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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NRM2017052769
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: WPX Energy Permian, LLC.	OGRID: 246289
Contact Name: Jim Raley	Contact Telephone: 575-689-7597
Contact email: james.raley@wpxenergy.com	Incident # *(assigned by OCD)*
Contact mailing address: 5315 Buena Vista Dr., Carlsbad, NM 88220	

Location of Release Source

Latitude 32.308862 Longitude 104.205363
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: C 17 STATE #001H	Site Type: Production Facility
Date Release Discovered: 6/15/2020	API# *(if applicable): 30-015-44534*

Unit Letter	Section	Township	Range	County
A	17	23S	27E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private

Nature and Volume of Release

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

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

Cause of Release: Valve on water tank developed crack, resulting in release of 10 bbls produced water to lined secondary containment. Fluids fully recovered, liner to be inspected.

$bbl\ estimate$ = recovered fluids (bbl)

State of New Mexico
Oil Conservation Division

Incident ID	NRM2017052769
District RP	
Facility ID	
Application ID	

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

Initial Response

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

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

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

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

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

Printed Name: Jim Raley Title: Environmental Specialist

Signature: Jim Raley Date: 6/15/2020

email: james.raley@wpxenergy.com Telephone: 575-689-7597

OCD Only

Received by: Ramona Marcus Date: 6/18/2020

State of New Mexico
Oil Conservation Division

Incident ID	NRM2017052769
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	**>100** (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ 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 ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ 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 ☒ 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 ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☒ Yes ☐ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ 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.***

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☒ 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
- ☒ Photographs including date and GIS information
- ☐ 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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NRM2017052769
District RP	
Facility ID	
Application ID	

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 Specialist**

Signature: _____ Date: **09/17/2020**

email: **James.Raley@wpxenergy.com** Telephone: **575-689-7597**

OCD Only

Received by: _____ Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NRM2017052769
District RP	
Facility ID	
Application ID	

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 items must be included in the closure report.***

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: **Jim Raley** Title: **Environmental Specialist**

Signature: _____ Date: **09/17/2020**

email: **James.Raley@wpxenergy.com** Telephone: **575-689-7597**

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

September 14, 2020 Vertex Project #: 20E-01585-003

Spill Closure Report: C 17 State #001H
Unit A, Section 17, Township 23 South, Range 27 East
County: Eddy
API: 30-015-44534
Tracking Number: nRM2017052769

Prepared For: WPX Energy
5315 Buena Vista Drive
Carlsbad, New Mexico 88220

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

WPX Energy (WPX) retained Vertex Resource Services Inc. (Vertex) to conduct a spill assessment and remediation for a release that occurred at C 17 State #001H (hereafter referred to as "C 17"). WPX provided notification of the spill to New Mexico Oil Conservation Division (NM OCD) District 2, via submission of an initial C-141 Release Notification (Attachment 1). The NM OCD tracking number assigned to this release is nRM2017052769.

This letter provides a description of the spill assessment and liner inspection, and demonstrates that closure criteria established in 19.15.29.12 *New Mexico Administrative Code (*NMAC; New Mexico Oil Conservation Division, 2018) have been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NM OCD for closure of this release.

Incident Description

On June 15, 2020, a release occurred at WPX's C 17 site when a water tank developed a crack. This incident resulted in the release of approximately 10 barrels (bbls) of produced water into the lined secondary containment. Upon discovery of the release a hydrovac truck was dispatched to recover all free-standing liquids. Approximately 10 bbls of produced water were recovered from the secondary containment and removed for disposal off-site. All fluids were contained within the lined Spill Prevention Control and Countermeasures (SPCC) containment and no produced water was released into undisturbed areas or waterways.

Site Characterization

The release at C 17 occurred on state-owned land, N 32.308862, W 104.205363, approximately 7 miles south of Carlsbad, New Mexico. The legal description for the site is Unit A, Section 17, Township 23 South, Range 27 East, Eddy County, New Mexico. This location is within the Permian Basin in southeast New Mexico and has historically been used for oil and gas exploration and production, and rangeland. An aerial photograph and site schematic are included in Attachment 2.

C 17 is typical of oil and gas exploration and production sites in the western portion of the Permian Basin, and is currently used for oil and gas production, and storage. The following sections specifically describe the area surrounding the constructed wellpad where the storage tanks are located.

The Geological Map of New Mexico indicates the surface geology at C 17 is comprised primarily of lithologic unit Qp-Piedmont alluvial deposits (Quaternary) characterized by deposits of higher gradient tributaries (New Mexico Bureau of Geology and Mineral Resources, 2020). The National Resources Conservation Service Web Soil Survey characterizes the soil at the site as Reagan-Upton association, which are associated with gently undulating plains and tend to be comprised of moderately dark colored, calcareous, and loamy soils. This type of soil, typically found at elevations of 1,000 to 5,400 feet above sea level, tends to be well-drained with very low runoff and low available moisture in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2020). There is low potential for karst geology to be present near C 17 (United States Department of the Interior, Bureau of Land Management, 2020).

There is no surface water located on-site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is a draw located approximately 0.91 miles northeast of the site (New Mexico Office of the State Engineer, Interstate Stream Commission, 2020). At C 17, there are no continuously flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

The nearest recent groundwater well is a New Mexico Office of the State Engineer-identified well from 2017 located 0.8 miles northeast of the site. Data for that well shows a depth to groundwater of 150 feet below ground surface (bgs; New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2020). Documentation pertaining to site characterization and depth to groundwater determination is included in Attachment 3.

Closure Criteria Determination

Using site characterization information, a closure criteria determination worksheet (Attachment 3) 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.

Based on data included in the closure criteria determination worksheet, the release at C 17 would not be subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC and the closure criteria for the site would be determined to be associated with depth to groundwater. The nearest groundwater well is further than ½ mile from the release site, which would nullify the depth to groundwater determination and change the closure criteria for the site to the following constituent concentration limits.

Table 1. Closure Criteria for Soils Impacted by a Release		
Depth to Groundwater	**Constituent**	**Limit**
< 50 feet	Chloride	600 mg/kg
	TPH[1] (GRO + DRO + MRO)	100 mg/kg
	BTEX[2]	50 mg/kg
	Benzene	10 mg/kg

[1]Total petroleum hydrocarbons (TPH) = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)
[2]Benzene, toluene, ethylbenzene and xylenes (BTEX)

Liner Inspection

On September 3, 2020, WPX provided 48-hour notification of the liner inspection to NM OCD, as required by Subparagraph (a) of Paragraph (5) of Subsection A 19.15.29.11 NMAC (Attachment 4). On September 8, 2020, Vertex conducted a visual inspection of the production equipment secondary containment liner for cracks, tears, cuts and other signs of damage to verify that the liner remained intact and had the ability to contain the release. The Daily Field Report (DFR) associated with the inspection is included in Attachment 5.

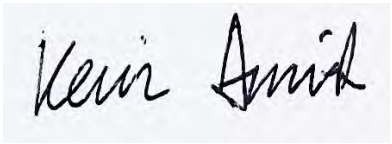
Closure Request

Vertex recommends no remediation action to address the release at C 17. The secondary containment liner appeared to be intact and had the ability to contain the release in question, as shown in the inspection photographs included with the DFR (Attachment 5). There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Vertex requests that incident nRM2017052769 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 NM OCD requirements to obtain closure on the June 15, 2020 release at C 17.

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 575.988.0871 or ksmith@vertex.ca.

Sincerely,



KEVIN SMITH
ENVIRONMENTAL TECHNICIAN

Attachments

Attachment 1. NM OCD C-141 Report
Attachment 2. Site Schematic
Attachment 3. Site Characterization Research Documentation
Attachment 4. Required 48-hr Notification of Liner Inspection to Regulatory Agencies
Attachment 5. Daily Field Report with Photographs

References

New Mexico Bureau of Geology and Mineral Resources. (2020). *Interactive Geologic Map.* Retrieved from http://geoinfo.nmt.edu.

New Mexico Office of the State Engineer, Interstate Stream Commission. (2020). *OSE POD Locations*. Retrieved from https://gis.ose.state.nm.us/gisapps/ose_pod_locations/.

