

August 14, 2023 Vertex Project #: 23E-03673

**Spill Closure Report:** Tucker Draw 9 4 Federal Com #007H

Section 16, Township 26 South, Range 30 East

API: 30-015-44480 County: Eddy

Incident Report: nAPP2317049912

Prepared For: WPX Energy Permian, LLC

5315 Buena Vista Drive Carlsbad, New Mexico 88220

New Mexico Oil Conservation Division - District 2 - Artesia

811 South 1<sup>st</sup> Street Artesia, New Mexico 88210

WPX Energy Permian, LLC (WPX) retained Vertex Resource Services Inc. (Vertex) to conduct a Spill Assessment for a release of produced water due to a water tank overflow at Tucker Draw 9 4 Federal Com #007H API 30-015-44480, Incident nAPP2317049912 (hereafter referred to as "Tucker Draw"). WPX provided spill notification to the New Mexico Oil Conservation Division (NMOCD) District 2, via submission of initial C-141 Release Notification (Attachment 1). This letter provides a description of the Spill Assessment and includes a request for Incident Closure. The spill area is located at N 32.0491921, W -103.8787382.

#### **Background**

The site is located approximately 16.5 miles southeast of Malaga, New Mexico (Google Inc., 2023). The legal location for the site is Section 16, Township 26 South and Range 30 East in Eddy County, New Mexico. The spill area is located on State property. This location is within the Permian Basin in southeast New Mexico and has been historically used for oil and gas exploration and production.

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2023) indicates the site's surface geology is comprised primarily of Qep — Eolian and piedmont deposits (Holocene to middle Pleistocene) and is characterized as eolian sands and piedmont-slope deposits. The Natural Resources Conservation Service Web Soil Survey characterizes the predominant soil texture on the site is Upton-Simona complex. It tends to be well drained with high runoff and very low available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2023).

The surrounding landscape is associated with ridges and fans at elevations of 2,000 to 5,700 feet above sea level. The climate is semi-arid, with annual precipitation ranging between 6 to 14 inches. Historically, the plant community has grassland aspect, dominated by grasses with shrubs. Black grama is dominant with a mixture of creosotebush, honey mesquite, broom snakeweed, and sand sage. Overgrazing and extended drought can reduce grass cover (United States Department of Agriculture, Natural Resources Conservation Service, 2023).

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WPX Energy Permian, LLC Tucker Draw 9 4 Federal Com #007H, nAPP2317049912

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There is no surface water located at Tucker Draw. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018), is the Pecos River located approximately 3.6 miles southwest of the site (Google Inc., 2023). There are no continuous flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

#### **Incident Description**

The spill occurred on June 19, 2023, due to a pinhole leak developing on the ball valve attached to the produced water tank allowing fluid to release into the secondary containment. The spill was reported on June 19, 2023, and involved the release of approximately 26 barrels (bbl.) of produced water into the lined containment. Approximately 26 bbl. of free fluid was removed during initial spill clean-up. The NMOCD C-141 Report: nAPP2317049912 is included in Attachment 1. The daily field report (DFR) and site photographs are included in Attachment 2.

#### **Closure Criteria Determination**

The depth to groundwater was determined using information from the United States Geological Survey National Water Information Mapping System and Office of the State Engineer's Water Rights Database. A 0.5-mile search radius was used to determine groundwater depth. The closest recorded depth to groundwater was determined to be greater than 100 feet below ground surface (bgs) and located on a nearby wellsite located 440 feet northwest of Tucker Draw (New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2023). Atkins Engineering completed the drilling of a borehole for depth to groundwater determination. Depth to groundwater was determined to be greater than 55 feet bgs. The borehole is registered with the NMOSE database. Documentation used in Closure Criteria Determination research is included in Attachment 3.

Closure C	riteria Worksheet			
Site Nam	e: Tucker Draw 9 4 Federal Com #007H			
Spill Coo	dinates:	X: 32.0491921	Y: -103.8787382	
Site Spec	ific Conditions	Value	Unit	
1	Depth to Groundwater	>55	feet	
2	Within 300 feet of any continuously flowing	1 520	feet	
	watercourse or any other significant watercourse	1,520	reet	
3	Within 200 feet of any lakebed, sinkhole or playa lake	3,145	feet	
3	(measured from the ordinary high-water mark)	3,145	reet	
4	Within 300 feet from an occupied residence, school,	23,284	feet	
4	hospital, institution or church	23,204	reet	
	i) Within 500 feet of a spring or a private, domestic			
5	fresh water well used by less than five households for	3,549	feet	
5	domestic or stock watering purposes, <b>or</b>			
	ii) Within 1000 feet of any fresh water well or spring	3,549	feet	
	Within incorporated municipal boundaries or within a			
	defined municipal fresh water field covered under a		(Y/N)	
6	municipal ordinance adopted pursuant to Section 3-27-	No		
	3 NMSA 1978 as amended, unless the municipality			
	specifically approves			
7	Within 300 feet of a wetland	11,862	feet	
8	Within the area overlying a subsurface mine	No	(Y/N)	
			Critical	
9	Within an unstable area (Karst Map)	Medium	High	
	Within an anstable area (karse wap)		Medium	
			Low	
10	Within a 100-year Floodplain	500	year	
11	Soil Type	Upton-Simona		
12	Ecological Classification	Shallow sands		
13	Geology	Qep		
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	51-100'	<50' 51-100' >100'	

Using site characterization information, a closure criteria determination worksheet was completed to determine if the release would be subject to any of the special case scenarios outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC, if the release had escaped secondary containment.

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Based on data included in the closure criteria determination worksheet, the release at Tucker Draw was not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC and the closure criteria for the site were determined to be associated with the following constituent concentration limits based on depth to groundwater. The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 1.

Table 1. Closure Criteria for Soils Impacted by a Release				
Minimum depth below any point within the				
horizontal boundary of the release to groundwater				
less than 10,000 mg/l TDS	Constituent	Limit		
	Chloride	10,000 mg/kg		
	TPH (GRO+DRO+MRO)	2,500 mg/kg		
51 feet - 100 feet	GRO+DRO	1,000 mg/kg		
	BTEX	50 mg/kg		
	Benzene	10 mg/kg		

TDS - Total dissolved solids

TPH - Total petroleum hydrocarbons = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)

BTEX - Benzene, toluene, ethylbenzene, and xylenes

#### **Remedial Actions Taken**

An initial site inspection of the spill area was completed on August 2, 2023, which identified the area of the spill specified in the initial C-141 Report. The DFR associated with the site inspection is included in Attachment 2.

