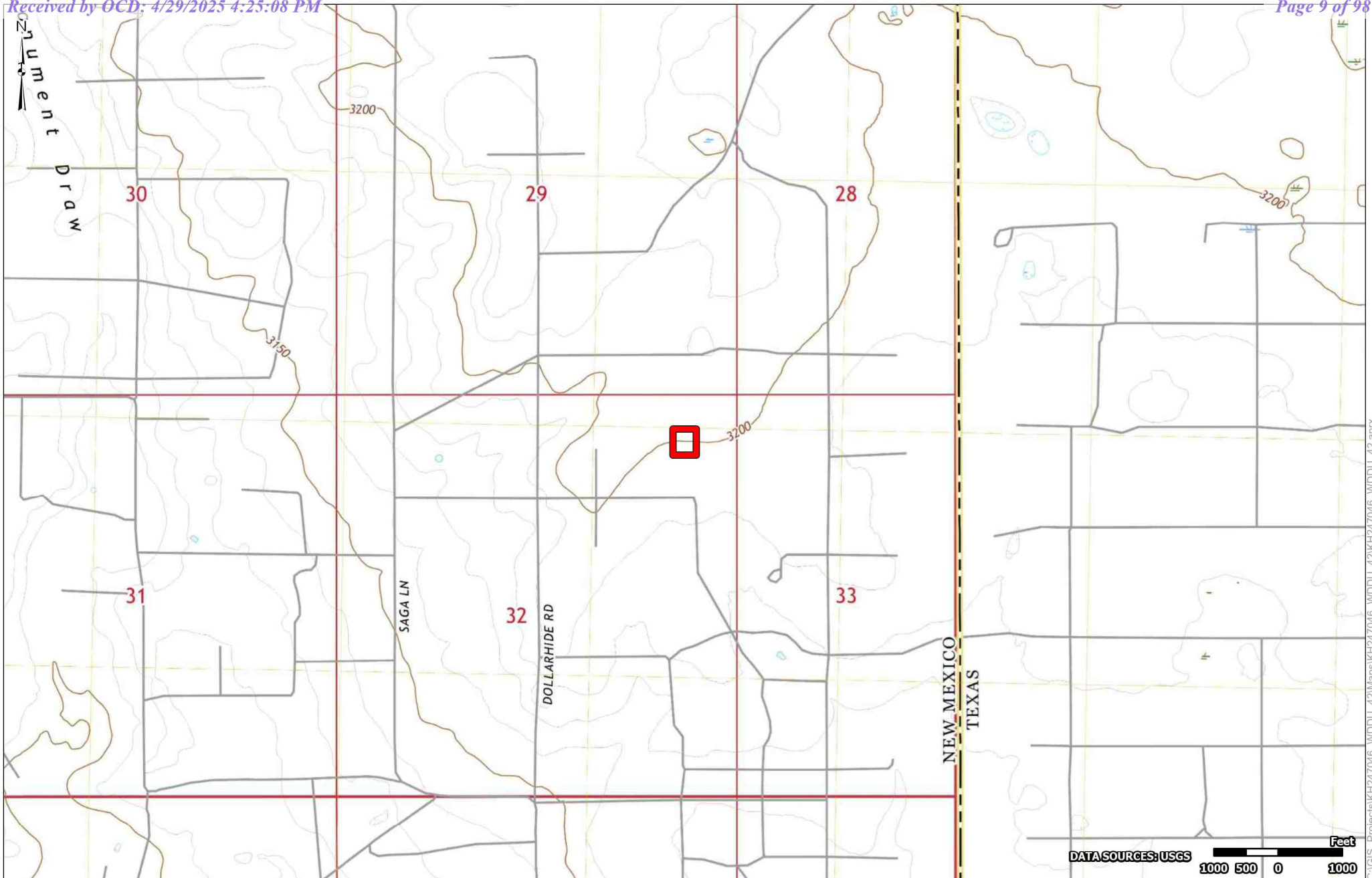
The proposed timeline for remediation activities is from May 12, 2025, to June 27, 2025.

Upon completion of the remedial activities, Terracon will submit a Closure Report along with separate Reclamation Plan for approval. Terracon's Standard of Care, Limitations and Reliance is included as Appendix D.



APPENDIX A – EXHIBITS

Explore with us



 Site Boundary

Project No.:
KH247046
Date:
Jan 31 2025
Drawn By:
JWL
Reviewed By:
JRG



4526 W Pierce St
Carlsbad, NM

PH. 806-300-0140

terracon.com



Topographic Map

WDDU #042
NMOCD Incident #NPR50433653517
Scout Energy Management, LLC
Jal, Lea County, New Mexico


Exhibit

1



-  Site Boundary
-  NMOCD Incident #NPR50433653517 Inferred Release Area

Project No.: KH247046
Date: Jan 31 2025
Drawn By: JWL
Reviewed By: JRG

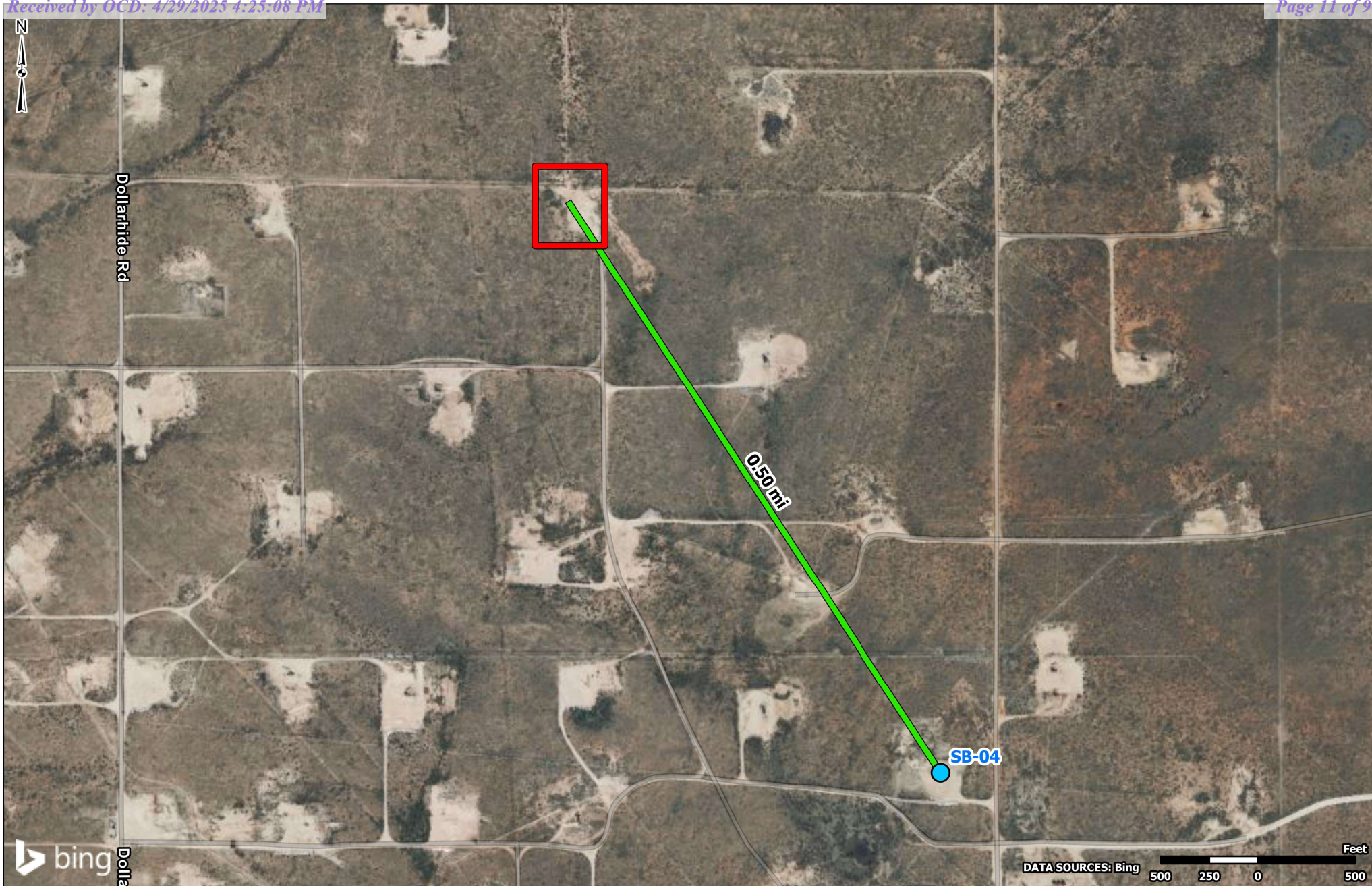

4526 W Pierce St
Carlsbad, NM
PH. 806-300-0140 terracon.com

Site Location Map

WDDU #042
NMOCD Incident #NPR50433653517
Scout Energy Management, LLC
Jal, Lea County, New Mexico


Exhibit

2



 Site Boundary

Project No.:
KH247046
Date:
Feb 11 2025
Drawn By:
JWL
Reviewed By:
JRG

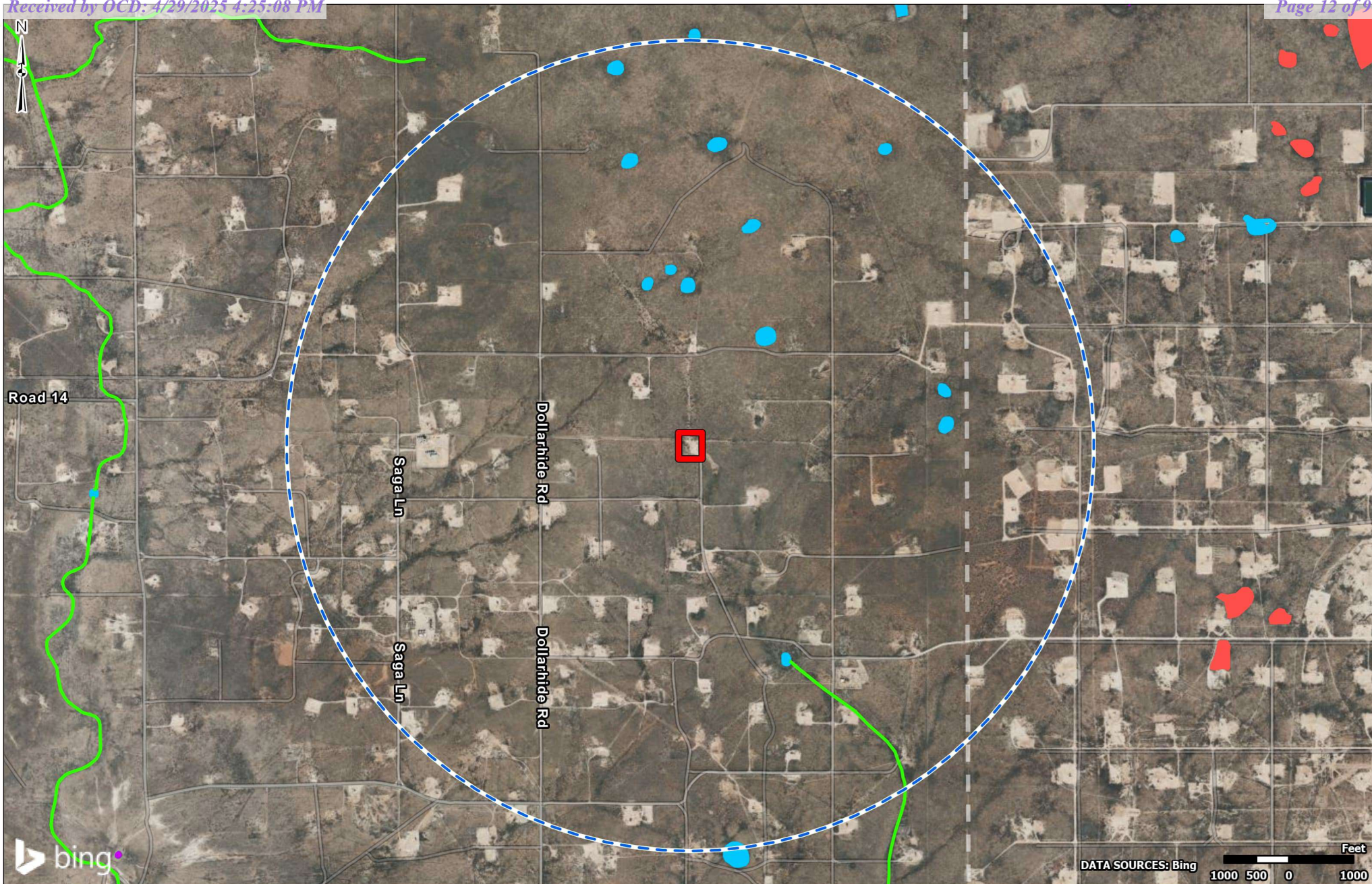

4526 W Pierce St
Carlsbad, NM
PH. 806-300-0140 terracon.com

Boring Location Map

WDDU #042
NMOCD Incident #NPR50433653517
Scout Energy Management, LLC
Jal, Lea County, New Mexico

Exhibit

3



- Site Boundary
- 1-mile Radius
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

Project No.:
KH247046

Date:
Jan 31 2025

Drawn By:
JWL

Reviewed By:
JRG



4526 W Pierce St
Carlsbad, NM

PH. 806-300-0140

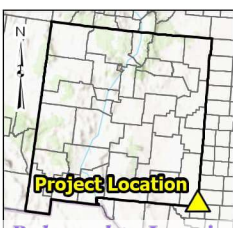
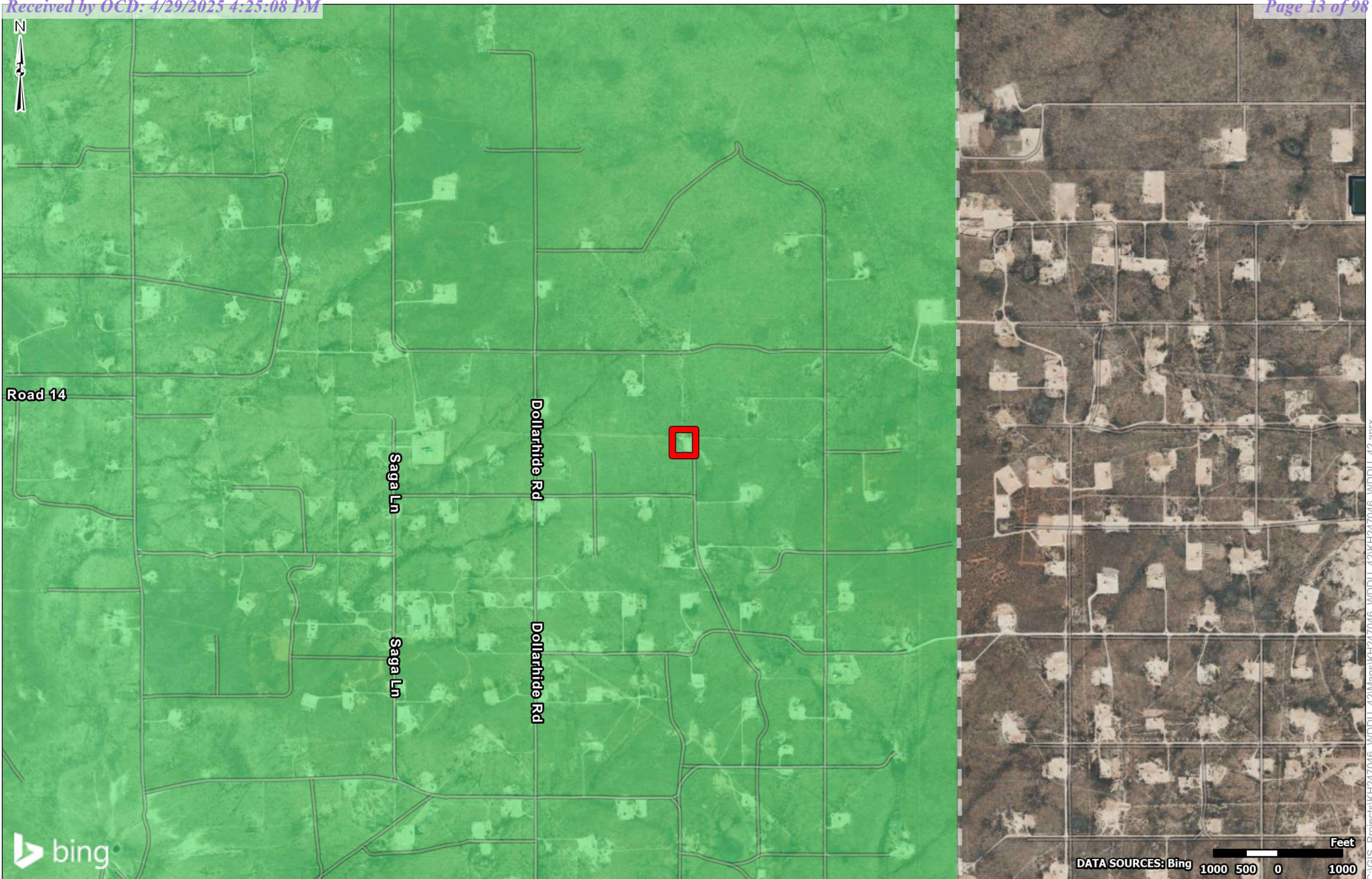
terracon.com