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. (2020). *Web Soil Survey*. Retrieved from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

United States Department of the Interior, Bureau of Land Management. (2020). *New Mexico Cave/Karsts*. Retrieved from https://www.blm.gov/programs/recreation/recreation-programs/caves/new-mexico.

United States Department of the Interior, United States Geological Survey. (2020). *Groundwater for New Mexico: Water Levels*. Retrieved from https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?.

Limitations

This report has been prepared for the sole benefit of WPX Energy (WPX). This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division, without the express written consent of Vertex Resource Services Inc. (Vertex) and WPX. 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.

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Incident ID	NRM2017052769
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Release Notification

Responsible Party

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Contact Name: Jim Raley	Contact Telephone: 575-689-7597
Contact email: james.raley@wpxenergy.com	Incident # *(assigned by OCD)*
Contact mailing address: 5315 Buena Vista Dr., Carlsbad, NM 88220	

Location of Release Source

Latitude 32.308862 Longitude 104.205363
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: C 17 STATE #001H	Site Type: Production Facility
Date Release Discovered: 6/15/2020	API# *(if applicable): 30-015-44534*

Unit Letter	Section	Township	Range	County
A	17	23S	27E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private

Nature and Volume of Release

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

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

Cause of Release: Valve on water tank developed crack, resulting in release of 10 bbls produced water to lined secondary containment. Fluids fully recovered, liner to be inspected.

$bbl\ estimate$ = recovered fluids (bbl)

State of New Mexico
Oil Conservation Division

Incident ID	NRM2017052769
District RP	
Facility ID	
Application ID	

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

Initial Response

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

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

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

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

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Printed Name: Jim Raley Title: Environmental Specialist