Notification that a liner inspection was scheduled to be completed was provided to the NMOCD on July 26, 2023 (Attachment 4). Visual observation of the liner was completed on all sides and the base of the containment, around equipment, and of all seams in the liner during the initial inspection of the site. As evidenced in the DFR (Attachment 2), liner integrity was confirmed.

#### **Closure Request**

Vertex recommends no remediation action to address the release at Tucker Draw. The secondary containment liner appeared to be intact and had the ability to contain the release, as shown in the inspection photographs included with the DFR (Attachment 2). There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Vertex requests that incident nAPP2317049912 be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. WPX certifies that all information in this report and the attachments is correct, and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the open release at Tucker Draw 9 4 Federal Com #007H.

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#### WPX Energy Permian, LLC Tucker Draw 9 4 Federal Com #007H, nAPP2317049912

2023 Spill Assessment and Closure August 2023

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 575.361.9880 or mpeppin@vertex.ca.

\_\_\_\_\_

August 14, 2023

Monica Peppin, A.S.

Date

PROJECT MANAGER, REPORTING

#### **Attachments**

Attachment 1. NMOCD C-141 Report

Attachment 2. Daily Field Report with Photographs

Attachment 3. Closure Criteria Research Determination Documentation

Attachment 4. Required 48-hr Notification of Liner Inspection to Regulatory Agencies

2023 Spill Assessment and Closure August 2023

#### References

- Google Inc. (2023). Google Earth Pro (Version 7.3.4) [Software]. Retrieved from http://www.google.com/earth
- New Mexico Bureau of Geology and Mineral Resources. (2023). *Interactive Geologic Map.* Retrieved from http://geoinfo.nmt.edu
- New Mexico Mining and Minerals Division. (2023). *Coal Mine Resources in New Mexico*. Retrieved from http://www.emnrd.state.nm.us/MMD/gismapminedata.html
- New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System. (2023). *Point of Diversion Location Report*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/wellSurfaceDiversion.html
- New Mexico Oil Conservation Division. (2018). *New Mexico Administrative Code Natural Resources and Wildlife Oil and Gas Releases*. Santa Fe, New Mexico.
- United States Department of Agriculture, Natural Resources Conservation Service. (2023). Web Soil Survey, New Mexico.

  Retrieved from http://www.wipp.energy.gov/library/Information\_Repository\_A/Supplemental\_Information/
  Chugg%20et%20al%201971%20w-map.pdf
- United States Department of Homeland Security, FEMA Flood Map Service Center. (2023).
- United States Fish and Wildlife Service. (2023). *National Wetland Inventory Surface Waters and Wetland*. Retrieved from https://www.fws.gov/wetlands/data/mapper.html
- United States Geological Survey. (2023). *National Water Information System: Mapper*. Retrieved from Water Resources of the United States—National Water Information System (NWIS) Mapper (usgs.gov).

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WPX Energy Permian, LLC Tucker Draw 9 4 Federal Com #007H, nAPP2317049912 2023 Spill Assessment and Closure August 2023

#### Limitations

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

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

### **ATTACHMENT 1**

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

State of New Mexico Energy Minerals and Natural Resources Department

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

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

Incident ID	nAPP2317049912
District RP	
Facility ID	
Application ID	

			Resp	ponsi	ible Part	ty	
Responsible Party WPX Energy Permian, LLC				OGRID 2	OGRID 246289		
Contact Name Jim Raley				Contact Telephone 575-689-7597			
Contact emai	il Jim.Rale	y@dvn.com			Incident #	# (assigned by OCD) nAPP2317049912	
Contact mail 88220	ing address	5315 Buena Vist	a Drive, Carlsbad	, NM			
			Location	of F	Release S	Source	
Latitude 32	2.0491921		(NAD 83 in de	ecimal de	Longitude egrees to 5 decir	-103.8787382 cimal places)	
Site Name: T	UCKER DR	AW 9 4 FEDERA	L COM #007H		Site Type	e Oil Well	
Date Release	Discovered	6/19/2023			API# (if app	pplicable) 30-015-44480	
Unit Letter	Section	Township	Range		Cou	unty	
A	16	26S	30E	Eddy			
Surface Owner		Federal Ti	Nature and	d Vo	lume of 1		
Crude Oil		l(s) Released (Select all that apply and attach calculations  Volume Released (bbls)		tions of specific	Volume Recovered (bbls)		
Produced	Water	Volume Released (bbls) 26			Volume Recovered (bbls) 26		
		Is the concentration of dissolved chloride in produced water >10,000 mg/l?		e in the	⊠ Yes □ No		
Condensa	ite	Volume Released (bbls)			Volume Recovered (bbls)		
Natural Gas		Volume Released (Mcf)			Volume Recovered (Mcf)		
Other (describe)		Volume/Weight Released (provide units)		)	Volume/Weight Recovered (provide units)		
containment	. Fluids fully			wed th	ne release of	of approx. 26 bbls produced water to lined secondary	

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Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the responsible party consider this a major release? Volume exceeded 25 bbls.		
⊠ Yes □ No			
If YES, was immediate no NOR Submitted 6/19/202	otice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? 3 via portal.		
	Initial Response		
The responsible p	party must undertake the following actions immediately unless they could create a safety hazard that would result in injury		
The source of the rele	ease has been stopped.		
	s been secured to protect human health and the environment.		
	ave been contained via the use of berms or dikes, absorbent pads, or other containment devices.		
All free liquids and re	ecoverable materials have been removed and managed appropriately.		
If all the actions described	d above have <u>not</u> been undertaken, explain why:		
Per 19 15 29 8 B (4) NM	AC the responsible party may commence remediation immediately after discovery of a release. If remediation		
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.			
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.			
Printed Name:Jim Raley Title:Environmental Professional			
Signature: _ fin Rdy	Date:6/19/2023		
email:jim.raley@dvn	.com Telephone: 575-689-7597		
OCD Only			
Received by:	Date:		

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Incident ID	nAPP2317049912
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#### **Site Assessment/Characterization**

This information must be provided to the appropriate district office no taler than 90 days after the release discovery date.		
What is the shallowest depth to groundwater beneath the area affected by the release?	>55 (ft bgs)	
Did this release impact groundwater or surface water?	Yes X No	
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes X No	
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes X No	
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes X No	
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes X No	
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No	
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes X No	
Are the lateral extents of the release within 300 feet of a wetland?	Yes X No	
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes X No	
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes X No	
Are the lateral extents of the release within a 100-year floodplain?	Yes X No	
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	Yes X No	
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.		