Designated Wetland Area Map

WDDU #042
NMOCD Incident #NPR50433653517
Scout Energy Management, LLC
Jal, Lea County, New Mexico

Exhibit

4



- Site Boundary
- Karst Potential
 - Low
 - Medium
 - High

Project No.:
KH247046
Date:
Jan 31 2025
Drawn By:
JWL
Reviewed By:
JRG

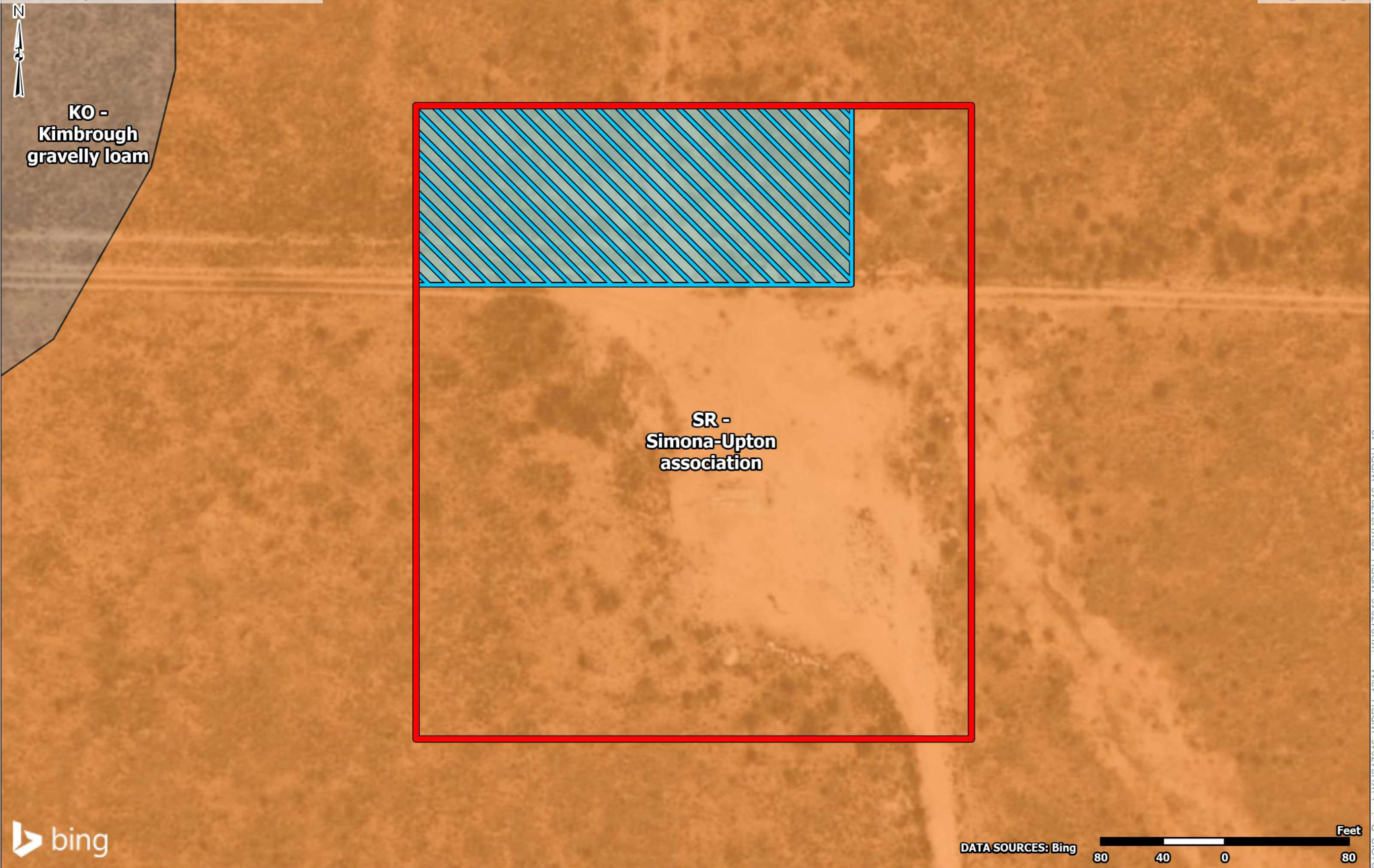
Terracon
4526 W Pierce St
Carlsbad, NM
PH. 806-300-0140 terracon.com

Cave Karst Public UCP Map

WDDU #042
NMOCD Incident #NPR50433653517
Scout Energy Management, LLC
Jal, Lea County, New Mexico


Exhibit

5



- Site Boundary
- NMOCD Incident
- #NPR50433653517 Inferred Release Area
- KO - Kimbrough gravelly loam
- SR - Simona-Upton association

Project No.:	KH247046
Date:	Jan 31 2025
Drawn By:	JWL
Reviewed By:	JRG



4526 W Pierce St
Carlsbad, NM

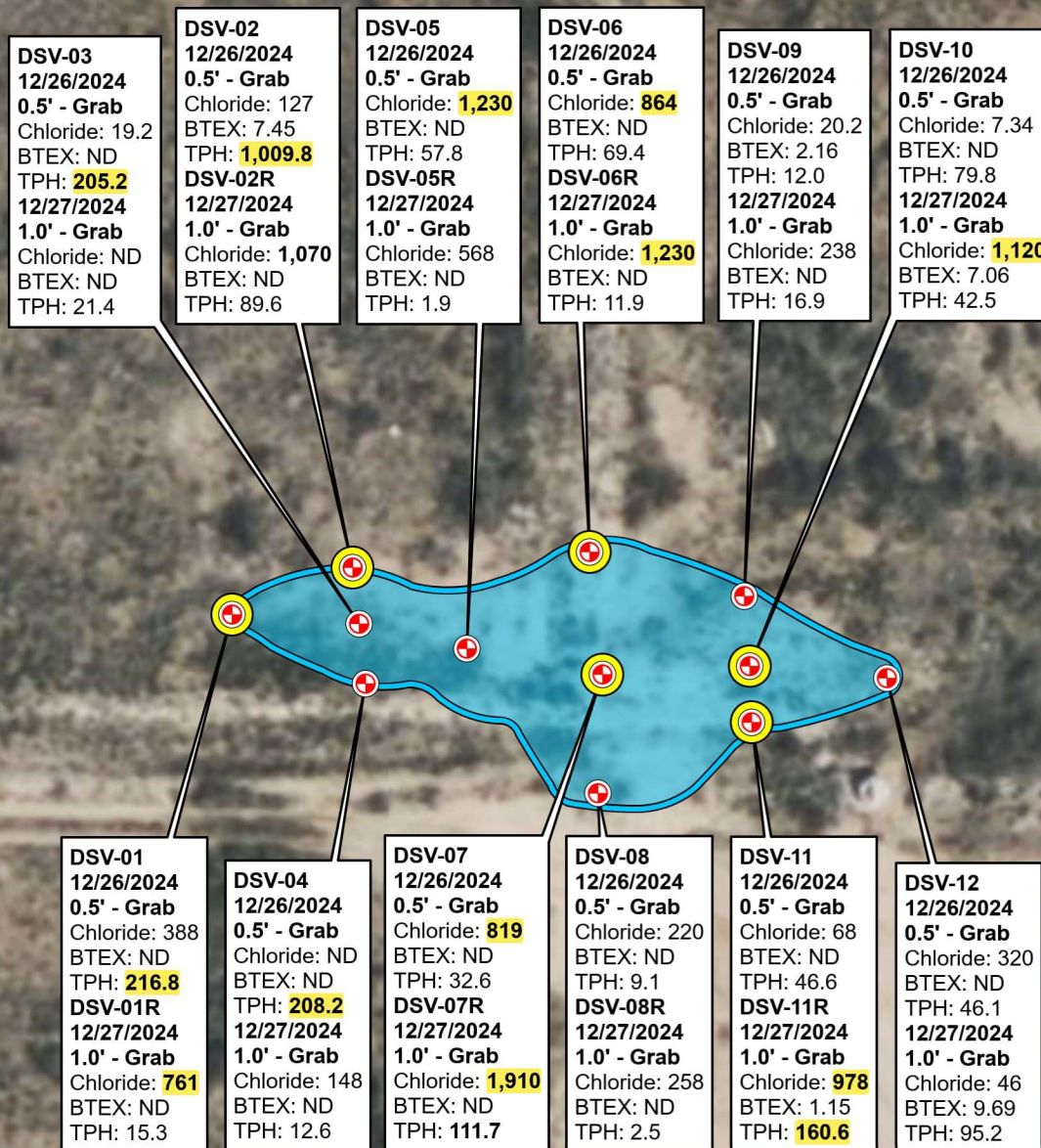
PH. 806-300-0140 terracon.com

Ecological Site Description Map

WDDU #042
NMOCD Incident #NPR50433653517
Scout Energy Management, LLC
Jal, Lea County, New Mexico

Exhibit

6



NMOCD RAL BGS
600 mg/kg for Chloride
100 mg/kg for Total TPH
50 mg/kg for BTEX

Bold and Highlighted
denote concentrations
that exceed the NMOCD
Reclamation and/or
Remediation and
Delineation Standards



- Exceedance
- ⊕ Vertical Delineation Sample
- Inferred Release (4,419 Sq Ft)

Project No.: KH247046
Date: Jan 31 2025
Drawn By: JWL
Reviewed By: JRG



4526 W Pierce St
Carlsbad, NM

PH. 806-300-0140

terracon.com

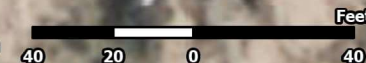
Delineation Sample Map

WDDU #042
NMOCD Incident #NPR50433653517
Scout Energy Management, LLC
Jal, Lea County, New Mexico

Exhibit

7

DATA SOURCES: Bing



Scout Energy Management, LLC.
Remediation Work Plan – Rev. 2.0
WDDU #042 / Incident # nPRS0433653517
Terracon Project # KH247046



APPENDIX B – TABLES AND ATTACHMENTS

Table 1
Soil Analytical Results Summary - Release Assessment
Project Number: KH247046 / WDDU #042
NMOCD Reference No. nPRS0433653517

Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Type	Sample Status	Chloride (mg/Kg)	Benzene (mg/Kg)	Total BTEX ¹ (mg/Kg)	Total TPH ² (mg/Kg)	Gasoline Range Organics (C6-C10) (mg/Kg)	Diesel Range Organics (Over C10-C28) (mg/Kg)	Oil Range Organics (Over C28-C36) (mg/Kg)
					EPA Method 300	EPA Method 8021B	EPA Method 8021B	EPA Method 8015M	EPA Method 8015M	EPA Method 8015M	EPA Method 8015M
Release Assessment											
DSV-01	12/26/24	0.5	Grab	In-Situ	388	ND	ND	216.8	26.2	113	77.6
DSV-01R	12/27/24	1.0	Grab	In-Situ	761	ND	ND	15.3	0.971	2.95	11.4
DSV -02	12/26/24	0.5	Grab	In-Situ	127	ND	7.45	1,009.8	0.809	271	738
DSV-02R	12/27/24	1.0	Grab	In-Situ	1,070	ND	ND	89.6	0.931	23.6	65.1
DSV-03	12/26/24	0.5	Grab	In-Situ	19.2	ND	ND	205.2	1.61	38.6	165
	12/27/24	1.0	Grab	In-Situ	ND	ND	ND	21.4	1.03	3.62	16.7
DSV-04	12/26/24	0.5	Grab	In-Situ	ND	ND	ND	208.2	1.86	114	92.3
	12/27/24	1.0	Grab	In-Situ	148	ND	ND	12.6	1.08	1.98	9.5
DSV-05	12/26/24	0.5	Grab	In-Situ	1,230	ND	ND	57.8	1.4	12.5	43.9
DSV-05R	12/27/24	1.0	Grab	In-Situ	568	ND	ND	1.9	1.06	ND	0.869
DSV-06	12/26/24	0.5	Grab	In-Situ	864	ND	ND	69.4	1.99	1.3	66.1
DSV-06R	12/27/24	1.0	Grab	In-Situ	1,230	ND	ND	11.9	0.888	3.62	7.4
DSV-07	12/26/24	0.5	Grab	In-Situ	819	ND	ND	32.6	1.21	8.31	23.1
DSV-07R	12/27/24	1.0	Grab	In-Situ	1,910	ND	ND	111.7	1.27	45.6	64.8
DSV-08	12/26/24	0.5	Grab	In-Situ	220	ND	ND	9.1	1.69	2.6	4.83
DSV-08R	12/27/24	1.0	Grab	In-Situ	258	ND	ND	2.5	1.02	ND	1.45
DSV-09	12/26/24	0.5	Grab	In-Situ	20.2	ND	2.16	12.0	2.81	3.65	5.53
	12/27/24	1.0	Grab	In-Situ	238	ND	ND	16.9	1.06	3.63	12.2
DSV-10	12/26/24	0.5	Grab	In-Situ	7.34	ND	ND	79.8	1.18	13.6	65
	12/27/24	1.0	Grab	In-Situ	1,120	ND	7.06	42.5	0.816	15.6	26.1
DSV-11	12/26/24	0.5	Grab	In-Situ	68	ND	ND	46.6	1.21	8.82	36.6
DSV-11R	12/27/24	1.0	Grab	In-Situ	978	ND	1.15	160.6	0.886	45.7	114
DSV-12	12/26/24	0.5	Grab	In-Situ	320	ND	ND	46.1	1.31	11.2	33.6
	12/27/24	1.0	Grab	In-Situ	46	ND	9.69	95.2	1.2	29.4	64.6
NMOCD Reclamation Standards ³ (Surface to 4 ft bgs)					600	10	50	100	100		NA
NMOCD Remediation Standards ⁴ (Greater than Depths of 4 ft bgs)					10,000	10	50	2,500	1,000		NA
<div>1. BTEX = Benzene, Toluene, Ethylbenzene, and total Xylenes</div> <div>2. TPH = Total Petroleum Hydrocarbons</div> <div>3. New Mexico Administration Code (NMAC) Restoration, Reclamation and Re-vegetation (19.15.29.13), NMAC-D (Reclamation of Areas No Longer in Use) for Soils Extending to 4 ft. bgs</div> <div>4. New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards (19.15.29.12) NMAC-N, 8/14/2018</div> <div>ND = Constituent was not detected above the laboratory sample detection limit (SDL).</div> <div>NA = Not Applicable</div> <div>Bold and Highlighted values exceed the NMOCD Reclamation and/or Remediation and Delineation Standards.</div> <div>In-situ = Sample is representative of material which remains in-place at the site.</div> <div>Excavated = Sample is representative of materials which was excavated and disposed of at a permitted disposal facility.</div>									Data Entry:	cfs	
									Reviewed By:	jg	
									<div>Terracon</div> <div>Explore with us</div>		



Soil Bore Log SB-04

PROJECT NAME WDDU #122 CLIENT OXY USA, Inc.		DRILLING DATE 09/07/2022 TOTAL DEPTH 102'	COORDINATES 32.172523, -103.070724 COORD SYS NAD 83 ULSTR L-33-24S-38E SURFACE ELEVATION 3185
COMMENTS Spud on the East Side of the WDDU #122 Well Pad.		LOGGED BY CJ CHECKED BY DD	
Depth (ft)	Moisture	Material Description	Elevation (FT)
5	D	Very Pale Brown (10YR 8/3) Sandy Clay Loam. Dry	3180
10		Very Pale Brown (10YR 8/4) Sandy Loam. Dry	3175
15			3170
20		Reddish Yellow (7.5YR 7/6) Sandy Loam. Dry	3165
25		Reddish Yellow (7.5YR 6/6) Sandy Loam. Dry	3160
30		Reddish Yellow (7.5YR 7/6) Sandy Loam. Dry	3155
35			3150
40		Reddish Yellow (7.5YR 6/6) Sandy Loam. Dry	3145
45		Reddish Yellow (7.5YR 7/6) Sandy Loam. Dry	3140
50		Reddish Yellow (7.5YR 6/6) Sandy Loam. Dry	3135
55		Reddish Yellow (7.5YR 6/6) Sandy Loam. Dry	3130
60		Reddish Yellow (7.5YR 7/6) Sandy Clay Loam. Dry	3125
65			3120
70			3115
75		Reddish Yellow (7.5YR 6/6) Sandy Clay Loam. Dry	3110
80			3105
85			3100
90			3095
95			3090
100			3085
105		Termination Depth at: 102 ft	3080

Disclaimer This bore log is intended to evidence a depth to groundwater greater than 102'.
produced by ESlog.ESdat.net on 09 Sep 2022

Page 1 of 1



Ecological site R070BD002NM

Shallow Sandy

Accessed: 10/03/2024

General information

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

Figure 1. Mapped extent

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

Associated sites

R070BD004NM	Sandy Sandy sites often occur in association or in a complex with Shallow Sandy Sites.
-------------	--

Similar sites

R070BD004NM	Sandy Sandy ecological sites are similar to Shallow Sandy sites in species composition and Transition pathways.
-------------	---

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on plains, alluvial fans, uplands, or fan piedmonts. The parent material consists of mixed loamy alluvium or eolian material derived from igneous and sedimentary bedrock. The petrocalcic layer is at a depth of 10 to 25 inches and undulating.