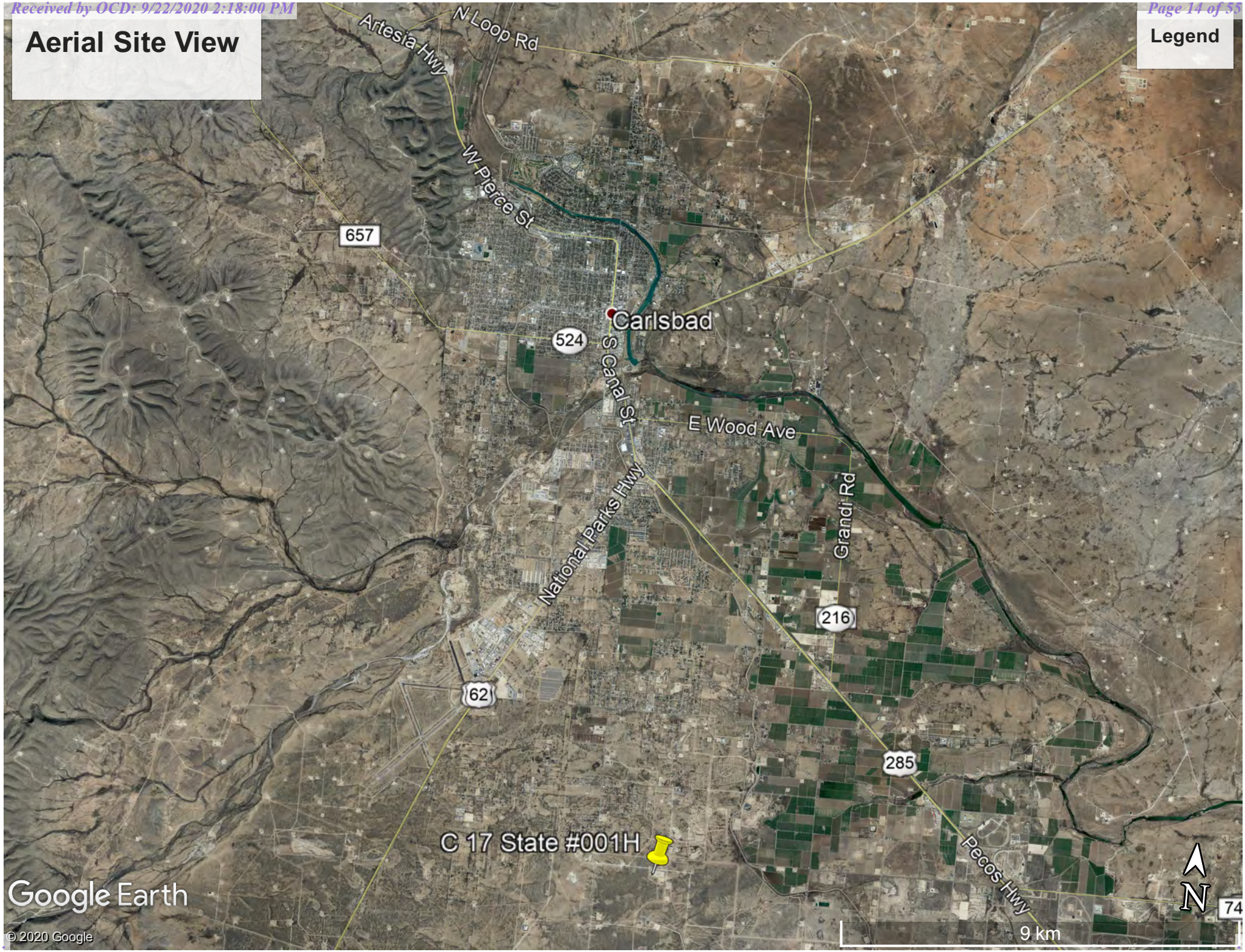
Signature: Jim Raley Date: 6/15/2020

email: james.raley@wpxenergy.com Telephone: 575-689-7597

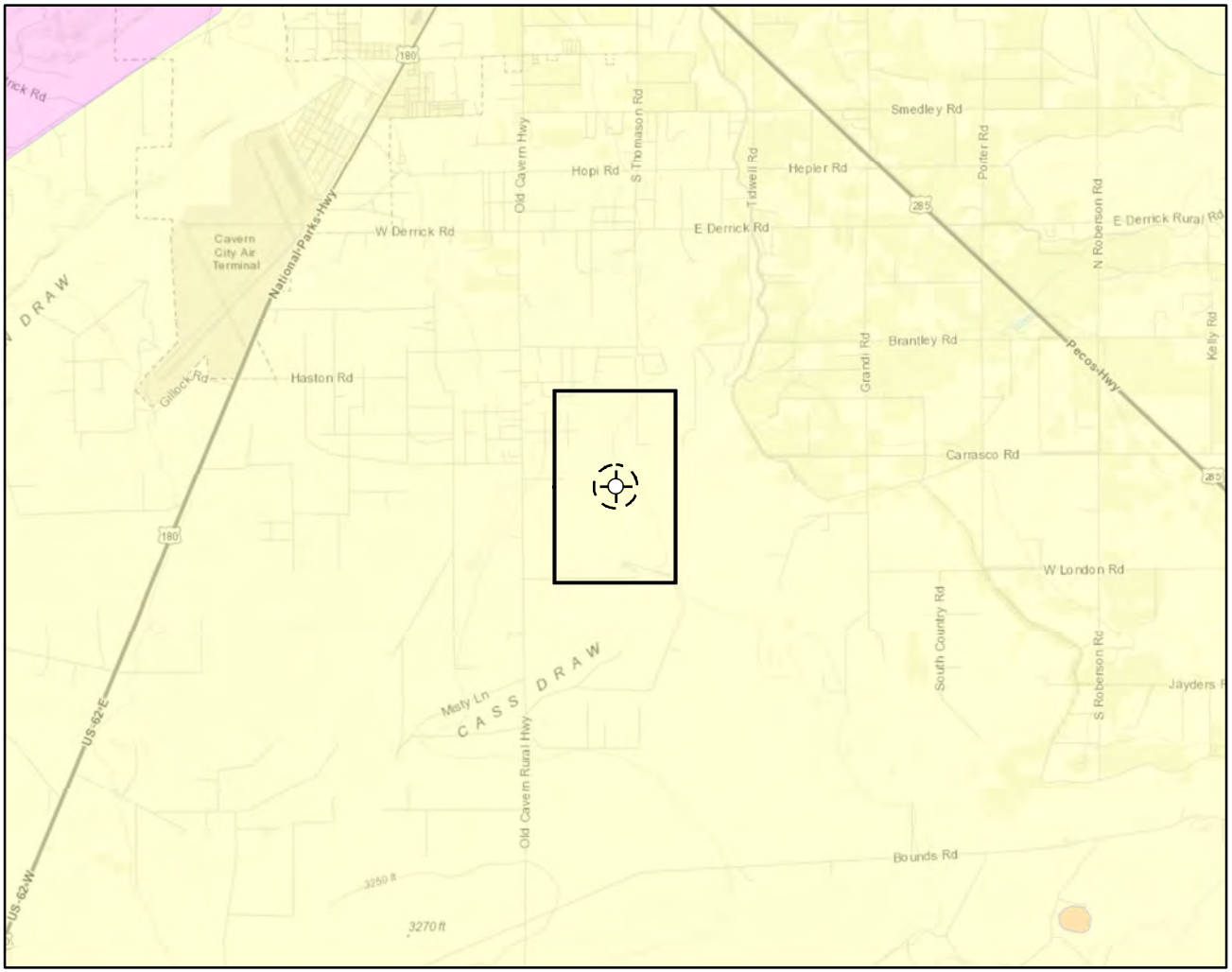
OCD Only

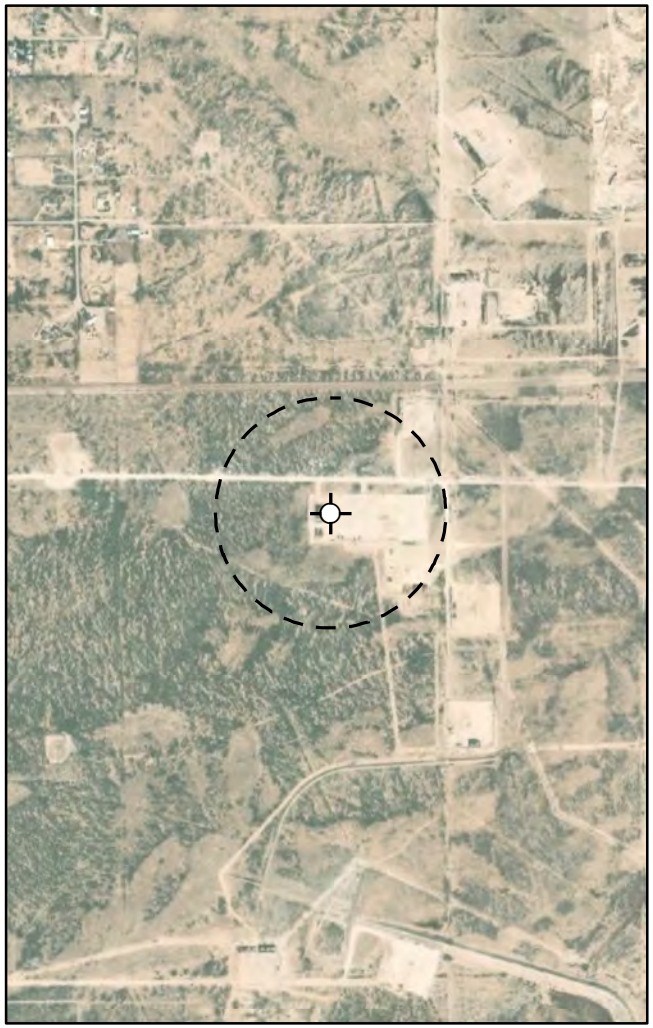
Received by: Ramona Marcus Date: 6/18/2020

Aerial Site View



Closure Criteria Determination			
Site Name: C 17 State #001H			
Spill Coordinates: 32.308735°, -104.206501°		X:	Y:
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	**150**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	24,024	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	54,214	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	2,957	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	4,224	feet
	ii) Within 1000 feet of any fresh water well or spring	4,224	feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	34,373	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Medium	Critical High Medium Low
10	Within a 100-year Floodplain	>500	year
NMAC 19.15.29.12 E (Table 1) Closure Criteria		>100'	<50' 51-100' >100'





site

site_buffer

Karst Potential

- Critical
- High
- Medium
- Low

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 300 600 1,200 ft.

VERTEX

Map Center:
Lat/Long: 32.308963, -104.206868

NAD 1983 UTM Zone 13N
Date: Sep 10/20

N

Karst Potential Map
C 17 State #001

FIGURE:
X

devon

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

Note: Inset Map - ESRI 2018; Overview Map - ESRI World Topographic

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\WPX\20E-01585\003 - C 17 State #001\Fig X C 17 State #001 Karst.mxd

National Flood Hazard Layer FIRMette

FEMA

104°12'42"W 32°18'47"N

104°12'5"W 32°18'16"N

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

1:6,000

Legend

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

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

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

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

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

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

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

N

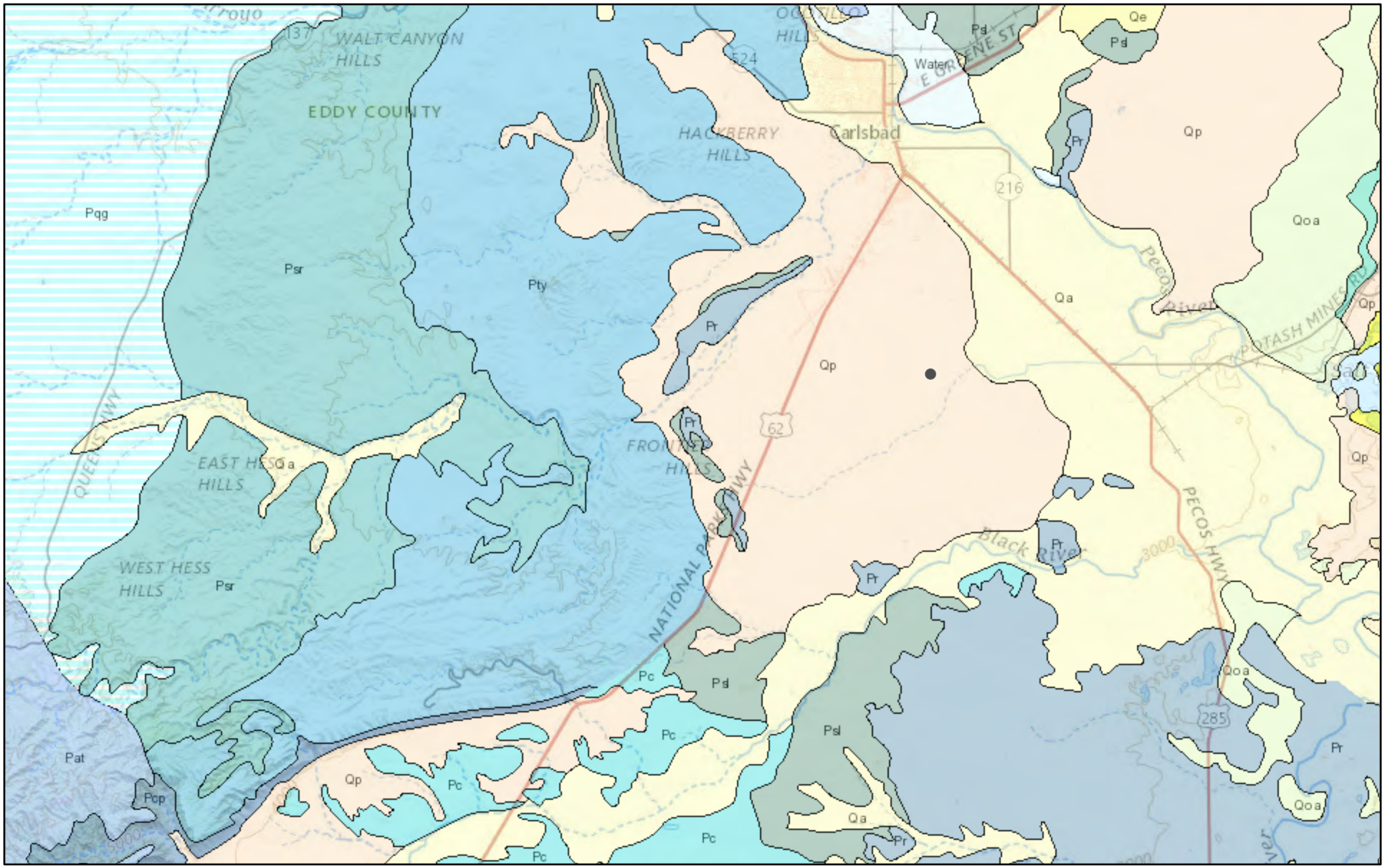
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/11/2020 at 2:51 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.