Characterization Report Checklist: Each of the following items must be included in the report.
<u> </u>
Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
X Field data
Data table of soil contaminant concentration data
X Depth to water determination
☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
Boring or excavation logs
X Photographs including date and GIS information
X Topographic/Aerial maps
Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release not public health or the environment. The acceptance of a C-141 report by the Gailed to adequately investigate and remediate contamination that pose a threaddition, OCD acceptance of a C-141 report does not relieve the operator of and/or regulations.	ifications and perform corrective actions for releases which may endanger DCD does not relieve the operator of liability should their operations have eat to groundwater, surface water, human health or the environment. In
Printed Name: Jim Raley  Signature:	Title: Environmental Professional  Date: 8/14/2023
email:jim.raley@dvn.com	Telephone:575-689-7597
OCD Only  Received by: Shelly Wells	Date: 8/15/2023

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### **Remediation Plan**

Remediation Plan Checklist: Each of the following items must be	e included in the plan.
<ul> <li>□ Detailed description of proposed remediation technique</li> <li>□ Scaled sitemap with GPS coordinates showing delineation point</li> <li>□ Estimated volume of material to be remediated</li> <li>□ Closure criteria is to Table 1 specifications subject to 19.15.29.1</li> <li>□ Proposed schedule for remediation (note if remediation plan times)</li> </ul>	2(C)(4) NMAC
Deferral Requests Only: Each of the following items must be con-	firmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around predeconstruction.	oduction equipment where remediation could cause a major facility
Extents of contamination must be fully delineated.	
Contamination does not cause an imminent risk to human health	a, the environment, or groundwater.
	e and remediate contamination that pose a threat to groundwater, acceptance of a C-141 report does not relieve the operator of
Signature:	Date: 8/14/2023
email:jim.raley@dvn.com	Telephone:
OCD Only	
Received by:	Date:
☐ Approved ☐ Approved with Attached Conditions of	Approval
Signature:	<u>Date:</u>

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### Closure

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

Closure Report Attachment Checklist: Each of the following	r items must be included in the closure report.
X A scaled site and sampling diagram as described in 19.15.29	0.11 NMAC
X Photographs of the remediated site prior to backfill or photomust be notified 2 days prior to liner inspection)	os of the liner integrity if applicable (Note: appropriate OCD District office
X Laboratory analyses of final sampling (Note: appropriate OI	OC District office must be notified 2 days prior to final sampling)
X Description of remediation activities	
and regulations all operators are required to report and/or file cert may endanger public health or the environment. The acceptance should their operations have failed to adequately investigate and r human health or the environment. In addition, OCD acceptance of	
Printed Name: Jim Raley	Title: Environmental Professional
Signature:	Date:8/14/2023
email:jim.raley@dvn.com	Telephone:575-689-7597
OCD Only	
Received by: Shelly Wells	Date: 8/15/2023
	ty of liability should their operations have failed to adequately investigate and e water, human health, or the environment nor does not relieve the responsible d/or regulations.
Closure Approved by: Shelly Wells	Date: 9/13/2023
Printed Name: Shelly Wells	Title: Environmental Specialist-Advanced

### **ATTACHMENT 2**

Arrived at Site

**Departed Site** 

### **Daily Site Visit Report**

8/2/2023 10:40 AM

8/2/2023 10:58 AM



Client: **Devon Energy** 8/2/2023 Inspection Date: Corporation Tucker Draw 9 4 Federal 8/2/2023 6:53 PM Site Location Name: Report Run Date: Com #007H Client Contact Name: Dale Woodall API#: 30-015-44480 Client Contact Phone #: 405-318-4697 Unique Project ID Project Owner: Project Reference # Project Manager: **Summary of Times** 



#### **Site Sketch**

Site Sketch



#### **Field Notes**

10:41 Arrived on site, reviewed tasks.

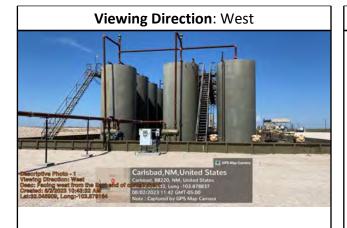
10:56 Completed photos and inspection. No problems found.