Slopes are nearly level to undulating, usually less than 9 percent. Elevations range from 2,842 to 4,500 feet.

Table 2. Representative physiographic features

Landforms	(1) Plain (2) Fan piedmont (3) Alluvial fan
Elevation	2,842–4,500 ft
Slope	1–9%
Aspect	Aspect is not a significant factor

Climatic features

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common.

Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity – short duration thunderstorms.

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

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

Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of the site. The vegetation of this site can take advantage of the moisture and the time it falls. Because of the soil profile, little moisture can be stored in the soil for any length of time. Moisture is readily available to the plants from the time it falls. Strong winds from the southwest blow from January through June which rapidly dries out the soil profile during a critical period for plant growth.

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

Table 3. Representative climatic features

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

Influencing water features

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

Soil features

Soils are very shallow to shallow, less than 20 inches in depth. Surface and subsurface textures are gravelly loamy sand, gravelly fine sandy loam or fine sandy loam.

An indurated caliche layer occurs at depths of 6 to 25 inches and is at an average of 15 inches from the surface. Underlying material textures are very gravelly fine sandy loam, very gravelly sandy loam, gravelly fine sandy loam. Gravels are calcium carbonate concretions, calcium carbonate content ranges from 30 to 65 percent.

The indurated caliche layer typically holds water up in the profile for short periods within the root zone of plants. These soils will blow if left unprotected by vegetation.

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

Characteristic soils are:

Simona

Jerag

Table 4. Representative soil features

Surface texture	(1) Fine sandy loam (2) Loamy fine sand (3) Gravelly fine sandy loam
Family particle size	(1) Loamy
Drainage class	Well drained to moderately well drained
Permeability class	Moderately slow to moderate

Soil depth	7–24 in
Surface fragment cover <=3"	5–25%
Surface fragment cover >3"	0%
Available water capacity (0–40in)	1–2 in
Calcium carbonate equivalent (0–40in)	5–15%
Electrical conductivity (0–40in)	0–4 mmhos/cm
Sodium adsorption ratio (0–40in)	0
Soil reaction (1:1 water) (0–40in)	7.4–8
Subsurface fragment volume <=3" (Depth not specified)	5–25%
Subsurface fragment volume >3" (Depth not specified)	0%

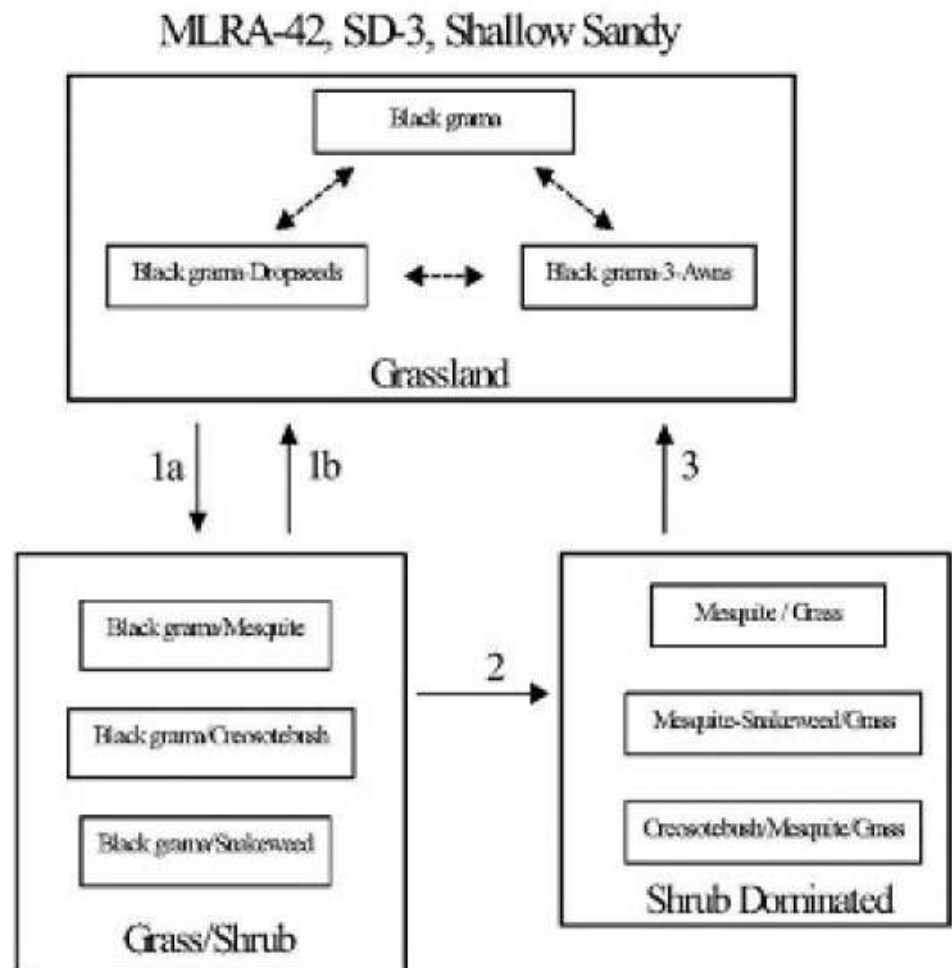
Ecological dynamics

Overview

The Shallow Sandy site occurs on upland plains, and tops of low ridges and mesas, associated with Sandy, Loamy Sand, and Shallow sites. Coarse to moderately coarse soil surface textures, shallow depth (<20 inches) to an indurated caliche layer (petrocalcic horizon), and an overwhelming dominance by black grama help to distinguish this site. The historic plant community of the Shallow Sandy site is a black grama dominated grassland sparsely dotted with shrubs. Shrubs, especially mesquite and creosotebush can increase or colonize due to the dispersal of shrub seeds by livestock or wildlife. This increase in mesquite and colonization of creosotebush may be enhanced by proximity to areas with existing high shrub densities. Fire suppression, and the loss of grass cover due to overgrazing or drought may facilitate the increase and encroachment of shrubs. Persistent loss of grass cover, competition for resources by shrubs, and periods of climate with increased winter precipitation and dry summers, may initiate the transition to a shrub-dominated state.

State and transition model

Plant Communities and Transitional Pathways (diagram)



1a. Seed dispersal, drought, overgrazing, fire suppression.

1b. Prescribed fire, brush control, prescribed grazing.

2. Persistent loss of grass cover, resource competition, increased winter precipitation.

3. Brush control, range seeding, prescribed grazing.

State 1

Historic Climax Plant Community

Community 1.1

Historic Climax Plant Community

Grassland: This site responds well to management and is resistant to state change, due to the shallow depth to petrocalcic horizon and sandy surface textures. The sandy surface textures allow rapid water infiltration and the petrocalcic horizon helps to keep water perched and available to shallow rooted grasses. Black grama is the dominant species in the historic plant community, averaging 50 to 60 percent of the total production for this site. Bush muhly, blue grama, and dropseeds are present as sub-dominants. Typically, yucca, javalinabush, range ratany, prickly pear, and mesquite are sparsely dotted across the landscape. Leatherweed croton, cutleaf

happlopappus, wooly groundsel, and threadleaf groundsel are common forbs. Continuous heavy grazing or extended periods of drought will cause a loss of grass cover characterized by a decrease in black grama, bush muhly, blue and sideoats grama, plains bristlegrass, and Arizona cottontop. Dropseeds and or threeawns may increase and become sub-dominant to black grama. Continued loss of grass cover in conjunction with dispersal of shrub seeds and fire suppression is believed to cause the transition to a state with increased amounts of shrubs (Grass/Shrub state). Diagnosis: Black grama is the dominant grass species. Grass cover uniformly distributed. Shrubs are a minor component averaging only two to five percent canopy cover. Litter cover is high (40-50 percent of area), and litter movement is limited to smaller size class litter and short distances (<. 5m). Other grasses that could appear on this site would include: six-weeks grama, fluffgrass, false-buffalograss, hairy grama, little bluestem, bristle panicum, cane bluestem, Indian ricegrass, tridens spp., and red lovegrass. Other woody plants include: pricklypear, cholla, fourwing saltbush, catclaw mimosa, winterfat, American tarbush and mesquite. Other forbs include: globemallow, verbena, desert holly, senna, plains blackfoot, trailing fleabane, fiddleneck, deerstongue, wooly Indianwheat, and locoweed.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	474	652	830
Forb	78	107	136
Shrub/Vine	48	66	84
Total	600	825	1050

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	30-35%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	40-50%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	15-25%

Figure 5. Plant community growth curve (percent production by month). NM2802, R042XC002NM-Shallow Sandy-HCPC. SD-3 Shallow Sandy - Warm season plant community.

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

State 2
Grass/Shrub

Community 2.1
Grass/Shrub

Grass/Shrub: This state is characterized by the notable presence of shrubs, especially mesquite, broom snakeweed, and/or creosotebush, however grasses remain as the dominant species. Black grama is the dominant

grass species. Threeawns and or dropseeds are sub-dominant. The susceptibility of the Shallow Sandy site to shrub encroachment may be higher when located adjacent to other sites with high densities of mesquite or creosotebush. Retrogression within this site is characterized by decreases in grass cover and increasing densities of shrubs. Diagnosis: Black grama remains as the dominant grass species. Grass cover varies in response to the amount of shrub increase, ranging from uniform to patchy. Shrubs are found at increased densities relative to the grassland state, especially mesquite, creosotebush, or broom snakeweed. Transition to Grass/Shrub (1a) Historically fire may have kept mesquite and other shrubs in check by completely killing some species and disrupting seed production cycles and suppressing the establishment of shrub seedlings in others. Fire suppression combined with seed dispersal by livestock and wildlife is believed to be the factors responsible for the establishment and increase in shrubs.1, 3 Loss of grass cover due to overgrazing, prolonged periods of drought, or their combination, reduces fire fuel loads and increases the susceptibility of the site to shrub establishment. Key indicators of approach to transition: Increase in the relative abundance of dropseeds and threeawns Presence of shrub seedlings Loss of organic matter—evidenced by an increase in physical soil crusts 8 Transition back to Grassland (1b) Brush control is necessary to initiate the transition back to the grassland state. If adequate fuel loads remain, possibly the reintroduction of fire as a management tool will assist in the transition back, however, mixed results have been observed concerning the effects of fire on black grama grasslands.6 Prescribed grazing will help ensure adequate rest following brush control and will assist in the establishment and maintenance of grass cover capable of sustaining fire.

State 3
Shrub Dominated

Community 3.1
Shrub Dominated

Shrub-Dominated: Across the range of soil types included in the Shallow Sandy site, mesquite is typically the dominant shrub, but it does occur as a co-dominant or sub-dominant species with creosotebush or broom snakeweed. Mesquite tends to dominate when the Shallow Sandy site occurs as part of a complex or in association with Sandy or Loamy Sand sites. Creosotebush tends to dominate on Shallow Sandy sites that occur as part of, or adjacent to Shallow Sites. Broom snakeweed increases in response to heavy grazing, but tends to cycle in and out depending on timing of rainfall. However, once the site is dominated by shrubs and snakeweed becomes well established, it tends to remain as a major component in the shrub dominated state. Diagnosis: Mesquite, creosotebush, or snakeweed cover is high, exceeding that of grasses. Grass cover is patchy with large connected bare areas present. Black grama, threeawns, or dropseeds may be the dominant grass. Evidence of accelerated wind erosion in the form of pedestalling of plants, and soil deposition around shrub bases may be common. Transition to Shrub-Dominated (2) Persistent loss of grass cover and the resulting increased competition between shrubs and remaining grasses for dwindling resources (especially soil moisture) may drive this transition.5 Additionally periods of increased winter precipitation may facilitate periodic episodes of shrub expansion and establishment. 4 Key indicators of approach to transition: Increase in size and frequency of bare patches. Loss of grass cover in shrub interspaces. Increased signs of erosion, evidenced by pedestalling of plants, and soil and litter deposition on leeward side of plants. 7 Transition back to Grassland (3) Brush control is necessary to reduce competition from shrubs and reestablish grasses. Range seeding may be necessary if insufficient grasses remain, The benefits, and costs, will vary depending upon the degree of site degradation, and adequate precipitation following seeding.

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1	Warm Season			413–495	
	black grama	BOER4	<i>Bouteloua eriopoda</i>	413–495	–
2	Warm Season			41–83	
	bush muhly	MUPO2	<i>Muhlenbergia porteri</i>	41–83	–
3	Warm Season			41–83	

	blue grama	BOGR2	<i>Bouteloua gracilis</i>	41–83	–
4	Warm Season			25–41	
	sideoats grama	BOCU	<i>Bouteloua curtipendula</i>	25–41	–
5	Warm Season			41–83	
	spike dropseed	SPCO4	<i>Sporobolus contractus</i>	41–83	–
	sand dropseed	SPCR	<i>Sporobolus cryptandrus</i>	41–83	–
	mesa dropseed	SPFL2	<i>Sporobolus flexuosus</i>	41–83	–
6	Warm Season			17–41	
	threeawn	ARIST	<i>Aristida</i>	17–41	–
7	Warm Season			41–83	
	Arizona cottontop	DICA8	<i>Digitaria californica</i>	41–83	–
	plains bristlegrass	SEVU2	<i>Setaria vulpiseta</i>	41–83	–
8	Warm Season			41–83	
	mat sandbur	CELO3	<i>Cenchrus longispinus</i>	41–83	–
	hooded windmill grass	CHCU2	<i>Chloris cucullata</i>	41–83	–
9	Other Perennial Grasses			25–41	
	Grass, perennial	2GP	<i>Grass, perennial</i>	25–41	–
Shrub/Vine					
10	Shrub			8–25	
	javelina bush	COER5	<i>Condalia ericoides</i>	8–25	–
11	Shrub			8–25	
	yucca	YUCCA	<i>Yucca</i>	8–25	–
12	Shrub			8–25	
	jointfir	EPHED	<i>Ephedra</i>	8–25	–
	littleleaf ratany	KRER	<i>Krameria erecta</i>	8–25	–
13	Shrub			8–25	
	featherplume	DAFO	<i>Dalea formosa</i>	8–25	–
14	Shrub			8–25	
	broom snakeweed	GUSA2	<i>Gutierrezia sarothrae</i>	8–25	–
15	Other Shrubs			25–41	
	Shrub (>.5m)	2SHRUB	<i>Shrub (>.5m)</i>	25–41	–
Forb					
16	Forb			17–41	
	leatherweed	CRPOP	<i>Croton pottsii</i> var. <i>pottsii</i>	17–41	–
	Goodding's tansyaster	MAPIG2	<i>Machaeranthera pinnatifida</i> ssp. <i>gooddingii</i> var. <i>gooddingii</i>	17–41	–
17	Forb			17–41	
	woolly groundsel	PACA15	<i>Packera cana</i>	17–41	–
	threadleaf ragwort	SEFLF	<i>Senecio flaccidus</i> var. <i>flaccidus</i>	17–41	–
18	Forb			8–25	
	whitest evening primrose	OEAL	<i>Oenothera albicaulis</i>	8–25	–
19	Other Forbs			8–25	
	Forb (herbaceous, not grass nor grass-like)	2FORB	<i>Forb (herbaceous, not grass nor grass-like)</i>	8–25	–

Animal community

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, swift fox, black-tailed jackrabbit, spotted ground squirrel, Ord's kangaroo rat, northern grasshopper mouse, coyote, horned lark, meadowlark, lark bunting, scaled quail, morning dove, side-blotched lizard, round-tailed horned lizard, marbled whiptail, prairie rattlesnake and ornate box turtle.

Hydrological functions

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

Hydrologic Interpretations
Soil Series Hydrologic Group
Jarag D
Simona D

Recreational uses

This site offers recreation for hiking, horseback riding, nature observation and photography, and quail and dove hunting. During years of abundant spring moisture, this site displays a riot of color from wildflowers during May and June. A few summer and fall flowers also occur.