ArcGIS Web Map



9/11/2020, 1:11:54 PM

1:288,895

0 2 4 8 mi

0 3.25 6.5 13 km

Lithologic Contacts

Contact, Exposed

Contact, Gradational

Nomenclature change

Map Boundary

NMBGMR, USGS The National Map: National Boundaries Dataset, 3DEP

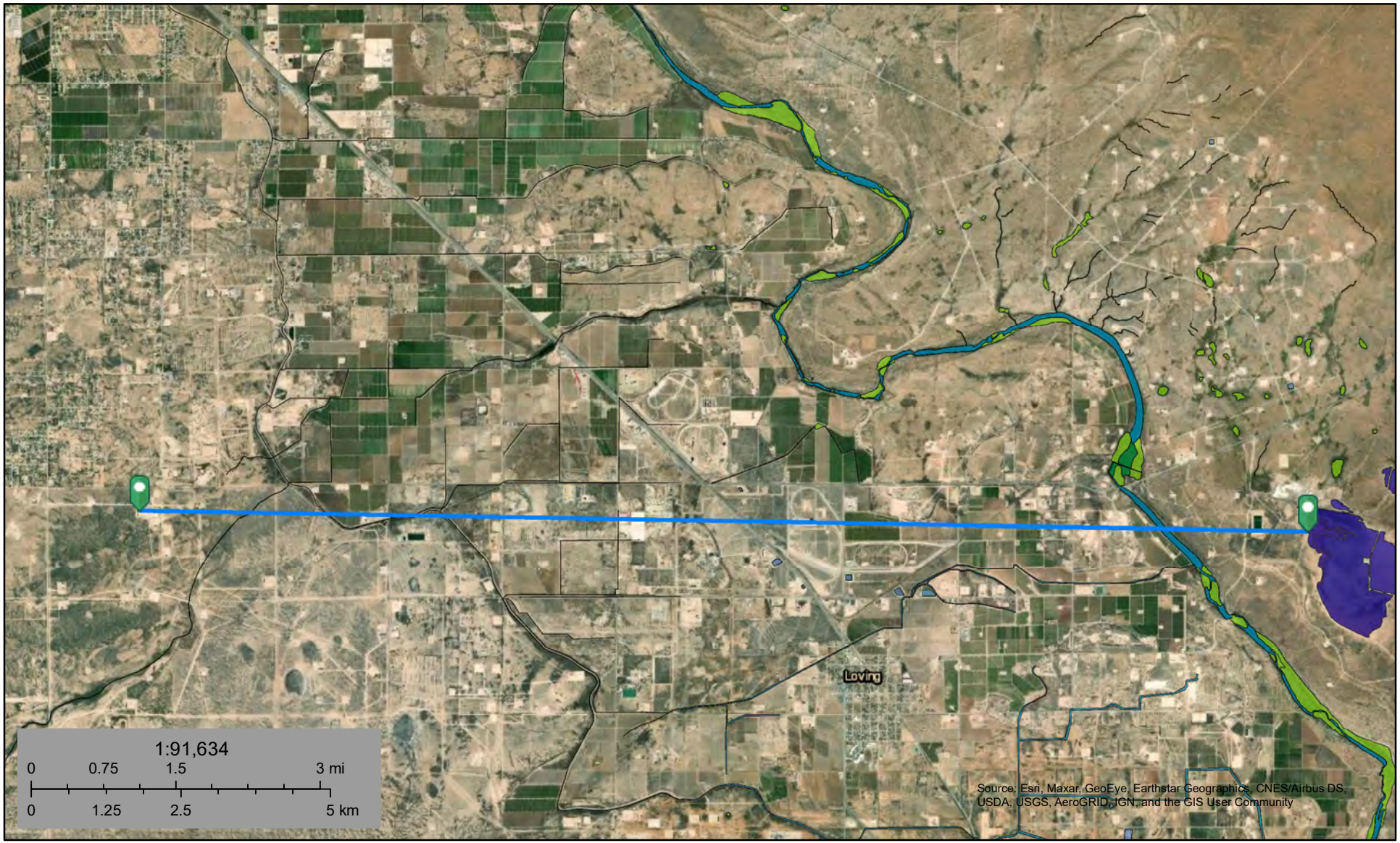
Web AppBuilder for ArcGIS

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

U.S. Fish and Wildlife Service

National Wetlands Inventory

Distance to Lake = 54,214 Feet



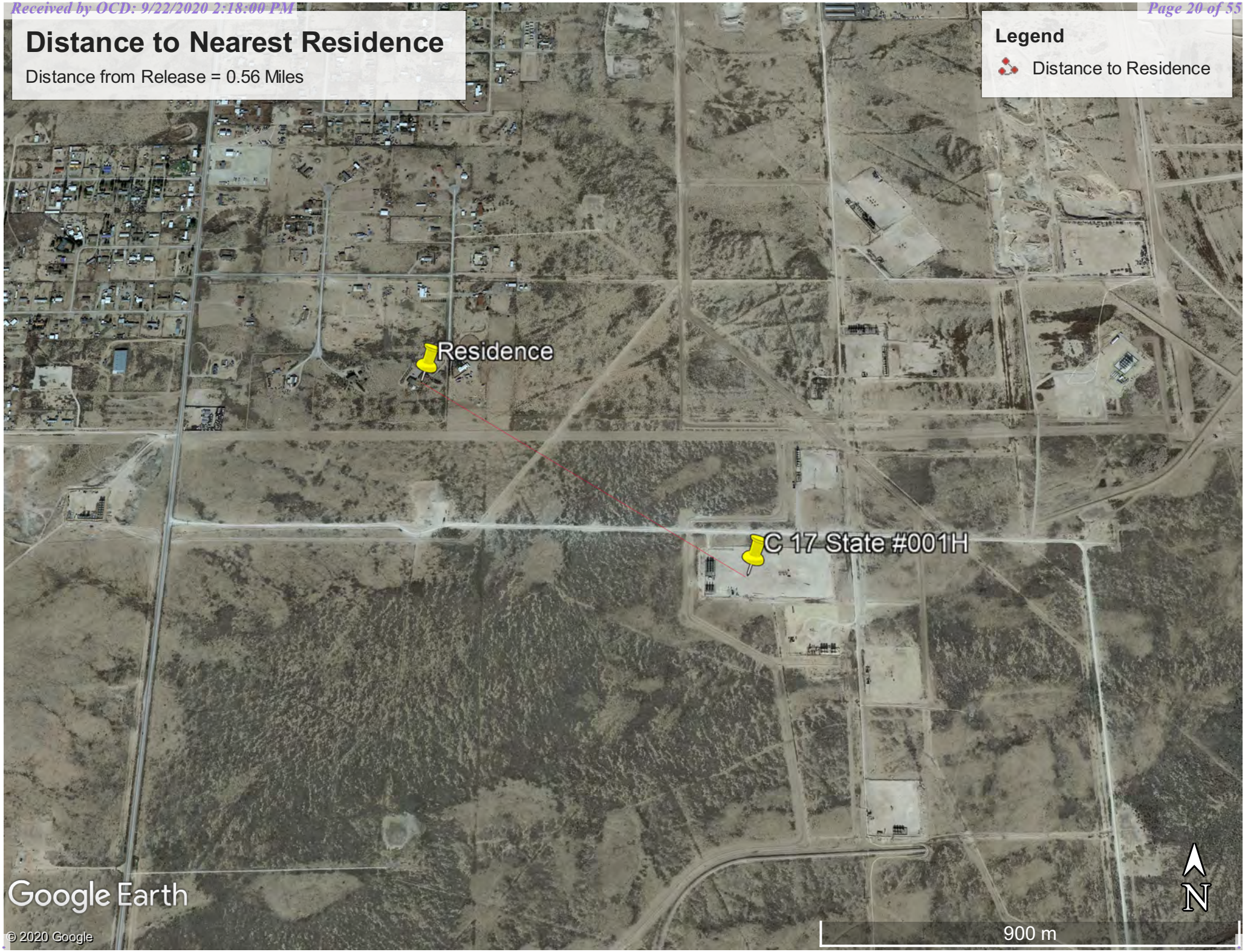
September 11, 2020

Wetlands