#### **Next Steps & Recommendations**

1



#### **Site Photos**



Facing west from the East end of containment



Viewing Direction: West

south wall



Looking East from the midpoint of the south wall



Looking north from the southeast corner of containment





Looking west from the southeast corner of containment



Looking west between the southernmost and middle row of tanks



Looking west between the middle and northernmost row of tanks

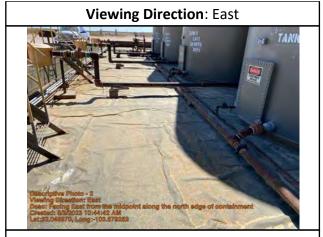


Looking south from the northeast corner





Looking west from the northeast corner



Facing East from the midpoint along the north edge of containment



Facing west from the midpoint along the north edge of containment



Facing East from the northwest corner of containment





Facing south from the northwest corner of containment



Looking East between the north and middle rows of tanks



Facing East between the middle and southernmost row of tanks



Facing East from the southwest corner of containment





Looking north from the southwest corner of containment

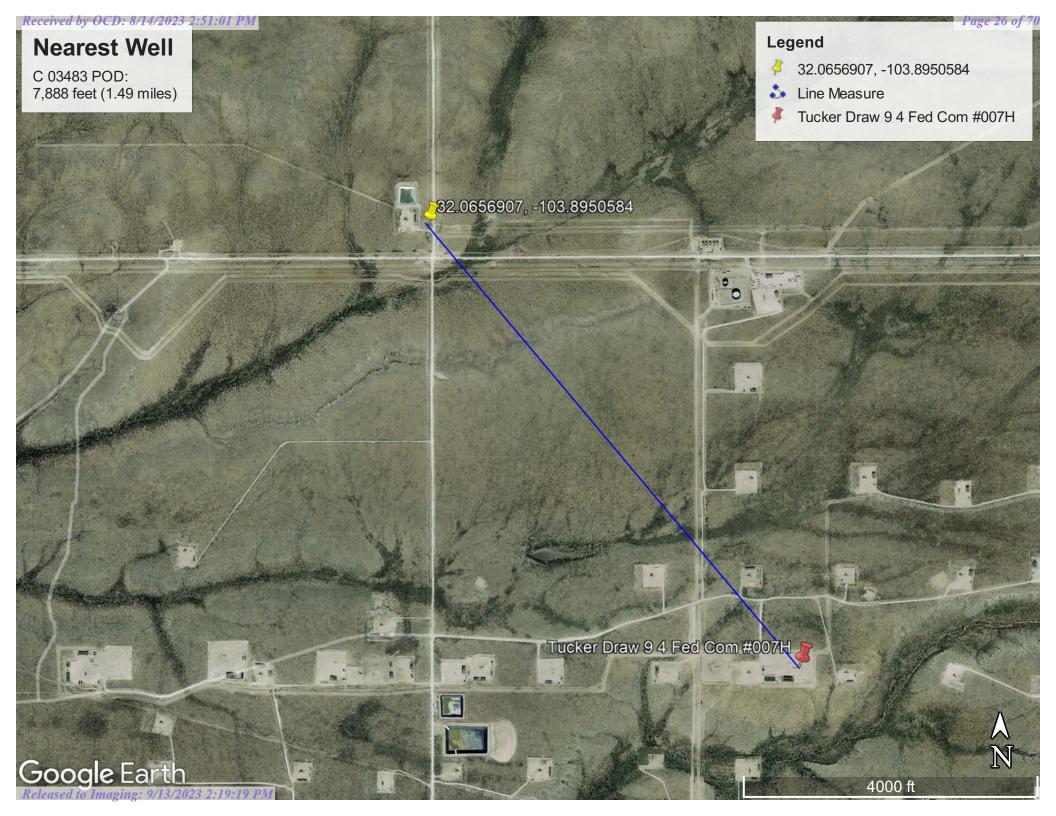


#### **Daily Site Visit Signature**

Inspector: Angela Mohle1

Signature:

### **ATTACHMENT 3**





### New Mexico Office of the State Engineer

### **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag **POD Number** 

Q64 Q16 Q4 Sec Tws Rng

C 03483

05 26S 604296 3548251

**Driller License:** 1509 **Driller Company:** BMS DRILLING COMPANY

**Driller Name:** BEAUREGARD, RICHARD

**Drill Finish Date: Drill Start Date:** 06/03/2011 06/08/2011 **Plug Date:** 

Log File Date: 07/14/2011 **PCW Rcv Date:** Shallow Source: **Pump Type: SUBMER** Pipe Discharge Size: **Estimated Yield:** 35 GPM **Casing Size:** 8.00 **Depth Well:** 700 feet Depth Water: 200 feet

Water Bearing Stratifications: **Bottom Description** Top 200 Sandstone/Gravel/Conglomerate 285 Sandstone/Gravel/Conglomerate 320 Sandstone/Gravel/Conglomerate 650 Shale/Mudstone/Siltstone 510 **Casing Perforations:** Top **Bottom** 

180 260 280 360 500 680

14452 **MASTERMETER Meter Number:** Meter Make: Meter Serial Number: 32530329 **Meter Multiplier:** 100.0000

6 **Number of Dials: Meter Type:** Diversion

**Unit of Measure:** Gallons **Return Flow Percent: Usage Multiplier: Reading Frequency:** 

**Meter Readings (in Acre-Feet)** 

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount Online
07/11/2011	2011	10	A	bd	WELL TO BE SET UP FOR COM SALE	0
04/01/2014	2014	188668	A	RPT		0
04/02/2014	2014	44195	A	RPT		0
07/01/2014	2014	62284	A	RPT		5.551
10/01/2014	2014	91448	A	RPT		8.950
12/31/2014	2014	126199	A	RPT		10.665
02/01/2015	2015	138888	A	RPT		3.894
03/02/2015	2015	150578	A	RPT		3.588
04/01/2015	2015	157715	A	RPT		2.190
04/30/2015	2015	170037	A	RPT		3.781
05/31/2015	2015	182144	A	RPT		3.716
07/01/2015	2015	188338	A	RPT		1.901
08/31/2015	2015	209416	A	RPT		6.469
01/01/2016	2015	244328	A	mb		10.714

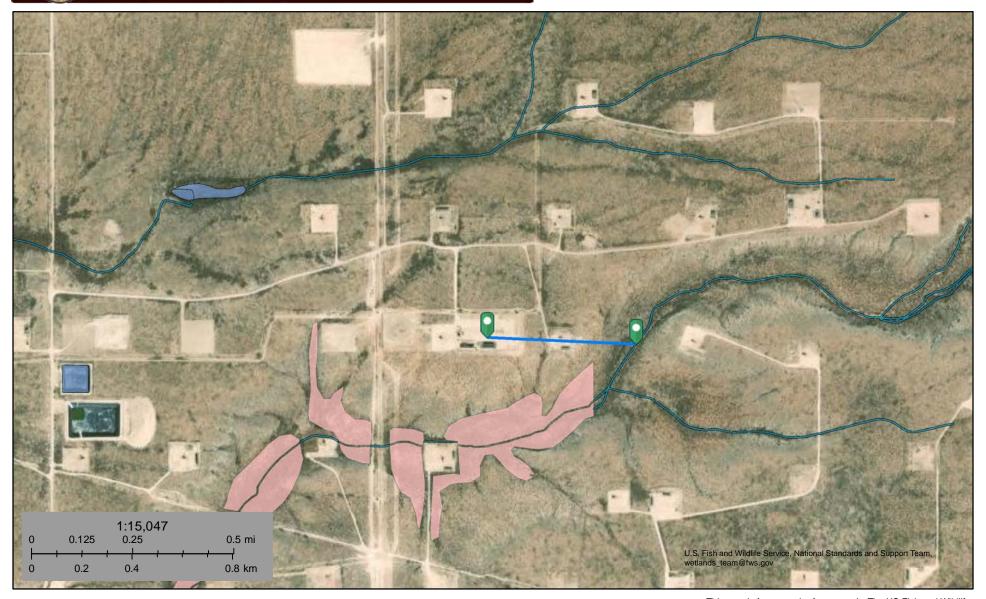
02/01/2016	2016	245605	A	mb
03/02/2016	2016	246331	A	mb
04/01/2016	2016	246331	A	mb
05/01/2016	2016	248057	A	mb
06/01/2016	2016	262631	A	mb
07/01/2016	2016	271192	A	mb
08/01/2016	2016	273040	A	mb
09/01/2016	2016	283123	A	mb
10/01/2016	2016	290786	A	mb
× **VTD Met	ter Amounts:	Year		Amount
11D MC	ici ililounts.	icai		Zimount
		2011		0
		2014		25.166
		2015		36.253
		2016		14.258

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/11/23 3:31 PM

POINT OF DIVERSION SUMMARY

Watercourse - Tucker Draw 9 4 Fed Com #007H 1,520 feet away (0.29 miles)



July 7, 2023

#### Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Lake

Other

Riverine

\_\_\_ Othe

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



# Lakebed - Tucker Draw 9 4 Fed Com #007H 3,145 feet away (0.61 miles)



July 7, 2023

#### Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Lake

Riverine

Other

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### New Mexico Office of the State Engineer