Wood products

The natural potential plant community of this site affords little or no wood products. Where the site has been invaded by mesquite or cholla cactus the roots and stems of these plants provide attractive material for a variety of curiosities, such as lamps and small furniture.

Other products

This site is suitable for grazing by all kinds and classes of livestock during all seasons of the year. Because of the sandy textures and shallow profile, this site will respond rapidly to management. As this site deteriorates, plants such as black grama, bush muhly, blue and sideoats grama, plains bristlegrass and Arizona cottontop, will decrease and be replaced by plants such as threeawns, mesquite, creosote bush, and broom snakeweed. This also causes a decrease in ground cover, leaving the soil to blow. This site responds best to a system of management that rotates the season of use.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month
Similarity Index Ac/AUM
100 - 76 2.5 – 3.5
75 – 51 3.2 – 4.6
50 – 26 4.5 – 7.5
25 – 0 7.6 +

Inventory data references

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

Other references

Literature References:

1. Brooks, M.L. and D.A. Pyke. 2001. Invasive plants and fire in the deserts of North America. Pages 1–14 in K.E.M. Galley and T.P. Wilson (eds.). Proceedings of the Invasive Species Workshop: the Role of Fire in the Control and Spread of Invasive Species.
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5. Tiedemann, A. R. and J. O. Klemmedson. 1977. Effect of mesquite trees on vegetation and soils in the desert grassland. J. Range Manage. 30: 361-367.
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Contributors

David Trujillo
Don Sylvester

Rangeland health reference sheet

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

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

Indicators

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

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

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

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

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

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

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

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

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

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

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

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

Dominant:

Sub-dominant:

Other:

Additional:

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

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

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

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

17. **Perennial plant reproductive capability:**



ANALYTICAL REPORT

January 07, 2025

Scout Energy - Rangely, CO

Sample Delivery Group: L1813128
Samples Received: 12/28/2024
Project Number: KH247046
Description: WDDU 42
Site: WDDU 42
Report To: Chuck Smith
100 Chevron Road
Rangely, CO 81648

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

Entire Report Reviewed By:

Chris Ward

Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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Cn: Case Narrative	6	
Sr: Sample Results	7	³ Ss
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DSV-02R L1813128-02	8	⁴ Cn
DSV-03 L1813128-03	9	⁵ Sr
DSV-04 L1813128-04	10	
DSV-05R L1813128-05	11	⁶ Qc
DSV-06R L1813128-06	12	
DSV-07R L1813128-07	13	⁷ Gl
DSV-08R L1813128-08	14	⁸ Al
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Gl: Glossary of Terms	29	
Al: Accreditations & Locations	30	
Sc: Sample Chain of Custody	31	

DSV-01R L1813128-01 Solid

Collected by
Becky Meadows

Collected date/time
12/27/24 09:36

Received date/time
12/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2426247	1	12/30/24 08:28	12/30/24 08:38	CMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2425840	1	12/28/24 17:07	12/28/24 18:20	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2429279	25	12/29/24 11:26	01/06/25 23:33	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2428220	1	12/29/24 11:26	01/03/25 17:48	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2426695	1	12/31/24 10:29	01/02/25 11:13	SGB	Mt. Juliet, TN

1

Cp

2

Tc

3

Ss

4

Cn

DSV-02R L1813128-02 Solid

Collected by
Becky Meadows

Collected date/time
12/27/24 10:33

Received date/time
12/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2426248	1	12/30/24 10:18	12/30/24 10:24	CMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2425840	5	12/28/24 17:07	12/28/24 18:58	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2426387	25	12/29/24 11:26	12/30/24 14:58	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2426508	1	12/29/24 11:26	12/31/24 22:02	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2426695	5	12/31/24 10:29	01/02/25 14:02	SGB	Mt. Juliet, TN

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

DSV-03 L1813128-03 Solid

Collected by
Becky Meadows

Collected date/time
12/27/24 10:37

Received date/time
12/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
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Wet Chemistry by Method 9056A	WG2425840	1	12/28/24 17:07	12/28/24 19:08	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2429279	25	12/29/24 11:26	01/06/25 23:56	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2428220	1	12/29/24 11:26	01/03/25 18:07	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2426695	1	12/31/24 10:29	01/02/25 14:02	SGB	Mt. Juliet, TN

DSV-04 L1813128-04 Solid

Collected by
Becky Meadows

Collected date/time
12/27/24 10:42

Received date/time
12/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2426248	1	12/30/24 10:18	12/30/24 10:24	CMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2425840	1	12/28/24 17:07	12/28/24 19:17	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2426387	25	12/29/24 11:26	12/30/24 15:22	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2426508	1	12/29/24 11:26	12/31/24 22:22	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2426695	1	12/31/24 10:29	01/02/25 13:34	SGB	Mt. Juliet, TN

DSV-05R L1813128-05 Solid

Collected by
Becky Meadows

Collected date/time
12/27/24 10:50

Received date/time
12/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2426248	1	12/30/24 10:18	12/30/24 10:24	CMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2425840	1.01	12/28/24 17:07	12/28/24 19:27	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2429279	25	12/29/24 11:26	01/07/25 00:20	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2428220	1	12/29/24 11:26	01/03/25 18:27	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2427287	1	01/02/25 07:50	01/02/25 16:25	KKS	Mt. Juliet, TN

DSV-06R L1813128-06 Solid

Collected by
Becky Meadows

Collected date/time
12/27/24 09:22

Received date/time
12/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2426248	1	12/30/24 10:18	12/30/24 10:24	CMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2425840	5	12/28/24 17:07	12/28/24 19:36	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2429279	25	12/29/24 11:26	01/07/25 01:23	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2428220	1	12/29/24 11:26	01/03/25 18:46	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2427287	1	01/02/25 07:50	01/02/25 19:27	KKS	Mt. Juliet, TN

1Cp

2Tc

3Ss

4Cn

DSV-07R L1813128-07 Solid

Collected by
Becky Meadows

Collected date/time
12/27/24 10:58

Received date/time
12/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2426248	1	12/30/24 10:18	12/30/24 10:24	CMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2425840	5.1	12/28/24 17:07	12/28/24 19:46	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2426387	25	12/29/24 11:26	12/30/24 15:45	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2426508	1	12/29/24 11:26	12/31/24 22:42	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2427287	1	01/02/25 07:50	01/02/25 20:45	KKS	Mt. Juliet, TN

5Sr

6Qc

7Gl

8Al

DSV-08R L1813128-08 Solid

Collected by
Becky Meadows

Collected date/time
12/27/24 11:09

Received date/time
12/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2426248	1	12/30/24 10:18	12/30/24 10:24	CMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2425840	1.01	12/28/24 17:07	12/28/24 19:56	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2426387	25	12/29/24 11:26	12/30/24 16:09	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2426508	1	12/29/24 11:26	12/31/24 23:02	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2427287	1	01/02/25 07:50	01/02/25 16:38	KKS	Mt. Juliet, TN

9Sc

DSV-09 L1813128-09 Solid

Collected by
Becky Meadows

Collected date/time
12/27/24 11:24

Received date/time
12/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2426248	1	12/30/24 10:18	12/30/24 10:24	CMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2425840	1	12/28/24 17:07	12/28/24 20:05	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2429279	25	12/29/24 11:26	01/07/25 01:47	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2428220	1	12/29/24 11:26	01/03/25 19:05	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2427287	1	01/02/25 07:50	01/03/25 10:42	KKS	Mt. Juliet, TN

Collected by
Becky Meadows

Collected date/time
12/27/24 09:29

Received date/time
12/28/24 08:00

DSV-10R L1813128-10 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2426248	1	12/30/24 10:18	12/30/24 10:24	CMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2425840	5	12/28/24 17:07	12/28/24 20:15	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2429279	25	12/29/24 11:26	01/07/25 02:10	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2428220	1	12/29/24 11:26	01/03/25 19:25	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2427287	1	01/02/25 07:50	01/02/25 20:19	KKS	Mt. Juliet, TN

SAMPLE SUMMARY

DSV-11R L1813128-11 Solid

Collected by
Becky Meadows

Collected date/time
12/27/24 11:46

Received date/time
12/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2426248	1	12/30/24 10:18	12/30/24 10:24	CMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2425840	1	12/28/24 17:07	12/28/24 20:43	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2429279	25	12/29/24 11:26	01/07/25 02:34	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2428220	1	12/29/24 11:26	01/03/25 19:44	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2427287	1	01/02/25 07:50	01/02/25 21:11	KKS	Mt. Juliet, TN

1Cp

2Tc

3Ss

4Cn

DSV-12 L1813128-12 Solid

Collected by
Becky Meadows

Collected date/time
12/27/24 11:44

Received date/time
12/28/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2426249	1	12/30/24 10:06	12/30/24 10:12	CMB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2425840	1	12/28/24 17:07	12/28/24 21:02	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2429279	25	12/29/24 11:26	01/07/25 02:57	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2428220	1	12/29/24 11:26	01/03/25 20:03	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2427287	1	01/02/25 07:50	01/02/25 20:32	KKS	Mt. Juliet, TN

5Sr

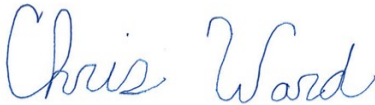
6Qc

7Gl

8Al

9Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris Ward
Project Manager

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.0		1	12/30/2024 08:38	WG2426247

¹ Cp

² Tc

Wet Chemistry by Method 9056A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	761	J6	6.76	21.3	1	12/28/2024 18:20	WG2425840

³ Ss

⁴ Cn

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.971	B J	0.613	2.82	25	01/06/2025 23:33	WG2429279
(S) a,a,a-Trifluorotoluene(FID)	98.4			77.0-120		01/06/2025 23:33	WG2429279

⁵ Sr

⁶ Qc

⁷ Gl

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	ug/kg		ug/kg	ug/kg		date / time	
Benzene	U		0.527	1.13	1	01/03/2025 17:48	WG2428220
Toluene	U		1.47	5.64	1	01/03/2025 17:48	WG2428220
Ethylbenzene	U		0.832	2.82	1	01/03/2025 17:48	WG2428220
Total Xylenes	U		0.993	7.34	1	01/03/2025 17:48	WG2428220
(S) Toluene-d8	102			75.0-131		01/03/2025 17:48	WG2428220
(S) 4-Bromofluorobenzene	97.6			67.0-138		01/03/2025 17:48	WG2428220
(S) 1,2-Dichloroethane-d4	97.9			70.0-130		01/03/2025 17:48	WG2428220

⁸ Al

⁹ Sc

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	2.95	J	1.71	4.26	1	01/02/2025 11:13	WG2426695
C28-C36 Motor Oil Range	11.4		0.292	4.26	1	01/02/2025 11:13	WG2426695
(S) o-Terphenyl	75.2			18.0-148		01/02/2025 11:13	WG2426695

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.5		1	12/30/2024 10:24	WG2426248

¹ Cp

² Tc

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	1070		33.7	106	5	12/28/2024 18:58	WG2425840

³ Ss

⁴ Cn

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.931	B J	0.607	2.79	25	12/30/2024 14:58	WG2426387
(S) a,a,a-Trifluorotoluene(FID)	99.3			77.0-120		12/30/2024 14:58	WG2426387

⁵ Sr

⁶ Qc

⁷ Gl

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) ug/kg	Qualifier	MDL (dry) ug/kg	RDL (dry) ug/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.522	1.12	1	12/31/2024 22:02	WG2426508
Toluene	U		1.45	5.59	1	12/31/2024 22:02	WG2426508
Ethylbenzene	U		0.823	2.79	1	12/31/2024 22:02	WG2426508
Total Xylenes	U		0.983	7.26	1	12/31/2024 22:02	WG2426508
(S) Toluene-d8	90.6			75.0-131		12/31/2024 22:02	WG2426508
(S) 4-Bromofluorobenzene	101			67.0-138		12/31/2024 22:02	WG2426508
(S) 1,2-Dichloroethane-d4	122			70.0-130		12/31/2024 22:02	WG2426508

⁸ Al

⁹ Sc

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	23.5		8.52	21.2	5	01/02/2025 14:02	WG2426695
C28-C36 Motor Oil Range	65.1		1.45	21.2	5	01/02/2025 14:02	WG2426695
(S) o-Terphenyl	66.7			18.0-148		01/02/2025 14:02	WG2426695

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.4		1	12/30/2024 10:24	WG2426248

1
Cp

2
Tc

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	U		6.80	21.4	1	12/28/2024 19:08	WG2425840

3
Ss

4
Cn

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	1.03	B J	0.620	2.85	25	01/06/2025 23:56	WG2429279
(S) a,a,a-Trifluorotoluene(FID)	100			77.0-120		01/06/2025 23:56	WG2429279

5
Sr

6
Qc

7
Gl

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) ug/kg	Qualifier	MDL (dry) ug/kg	RDL (dry) ug/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.533	1.14	1	01/03/2025 18:07	WG2428220
Toluene	U		1.48	5.70	1	01/03/2025 18:07	WG2428220
Ethylbenzene	U		0.841	2.85	1	01/03/2025 18:07	WG2428220
Total Xylenes	U		1.00	7.42	1	01/03/2025 18:07	WG2428220
(S) Toluene-d8	103			75.0-131		01/03/2025 18:07	WG2428220
(S) 4-Bromofluorobenzene	101			67.0-138		01/03/2025 18:07	WG2428220
(S) 1,2-Dichloroethane-d4	95.1			70.0-130		01/03/2025 18:07	WG2428220

8
Al

9
Sc

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	3.62	J	1.72	4.28	1	01/02/2025 14:02	WG2426695
C28-C36 Motor Oil Range	16.7		0.293	4.28	1	01/02/2025 14:02	WG2426695
(S) o-Terphenyl	81.4			18.0-148		01/02/2025 14:02	WG2426695

Collected date/time: 12/27/24 10:42

L1813128

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.3		1	12/30/2024 10:24	WG2426248

1
Cp

2
Tc

Wet Chemistry by Method 9056A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	148		6.73	21.2	1	12/28/2024 19:17	WG2425840

3
Ss

4
Cn

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	1.08	B J	0.608	2.80	25	12/30/2024 15:22	WG2426387
(S) a,a,a-Trifluorotoluene(FID)	99.2			77.0-120		12/30/2024 15:22	WG2426387

5
Sr

6
Qc

7
Gl

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	ug/kg		ug/kg	ug/kg		date / time	
Benzene	U		0.523	1.12	1	12/31/2024 22:22	WG2426508
Toluene	U		1.46	5.60	1	12/31/2024 22:22	WG2426508
Ethylbenzene	U		0.826	2.80	1	12/31/2024 22:22	WG2426508
Total Xylenes	U		0.986	7.28	1	12/31/2024 22:22	WG2426508
(S) Toluene-d8	93.1			75.0-131		12/31/2024 22:22	WG2426508
(S) 4-Bromofluorobenzene	103			67.0-138		12/31/2024 22:22	WG2426508
(S) 1,2-Dichloroethane-d4	122			70.0-130		12/31/2024 22:22	WG2426508

8
Al

9
Sc

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	1.98	J	1.71	4.24	1	01/02/2025 13:34	WG2426695
C28-C36 Motor Oil Range	9.50		0.290	4.24	1	01/02/2025 13:34	WG2426695
(S) o-Terphenyl	63.3			18.0-148		01/02/2025 13:34	WG2426695

Collected date/time: 12/27/24 10:50

L1813128

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	80.8		1	12/30/2024 10:24	WG2426248

¹ Cp

² Tc

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	568		7.93	25.0	1.01	12/28/2024 19:27	WG2425840

³ Ss

⁴ Cn

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	1.06	B J	0.801	3.69	25	01/07/2025 00:20	WG2429279
(S) a,a,a-Trifluorotoluene(FID)	97.9			77.0-120		01/07/2025 00:20	WG2429279

⁵ Sr

⁶ Qc

⁷ Gl

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) ug/kg	Qualifier	MDL (dry) ug/kg	RDL (dry) ug/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.689	1.47	1	01/03/2025 18:27	WG2428220
Toluene	U		1.92	7.37	1	01/03/2025 18:27	WG2428220
Ethylbenzene	U		1.09	3.69	1	01/03/2025 18:27	WG2428220
Total Xylenes	U		1.30	9.59	1	01/03/2025 18:27	WG2428220
(S) Toluene-d8	103			75.0-131		01/03/2025 18:27	WG2428220
(S) 4-Bromofluorobenzene	99.5			67.0-138		01/03/2025 18:27	WG2428220
(S) 1,2-Dichloroethane-d4	94.8			70.0-130		01/03/2025 18:27	WG2428220