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

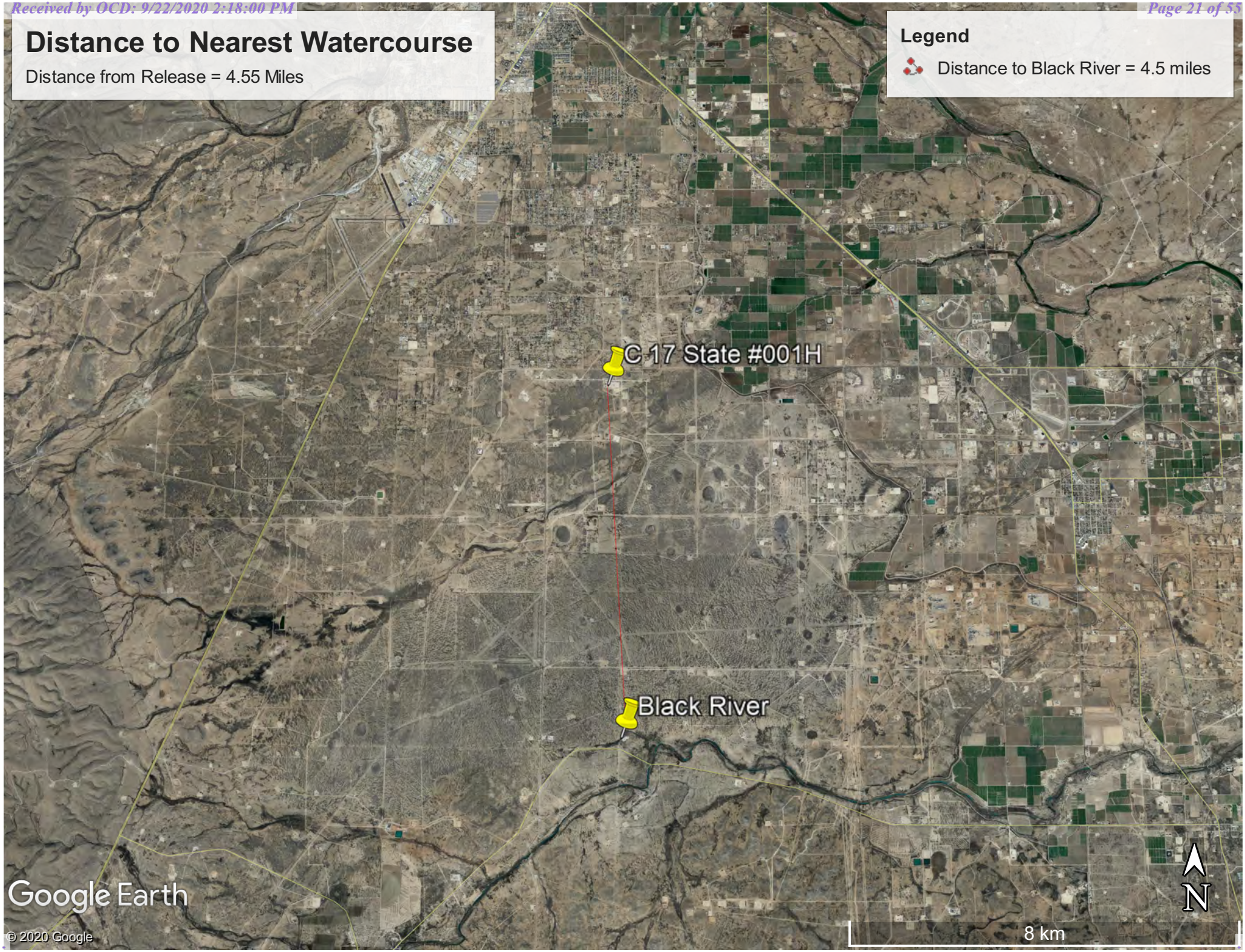
Distance to Nearest Residence

Distance from Release = 0.56 Miles



Distance to Nearest Watercourse

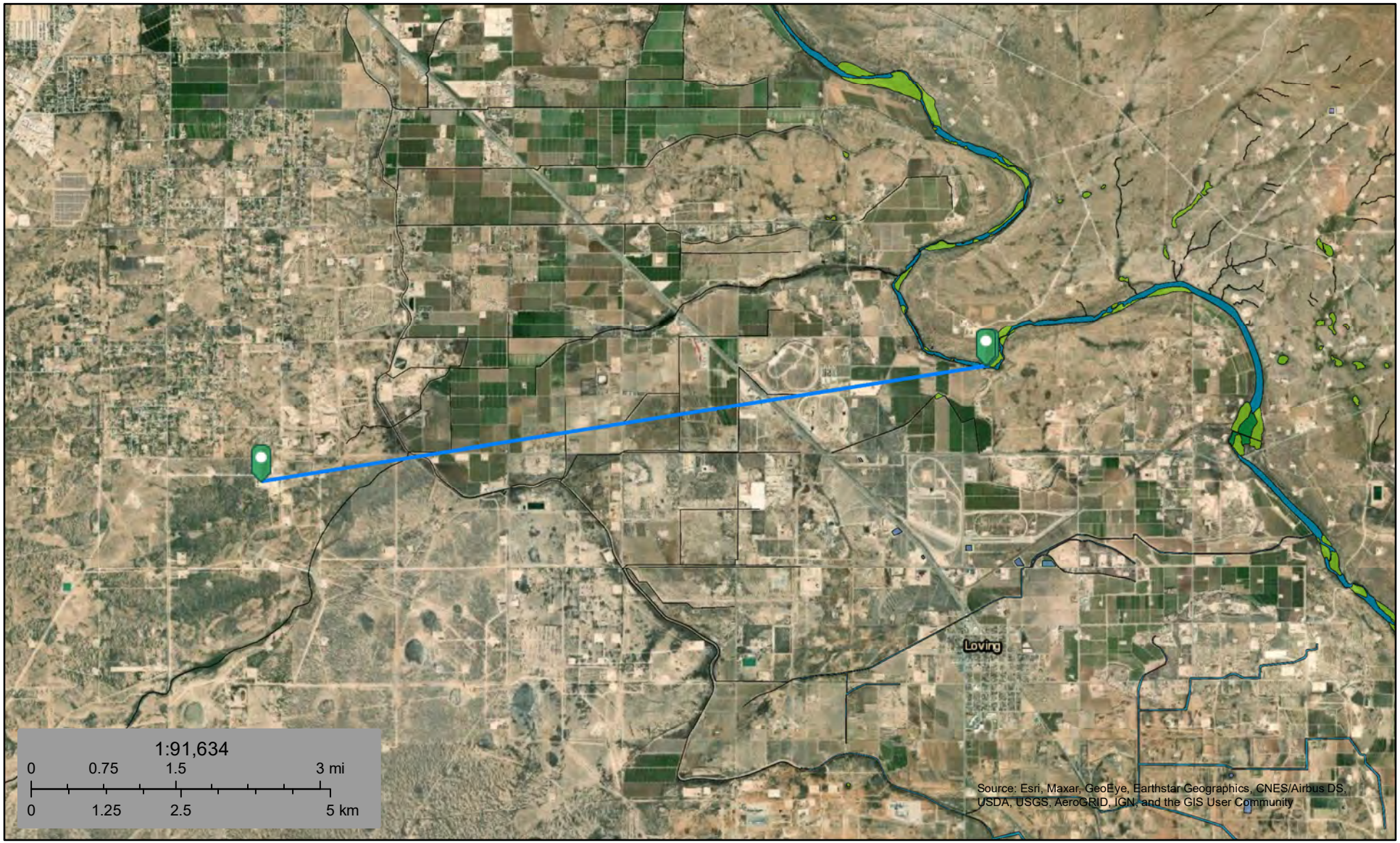
Distance from Release = 4.55 Miles



U.S. Fish and Wildlife Service

National Wetlands Inventory

Nearest Wetland = 34,372 Feet



September 11, 2020

Wetlands

- Estuarine and Marine Deepwater
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- Freshwater Pond
- Lake
- Other
- Riverine