### **Water Right Summary**

WR File Number: C 00001 Subbasin: CUB Cross Reference: -

**Primary Purpose: IRR IRRIGATION** 

**Primary Status:** DEN **DENIED** 

**Total Acres:** Subfile: Header: -

**Total Diversion:** Cause/Case:

> Owner: W H SWEARINGEN

**Documents on File** 

Status From/ Trn# File/Act 2 Transaction Desc. To Doc **Diversion Consumptive** Acres

1947-12-29 447842 APPRO DEN DEN C 00001

**Current Points of Diversion** 

(NAD83 UTM in meters)

Well Tag Source

**POD Number** Other Location Desc C 00001 2 4 04 23S 28E N1/2

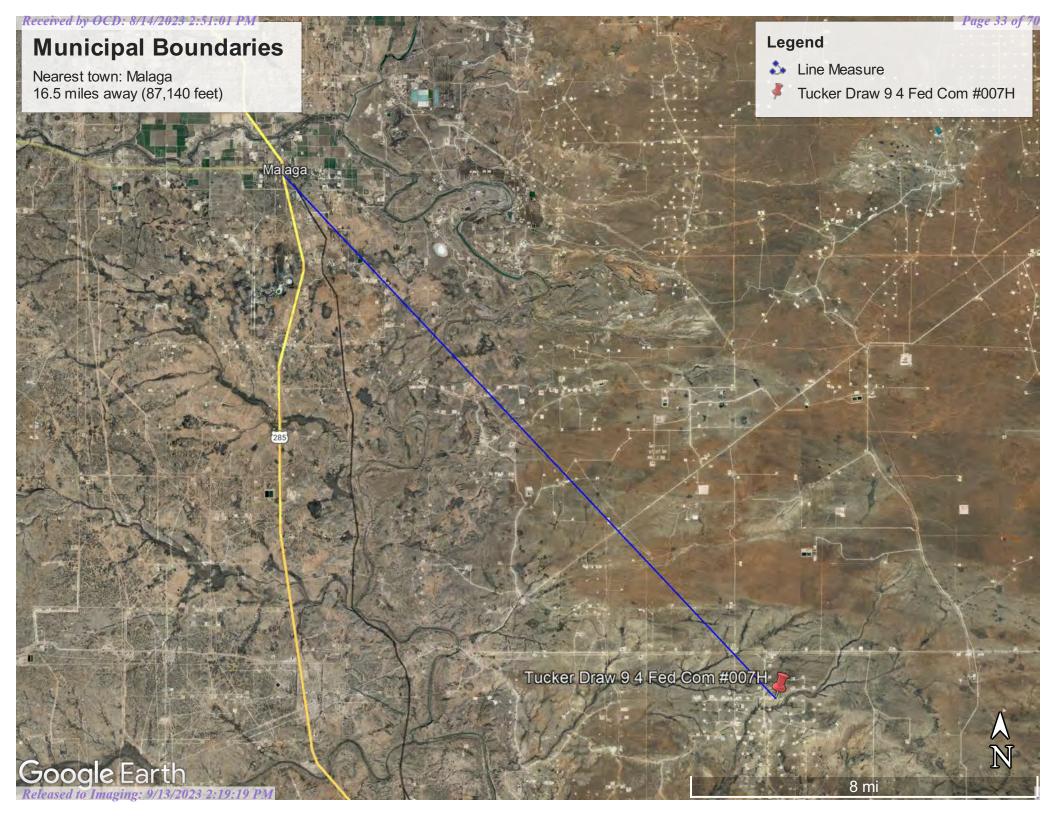
\*An (\*) after northing value indicates UTM location was derived from PLSS - see Help

Place of Use

 $\mathbf{0}$ 256 64 Q16 Q4Sec Tws Rng **Status Other Location Desc** Diversion CU Use Priority Acres 4 04 23S 28E DEN 0 **IRR** 

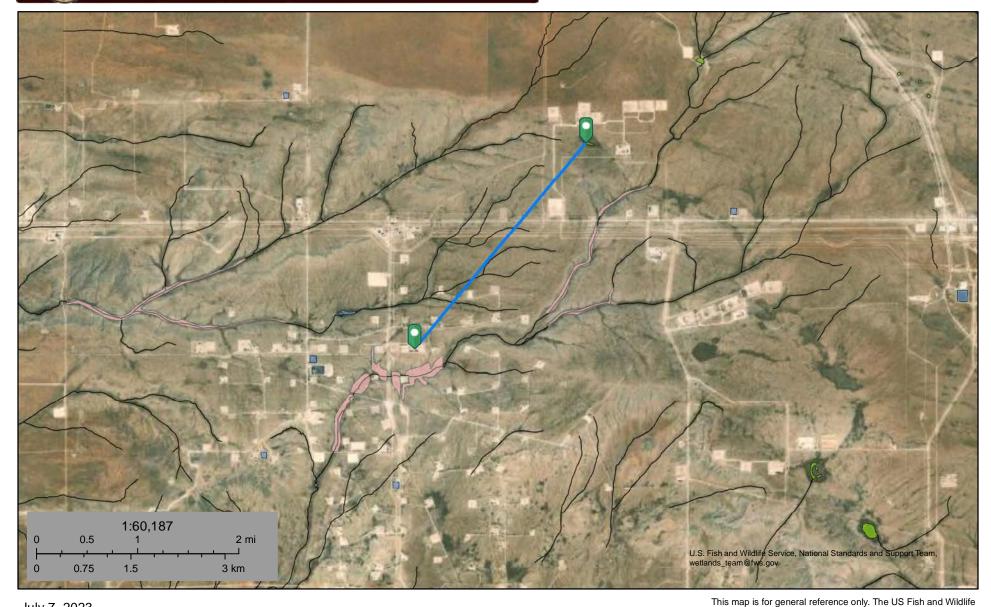
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/17/23 1:22 PM WATER RIGHT **SUMMARY** 