⁸ Al

⁹ Sc

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.99	4.95	1	01/02/2025 16:25	WG2427287
C28-C36 Motor Oil Range	0.869	J	0.339	4.95	1	01/02/2025 16:25	WG2427287
(S) o-Terphenyl	82.1			18.0-148		01/02/2025 16:25	WG2427287

Collected date/time: 12/27/24 09:22

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.3		1	12/30/2024 10:24	WG2426248

¹ Cp

² Tc

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	1230		34.8	110	5	12/28/2024 19:36	WG2425840

³ Ss

⁴ Cn

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.888	B J	0.646	2.98	25	01/07/2025 01:23	WG2429279
(S) a,a,a-Trifluorotoluene(FID)	97.9			77.0-120		01/07/2025 01:23	WG2429279

⁵ Sr

⁶ Qc

⁷ Gl

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) ug/kg	Qualifier	MDL (dry) ug/kg	RDL (dry) ug/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.556	1.19	1	01/03/2025 18:46	WG2428220
Toluene	U		1.55	5.95	1	01/03/2025 18:46	WG2428220
Ethylbenzene	U		0.877	2.98	1	01/03/2025 18:46	WG2428220
Total Xylenes	U		1.05	7.74	1	01/03/2025 18:46	WG2428220
(S) Toluene-d8	101			75.0-131		01/03/2025 18:46	WG2428220
(S) 4-Bromofluorobenzene	98.8			67.0-138		01/03/2025 18:46	WG2428220
(S) 1,2-Dichloroethane-d4	95.4			70.0-130		01/03/2025 18:46	WG2428220

⁸ Al

⁹ Sc

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	3.62	J	1.76	4.38	1	01/02/2025 19:27	WG2427287
C28-C36 Motor Oil Range	7.40		0.300	4.38	1	01/02/2025 19:27	WG2427287
(S) o-Terphenyl	83.4			18.0-148		01/02/2025 19:27	WG2427287

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.8		1	12/30/2024 10:24	WG2426248

1
Cp

2
Tc

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	1910		37.3	117	5.1	12/28/2024 19:46	WG2425840

3
Ss

4
Cn

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	1.27	B J	0.708	3.26	25	12/30/2024 15:45	WG2426387
(S) a,a,a-Trifluorotoluene(FID)	98.6			77.0-120		12/30/2024 15:45	WG2426387

5
Sr

6
Qc

7
Gl

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) ug/kg	Qualifier	MDL (dry) ug/kg	RDL (dry) ug/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.609	1.30	1	12/31/2024 22:42	WG2426508
Toluene	U		1.69	6.52	1	12/31/2024 22:42	WG2426508
Ethylbenzene	U		0.960	3.26	1	12/31/2024 22:42	WG2426508
Total Xylenes	U		1.15	8.47	1	12/31/2024 22:42	WG2426508
(S) Toluene-d8	92.9			75.0-131		12/31/2024 22:42	WG2426508
(S) 4-Bromofluorobenzene	100			67.0-138		12/31/2024 22:42	WG2426508
(S) 1,2-Dichloroethane-d4	119			70.0-130		12/31/2024 22:42	WG2426508

8
Al

9
Sc

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	45.6		1.85	4.61	1	01/02/2025 20:45	WG2427287
C28-C36 Motor Oil Range	64.8		0.315	4.61	1	01/02/2025 20:45	WG2427287
(S) o-Terphenyl	97.6			18.0-148		01/02/2025 20:45	WG2427287

Collected date/time: 12/27/24 11:09

L1813128

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.4		1	12/30/2024 10:24	WG2426248

¹ Cp

² Tc

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	258		7.69	24.2	1.01	12/28/2024 19:56	WG2425840

³ Ss

⁴ Cn

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	1.02	B J	0.760	3.50	25	12/30/2024 16:09	WG2426387
(S) a,a,a-Trifluorotoluene(FID)	98.6			77.0-120		12/30/2024 16:09	WG2426387

⁵ Sr

⁶ Qc

⁷ Gl

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) ug/kg	Qualifier	MDL (dry) ug/kg	RDL (dry) ug/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.653	1.40	1	12/31/2024 23:02	WG2426508
Toluene	U		1.82	6.99	1	12/31/2024 23:02	WG2426508
Ethylbenzene	U		1.03	3.50	1	12/31/2024 23:02	WG2426508
Total Xylenes	U		1.23	9.09	1	12/31/2024 23:02	WG2426508
(S) Toluene-d8	93.3			75.0-131		12/31/2024 23:02	WG2426508
(S) 4-Bromofluorobenzene	103			67.0-138		12/31/2024 23:02	WG2426508
(S) 1,2-Dichloroethane-d4	117			70.0-130		12/31/2024 23:02	WG2426508

⁸ Al

⁹ Sc

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.93	4.80	1	01/02/2025 16:38	WG2427287
C28-C36 Motor Oil Range	1.45	J	0.329	4.80	1	01/02/2025 16:38	WG2427287
(S) o-Terphenyl	74.9			18.0-148		01/02/2025 16:38	WG2427287

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.3		1	12/30/2024 10:24	WG2426248

¹ Cp

² Tc

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	238		6.88	21.7	1	12/28/2024 20:05	WG2425840

³ Ss

⁴ Cn

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	1.06	B J	0.634	2.92	25	01/07/2025 01:47	WG2429279
(S) a,a,a-Trifluorotoluene(FID)	97.7			77.0-120		01/07/2025 01:47	WG2429279

⁵ Sr

⁶ Qc

⁷ Gl

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) ug/kg	Qualifier	MDL (dry) ug/kg	RDL (dry) ug/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.545	1.17	1	01/03/2025 19:05	WG2428220
Toluene	U		1.52	5.84	1	01/03/2025 19:05	WG2428220
Ethylbenzene	U		0.860	2.92	1	01/03/2025 19:05	WG2428220
Total Xylenes	U		1.03	7.59	1	01/03/2025 19:05	WG2428220
(S) Toluene-d8	103			75.0-131		01/03/2025 19:05	WG2428220
(S) 4-Bromofluorobenzene	98.1			67.0-138		01/03/2025 19:05	WG2428220
(S) 1,2-Dichloroethane-d4	92.6			70.0-130		01/03/2025 19:05	WG2428220

⁸ Al

⁹ Sc

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	3.63	J	1.74	4.33	1	01/03/2025 10:42	WG2427287
C28-C36 Motor Oil Range	12.2		0.297	4.33	1	01/03/2025 10:42	WG2427287
(S) o-Terphenyl	82.6			18.0-148		01/03/2025 10:42	WG2427287

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.3		1	12/30/2024 10:24	WG2426248

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	1120		35.2	111	5	12/28/2024 20:15	WG2425840

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.816	B J	0.660	3.04	25	01/07/2025 02:10	WG2429279
(S) a,a,a-Trifluorotoluene(FID)	98.4			77.0-120		01/07/2025 02:10	WG2429279

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) ug/kg	Qualifier	MDL (dry) ug/kg	RDL (dry) ug/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.568	1.22	1	01/03/2025 19:25	WG2428220
Toluene	2.13	J	1.58	6.08	1	01/03/2025 19:25	WG2428220
Ethylbenzene	1.37	J	0.896	3.04	1	01/03/2025 19:25	WG2428220
Total Xylenes	3.56	J	1.07	7.90	1	01/03/2025 19:25	WG2428220
(S) Toluene-d8	105			75.0-131		01/03/2025 19:25	WG2428220
(S) 4-Bromofluorobenzene	99.9			67.0-138		01/03/2025 19:25	WG2428220
(S) 1,2-Dichloroethane-d4	96.8			70.0-130		01/03/2025 19:25	WG2428220

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	15.6		1.78	4.43	1	01/02/2025 20:19	WG2427287
C28-C36 Motor Oil Range	26.1		0.304	4.43	1	01/02/2025 20:19	WG2427287
(S) o-Terphenyl	90.0			18.0-148		01/02/2025 20:19	WG2427287

1	Cp
2	Tc
3	Ss
4	Cn
5	Sr
6	Qc
7	Gl
8	Al
9	Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.6		1	12/30/2024 10:24	WG2426248

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Wet Chemistry by Method 9056A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	978		6.93	21.8	1	12/28/2024 20:43	WG2425840

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.886	B J	0.643	2.96	25	01/07/2025 02:34	WG2429279
(S) a,a,a-Trifluorotoluene(FID)	98.8			77.0-120		01/07/2025 02:34	WG2429279

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	ug/kg		ug/kg	ug/kg		date / time	
Benzene	U		0.553	1.18	1	01/03/2025 19:44	WG2428220
Toluene	U		1.54	5.92	1	01/03/2025 19:44	WG2428220
Ethylbenzene	U		0.872	2.96	1	01/03/2025 19:44	WG2428220
Total Xylenes	1.15	J	1.04	7.69	1	01/03/2025 19:44	WG2428220
(S) Toluene-d8	103			75.0-131		01/03/2025 19:44	WG2428220
(S) 4-Bromofluorobenzene	98.8			67.0-138		01/03/2025 19:44	WG2428220
(S) 1,2-Dichloroethane-d4	94.4			70.0-130		01/03/2025 19:44	WG2428220

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	45.7		1.76	4.37	1	01/02/2025 21:11	WG2427287
C28-C36 Motor Oil Range	114		0.299	4.37	1	01/02/2025 21:11	WG2427287
(S) o-Terphenyl	92.9			18.0-148		01/02/2025 21:11	WG2427287

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.0		1	12/30/2024 10:12	WG2426249

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Wet Chemistry by Method 9056A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chloride	45.9		7.06	22.2	1	12/28/2024 21:02	WG2425840

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	1.20	B J	0.664	3.06	25	01/07/2025 02:57	WG2429279
(S) a,a,a-Trifluorotoluene(FID)	97.8			77.0-120		01/07/2025 02:57	WG2429279

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	ug/kg		ug/kg	ug/kg		date / time	
Benzene	U		0.571	1.22	1	01/03/2025 20:03	WG2428220
Toluene	3.36	J	1.59	6.11	1	01/03/2025 20:03	WG2428220
Ethylbenzene	1.13	J	0.901	3.06	1	01/03/2025 20:03	WG2428220
Total Xylenes	5.20	J	1.08	7.95	1	01/03/2025 20:03	WG2428220
(S) Toluene-d8	103			75.0-131		01/03/2025 20:03	WG2428220
(S) 4-Bromofluorobenzene	97.9			67.0-138		01/03/2025 20:03	WG2428220
(S) 1,2-Dichloroethane-d4	95.8			70.0-130		01/03/2025 20:03	WG2428220

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	29.4		1.79	4.45	1	01/02/2025 20:32	WG2427287
C28-C36 Motor Oil Range	64.6		0.304	4.45	1	01/02/2025 20:32	WG2427287
(S) o-Terphenyl	88.9			18.0-148		01/02/2025 20:32	WG2427287

Total Solids by Method 2540 G-2011 [L1813128-01](#)

Method Blank (MB)

(MB) R4162971-1 12/30/24 08:38

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00500	<div></div>		

¹Cp

²Tc

³Ss

L1813127-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1813127-01 12/30/24 08:38 • (DUP) R4162971-3 12/30/24 08:38

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	95.3	95.2	1	0.0157		10

⁴Cn

⁵Sr

⁶Qc

Laboratory Control Sample (LCS)

(LCS) R4162971-2 12/30/24 08:38

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	90.0-110	

⁷Gl

⁸Al

⁹Sc

Total Solids by Method 2540 G-2011

Method Blank (MB)

(MB) R4163029-1 12/30/24 10:24

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00200			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1813128-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1813128-02 12/30/24 10:24 • (DUP) R4163029-3 12/30/24 10:24

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	94.5	94.3	1	0.161		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R4163029-2 12/30/24 10:24

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	90.0-110	

⁹Sc

Total Solids by Method 2540 G-2011

Method Blank (MB)

(MB) R4163006-1 12/30/24 10:12

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00400			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1813129-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1813129-01 12/30/24 10:12 • (DUP) R4163006-3 12/30/24 10:12

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	97.5	97.4	1	0.0802		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R4163006-2 12/30/24 10:12

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	90.0-110	

⁹Sc

Wet Chemistry by Method 9056A [L1813128-01,02,03,04,05,06,07,08,09,10,11,12](#)

Method Blank (MB)

(MB) R4162713-1 12/28/24 18:02

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chloride	U		6.35	20.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1813128-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1813128-01 12/28/24 18:20 • (DUP) R4162713-3 12/28/24 18:30

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	761	744	1	2.24		15

L1813128-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1813128-11 12/28/24 20:43 • (DUP) R4162713-6 12/28/24 20:53

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	978	968	1	1.02		15

Laboratory Control Sample (LCS)

(LCS) R4162713-2 12/28/24 18:11

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chloride	200	200	100	80.0-120	

L1813128-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1813128-01 12/28/24 18:20 • (MS) R4162713-4 12/28/24 18:39 • (MSD) R4162713-5 12/28/24 18:49

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chloride	213	761	870	985	51.4	106	1	80.0-120	J6		12.4	15

Volatile Organic Compounds (GC) by Method 8015D/GRO

[L1813128-02,04,07,08](#)

Method Blank (MB)

(MB) R4164857-2 12/30/24 12:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.959	<div></div>	0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	99.4			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4164857-1 12/30/24 11:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.81	96.2	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			102	77.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Volatile Organic Compounds (GC) by Method 8015D/GRO [L1813128-01,03,05,06,09,10,11,12](#)

Method Blank (MB)

(MB) R4165103-2 01/06/25 20:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.711	⬇	0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	98.1			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4165103-1 01/06/25 19:17

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.46	89.2	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			102	77.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

L1813128-02,04,07,08

Method Blank (MB)

(MB) R4164231-3 12/31/24 17:33

Analyte	MB Result ug/kg	MB Qualifier	MB MDL ug/kg	MB RDL ug/kg
Benzene	U		0.467	1.00
Toluene	U		1.30	5.00
Ethylbenzene	U		0.737	2.50
Total Xylenes	U		0.880	6.50
(S) Toluene-d8	92.6			75.0-131
(S) 4-Bromofluorobenzene	100			67.0-138
(S) 1,2-Dichloroethane-d4	114			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4164231-1 12/31/24 15:52 • (LCSD) R4164231-2 12/31/24 16:12

Analyte	Spike Amount ug/kg	LCS Result ug/kg	LCSD Result ug/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	125	131	131	105	105	70.0-123			0.000	20
Toluene	125	123	121	98.4	96.8	75.0-121			1.64	20
Ethylbenzene	125	125	125	100	100	74.0-126			0.000	20
Total Xylenes	375	389	380	104	101	72.0-127			2.34	20
(S) Toluene-d8				92.6	92.9	75.0-131				
(S) 4-Bromofluorobenzene				101	100	67.0-138				
(S) 1,2-Dichloroethane-d4				116	116	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

L1813128-01.03.05.06.09.10.11.12

Method Blank (MB)

(MB) R4164851-3 01/03/25 11:49

Analyte	MB Result ug/kg	MB Qualifier	MB MDL ug/kg	MB RDL ug/kg
Benzene	U		0.467	1.00
Toluene	U		1.30	5.00
Ethylbenzene	U		0.737	2.50
Total Xylenes	U		0.880	6.50
(S) Toluene-d8	104			75.0-131
(S) 4-Bromofluorobenzene	102			67.0-138
(S) 1,2-Dichloroethane-d4	93.4			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4164851-1 01/03/25 10:12 • (LCSD) R4164851-2 01/03/25 10:31

Analyte	Spike Amount ug/kg	LCS Result ug/kg	LCSD Result ug/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	125	102	105	81.6	84.0	70.0-123			2.90	20
Toluene	125	104	110	83.2	88.0	75.0-121			5.61	20
Ethylbenzene	125	100	107	80.0	85.6	74.0-126			6.76	20
Total Xylenes	375	304	323	81.1	86.1	72.0-127			6.06	20
(S) Toluene-d8				98.7	99.7	75.0-131				
(S) 4-Bromofluorobenzene				98.6	100	67.0-138				
(S) 1,2-Dichloroethane-d4				100	102	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4163906-1 01/02/25 09:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	80.0			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4163906-2 01/02/25 09:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	42.4	84.8	50.0-150	
(S) o-Terphenyl			112	18.0-148	

L1813127-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1813127-01 01/02/25 10:08 • (MS) R4163906-3 01/02/25 10:22 • (MSD) R4163906-4 01/02/25 10:34

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	52.2	2.09	38.9	37.3	70.6	67.3	1	50.0-150			4.41	20
(S) o-Terphenyl					102	95.3		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Semi-Volatile Organic Compounds (GC) by Method 8015M [L1813128-05,06,07,08,09,10,11,12](#)

Method Blank (MB)

(MB) R4164223-1 01/02/25 15:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	83.6			18.0-148

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4164223-2 01/02/25 16:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	47.8	95.6	50.0-150	
(S) o-Terphenyl			118	18.0-148	

L1813439-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1813439-03 01/02/25 19:40 • (MS) R4164223-3 01/02/25 19:53 • (MSD) R4164223-4 01/02/25 20:06

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	64.1	56.8	58.1	0.000	0.000	1	50.0-150	J6	J6	2.26	20
(S) o-Terphenyl					111	103		18.0-148				

Guide to Reading and Understanding Your Laboratory Report

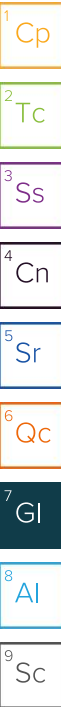
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

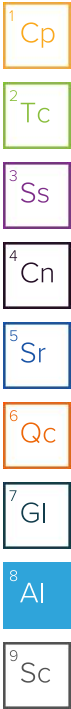
Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.



Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



B-Environmental

Billing Information:

Scout Energy Partners

Pres
Chk

Analysis / Container / Preservative

Chain of Custody

Pa



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L #

G179

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Remarks

Sample # (lab only)

Report to:

Chuck Smith

Email To:

Chuck.Smith@Terracon.com

Project

Description: WDDU 42

City/State

Collected: Jal, NM

Phone: 915-262-9701

Fax:

Client Project #

KH247046

Lab Project #

Collected by (print):

Gus Sanchez & BeckySue

Site/Facility ID #

WDDU 42

P.O. #

Collected by (signature):

Becky Meadows

Rush? (Lab MUST Be Notified)

Same Day Five Day

Next Day 5 Day (Rad Only)

Two Day 10 Day (Rad Only)

Three Day

Quote #

Date Results Needed

No.
of
CntrsImmediately
Packed on Ice N Y X

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

DSV-01 R

Grab

SS

1'

12/27/24

9:36

1

X

X

X

X

DSV-02 R

Grab

SS

1

12/27/24

10:33

1

X

X

X

X

DSV-03

Grab

SS

1

12/27/24

10:37

1

X

X

X

X

DSV-04

Grab

SS

1

12/27/24

10:42

1

X

X

X

X

DSV-05 R

Grab

SS

1

12/27/24

10:50

1

X

X

X

X

DSV-06 R

Grab

SS

1'

12/27/24

9:22

1

X

X

X

X

DSV-07 R

Grab

SS

1

12/27/24

10:58

1

X

X

X

X

DSV-08 R

Grab

SS

1

12/27/24

11:09

1

X

X

X

X

DSV-09

Grab

SS

1

12/27/24

11:24

1

X

X

X

X

DSV-10 R

Grab

SS

1'

12/27/24

9:29

1

X

X

X

X

* Matrix:

SS - Soil AIR - Air F - Filter

GW - Groundwater B - Bioassay

WW - WasteWater

DW - Drinking Water

OT - Other

Remarks:

Samples returned via:

UPS FedEx Courier

Tracking #

pH Temp

Flow Other

Sample Receipt Checklist

COC Seal Present/Intact: NP Y N

COC Signed/Accurate: Y N

Bottles arrive intact: Y N

Correct bottles used: Y N

Sufficient volume sent: Y N

If Applicable

VOA Zero Headspace: Y N

Preservation Correct/Checked: Y N

Relinquished by: (Signature)

B Meadows

Date:

12/27/24

Time:

14:00

Received by: (Signature)

James Catlett

Trip Blank Received: Yes / No

HCL / MeOH
TBR

Relinquished by: (Signature)

James Catlett

Date:

12/27/24

Time:

16:00

Received by: (Signature)

James Catlett

Temp: °C Bottles Received:

12/28/24 80° 12

If preservation required by Login: Date/Time

Relinquished by: (Signature)

James Catlett

Date:

12/28/24

Time:

80°

Received for lab by: (Signature)

Am K

Date: 12/28/24 Time: 80°

Hold:

Condition:

NCF / OK

B-Environmental

Scout Energy Partners

Pres
Chk

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # US13128

Table #

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Remarks

Sample # (lab only)

-11
-12

Report to:

Chuck Smith

Email To:

Chuck.Smith@Terracon.com

Project

Description: WDDU 42

City/State

Collected: Jal, NM

Phone: 915-262-9701

Fax:

Client Project #

KH247046

Lab Project #

Collected by (print):

Site/Facility ID #

WDDU 42

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

___ Same Day ___ Five Day

___ Next Day ___ 5 Day (Rad Only)

___ Two Day ___ 10 Day (Rad Only)

___ Three Day

Quote #

Date Results Needed

No.
of
Cnts

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

DSV-11 R

Grab

SS

1

12/27/24

11:46

1

DSV-12

Grab

SS

1

12/27/24

11:44

1

* Matrix:

SS - Soil AIR - Air F - Filter

GW - Groundwater B - Bioassay

WW - WasteWater

DW - Drinking Water

OT - Other

Remarks:

Please add Joseph.Guesnier@terracon.com to the email list

Thank you

Samples returned via:

___ UPS ___ FedEx ___ Courier ___

Tracking #

pH _____ Temp _____

Flow _____ Other _____

- Sample Receipt Checklist

COC Seal Present/Intact: ☒ NP ☒ Y ☐ NCOC Signed/Accurate: ☒ Y ☐ NBottles arrive intact: ☒ Y ☐ NCorrect bottles used: ☒ Y ☐ NSufficient volume sent: ☒ Y ☐ N

If Applicable

VOA Zero Headspace: ☒ Y ☐ NPreservation Correct/Checked: ☒ Y ☐ N

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: Yes ☒ No

HCL / MeOH

TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C Bottles Received: 2.00 20 12

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date:

Time:

Hold:

Condition:

NCF ☒ OK

12/28-NCF-L1813128 SCOENERCO

R5

Time estimate: 0h

Time spent: 0h

Members



Hailey Robertson (responsible)



Jason Romer



Chris Ward

Due on 2 January 2025 8:00 AM for target Done

- ☒ Login Clarification needed
- ☐ Chain of custody is incomplete
- ☐ Please specify Metals requested
- ☐ Please specify TCLP requested
- ☐ Received additional samples not listed on COC
- ☐ Sample IDs on containers do not match IDs on COC
- ☐ Client did not "X" analysis
- ☐ Chain of Custody is missing
- ☐ If no COC: Received by: _____
- ☐ If no COC: Date/Time: _____
- ☐ If no COC: Temp./Cont.Rec./pH: _____
- ☐ If no COC: Carrier: _____
- ☐ If no COC: Tracking #: _____
- ☐ Client informed by call
- ☐ Client informed by Email
- ☐ Client informed by Voicemail
- ☐ Date/Time: _____
- ☐ PM initials: _____
- ☐ Client Contact: _____

Comments

Hailey Robertson

28 December 2024 8:49 AM

What TPH?

Jason Romer

30 December 2024 8:55 AM

GRO and DRONM

Matthew Shacklock

30 December 2024 9:37 AM

Done

Scout Energy Management, LLC.
Remediation Work Plan – Rev. 2.0
WDDU #042 / Incident # nPRS0433653517
Terracon Project # KH247046



APPENDIX C – NMSLO CULTURAL RESOURCES COVER SHEET



Stephanie Garcia Richard, Commissioner of Public Lands
State of New Mexico

NMSLO Cultural Resources Cover Sheet Exhibit

NMCRIS Activity Number:

(if applicable)

Exhibit Type (select one)

☐ ARMS Inspection/Review - Summarize the results (select one):

- ☐ (A) The entire area of potential effect or project area has been previously surveyed to current standards and **no cultural properties** were found within the survey area.
- ☐ (B) The entire area of potential effect or project area has been previously surveyed to current standards and **cultural properties were found** within the survey area.
- ☐ (C) The entire area of potential effect or project area has **not** been previously surveyed or **has not been surveyed** to current standards. A complete archaeological survey will be conducted and submitted for review.

☒ Archaeological Survey

Findings:

☒ **Negative** - No further archaeological review is required.

☐ **Positive** - Have avoidance and protection measures been devised? Select one:

Comments:

Project Details:

NMSLO Lease Number (if available): B096130006 and B0931

Cultural Resources Consultant: Terracon Consultants Inc

Project Proponent (Applicant): Scout Energy Managment, LLC

Project Title/Description: Remediation and Reclamation ARMS Review for WDDU #42, WDDU #88, and WDDU #101 Water Station

Project Location:

County(ies): Lea

PLSS/Section/Township/Range): T24S R38E S32; T25S R38E S5; T24S R38E S32

For NMSLO Agency Use Only:

NMSLO Lease Number:

Acknowledgment-Only:

☐

Lease Analyst:

Date Exhibit Routed to Cultural Resources Office:

No person may alter the wording of the questions or layout of the cover sheet. The completion of this cover sheet by itself does not authorize anyone to engage in new surface disturbing activity before the review and approvals required by the Cultural Properties Protections Rule.

Form Revised 12 22

Scout Energy Management, LLC.
Remediation Work Plan – Rev. 2.0
WDDU #042 / Incident # nPRS0433653517
Terracon Project # KH247046



APPENDIX D – DESKTOP PROTECTED SPECIES REVIEW

Protected Species Habitat Desktop Review

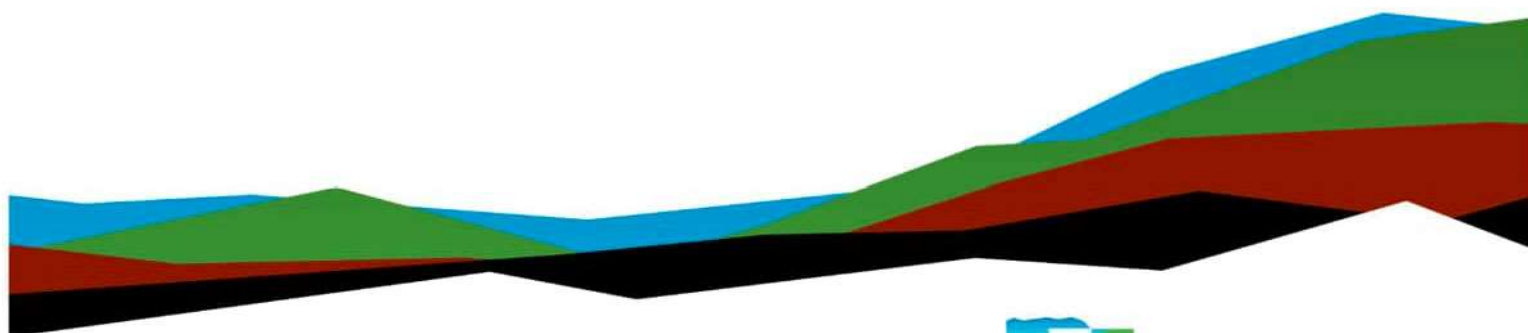
Scout WDDU #042

Jal, Lea County, New Mexico

March 12, 2025 | Terracon Project Number: KH247046

Prepared for:

Scout Energy Management, LLC.
4901 LBJ Fwy, Ste. 300
Dallas, TX 75244



Nationwide
[Terracon.com](https://www.terracon.com)

- Facilities
- Environmental
- Geotechnical
- Materials



5307 Industrial Oaks Blvd. Ste 160
Austin, Texas 78735
P (512) 442-1122
F (512) 442-1181
Terracon.com

March 12, 2025

Scout Energy Management, LLC.
4901 LBJ Fwy, Ste. 300
Dallas, TX 75244

Attn: New Mexico State Lands Office
310 Old Santa Fe Trail
P.O. Box 1148
Santa Fe, New Mexico, NM 87504-1148

RE: Protected Species Habitat Desktop Review
Scout WDDU #042
32° 09' 53.1"N 103° 04' 32.1"W
Jal, Lea County, New Mexico
Terracon Project Number: KH247046

To Whom It May Concern:

Terracon is pleased to submit this Protected Species Habitat Desktop Review to Scout Energy Management, LLC. This assessment was performed for the above-referenced project in accordance with Terracon project number KH247046 dated February 10, 2025. This desktop review was performed by qualified biologists but is limited and does not constitute an on-site evaluation of habitat suitability or presence/absence survey for a particular species by a qualified biologist.

Literature and agency file searches were conducted to review the potential occurrence of federal and state listed threatened and endangered (T&E) species or habitats located in the subject property vicinity. The search included information from the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system and the New Mexico Department of Game and Fish (NMDGF) Environmental Review Tool (ERT). The presence or absence of potentially suitable habitat within the project area, for species identified as having the potential to occur, was evaluated using site reconnaissance (i.e., review of site photographs), publicly available land cover data, and review by a qualified wildlife biologist.

The attached species lists (see Attachment A) identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of the proposed project. For the purposes of this review, it is

Protected Species Habitat Desktop Review
Scout WDDU #042 | Jal, Lea County, New Mexico
March 12th, 2025 | Terracon Report No. KH247046



assumed that the presence of a particular protected species' habitat within the project site indicates that the species has the potential to be impacted by the proposed project. The species list fulfills the requirements of the USFWS under section 7(c) of the Endangered Species Act (ESA), as amended (16 U.S.C. 1531 *et seq.*).

The following information identifies the findings of the Protected Species Habitat Desktop Review:

State-listed Species

The desktop review did not identify potentially suitable habitat for state-listed species. Should state-listed species be encountered during the proposed undertaking, activity should halt, and a qualified biologist should be contacted to determine the appropriate mitigative action.

Bald and Golden Eagle Protection Act

Review of aerial and site photos revealed partially cleared desert scrubland within and around the project area. Typical habitat requirements for the bald eagle (*Haliaeetus leucocephalus*) include broad swaths of undeveloped land, large trees and/or cliffs for nesting habitat, and large waterbodies (i.e., navigable rivers, lakes, reservoirs, large ponds, etc.) for foraging/hunting activities. Typical habitat requirements for the golden eagle (*Aquila chrysaetos*) include grasslands, arid deserts with sparse vegetation, intermittent forested habitat, and are typically found in open country in the vicinity of hills, cliffs, and bluffs. This species is known to be sensitive to human activity and typically avoid developed areas. This habitat is not present within the project area. Therefore, development within the project area would likely not result in a take as it pertains to the Bald and Golden Eagle Protection Act (BGEPA).

Migratory Bird Treaty Act

The project area is located within The Shinnery Sands level IV ecoregion and is comprised of sand shinnery oak scrub, desert grasses, soapweed yucca and sand sagebrush. Hydrology was also not evident per review of current aerials of the project area. The NMDGF ERT's Official Species List identifies the Western burrowing owl (*Athene cunicularia hypugaea*; a Species of Conservation Concern [SCC]), common nighthawk (*Chordeiles minor*), Lewis's woodpecker (*Melanerpes lewis*; SCC), loggerhead shrike (*Lanius ludovicianus*; SCC), yellow-billed cuckoo (*Coccyzus americanus*; Species of Greatest Conservation Need [SGCN]), vesper sparrow (*Pooecetes gramineus*; SCC), thick-billed longspur (*Rhynchophanes mccownii*), and the chestnut-collared longspur (*Calcarius ornatus*; SCC) as migratory bird species having the potential to be present within the project area. Suitable habitat for the Western burrowing owl may be present within the project area due to the well-draining sandy soil, arid climate, and open desert scrubland vegetation. This species typically inhabits prairie dog (*Cynomys* spp.) burrows, and the presence of these burrows has not been confirmed within the project site. Suitable habitat for the common nighthawk may be present within the project area due

Protected Species Habitat Desktop Review
Scout WDDU #042 | Jal, Lea County, New Mexico
March 12th, 2025 | Terracon Report No. KH247046



to the open desert scrubland vegetation. However, the absence of grassland areas, riparian areas, and limited presence of woody vegetation indicates the project area represents potentially unsuitable migratory bird nesting habitat for the Lewis's woodpecker, loggerhead shrike, vesper sparrow, thick-billed longspur, and chestnut-collared longspur. Development within the project area would likely not result in 'take' to the remaining birds protected under the Migratory Bird Treaty Act (MBTA).

USFWS IPaC Report

Protected species are listed on the USFWS IPaC system. An Official Species List, dated March 7th, 2025, was generated by IPaC and transmitted to Terracon on behalf of the New Mexico Ecological Services Field Office (ESFO). Section 7 of the ESA requires federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for projects that are conducted, permitted, funded, or licensed by federal agency. A letter from the local office and a species list, which fulfills this requirement, can only be obtained by requesting an official species list from either the Regulatory Review section in IPaC or from the local field office directly. The Official Species List generated for Lea County, New Mexico, includes three species as having the potential to occur within the project area and vicinity. These species, and the probability of their occurrence within the project area, are discussed in detail below. There are no critical habitats within the project area under the USFWS New Mexico ESFO's jurisdiction.