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	Twn	Rng	X	Y
	C 04044 POD1	3	2	3	09	23S	27E	575504	3575907

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

Driller Name:

Drill Start Date: 04/21/2017 **Drill Finish Date:** 04/22/2017 **Plug Date:**

Log File Date: 05/16/2017 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 8.60 **Depth Well:** 290 feet **Depth Water:** 150 feet

Water Bearing Stratifications:

Top	Bottom	Description
100	290	Sandstone/Gravel/Conglomerate

Casing Perforations:

Top	Bottom
150	290

Meter Number: 18408 **Meter Make:** OCTAVE

Meter Serial Number: 16-3-026520 **Meter Multiplier:** 100.0000

Number of Dials: 9 **Meter Type:** Diversion

Unit of Measure: Gallons **Return Flow Percent:**

Usage Multiplier: **Reading Frequency:** Monthly

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
11/29/2019	2019	3057884	A	RPT		0	

**YTD Meter Amounts:	Year	Amount
	2019	0

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04044 POD1		CUB	ED	3	2	3	09	23S	27E	575504	3575907	1210	290	150	140
C 04429 POD1		C	ED	4	4	1	08	23S	27E	574102	3576270	1493	400	350	50
C 00195		CUB	ED	4	1	4	09	23S	27E	576069	3575827*	1567	128	83	45
C 01618		C	ED	4	4	4	07	23S	27E	573252	3575384*	1589	250		
C 03005		C	ED	3	4	4	07	23S	27E	573052	3575384*	1782	140	100	40
C 01071		C	ED			1	08	23S	27E	573751	3576499*	1867	279	95	184
C 02191		C	ED			1	08	23S	27E	573751	3576499*	1867	252	75	177
C 01632		C	ED	3	2	4	07	23S	27E	573050	3575789*	1925	162	100	62
C 01632 CLW197648	O	C	ED	3	2	4	07	23S	27E	573050	3575789*	1925	162	100	62
C 01632 POD2		C	ED	3	2	4	07	23S	27E	573050	3575789*	1925	173	100	73
C 03892 POD1		C	ED	1	2	1	08	23S	27E	573846	3576764	2050	148	54	94
C 02510		C	ED	1	2	1	08	23S	27E	573848	3576806*	2086	350	350	0
C 00420	C	CUB	ED		4	2	09	23S	27E	576370	3576337*	2118	2151		
C 00323		C	ED		4	4	05	23S	27E	574750	3577122*	2183	200		
C 02711		C	ED		4	4	05	23S	27E	574750	3577122*	2183	170	75	95
C 03020		C	ED		4	4	05	23S	27E	574750	3577122*	2183	176	135	41
C 03301		C	ED	3	3	4	07	23S	27E	572597	3575268	2205	375		
C 03799 POD1		C	ED	1	3	3	04	23S	27E	574981	3577170	2240	200	51	149
C 01261		CUB	ED				21	23S	27E	575780	3572889*	2281	250		

C 00549		C	ED	1	3	3	02	23S	27E	578276	3577270*	4203	150	65	85
C 02059		C	ED			1	13	23S	26E	570544	3574875*	4234	282	190	92
C 04045 POD1		CUB	ED	3	3	2	14	23S	27E	579013	3574571	4250	240	150	90
C 03072		C	ED	3	4	2	03	23S	27E	577873	3577869*	4262	119	72	47
C 03911 POD1		C	ED	3	4	1	12	23S	26E	570699	3576215	4273	310	120	190
C 03821 POD1		C	ED	2	2	3	32	22S	27E	573988	3579146	4280	200	120	80
C 00518 CLW197989	O	CUB	ED	2	1	3	23	23S	27E	578510	3572840*	4281	210		
C 03348		C	ED	1	3	3	13	23S	26E	570606	3573938	4290	240	200	40
C 00031		CUB	ED	3	1	3	32	22S	27E	573423	3579019	4299	208	170	38
C 03290		C	ED	1	3	3	34	22S	27E	576715	3578778	4300	127	72	55
C 01700		C	ED		3	3	34	22S	27E	576760	3578756*	4301	205	118	87
C 01801		C	ED		3	3	34	22S	27E	576760	3578756*	4301	220		
C 03066		C	ED	1	1	3	33	22S	27E	575037	3579243*	4312	240		
C 00310		CUB	ED	3	3	4	11	23S	27E	579107	3575477*	4362	185	25	160
C 00310 CLW201186	O	CUB	ED	3	3	4	11	23S	27E	579107	3575477*	4362	180	30	150
C 01172		CUB	ED	3	4	3	34	22S	27E	577064	3578661*	4368	220		
C 00644		CUB	ED	3	2	4	33	22S	27E	576251	3579056*	4372	190		
C 00644 CLW198574	O	CUB	ED	3	2	4	33	22S	27E	576251	3579056*	4372	100		
C 02071		C	ED	1	4	1	12	23S	26E	570633	3576378*	4387	400		
C 02071 CLW468367	O	C	ED	1	4	1	12	23S	26E	570633	3576378*	4387	400		
C 04023 POD1		C	ED	2	2	3	01	23S	26E	570741	3576659	4388	219	167	52
C 02835		CUB	ED	3	4	1	30	23S	27E	572258	3571338*	4394	228		
C 01903		C	ED		2	1	12	23S	26E	570729	3576677*	4406	250	250	0
C 02041		C	ED		2	1	12	23S	26E	570729	3576677*	4406	225	184	41
C 02324		C	ED		1	2	03	23S	27E	577571	3578367*	4422	125	75	50
C 03043		C	ED	2	3	3	34	22S	27E	576859	3578855*	4434	118	68	50
C 02977		C	ED	1	1	2	03	23S	27E	577470	3578466*	4437	179	125	54

C_00230		CUB	ED	1	1	3	02	23S	27E	578275	3577672*	4438	350	80	270
C_00567		CUB	ED	1	1	3	02	23S	27E	578275	3577672*	4438	174	90	84
C_01851		C	ED		1	1	13	23S	26E	570341	3575080*	4439	258	207	51
C_02260		C	ED		1	1	13	23S	26E	570341	3575080*	4439	247	218	29
C_02537		C	ED		1	1	13	23S	26E	570341	3575080*	4439	280	210	70
C_01626		C	ED		3	1	13	23S	26E	570343	3574674*	4442	246	198	48
C_01822		C	ED		3	1	13	23S	26E	570343	3574674*	4442	258	200	58
C_01822 POD2		C	ED		3	1	13	23S	26E	570343	3574674*	4442	228	212	16
C_00355	C	CUB	ED		1	4	01	23S	26E	571131	3577484*	4447	2065		
C_01665		C	ED	4	4	3	01	23S	26E	570822	3576975*	4449	278		
C_02089		C	ED	2	1	3	12	23S	26E	570432	3575981*	4469	262	199	63
C_01832		C	ED		1	3	13	23S	26E	570345	3574268*	4483	250	200	50
C_04452 POD1		C	ED	4	3	1	33	22S	27E	575199	3579419	4500	200		
C_02230		C	ED				33	22S	27E	575742	3579340*	4505	260	90	170
C_02449		C	ED				33	22S	27E	575742	3579340*	4505	300	70	230
C_00343		CUB	ED	4	3	2	32	22S	27E	574427	3579437*	4512	200		
C_00287		CUB	ED	3	1	3	34	22S	27E	576657	3579061*	4530			
C_00204		CUB	ED	3	3	2	32	22S	27E	574227	3579437*	4531	170		
C_00204 CLW194896	O	CUB	ED	3	3	2	32	22S	27E	574227	3579437*	4531	170		
C_00343 CLW242784	O	CUB	ED	3	3	2	32	22S	27E	574227	3579437*	4531	193	143	50
C_00619		C	ED	3	3	2	32	22S	27E	574227	3579437*	4531	250		
C_03074		C	ED	4	3	1	33	22S	27E	575235	3579449*	4533	115	85	30
C_02123		C	ED	1	2	1	12	23S	26E	570628	3576776*	4538	230	181	49
C_02080		C	ED	2	4	3	01	23S	26E	570822	3577175*	4544	240	190	50
C_02081		C	ED	2	4	3	01	23S	26E	570822	3577175*	4544	240	190	50
C_03118		C	ED	2	4	3	01	23S	26E	570822	3577175*	4544	260	210	50
C_01867		C	ED	1	1	1	13	23S	26E	570240	3575179*	4544	250	212	38