U.S. Fish and Wildlife Service National Wetlands Inventory

## Wetland - Tucker Draw 9 4 Fed Com #007H 11,862 feet away (2.25 miles)



July 7, 2023

#### Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Lake

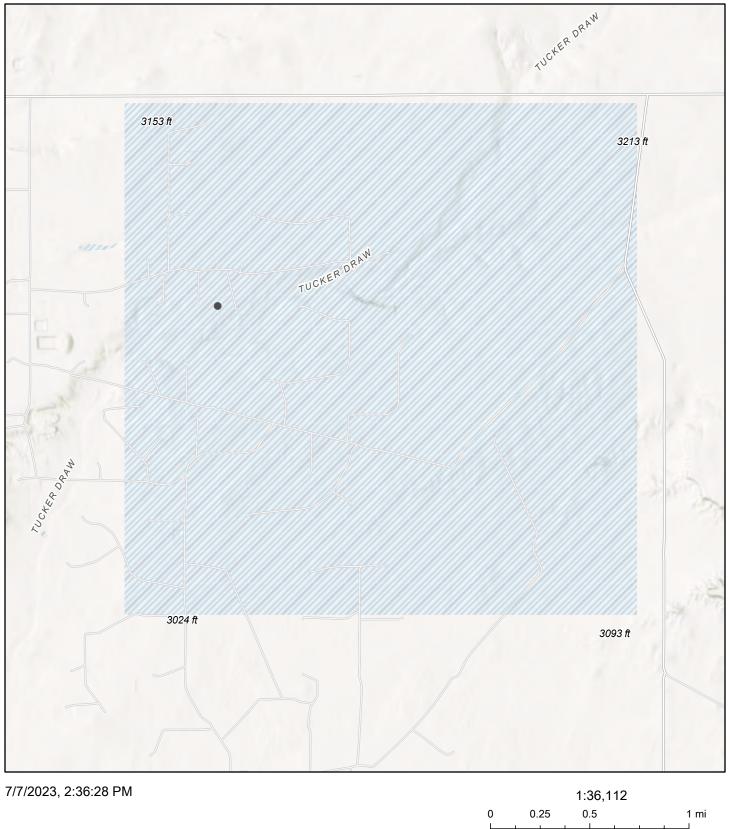
Other

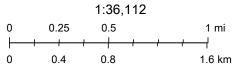
Riverine



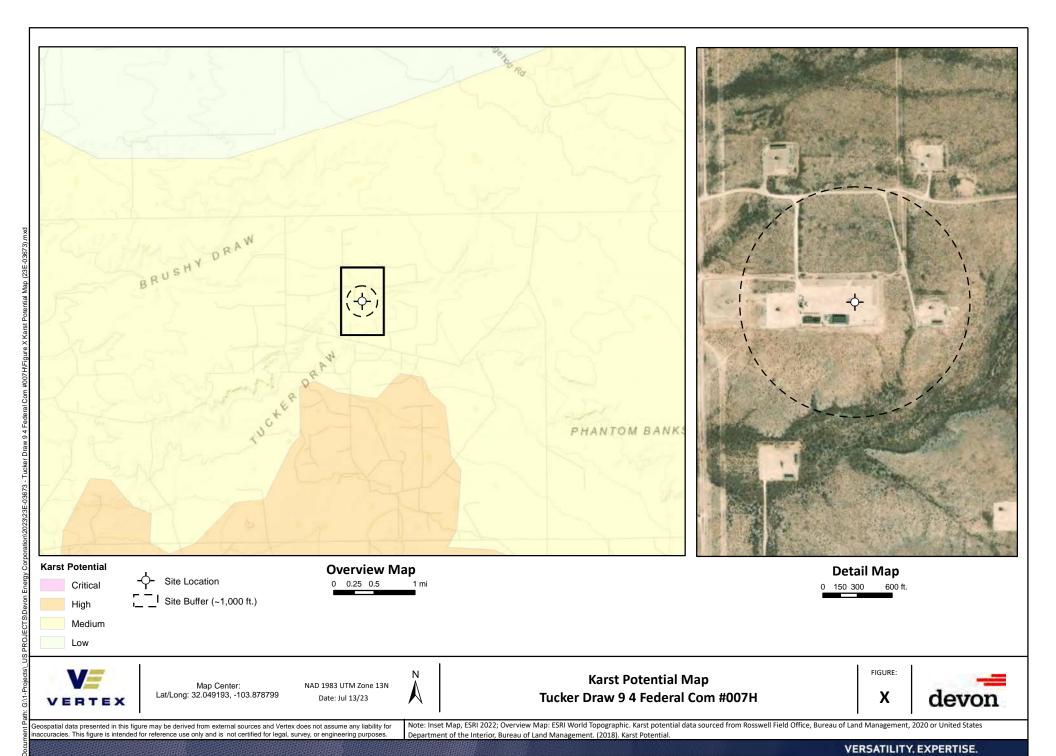
Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

### Mines - Tucker Draw 9 4 Fed Com #007H





Esri, NASA, NGA, USGS, FEMA, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA



# National Flood Hazard Layer FIRMette



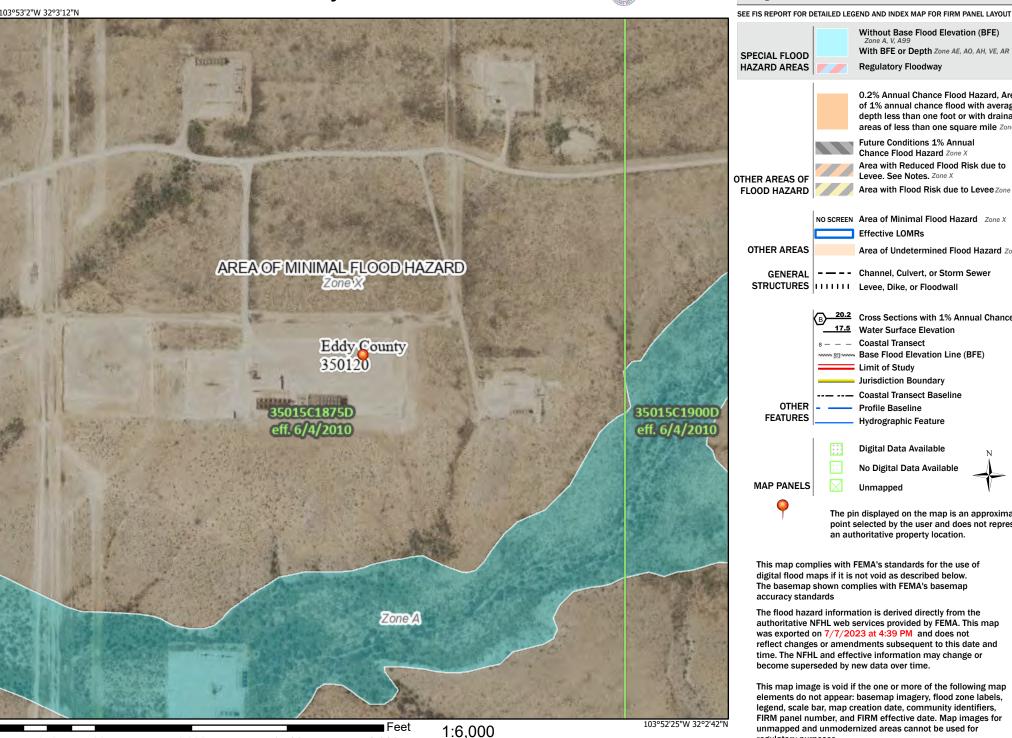


Without Base Flood Elevation (BFE) With BFE or Depth Zone AE, AO, AH, VE, AR SPECIAL FLOOD **HAZARD AREAS** Regulatory Floodway 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X **Future Conditions 1% Annual** Chance Flood Hazard Zone X Area with Reduced Flood Risk due to Levee. See Notes. Zone X OTHER AREAS OF Area with Flood Risk due to Levee Zone D FLOOD HAZARD NO SCREEN Area of Minimal Flood Hazard Zone X Effective LOMRs OTHER AREAS Area of Undetermined Flood Hazard Zone D - - - Channel, Culvert, or Storm Sewer **GENERAL** STRUCTURES | LILLI Levee, Dike, or Floodwall 20.2 Cross Sections with 1% Annual Chance 17.5 Water Surface Elevation **Coastal Transect** ----- Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary **Coastal Transect Baseline** OTHER **Profile Baseline FEATURES** Hydrographic Feature Digital Data Available No Digital Data Available MAP PANELS Unmapped The pin displayed on the map is an approximate point selected by the user and does not represent

an authoritative property location. This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards The flood hazard information is derived directly from the

authoritative NFHL web services provided by FEMA. This map was exported on 7/7/2023 at 4:39 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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





**VRCS** 

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

# Custom Soil Resource Report for Eddy Area, New Mexico



# **Preface**

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

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

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2 053951).

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

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

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

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# **How Soil Surveys Are Made**

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

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

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

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

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

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

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

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

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

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

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

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

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

# Soil Map

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



# MAP LEGEND

### Area of Interest (AOI)

Area of Interest (AOI)

## Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

### Special Point Features

ဖ

Blowout

Borrow Pit

Clay Spot

**Closed Depression** 

Gravel Pit

**Gravelly Spot** 

Landfill Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Sodic Spot

Severely Eroded Spot

Sinkhole Slide or Slip

Spoil Area Stony Spot

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Very Stony Spot

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Wet Spot Other

Δ

Special Line Features

### **Water Features**

Streams and Canals

# Transportation

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Rails

Interstate Highways

**US Routes** 

Major Roads

00

Local Roads

## Background

Aerial Photography

# MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20.000.

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

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

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

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

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

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

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

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

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

# **Map Unit Legend**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
US	Upton-Simona complex, 1 to 15 percent slopes, eroded	38.5	100.0%
Totals for Area of Interest		38.5	100.0%

# **Map Unit Descriptions**

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

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

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

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

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

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

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

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

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

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

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

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

# **Eddy Area, New Mexico**

# US—Upton-Simona complex, 1 to 15 percent slopes, eroded

# **Map Unit Setting**

National map unit symbol: 1w66 Elevation: 2,000 to 5,700 feet

Mean annual precipitation: 6 to 14 inches

Mean annual air temperature: 57 to 70 degrees F

Frost-free period: 180 to 260 days

Farmland classification: Not prime farmland

# **Map Unit Composition**

Upton and similar soils: 40 percent Simona and similar soils: 35 percent Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

# **Description of Upton**

# Setting

Landform: Ridges, fans

Landform position (three-dimensional): Side slope, rise

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Residuum weathered from limestone

# **Typical profile**

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

H4 - 21 to 60 inches: very gravelly loam

# Properties and qualities

Slope: 1 to 15 percent

Depth to restrictive feature: 7 to 20 inches to petrocalcic

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high

(0.01 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 75 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

# Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: R070BC025NM - Shallow

Hydric soil rating: No

# **Description of Simona**

# Setting

Landform: Plains, alluvial fans

Landform position (three-dimensional): Rise

Down-slope shape: Convex, linear

Across-slope shape: Linear

Parent material: Mixed alluvium and/or eolian sands

# Typical profile

H1 - 0 to 6 inches: gravelly fine sandy loam H2 - 6 to 20 inches: gravelly fine sandy loam

H3 - 20 to 24 inches: indurated

# **Properties and qualities**

Slope: 1 to 5 percent

Depth to restrictive feature: 7 to 20 inches to petrocalcic

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

# Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: D

Ecological site: R070BD002NM - Shallow Sandy

Hydric soil rating: No

# **Minor Components**

# Rock outcrop

Percent of map unit: 9 percent

Hydric soil rating: No

# **Dune land**

Percent of map unit: 8 percent

Hydric soil rating: No

# **Pajarito**

Percent of map unit: 8 percent

Ecological site: R070BD003NM - Loamy Sand

Hydric soil rating: No

# References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2 054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2 053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2 053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2 053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE\_DOCUMENTS/nrcs142p2\_052290.pdf



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

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

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2 053951).

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

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

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

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# Soil Information for All Uses

# **Ecological Sites**

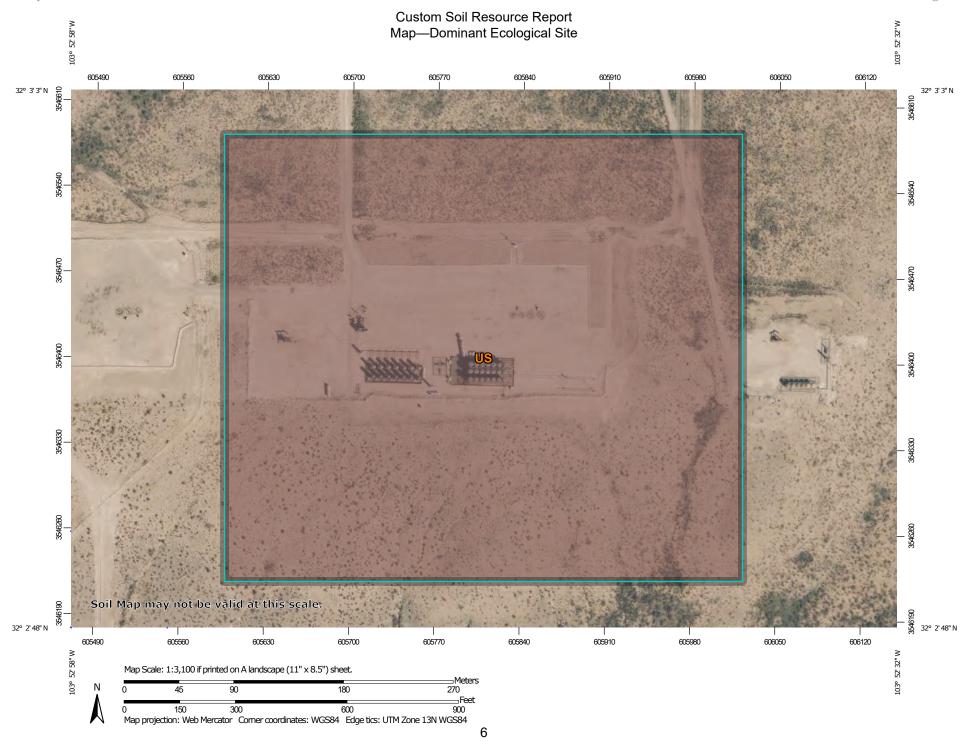
Individual soil map unit components can be correlated to a particular ecological site. The Ecological Site Assessment section includes ecological site descriptions, plant growth curves, state and transition models, and selected National Plants database information.

# All Ecological Sites —

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

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

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



# MAP LEGEND

### Area of Interest (AOI)

Area of Interest (AOI)

### Soils

### Soil Rating Polygons

R070BC025NM

Not rated or not available

### Soil Rating Lines

R070BC025NM

Not rated or not available

### Soil Rating Points

■ R070BC025NM

Not rated or not available

### **Water Features**

Streams and Canals

### Transportation

+++ Rails

Interstate Highways

-

**US Routes** 



Major Roads



Local Roads

### Background

1

Aerial Photography

# MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20.000.

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

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

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

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

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

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

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

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

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

# **Table—Ecological Sites by Map Unit Component**

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
US	Upton-Simona complex, 1 to 15	Upton (40%)	R070BC025NM — Shallow	38.5	100.0%
	percent slopes, eroded	Simona (35%)	R070BD002NM — Shallow Sandy		
		Rock outcrop (9%)			
		Dune land (8%)			
		Pajarito (8%)	R070BD003NM — Loamy Sand		
Totals for Area of Interest			38.5	100.0%	

# References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2 054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2 053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2 053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

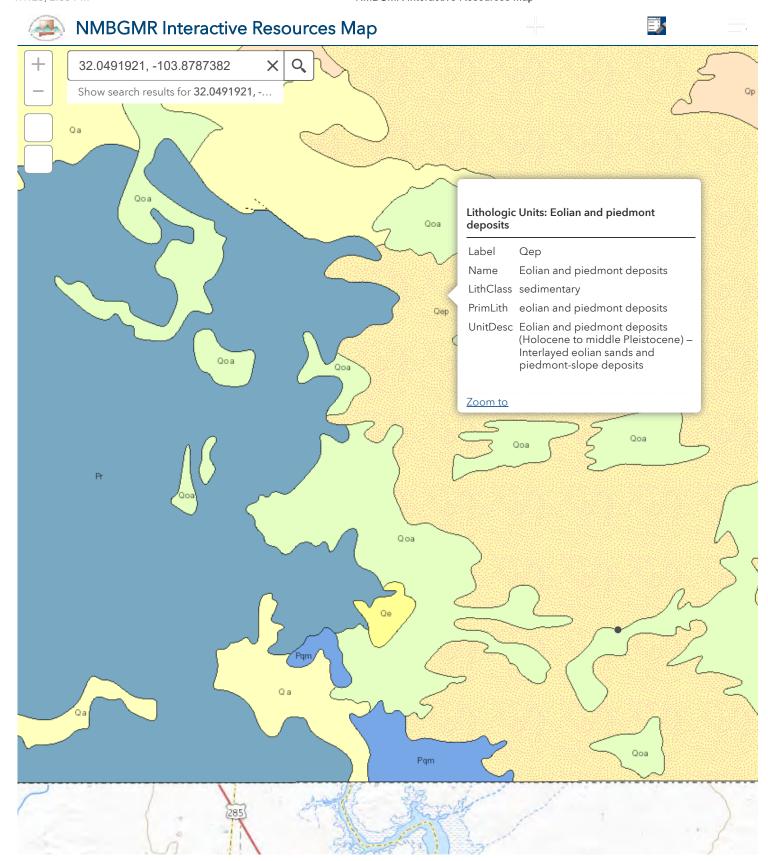
United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2 053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE\_DOCUMENTS/nrcs142p2\_052290.pdf



# App State

Click to restore the map extent and layers visibility where you left off.

# **ATTACHMENT 4**



# Dhugal Hanton <vertexresourcegroupusa@gmail.com>

# nAPP2317049912 Tucker Draw 9 4 Fed 7 Liner Inspection Notice

3 messages

Wed, Jul 26, 2023 at 1:49 PM

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled a liner inspection to be conducted for the following release:

nAPP2317049912 DOR: 06/19/2023 Site Name: Tucker Draw 9 4 Federal Com #007H

This work will be completed on behalf of WPX Energy Permian, LLC

On Wednesday, August 2, 2023 at approximately 9:30 a.m., Monica Peppin will be on site to conduct the liner inspection. She can be reached at 575-361-9880. If you need directions to the site, please do not hesitate to contact her. If you have any questions or concerns regarding this notification, please give me a call at 575-361-9880.

Thank you,

# Monica Peppin, A.S.

Project Manager

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

P 575.725.5001 Ext. 711 C 575.361.9880

# www.vertex.ca

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Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@emnrd.nm.gov>

Wed, Jul 26, 2023 at 2:45 PM

Hi Monica,

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

Thank you,

Shelly

Shelly Wells \* Environmental Specialist-Advanced

Administrative Permitting Program

**EMNRD-Oil Conservation Division** 

1220 S. St. Francis Drive|Santa Fe, NM 87505

(505)469-7520|Shelly.Wells@emnrd.nm.gov

http://www.emnrd.state.nm.us/OCD/

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Sent: Wednesday, July 26, 2023 1:49 PM

To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; spills@slo.state.nm.us

Cc: Raley, Jim <jim.raley@dvn.com>

Subject: [EXTERNAL] nAPP2317049912 Tucker Draw 9 4 Fed 7 Liner Inspection Notice

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

[Quoted text hidden]

SLO Spills <spills@slo.state.nm.us>

To: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Thu, Jul 27, 2023 at 6:27 AM

Received





Surface Resources Division

eco@slo.state.nm.us

nmstatelands.org

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From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>

Sent: Wednesday, July 26, 2023 1:49 PM

To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; SLO Spills <spills@slo.state.nm.us>

Cc: Raley, Jim <jim.raley@dvn.com>

Subject: [EXTERNAL] nAPP2317049912 Tucker Draw 9 4 Fed 7 Liner Inspection Notice

# All,

[Quoted text hidden]

[Quoted text hidden]

# 2 attachments



image001.jpg 75K



image003.jpg 44K

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II 811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 251950

# **CONDITIONS**

Operator:	OGRID:
WPX Energy Permian, LLC	246289
Devon Energy - Regulatory	Action Number:
Oklahoma City, OK 73102	251950
	Action Type:
	[C-141] Release Corrective Action (C-141)

# CONDITIONS

Created By		Condition Date
scwells	None	9/13/2023