Birds

The northern Aplomado falcon (*Falco femoralis septentrionalis*) is listed as Endangered wherever found, except where they are listed as an experimental population, such as Arizona and New Mexico. The species historical range includes Arizona, New Mexico, Texas, Mexico, and Guatemala. No critical habitat has been designated for this species. The Northern Aplomado Falcon's habitat is variable throughout the species range and includes palm and oak savannahs, various desert grassland associations, and open pine woodlands. Within these variations, the essential habitat elements appear to be open terrain with scattered trees with relatively low ground cover. The species appears to be non-migratory throughout its range and typically nests in abandoned stick platforms of corvids and other raptors. Potentially suitable habitat for the northern Aplomado falcon is not present within the project area.

The lesser prairie-chicken (*Tympanuchus pallidicinctus*) is listed as endangered and has a historic range including Colorado, Kansas, New Mexico, Oklahoma, and Texas. No critical habitat has been designated for this species. Habitat for this species is within the Shinnery Oak Prairie Ecoregion of New Mexico and Texas and includes native grasslands and shrublands with diversity and limited anthropogenic structures and trees. Lesser prairie-chickens inhabit mixed grass-dwarf shrub communities that occur on sandy soils. Leks typically occur on knolls or ridges with relatively short and/or sparse vegetation. Lesser prairie-chicken leks may be in human-created open areas (e.g., oil well pads, roads, reverted cropland, cultivated fields, and areas treated with herbicides) and recently burned areas. Nesting sites are in sand sagebrush or shinnery oak grasslands with high canopy cover and moderate vertical and horizontal

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Scout WDDU #042 | Jal, Lea County, New Mexico
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cover. Females prefer to nest in relatively tall, dense vegetation. Potentially suitable habitat for the lesser prairie-chicken is not present within the project area.

Insects

The monarch butterfly (*Danaus Plexippus*) is listed as a proposed threatened species under consideration for official listing for which there is sufficient information to support listing. The population is known to or is believed to occur across 50 states, including New Mexico and Texas. No critical habitat has been designated for this species. The monarch butterfly breeds year-round and undergoes a long-distance migration which begins in the fall. This migration can take monarchs distances of over 3,000 kilometers (km) to Mexico and last for over two months. Breeding areas are typically patches of milkweed and overwintering habitats include high altitude Mexican conifer forests. Palustrine habitats include herbaceous wetlands and scrub-shrub wetlands, and terrestrial habitats include sand/dunes, cropland, conifer and hardwood woodlands, savannas, grasslands, suburban areas, and shrubland/chaparral. The project area may represent marginally suitable migratory stop-over habitat for the monarch butterfly.

NMDGF Environmental Review Tool (ERT) Report

This report contains information on wildlife species protected under the ESA and the Wildlife Conservation Act (WCA). Additionally, species designated as being Species of Greatest Conservation Need (SGCN) and Species of Economic and Recreational Importance (SERI) are included. SGCN are identified in the State Wildlife Action Plan (SWAP) for New Mexico; all of these species are considered to be of conservation concern but not all of them are protected from take at the state or federal level. The harvest of all SERI is regulated at the state level. The NMDGF has no authority to designate critical habitat for species listed under the WCA; only the USFWS can designate critical habitat for species listed under the ESA. An Official Species List, dated March 7th, 2025, was generated by NMDGF ERT and transmitted to Terracon on behalf of the NMDGF office. The Official Species List generated for Lea County, New Mexico, includes seventeen species as having the potential to occur within the project area and vicinity. These species, and the probability of their occurrence within the project area, are summarized in Table 1 below.

Table 1. NMDGF ERT listed species for Lea County, New Mexico.

Species	USFWS Status (ESA)	NMDGF (WCA)	NMDGF SGCN/ SERI	Habitat Description	Habitat Presence
Barking frog (<i>Craugastor augusti</i>)	-	-	SGCN	Low elevation areas in shrublands and deserts including treeless, dry, yucca-covered hills and brushy woodland; open pine forests; juniper-live oak woodland (Texas); in large, low clumps of cactus (Sonora); often in rocky limestone areas. It lays eggs in moist sites on land under rocks or logs, or in caves	No; suitable habitat is not present within the study area

Protected Species Habitat Desktop Review
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				or crevices. Hides under rocks, in caves or crevices, or in burrows. Those in New Mexico and far western Texas live in rodent burrows in desert scrub	
Plains leopard frog (<i>Lithobates blairi</i>)	-	-	SGCN	In the vicinity of streams, ponds, creek pools, reservoirs, irrigation ditches, and marshes in areas of prairie and desert grassland, farmland, and prairie canyons. Oak and oak-pine woodland as habitat. Generally, in or near water, but may range into surrounding terrestrial habitat in wet weather. When disturbed, they often seek refuge in vegetation surrounding bodies of water.	No; suitable habitat is not present within study area
Aplomado falcon (<i>Falco femoralis</i>)		LE	SGCN	Open country, especially savanna and open woodland, and sometimes very barren areas. Grassy plains and valleys with scattered mesquites, yucca, and cactus. Desert grassland in Chihuahua.	No; suitable habitat is not present within study area
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	T	-	SGCN	Breeding habitat includes open woodland (especially where undergrowth is thick), parks, deciduous riparian woodland; in the West, nests in tall cottonwood and willow riparian woodland. Nests in deciduous woodlands, moist thickets, orchards, overgrown pastures; in tree, shrub, or vine, an average of 1-3 meters above ground. Nonbreeding habitat includes forest, woodland, and scrub.	No; suitable habitat is not present within study area
Western burrowing owl (<i>Athene cunicularia hypugaea</i>)	-	-	SGCN	Short vegetation and presence of fresh small mammal burrows. Found in open grasslands, especially prairies, plains, and savanna, sometimes in open areas such as vacant lots near human habitation (e.g., campuses, airports, golf courses, perimeter of agricultural fields, banks of irrigation canals). Nests and roosts in abandoned burrows dug by mammals (especially prairie dogs, also ground squirrel (CITELLUS SPP.))	Yes; suitable habitat may be present within study area
Common nighthawk (<i>Chordeiles minor</i>)	-	-	SGCN	Shrubland/chaparral, mountains and plains in open and semi-open areas: open coniferous forests, savanna, grasslands, fields, vicinity of cities and towns. Nesting occurs on the ground on a bare site in an open area. In some areas, this species also nests on flat gravel roofs of buildings. It prefers areas with	Yes; suitable habitat may be present within study area

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				sandy soil in the southern United States.	
Lewis's woodpecker (<i>Melanerpes lewis</i>)	-	-	SGCN	Breeding habitat includes open forest and woodland, often logged or burned, including oak, coniferous forest (primarily ponderosa pine [PINUS PONDEROSA], riparian woodland and orchards. Distribution is closely associated with open ponderosa pine forest. Important habitat features include an open tree canopy, a brushy understory with ground cover, dead trees for nest cavities; dead or downed woody debris, perch sites, and abundant insects. Nonbreeding habitats may include scrub oak, pecan orchards, and cottonwoods.	No; suitable habitat is not present within the study area
Pygmy nuthatch (<i>Sitta pygmaea</i>)	-	-	SGCN	Range extent includes central New Mexico. Pine forest and woodland, especially ponderosa pine. At night they may roost in groups in tree cavities.	No; suitable habitat is not present within the study area
Sprague's pipit (<i>Anthus spragueii</i>)	-	-	SGCN	Nonbreeding range includes southern New Mexico. Breeding habitat includes short-grass plains, mixed grass prairie, alkaline meadows, and wet meadows. This species is found in grasslands with mid-height vegetation, including upland mixed-grass prairie, alkaline meadows, and wet meadow zones around alkali and freshwater lakes. Habitat during migration and in winter consists of pastures and weedy fields, including grasslands with dense herbaceous vegetation or grassy agricultural fields.	No; suitable habitat is not present within the study area
Loggerhead shrike (<i>Lanius ludovicianus</i>)	-	-	SGCN	Nonbreeding habitat includes northern New Mexico. Breeding habitat includes open country with scattered trees and shrubs, savanna, desert scrub (southwestern U.S.), and, occasionally, open woodland; often perches on poles, wires or fenceposts. For nesting, they prefer shortgrass pastures and nests in shrubs or small deciduous or coniferous trees. Nonbreeding habitat includes woodlots, pastures, shrubland, and open forests.	No; suitable habitat is not present within the study area
Vesper sparrow (<i>Pooecetes gramineus</i>)	-	-	SGCN	Breeding range includes New Mexico. Habitats include plains, prairies, dry shrublands, savannas, weedy pastures, fields, sagebrush, arid scrub, and woodland clearings. Nests are on the ground, often in a	No; suitable habitat is not present within the study area

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				small depression near a clump of grass.	
Thick-billed longspur (<i>Rhynchophanes mccownii</i>)	-	-	SGCN	Nonbreeding habitat includes central New Mexico south through Sonora and Chihuahua. Habitat includes sparse short-grass plains, plowed and stubble fields, and areas of bare or nearly bare ground. Nests are usually in a scrape on the ground at the base of a bush or clump of grass, or beside cattle dung.	No; suitable habitat is not present within the study area
Chestnut-collared longspur (<i>Calcarius ornatus</i>)	-	-	SGCN	Nonbreeding habitat includes eastern New Mexico. Breeding habitat includes level to rolling mixed-grass and shortgrass uplands, and, in drier habitats, moist lowlands. Prefers open prairies and avoids excessively shrubby areas. Nonbreeding habitat includes grasslands and deserts with primarily grasses and forbs, vegetation less than 0.5 m. Also cultivated fields and near water sources.	No; suitable habitat is not present within the study area
Black-tailed prairie dog (<i>Cynomys ludovicianus</i>)	-	-	SGCN	Habitat consists of dry, flat or gently sloping, open grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle. The species occurs in open vacant lots at town edges in some areas. Habitat types represented by this species include all major grassland types--short, mixed, and tall.	No; suitable habitat is not present within the study area
Mule deer (<i>Odocoileus hemionus</i>)	-	-	SGCN	Habitat includes mountains and lowlands, including various forests and woodlands, forest edges, shrublands, grasslands with shrubs, and residential areas. They are often associated with successional vegetation, especially near agricultural lands.	No; suitable habitat is not present within the study area
Pronghorn (<i>Antilocapra americana</i>)	-	-	SGCN	Habitat includes grasslands, sagebrush plains, deserts, and foothills. Need for free water varies with succulence of vegetation in the diet. Birth and fawn bedding sites in a sagebrush-steppe community in south-central Wyoming were in dense shrub cover, but the tallest, most dense cover was avoided.	No; suitable habitat is not present within the study area
Desert massasauga (<i>Sistrurus catenatus edwardsii</i>)	-	-	SGCN	Habitat includes rocky, semi-arid and arid areas, and is mostly found in desert grasslands.	No; suitable habitat is not present within the study area

Sources: NMDGF ERT Species List requested and received March 7, 2025.; NatureServe Explorer
 SERI = Species of Economic and Recreational Importance; SGCN = Species of Greatest Conservation Need; LE = Listed Endangered;
 T = Threatened

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Scout WDDU #042 | Jal, Lea County, New Mexico
March 12th, 2025 | Terracon Report No. KH247046



The yellow-billed cuckoo (*Coccyzus americanus*) is listed as threatened in the western distinct population segment (DPS) which reflects the habitat loss and population declines in the western United States. Additionally, this species is recognized as a SGCN in New Mexico and is listed as a vulnerable species. The historic range extends from the interior of California to southern Idaho, southeastern Montana, the Dakotas, southern Manitoba, Minnesota, New Brunswick, and south to southern Baja California, southern Arizona, Coahuila, Chihuahua, Neuvo Leon, Tamaulipas, the U.S. Gulf Coast, and the Florida Keys. Critical habitat has been designated for this species and identifies riparian woodlands across the western United States and specifically in New Mexico, riparian corridors along major rivers such as the Rio Grande, Gila River, Mimbres River, San Francisco River, and the Caballo Delta. Habitat for this species includes open woodlands with thick undergrowth, parks, deciduous riparian woodlands, and in the West, nests in tall cottonwood and willow riparian woodlands. Nonbreeding habitat includes forest, woodland, and scrubland areas. Breeding often coincides with the appearance of massive numbers of cicadas, caterpillars, or other large insects and the clutch size is typically one to five eggs and the young are parented by both parents. Territory size averages 20-24 hectares around the nest. Known predators of adults include the Aplomado falcon (*Falco femoralis*), the red-shouldered hawk (*Buteo lineatus*), and other raptors. Potentially suitable habitat for the yellow-billed cuckoo is not present within the project area.

Summary

It is the opinion of Terracon that the project area may potentially offer suitable nesting habitat for birds protected under the MBTA that are listed through the NMDFG Official List including the Western burrowing owl and the common nighthawk. This desktop review did not identify the presence of suitable habitat for federally protected species listed within the IPaC, sensitive habitats, or designated critical habitats within the project area. The project area may represent marginally suitable migratory stop-over habitat for the proposed threatened monarch butterfly. This assessment was performed in accordance with generally accepted practices of this profession undertaken in similar studies at the same time and in the same geographical area. This letter report has been prepared in accordance with generally accepted scientific and engineering evaluation practices. No warranties, either express or implied, are intended or made.

If you have questions regarding the content of this report, please contact Kelly Griffin by phone at (979) 236-2647 or by email at kelly.griffin@terracon.com.

Sincerely,
Terracon Consultants, Inc.

A handwritten signature in black ink, appearing to read 'Kelly Griffin'.

Kelly Griffin, M.A.Geo
Staff Scientist

A handwritten signature in black ink, appearing to read 'Jeff Jenkerson'.

Jeff Jenkerson, M.S., CWB
Authorized Project Reviewer

A handwritten signature in black ink, appearing to read 'Chuck Smith'.

Chuck Smith
Project Manager

ATTACHMENT A

Supporting Documentation

List of Preparers

- **Kelly Griffin** (Terracon Consultants, Inc.)
M.Applied Geography in Natural Resources and Environmental Studies
Years of Applicable Experience: 2
Responsible for: **Report Authoring**

- **Jeff Jenkerson, M.S., CWB** (Terracon Consultants, Inc.)
M.S. Wildlife Ecology
B.S. Biology
Years of Applicable Experience: 10
Responsible for: **Subject Matter Expert / Authorized Project Reviewer**



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
Phone: (505) 346-2525 Fax: (505) 346-2542



In Reply Refer To:
Project Code: 2025-0066176
Project Name: Scout – WDDU #042

03/08/2025 00:05:59 UTC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of New Mexico wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 *et seq.*), the Migratory Bird Treaty Act as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act as amended (16 USC 668-668(c)). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area, and to recommend some conservation measures that can be included in your project design.

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the ESA of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the ESA is to provide a means whereby threatened and endangered species and

the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the ESA and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (NEPA; 42 USC 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>.

Candidate Species and Other Sensitive Species

A list of candidate and other sensitive species in your area is also attached. Candidate species and other sensitive species are species that have no legal protection under the ESA, although we recommend that candidate and other sensitive species be included in your surveys and considered for planning purposes. The Service monitors the status of these species. If significant declines occur, these species could potentially be listed. Therefore, actions that may contribute to their decline should be avoided.

Lists of sensitive species including State-listed endangered and threatened species are compiled by New Mexico State agencies. These lists, along with species information, can be found at the following websites.

Biota Information System of New Mexico (BISON-M): www.bison-m.org

New Mexico State Forestry. The New Mexico Endangered Plant Program:
<https://www.emnrd.nm.gov/sfd/rare-plants/>

New Mexico Rare Plant Technical Council, New Mexico Rare Plants: nmrareplants.unm.edu

Natural Heritage New Mexico, online species database: nhnm.unm.edu

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html, integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

In addition to responsibilities to protect threatened and endangered species under the ESA, there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the Service (50 CFR 10.12 and 16 USC 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a Federal nexus) or a Bird/Eagle Conservation Plan (when there is no Federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>. We also recommend review of the Birds of Conservation Concern list (<https://www.fws.gov/media/birds-conservation-concern-2021>) to fully evaluate the effects to the birds at your site. This list identifies migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent top conservation priorities for the Service, and are potentially threatened by disturbance, habitat impacts, or other project development activities.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 thereby provides additional protection for both migratory birds and migratory bird habitat. Please visit <https://www.fws.gov/partner/council-conservation-migratory-birds> for information regarding the implementation of Executive Order 13186.

We suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding State protected and at-risk species fish, wildlife, and plants.

For further consultation with the Service we recommend submitting inquiries or assessments electronically to our incoming email box at nmesfo@fws.gov, where it will be more promptly routed to the appropriate biologist for review.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New Mexico Ecological Services Field Office

2105 Osuna Road Ne
Albuquerque, NM 87113-1001
(505) 346-2525

Project code: 2025-0066176

03/08/2025 00:05:59 UTC

PROJECT SUMMARY

Project Code: 2025-0066176

Project Name: Scout – WDDU #042

Project Type: Acquisition of Lands

Project Description: Sensitive species desktop analysis for a remediation project.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@32.179193,-103.07590638276389,14z>



Counties: Lea County, New Mexico

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Project code: 2025-0066176

03/08/2025 00:05:59 UTC

BIRDS

NAME	STATUS
Lesser Prairie-chicken <i>Tympanuchus pallidicinctus</i> Population: Southern DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1924	Endangered
Northern Aplomado Falcon <i>Falco femoralis septentrionalis</i> Population: U.S.A (AZ, NM) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1923	Experimental Population, Non- Essential

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

Project code: 2025-0066176

03/08/2025 00:05:59 UTC

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Kelly Griffin
Address: 5307 Industrial Oaks Blvd. Suite 160
City: Austin
State: TX
Zip: 78735
Email: kelly.griffin@terracon.com
Phone: 9792362647



PROJECT INFORMATION

Project Title: Scout Wddu #042
Project Type: ENERGY DEVELOPMENT, OIL AND GAS DEVELOPMENT
Latitude/Longitude (DMS): 32.179312 / -103.075797
County(s): LEA
Project Description: This project is within the beginning stages of land reclamation planning for potential petroleum storage and distribution in Jal, Lea County, New Mexico.

REQUESTOR INFORMATION

Project Organization:
Contact Name: Kelly Griffin
Email Address: kelly.griffin@terracon.com
Organization: Terracon Consultants, Inc.
Address: 5307 Industrial Oaks Blvd. Suite 160, Austin TX 78735
Phone: 9792362647

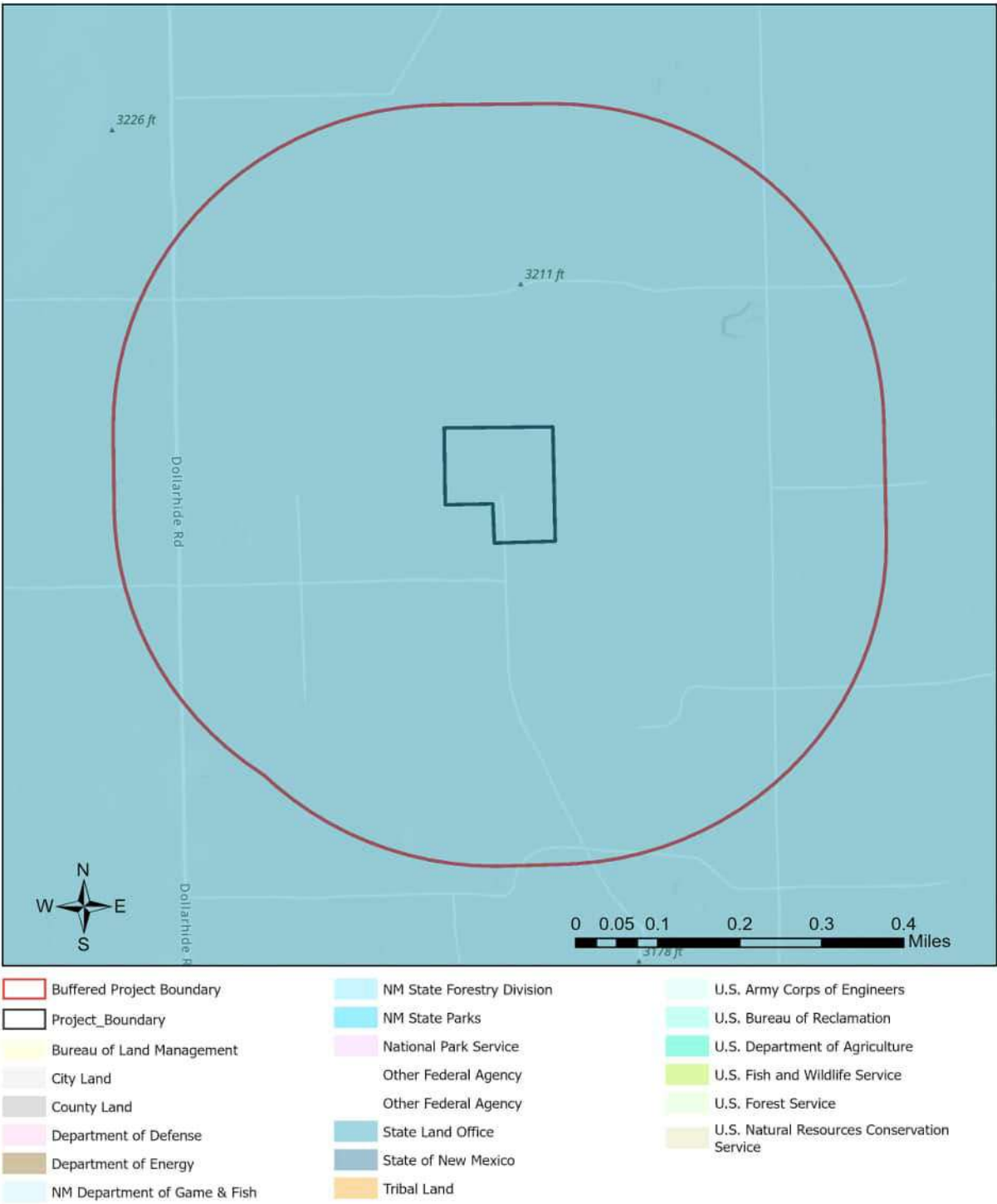
OVERALL STATUS

This report contains an initial list of recommendations regarding potential impacts to wildlife or wildlife habitats from the proposed project; see the Project Recommendations section below for further details. Your project proposal is being forwarded to a New Mexico Department of Game and Fish (Department) biologist for review to determine whether there are any additional recommendations regarding the proposed actions. A Department biologist will be in touch within 30 days if there are further recommendations regarding this project proposal.

About this report:

- This environmental review is based on the project description and location that was entered. The report must be updated if the project type, area, or operational components are modified.
- This is a preliminary environmental screening assessment and report. It is not a substitute for the potential wildlife knowledge gained by having a biologist conduct a field survey of the project area. Federal status and plant data are provided as a courtesy to users. The review is also not intended to replace consultation required under the federal Endangered Species Act (ESA), including impact analyses for federal resources from the U.S. Fish and Wildlife Service (USFWS) using their [Information for Planning and Consultation tool](#).
- This report contains information on wildlife species protected under the ESA and the [Wildlife Conservation Act \(WCA\)](#), [Species of Greatest Conservation Need \(SGCN\)](#), and Species of Economic and Recreational Importance (SERI). Species listed under the ESA are protected from take at the federal level and under the WCA are protected from take at the state level. SGCN are identified in the [State Wildlife Action Plan \(SWAP\) for New Mexico](#); all of these species are considered to be of conservation concern but not all of them are protected from take at the state or federal level. The harvest of all SERI is regulated at the state level. The Department has no authority to designate critical habitat for species listed under the WCA; only the USFWS can designate critical habitat for species listed under the ESA.
- The New Mexico Environmental Review Tool (ERT) utilizes species observation locations and species habitat suitability models, both of which are subject to ongoing change and refinement. Inclusion or omission of a species within a report cannot guarantee species presence or absence within your project area. To determine occurrence of any species listed in this report, or other wildlife that may be present within your project area, onsite surveys conducted by a qualified biologist during appropriate, species-specific survey timelines may be necessary.
- The Department encourages use of the ERT to modify proposed projects for avoidance, minimization, or mitigation of wildlife impacts. However, the ERT is not intended to be used in a repeatedly iterative fashion to adjust project attributes until a previously determined recommendation is generated. The ERT serves to assess impacts once project details are developed. The [New Mexico Crucial Habitat Assessment Tool](#), the data layers from which are included in the ERT, is the appropriate system for advising early-stage project planning and design to avoid areas of anticipated wildlife concerns and associated regulatory requirements.

Scout Wddu #042



NHNM, USGS, USFS, US Census Bureau, NMDGF
Esri, NASA, NGA, USGS, FEMA
Esri Community Maps Contributors, Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

Common Name hyperlink takes you to species account in [bison-m.org](#); Scientific Name hyperlink takes you to information in [NatureServe Explorer](#).
Act, C = Candidate, LE = Listed Endangered, LT = Listed Threatened, XN = Non-essential Experimental Population, for other ESA codes see the
Conservation Act, E = Endangered, T = Threatened; SERI = Species of Economic and Recreational Importance; SGCN = Species of Greatest Conservation
Forest Service, Sensitive Species = A species likely to occur on USFS lands that is of concern for a potential reduction in population viability; SENSITIVE = A species
Concern; BLM = Bureau of Land Management, BLM SENSITIVE = A species that occurs on BLM lands and whose viability is at risk, BLM WATERSHED SENSITIVE = A species
to the sensitive species list in future pending new information regarding species status.

Project Recommendations

Your proposed project activities may require a custom review for assessment of potential effects to wildlife. See the "OVERALL STATUS" section above to determine the likelihood that your project will be reviewed further based on its location. A Department biologist will confirm whether any additional conservation measures are needed. You should expect to receive any additional project recommendations within 30 days of your project submission. If the "OVERALL STATUS" section indicates that no further consultation with the Department is required based on its location, then you will only receive additional project feedback from the Department if a biologist deems it necessary.

Burrowing owl (*Athene cunicularia*) may occur within your project area. Burrowing owls are protected from take by the Migratory Bird Treaty Act and under New Mexico state statute. Before any ground disturbing activities occur, the Department recommends that a preliminary burrowing owl survey be conducted by a qualified biologist using the Department's [Burrowing Owl Survey Protocol](#). Should burrowing owls be documented in the project area, please contact the Department or USFWS for further recommendations regarding relocation or avoidance of impacts.

Prairie dog colonies may occur within the vicinity of your project area. Both black-tailed prairie dogs (*Cynomys ludovicianus*) and Gunnison's prairie dogs (*Cynomys gunnisoni*) are designated as New Mexico SGCN, and their colonies provide important habitat for other grassland wildlife. Wherever possible, occupied prairie dog colonies should be left undisturbed, and all project activities should be directed off the colony. Any burrows that are located on the project site should be surveyed by a qualified biologist to determine whether burrows are active or inactive and whether burrowing owls may be utilizing the site. Colonies within the range of the black-tailed prairie dog can be surveyed by a qualified biologist diurnally, year-round using binoculars. Colonies within the range of the Gunnison's prairie dog can be surveyed by a qualified biologist diurnally, using binoculars during the warmer months from April through October and by searching for fairly fresh scat and lack of cobwebs or debris at the mouths of burrows during the cold months (November through March). If ground-disturbing activities cannot be relocated off the prairie dog colony, or if project activities involve control of prairie dogs, the Department recommends live-trapping and relocation of prairie dogs. The Department can provide recommendations regarding suitability of potential translocation areas and procedures.

Your project could affect important components of wildlife habitat, including fawning/calving or wintering areas for species such as deer and elk, or general high wildlife movement and activity areas for large mammals. Mitigation measures should focus on high use sites and movement areas based on collar data and expert knowledge of Department of Game and Fish and land management agency personnel. Management recommendations within these areas may include the following.

- Restrictions on noise-generating activities during wintering and calving/fawning seasons, specific timing of which may vary throughout the state. These activities would include oil and gas well pad development and operations that expose wildlife to loud noises from drilling, compressors, and pumping stations within 400 feet of the source.
- Modifying fences along high use areas to make them wildlife friendly and facilitate large animal movement.

Disclaimers regarding recommendations:

- The Department provides technical guidance to support the persistence of all protected species of native fish and wildlife, including game and nongame wildlife species. Species listed within this report include those that have been documented to occur within the project area, and others that may not have been documented but are projected to occur within the project vicinity.
- Recommendations are provided by the Department under the authority of § 17-1-5.1 New Mexico Statutes Annotated 1978, to provide "communication and consultation with federal and other state agencies, local governments and communities, private organizations and affected interests responsible for habitat, wilderness, recreation, water quality and environmental protection to ensure comprehensive conservation services for hunters, anglers and nonconsumptive wildlife users".
- The Department has no authority for management of plants or Important Plant Areas. The [New Mexico Endangered Plant Program](#), under the Energy, Minerals, and Natural Resources Department's Forestry Division, identifies and develops conservation measures necessary to ensure the survival of plant species within New Mexico. Plant status information is provided within this report as a courtesy to users. Recommendations provided within the ERT may not be sufficient to preclude impacts to rare or sensitive plants, unless conservation measures are identified in coordination with the Endangered Plant Program.
- Additional coordination and/or consultation may also be necessary under the federal ESA or National Environmental Policy Act (NEPA). Further site-specific mitigation recommendations may be proposed during ESA consultation and/or NEPA analyses or through coordination with affected federal agencies.

Scout Energy Management, LLC.
Remediation Work Plan – Rev. 2.0
WDDU #042 / Incident # nPRS0433653517
Terracon Project # KH247046



APPENDIX E – TERRACON STANDARD OF CARE, LIMITATION, AND RELIANCE

Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, Scout Energy Management, LLC., as reflected in our proposal dated September 17, 2024.

Additional Scope Limitations

The development of this Reclamation Workplan Report is based upon information provided by Scout Energy Management, LLC. Such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those by information provided by Scout Energy Management, LLC. The data, interpretations, findings, and recommendations are based solely upon reformation executed within the scope of these services.

Reliance

This report has been prepared for the exclusive use of Scout Energy Management, LLC., and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Scout Energy Management, LLC., and Terracon. Any unauthorized distribution or reuse is at Scout Energy Management, LLC. sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal and Scout Energy Management, LLC., and Terracon's Master Services Agreement. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Scout Energy Management, LLC., and all relying parties unless otherwise agreed in writing.

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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 456884

QUESTIONS

Operator: SCOUT ENERGY MANAGEMENT LLC 13800 Montfort Road Dallas, TX 75240	OGRID: 330949
	Action Number: 456884
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	nPRS0433653517
Incident Name	NPRS0433653517 WEST DOLLARHIDE DRINKARD NO. 42 @ 30-025-12321
Incident Type	Oil Release
Incident Status	Remediation Plan Received
Incident Well	[30-025-12321] WEST DOLLARHIDE DRINKARD UNIT #042

Location of Release Source

Please answer all the questions in this group.

Site Name	WEST DOLLARHIDE DRINKARD NO. 42
Date Release Discovered	11/08/2004
Surface Owner	State

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

Nature and Volume of Release

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

Crude Oil Released (bbls) Details	Cause: Equipment Failure Flow Line - Production Crude Oil Released: 3 BBL Recovered: 0 BBL Lost: 3 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure Flow Line - Production Produced Water Released: 35 BBL Recovered: 10 BBL Lost: 25 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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QUESTIONS, Page 2

Action 456884

QUESTIONS (continued)

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	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: Chuck Smith Title: Terracon Consultant Email: Chuck.smith@terracon.com Date: 04/29/2025
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QUESTIONS, Page 3

Action 456884

QUESTIONS (continued)

Operator: SCOUT ENERGY MANAGEMENT LLC 13800 Montfort Road Dallas, TX 75240	OGRID: 330949
	Action Number: 456884
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization	
<i>Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	Attached Document
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 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	1910
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	1009.8
GRO+DRO (EPA SW-846 Method 8015M)	271
BTEX (EPA SW-846 Method 8021B or 8260B)	9.7
Benzene (EPA SW-846 Method 8021B or 8260B)	0
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	05/12/2025
On what date will (or did) the final sampling or liner inspection occur	12/27/2024
On what date will (or was) the remediation complete(d)	06/27/2025
What is the estimated surface area (in square feet) that will be reclaimed	4420
What is the estimated volume (in cubic yards) that will be reclaimed	327
What is the estimated surface area (in square feet) that will be remediated	0
What is the estimated volume (in cubic yards) that will be remediated	0
<i>These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 4

Action 456884

QUESTIONS (continued)

Operator: SCOUT ENERGY MANAGEMENT LLC 13800 Montfort Road Dallas, TX 75240	OGRID: 330949
	Action Number: 456884
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	<i>Not answered.</i>
OR which OCD approved well (API) will be used for off-site disposal	<i>Not answered.</i>
OR is the off-site disposal site, to be used, out-of-state	Yes
In which state is the disposal taking place	Texas
What is the name of the out-of-state facility	To be determined
OR is the off-site disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Chuck Smith Title: Terracon Consultant Email: Chuck.smith@terracon.com Date: 04/29/2025
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5

Action 456884

QUESTIONS (continued)

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	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

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QUESTIONS, Page 6

Action 456884

QUESTIONS (continued)

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	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	414331
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	12/27/2024
What was the (estimated) number of samples that were to be gathered	72
What was the sampling surface area in square feet	4400

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	No
--	----

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CONDITIONS

Action 456884

CONDITIONS

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	Action Number: 456884
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation workplan approved.	5/6/2025
amaxwell	Submit a report via the OCD permitting portal by August 4, 2025.	5/6/2025