C_02052	C	ED	3	3	1	13	23S	26E	570242	3574573*	4550	290		
C_03396 POD1	C	ED	3	3	3	12	23S	26E	570231	3575341	4564	280	220	60
C_01922	C	ED	2	3	1	12	23S	26E	570426	3576377*	4583	270	220	50
C_01985	C	ED		4	3	01	23S	26E	570723	3577076*	4583	216	185	31
C_02262	C	ED		4	2	32	22S	27E	574732	3579544*	4605	128	60	68
C_04348 POD1	C	ED	3	1	3	13	23S	26E	570224	3574192	4615	260		
C_03078	C	ED	1	2	4	31	22S	27E	573019	3579216*	4624	130	60	70
C_01733	C	ED	1	3	3	13	23S	26E	570245	3573961*	4637	247	197	50
C_01743	C	ED	1	3	3	13	23S	26E	570245	3573961*	4637	250	196	54
C_02442	C	ED	1	3	3	13	23S	26E	570245	3573961*	4637	276	200	76
C_00191	CUB	ED	3	3	2	33	22S	27E	575844	3579458*	4643	200		
C_01812	C	ED	4	1	1	12	23S	26E	570420	3576573*	4654	262	238	24
C_02061	C	ED	1	1	3	12	23S	26E	570232	3575981*	4663	276	220	56
C_01572	C	ED	3	3	3	13	23S	26E	570245	3573761*	4683	215		
C_02040	C	ED	3	3	3	13	23S	26E	570245	3573761*	4683	264	185	79
C_02658 POD2	C	ED	3	3	3	13	23S	26E	570245	3573761*	4683	252	211	41
C_00283	C	ED		2	2	03	23S	27E	577973	3578373*	4690	108	60	48
C_02226	C	ED		2	2	03	23S	27E	577973	3578373*	4690	135	70	65
C_00215	CUB	ED	4	3	2	33	22S	27E	576044	3579458*	4693	180	150	30
C_03304	C	ED	3	3	1	12	23S	26E	570251	3576212	4703	257	200	57
C_02999	C	ED	2	1	2	23	23S	27E	579314	3573661*	4712		160	
C_00193	CUB	ED	1	3	1	33	22S	27E	575035	3579649*	4717	190		
C_02000	C	ED	3	3	1	12	23S	26E	570226	3576177*	4717	261	230	31
C_02429	C	ED	1	4	3	01	23S	26E	570622	3577175*	4719	300	140	160
C_02995	C	ED	4	3	1	02	23S	27E	578475	3577875*	4721	89	65	24
C_03445	CUB	ED	3	3	3	31	22S	27E	571774	3578630	4759		200	
C_02053	C	ED	1	3	1	12	23S	26E	570226	3576377*	4773	268	215	53

C 00259 S		CUB	ED	1	1	3	30	23S	27E	571874	3571131*	4788	204		
C 02834		CUB	ED	1	1	3	30	23S	27E	571874	3571131*	4788	310	176	134
C 01647		C	ED	4	3	3	01	23S	26E	570414	3576969*	4813	260	210	50
C 01674		C	ED	3	1	1	12	23S	26E	570220	3576573*	4842	215	207	8
C 03738 POD1		C	ED	1	1	3	34	22S	27E	576785	3579382	4876	137	68	69
C 02392		C	ED		4	2	33	22S	27E	576350	3579564*	4885	150	48	102
C 03323 POD1		C	ED	3	4	2	14	23S	26E	569909	3574479	4890	275	205	70
C 00030		CUB	ED	1	2	3	34	22S	27E	577062	3579267*	4893	205	50	155
C 00030 CLW193032	O	CUB	ED	1	2	3	34	22S	27E	577062	3579267*	4893	205		
C 03009		C	ED	1	1	1	12	23S	26E	570220	3576773*	4913	232	199	33
C 03030		C	ED	3	1	2	32	22S	27E	574225	3579843*	4935	100	53	47
C 02257		C	ED		3	3	01	23S	26E	570315	3577070*	4945	247	175	72
C 01866		C	ED	2	4	2	11	23S	26E	570018	3576371*	4970	245	212	33
C 04293 POD1		C	ED	3	3	3	01	23S	26E	570214	3576922	4976			
C 00720		C	ED		1	1	02	23S	27E	578375	3578379*	4977	108	64	44
C 04309		C	ED	3	2	2	32	22S	27E	574960	3579920	4984	142	134	8
C 01960		C	ED	3	3	3	01	23S	26E	570214	3576969*	4995	242	200	42
C 03778 POD1		C	ED	2	3	3	01	23S	26E	570329	3577213	4996	230	209	21

Average Depth to Water: **133 feet**

Minimum Depth: **19 feet**

Maximum Depth: **350 feet**

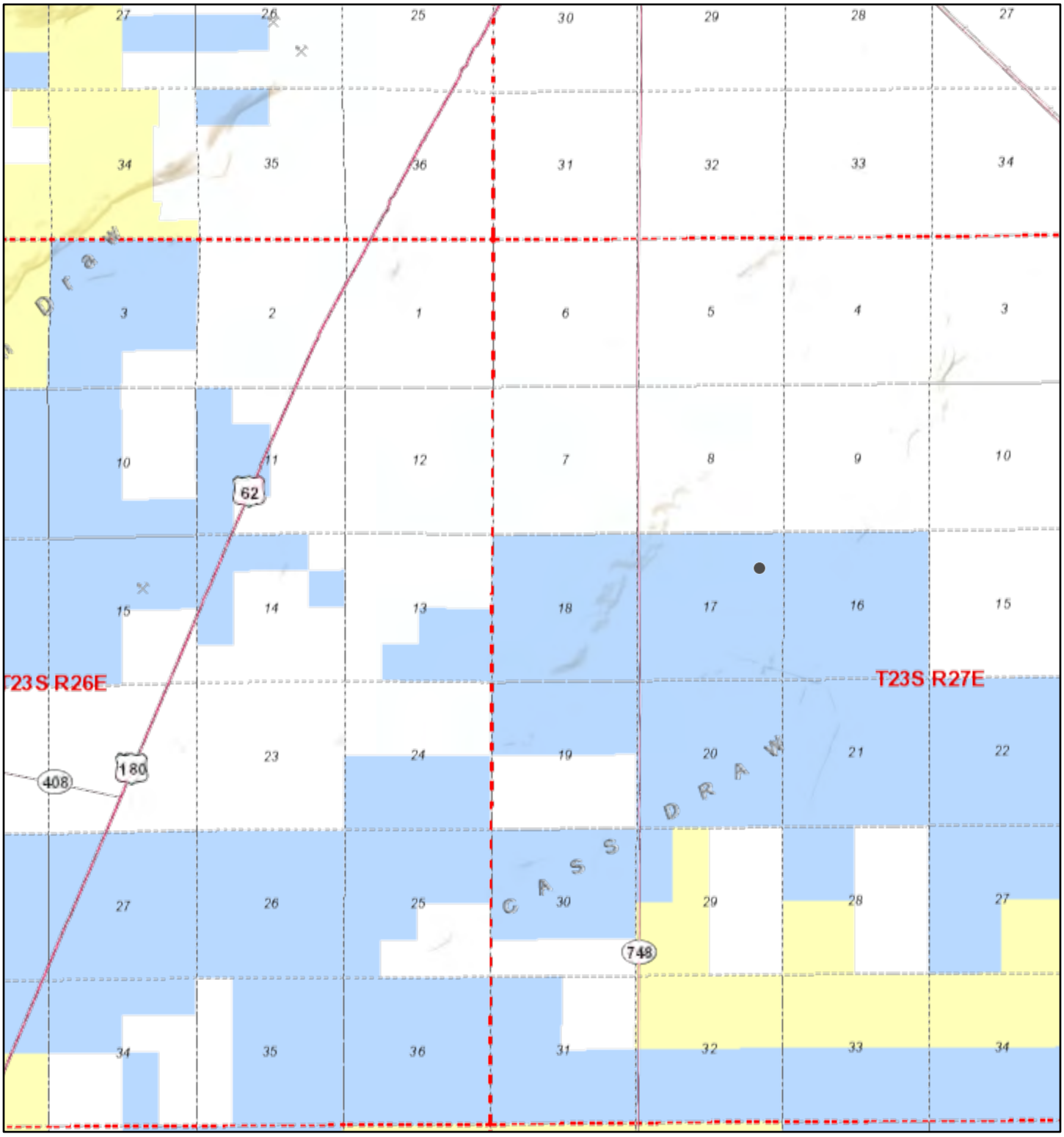
Record Count: 226

UTMNAD83 Radius Search (in meters):

Easting (X): 574777.99 **Northing (Y):** 3574938.66 **Radius:** 5000

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

Active Mines in New Mexico



9/11/2020, 12:48:28 PM

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

Registered Mines

- Aggregate, Stone etc.
- Aggregate, Stone etc.

U.S. Bureau of Land Management - New Mexico State Office, Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Eddy Area, New Mexico

September 11, 2020

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map (Soil Map)

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 16, Jun 8, 2020

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

Date(s) aerial images were photographed: Feb 27, 2020—Feb 28, 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 (Soil Map)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
RE	Reagan-Upton association, 0 to 9 percent slopes	7.3	26.6%
Uo	Upton gravelly loam, 0 to 9 percent slopes	20.2	73.4%
Totals for Area of Interest		**27.5**	**100.0%**

Map Unit Descriptions (Soil Map)

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

RE—Reagan-Upton association, 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: 1w5d
Elevation: 1,100 to 5,400 feet
Mean annual precipitation: 6 to 14 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 180 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Reagan and similar soils: 70 percent
Upton and similar soils: 25 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reagan

Setting

Landform: Alluvial fans, fan remnants
Landform position (three-dimensional): Rise
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: Alluvium and/or eolian deposits

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 60 inches: loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: R070DY153NM - Loamy
Hydric soil rating: No

Description of Upton

Setting

Landform: Fans, ridges
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: 0 to 9 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 capacity: 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: R070DY159NM - Shallow Loamy
Hydric soil rating: No

Minor Components

Atoka

Percent of map unit: 3 percent
Ecological site: R042XC007NM - Loamy
Hydric soil rating: No

Pima

Percent of map unit: 2 percent
Ecological site: R042XC017NM - Bottomland
Hydric soil rating: No

Uo—Upton gravelly loam, 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: 1w67
Elevation: 1,100 to 4,400 feet
Mean annual precipitation: 7 to 15 inches
Mean annual air temperature: 60 to 70 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Upton and similar soils: 96 percent
Minor components: 4 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Upton

Setting

Landform: Fans, ridges
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: 0 to 9 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 capacity: 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: R042XC025NM - Shallow
Hydric soil rating: No

Minor Components

Atoka
Percent of map unit: 1 percent
Ecological site: R042XC007NM - Loamy
Hydric soil rating: No

Atoka
Percent of map unit: 1 percent
Ecological site: R042XC007NM - Loamy
Hydric soil rating: No

Reagan
Percent of map unit: 1 percent
Ecological site: R042XC007NM - Loamy
Hydric soil rating: No

Upton
Percent of map unit: 1 percent
Ecological site: R042XC025NM - Shallow
Hydric soil rating: No

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Kevin Smith

From: Raley, Jim <James.Raley@wpxenergy.com>
Sent: September 7, 2020 1:17 PM
To: Kevin Smith
Subject: Fwd: Liner Inspection C 17 State #001H

Jim Raley | Environmental Specialist
WPX Energy-Carlsbad NM
575-689-7597

Begin forwarded message:

From: "Raley, Jim" <James.Raley@wpxenergy.com>
Date: September 3, 2020 at 11:29:00 AM MDT
To: "Venegas, Victoria, EMNRD" <Victoria.Venegas@state.nm.us>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@state.nm.us>
Subject: Liner Inspection C 17 State #001H

WPX will be conducting a liner inspection for the [30-015-44534] C 17 STATE #001H, on Sept. 8th 2020.
Incident # nRM2017052769

This email serves as notice required under 19.15.29.11. Please let me know if you would like to attend the inspection.

Jim Raley | Environmental Specialist - Permian Basin
5315 Buena Vista Dr., Carlsbad, NM 88220
C: (575)689-7597 | james.raley@wpxenergy.com
WPXENERGY

Daily Site Visit Report

Client:	WPX Energy	Inspection Date:	9/9/2020
Site Location Name:	C 17 State #001H	Report Run Date:	9/9/2020 8:19 PM
Client Contact Name:	Jim Raley	API #:	30-015-44534
Client Contact Phone #:	(575) 689 7597		
Unique Project ID	-C 17 State #001H	Project Owner:	Jim Raley
Project Reference #		Project Manager:	Natalie Gordon

Summary of Times

Arrived at Site	9/9/2020 9:03 AM
Departed Site	9/9/2020 9:35 AM

Field Notes

13:35 Conducting liner inspection to verify that liner has no visible leaks, tears, cracks or integrity deficiencies. Inspection will be made to ensure liner meets all requirements established in NMAC 19.15.29

Next Steps & Recommendations

1 No further remedial actions recommended at this time. The liner was found to contain no tears, cracks or holes. No visible signs of liquids escaping around the perimeter of containment present.

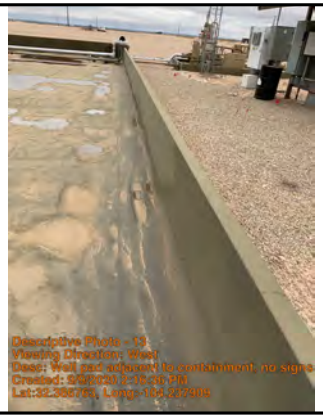
Daily Site Visit Report

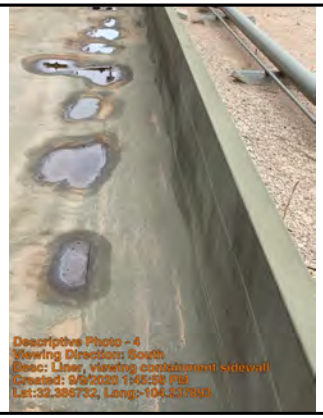
Site Photos

Viewing Direction: West	**Viewing Direction**: South
	
Liner, viewing containment sidewall	Well pad adjacent to containment, no signs of escaped liquids

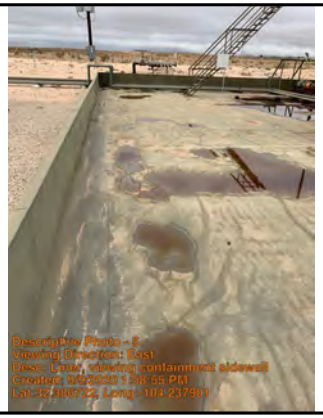
Viewing Direction: South	**Viewing Direction**: North
	
Well pad adjacent to containment, no signs of escaped liquids	Well pad adjacent to containment, no signs of escaped liquids

Daily Site Visit Report

Viewing Direction: West	**Viewing Direction**: West
	
Well pad adjacent to containment, no signs of escaped liquids	Liner, viewing containment sidewall

Viewing Direction: South	**Viewing Direction**: South
	
Liner, viewing containment sidewall	Liner, viewing containment sidewall

Daily Site Visit Report

Viewing Direction: West	**Viewing Direction**: East
	
Liner, viewing containment sidewall	Liner, viewing containment sidewall
Viewing Direction: North	**Viewing Direction**: South
	
Liner, viewing containment sidewall	Liner, viewing containment sidewall

Daily Site Visit Report

Viewing Direction: East

Well pad adjacent to containment, no signs of escaped liquids

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Kevin Smith

Signature: