



**SITE CHARACTERIZATION, ASSESSMENT,
& PROPOSED REMEDIATION PLAN**

**OPUNTIA DRAW ATG STATE COM #1
API # 30-015-30757
NMSLO LEASE # V-4858
UNIT M, SECTION 29 TOWNSHIP 23S, RANGE 25E
EDDY COUNTY, NEW MEXICO
32.270893, -104.423161**

PREPARED FOR:

**EOG RESOURCES, INC.
MIDLAND DIVISION
5509 CHAMPIONS DRIVE
MIDLAND, TEXAS 79706**

PREPARED BY:

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RANGER REFERENCE #5375

SEPTEMBER 24, 2025

A blue ink signature of Patrick K. Finn, consisting of a stylized 'P' followed by a horizontal line.

**Patrick K. Finn, P.G. (TX)
Project Geologist**

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**William Kierdorf, REM
Project Manager**

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- Attachment 3 – Biological Review Reports
- Attachment 4 – Goshawk Site Review Reports
- Attachment 5 – Laboratory Analytical Report



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EDDY COUNTY, NEW MEXICO

32.270893, -104.423161

1.0 SITE LOCATION AND BACKGROUND

The Opuntia Draw ATG State Com #1 (Site) is located on state land, approximately 15.5 miles south-southwest of Carlsbad, within Eddy County, New Mexico. The facility is situated in Unit I, Section 29, T23S-R25E at GPS coordinates 32.270893, -104.423161. The Site can be accessed by traveling west from Highway 62 on Dark Canyon Road (CR 408). Travel west for approximately 11.66 miles on Dark Canyon Road and turn northeast (right) onto an unnamed caliche road. Follow the unnamed road approximately 1.12 miles to the subject site.

The Site was historically operated by Yates Petroleum Corporation (Yates) and in 2016 operations were transferred to EOG Resources, Inc. (EOG). The location historically contained the Opuntia Draw ATG State Com #1 well, a pump jack, associated above ground lines and production equipment, as well as a tank battery surrounded by an earthen berm located in the eastern portion of the facility pad. In May 2024, the Opuntia Draw ATG State Com #1 well was plugged and abandoned, the tank battery was decommissioned and all tanks and production equipment were removed from the location.

On August 30, 2019, a release was discovered at the site originating from an on-site flare located at approximate GPS coordinates 32.271062, -104.423688. An estimated six barrels (bbls) of produced water were released during the incident. During the initial response, fluid recovery efforts were successful in the recovery of approximately five bbls of released fluids. The release resulted in impacts both on and off the facility pad. Areas in the immediate vicinity of on-site production equipment were reportedly affected by the release as was the historic drilling pit located immediately northwest of the Opuntia Draw ATG State Com #1 well pad.

EOG retained Ranger Environmental Services, LLC (Ranger) in December 2019 to assist in the assessment and remediation of the site impacts. During a desktop review of available New Mexico Oil Conservation Division (NMOCD) online files, Ranger noted that there was a historic but active/open release incident associated with the Site. The incident (2RP-540/NMOCD incident ID NKMW1035747830) reportedly occurred on April 23, 2010 and involved a release of 60 bbls of produced water from a hole in a steel flowline.

At the time of review, information available through the NMOCD online imaging portal was limited to an initial Form C-141. During an internal EOG file review, an additional closure Form C-141 and associated information, submitted to the NMOCD on June 7, 2010, was reviewed. It was determined that remedial actions at the Site regarding the April 23, 2010 release were insufficient

to achieve closure with the NMOCD. Based on the reviewed information, EOG directed that additional remedial actions be completed in this release area.

In order to address the impacts associated with both the 2010 and 2019 release incidents, assessment activities and remedial efforts were completed at the Site from December 2019 to January 2020. The completed efforts included the removal of soils from accessible on-pad impacted areas, and an off-pad area located to the north-northeast of the former pad location. Since remediation of the impacts in the on-pad areas that were immediately under or around the production equipment would have caused a major facility deconstruction, EOG directed that these areas and the area of impact overlying the historic drilling pit be addressed at the time of the final operations and decommissioning of the Site.

Complete details of the 2019-2020 assessment and remedial efforts were included in the February 17, 2020 Ranger "Site Investigation and Remediation Report." In June 2023, EOG submitted a copy of this report to the NMOCD with the intent to close the 2010 release incident. On July 11, 2023, the NMOCD responded in denial of the submitted report stating that the site would require remediation to the most stringent Table 1 NMAC 19.15.29.12 Criteria (due to the BLM "Critical Karst" designation), that the request for deferral of remediation would require detailed information on exact sample points, and that the October 2019 release had not been reported to the NMOCD.

The 2019-2020 assessment and remedial efforts were conducted to attain cleanup to the 19.15.29.12 NMAC Table 1 Closure Criteria (groundwater 51 feet-100 feet) and the 19.15.29.13 NMAC Restoration, Reclamation and Revegetation Criteria. Based upon the July 11, 2023 NMOCD directive that the site be remediated to the most stringent (GW $\leq$ 50') Table 1 NMAC 19.15.29.12 Criteria, the 2019-2020 closure data were reviewed and only one cleanup confirmation soil sample (CS-4 (A) – 1,320 mg/Kg chloride) was found to exceed the Table 1 (GW $\leq$ 50') Criteria. This cleanup confirmation soil sample was collected from a depth of four feet below ground surface (bgs) in close proximity to an active production area. This sample area is addressed in this Remediation Plan and will be further over-excavated to attain the most stringent (GW $\leq$ 50') Table 1 NMAC 19.15.29.12 Criteria.

On May 2, 2025, assessment activities were conducted at the subject site to evaluate the spill impact in the area of the historic drilling pit as well as conditions in the recently decommissioned tank battery area. The analytical data collected from the historic pit area indicate that the impact of the spill in the pit area is mainly limited to the pit surface materials (<2' bgs). However, samples collected from the test excavation located in closest proximity to the 2019 release location documented significantly elevated chloride concentrations to an approximate depth of 4' bgs. At the former tank battery area, surficial soil chloride concentrations marginally in excess of 600 mg/Kg were documented by the May 2, 2025 site assessment activities. There is no available information indicating that a release ever occurred in the former tank battery, and there were no obvious impacted soils within the former tank battery area following the completion of the decommissioning activities. It is possible that the marginal exceedances of the chloride regulatory cleanup level could be related to background or anthropogenic background conditions.

Based on the July 11, 2023 NMOCD response and the fact that the subject well has been plugged and abandoned, the tank battery decommissioned, and all production equipment removed, this remediation plan has been prepared to address all remaining impact areas at the site that were not remediated during 2019-2020 site activities. This remediation plan also includes provisions to further remediate the former cleanup confirmation soil sample CS-4 (A) area to the most stringent (GW $\leq$ 50') Table 1 NMAC 19.15.29.12 Criteria. Lastly, this remediation plan includes

provisions to remove the surface soils in the former tank battery area that were found to contain chloride concentrations in excess of 600 mg/Kg.

A *Topographic Map* and *Area Map* noting the location of the Site and surrounding areas are included in the *Figures* section.

2.0 SITE CONDITIONS AND HISTORY

2.1 Site Characterization and Area Review

Depth to Groundwater

Based on review of information available via the New Mexico Office of State Engineers (NMOSE) and United States Geological Survey (USGS), no water wells are located within a half-mile of the Site. The closest well data available via the NMOSE does not include depth-to-groundwater data. Well location information available from the USGS indicates that the closest wells to the Site are located beyond one mile from the site location and indicates that groundwater depth, while variable, is less than 50 feet below ground surface (bgs).

Based on the reviewed information, depth-to-groundwater in the area of the Site is assumed to be less than 50 feet bgs.

Karst Potential

The subject site is situated in an area of "Critical" karst potential.

100-Year Flood Plain

The Site location and surrounding areas are outside of the FEMA 100-year flood plain and fall in the area of minimal flood hazard.

Wetlands

Upon review of the National Wetland Inventory, mapped Riverine features are noted to be located to the southeast (approximately 130 feet southeast) and northwest (approximately 455 feet northwest) of the Site. The features are mapped with classification code R4SBJ, defined as Riverine, Intermittent, Streambed, and Seasonally flooded. The features are noted to feed to Opuntia Draw, to the northeast of the subject site.

Significant Watercourses

Based upon available online resources, the nearest significant watercourse within a half-mile of the site was determined to be Opuntia Draw, located approximately 0.35 miles to the northeast of the Site.

Occupied Structures

The closest regularly occupied structure is located approximately 1.61 miles southeast of the Site at approximate GPS coordinates 32.249378, -104.412864.

Threatened, Endangered, and Sensitive Wildlife and Plant Species

In order to assess the Site for the presence of sensitive environmental features, Ranger completed a desktop review of various available resources for the project area which is summarized below:

- **New Mexico Environmental Review Tool (ERT):** Utilizing the area of the proposed activities, a preliminary environmental screening assessment report was generated. The June 10, 2025 ERT report (copy attached) indicated that a total of 24 Special Status Animal Species and one Special Status Plant Species are potentially present within 2,000 meters (approximately 1.25 miles) of the project area. In the "Overall Status" portion of the ERT report it stated:

"Your project proposal is being forwarded to a New Mexico Department of Game and Fish (Department) biologist for review to determine whether there are any additional recommendations regarding the proposed actions. A Department biologist will be in touch within 30 days if there are further recommendations regarding this project proposal."

No communications from a New Mexico Department of Game and Fish biologist have been received to date. Since it has been over 30 days since the project proposal was submitted, it is assumed that there are no further recommendations regarding this project.

- **Information for Planning and Consultation (IPaC):** A U.S. Fish & Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) resource list was generated for the project area (copy attached). The IPaC resource list indicates that the Mexican Spotted Owl (*Strix occidentalis lucida*), the Northern Aplomado Falcon (*Falco femoralis septentrionalis*), Piping Plover (*Charadrius melodus*), Texas Hornshell Clam (*Popenaias popeii*), Monarch Butterfly (*Danaus Plexippus*), Lee Pincushion Cactus (*Coryphantha sneedii* var. *leei*), and Sneed Pincushion Cactus (*Coryphantha sneedii* var. *sneedii*) are known or expected to be on or near the project area; however, the report indicates that there are no critical habitats at the project location.
- **Southern Great Plains CHAT Mapper:** A review of the Southern Great Plains CHAT Mapper indicates that the project area is not located in proximity to a known active lek or historic lek location but is located in an area of potential habitat. No mapped areas of crucial habitat or protected areas are in the subject site area.
- **Bureau of Land Management (BLM) New Mexico Statewide Spatial Data Web Mapper:** Based upon a review of the BLM New Mexico Statewide Spatial Data web mapper the project area falls into the Guadalupe Mountains and Foothills Potential Habitat Planning Area.

2.2 Comprehensive Resource Review

Archaeological Survey

In October 2019, Goshawk Environmental Consulting, Inc. (Goshawk) performed a Class III Archaeological Survey at the Site in advance of site cleanup operations. The areas affected by the 2019 release incident constituted the Area of Potential Effect (APE). The survey evaluated the APE with a 100-foot-wide archaeological survey buffer which encompassed all of the areas at the site which are included in this Proposed Remediation Plan (i.e. - the former pit area, the 2010 release area, and the former tank battery area). The project area was subjected to a 100-percent survey consisting of transects walked at 50-foot intervals.

In July 2025, Goshawk completed an additional Class III Archaeological Survey of the southern portion of the pad and areas south, east, and west of the well pad. The additional survey was completed to ensure all areas with potential to be disturbed during the proposed remediation and ultimate reclamation activities were included in the survey. The survey was completed in a similar manner to that of the 2019 survey, with the unsurveyed site areas subject to a 100-percent survey consisting of transects walked at 50-foot intervals.

The findings of both the 2019 and 2025 surveys yielded entirely negative results. No cultural materials or archaeological sites were identified within the survey areas and no further archaeological investigations were deemed to be warranted. As such, Goshawk recommended that the project operations be permitted to proceed. Copies of the NMSLO Cultural Resources Cover Sheets are attached.

In the event that surface disturbing activities are anticipated to be completed in areas not covered by the Goshawk surveys, appropriate measures will be completed in accordance with the CPPR and NMAC 19.2.24.

Comprehensive Resource Review

In July 2025, Goshawk also conducted a comprehensive resource review at the Site. The review included site investigation activities to determine if the proposed project area contained any protected or sensitive resources. The review and investigation included waters of the US, species of concern (threatened or endangered species), and karst resources.

Based on the review and inspection, Goshawk found that the proposed activities are unlikely to impact any ecological, karst, or cultural resources.

A copy of the Goshawk's *Comprehensive Resource Review* report is included in *Attachment 4*.

Karst Survey

During the July 2025 review, Goshawk also completed a karst survey of the Site area. The survey included the proposed remediation areas, former well pad area, and surrounding areas.

The survey found no obvious potential karst features and recommended that the proposed remediation project be allow to proceed.

A copy of Goshawk's *Karst Survey of the Proposed Opuntia Draw ATG State Com #1 Remediation* report is included in Attachment 4.

Proposed Safety Measures

Based on the results of Goshawk's reviews and investigations, no additional review appears warranted at this time. Prior to and during all site activities, review of the areas of disturbance will be completed. In the event that potential impacts to any ecological, karst, or cultural resources are observed, the activities will be halted and the NMSLO will be informed and consulted regarding the appropriate measures to be implemented.

Due to the proximity to Opuntia Draw and associated tributaries, appropriate stormwater controls will be implemented during the site activities to avoid any potential impacts to the nearby tributaries.

2.3 Historic Incident Review

As detailed above, there have been two documented historic release incidents at the Site. Details of the subject incidents are summarized below:

- April 23, 2010 Release Incident: During a desktop review of available NMOCD online files, Ranger noted that there was a historic but active/open release incident associated with the Site. The incident (2RP-540/NMOCD incident ID NKMW1035747830) reportedly occurred on April 23, 2010 and involved the release of 60 bbls of produced water from a hole in a steel flowline.

At the time of review, information available through the NMOCD online imaging portal was limited to an initial Form C-141. During an internal EOG file review, an additional closure Form C-141 and associated information, submitted to the NMOCD on June 7, 2010, was reviewed. It was determined that remedial actions at the Site regarding the April 23, 2010 release were insufficient to achieve closure with the NMOCD.

- August 30, 2019 release Incident: A release was discovered at the site originating from an on-site flare located at approximate GPS coordinates 32.271062, -104.423688. An estimated six barrels (bbls) of produced water were released during the incident. During the initial response, fluid recovery efforts were successful in the recovery of approximately five bbls of released fluids. The release resulted in impacts both on and off the facility pad. Areas in the immediate vicinity of on-site production equipment were reportedly affected by the release as was the historic drilling pit located immediately northwest of the Opuntia Draw ATG State Com #1 well pad.

2.4 Historic Aerial Review

Ranger completed a review of historic aerial imagery for the Site to determine if any items warranting additional review and/or assessment were present. Upon review of the available imagery, the apparent historic reserve pit, located immediately northwest of the former well pad, was noted to lack vegetation growth similar in density to the surrounding areas. Additional potential areas of concern appear to be limited to the areas associated with the subject release incidents detailed in this report.

2.5 Current Site Status

The subject well was plugged and abandoned in May 2024 during EOG operation of the Site. Upon completion of the P&A process, the on-site tank battery and associated production equipment were removed from the location. A steel marker exhibiting the well name, operator information, American Petroleum Institute (API) number, and Public Land Survey System (PLSS) information has been installed at the location of the former well head. A meter house that appears to be associated with an underground line on the southern portion of the facility pad remains in place.

It should be noted that the former pit location has been utilized for livestock operations since at least 2016. Pens constructed with portable cattle panels remain present over the former pit location which will require relocation coordination with the livestock lessee.

3.0 COMPLETED HISTORIC SITE ACTIVITIES (2019-2020)

In December 2019, EOG retained Ranger to assist in the assessment and remediation of the site impacts. Originally, these efforts targeted the impact areas associated with the October 2019 release incident; however, after discovery of the active/open 2010 release incident, the efforts were expanded to include both the 2010 and 2019 release incidents. Full details of the completed activities were provided in the February 17, 2020 Ranger "*Site Investigation and Remediation Report*."

4.0 SITE ASSESSMENT (2025)

4.1 Assessment Methodologies

On May 2, 2025, assessment activities were conducted at the subject site to evaluate the spill impact in the area of the historic drilling pit and in the recently decommissioned tank battery area. Ranger personnel and representatives for EOG installed a total of four test excavations (P-1 through P-4) in areas within the historic pit which were reportedly affected by the 2019 spill incident. For data comparison purposes, two additional test excavations (PBG-1 & PBG-2) were installed within the historic pit at locations which were reportedly not affected by the 2019 spill incident. Lastly, two test excavations (BA-1 and BA-2) were installed in the former tank battery area. The sampling locations are illustrated in the attached "*Assessment Sample Location Map*".

During the installation of the test excavations, Ranger personnel screened the soils with an organic vapor monitor (OVM) and field chloride titration kits at the ground surface and at 1' intervals thereafter to the total excavation depths which ranged from 4'-8' bgs. Discrete grab soil samples were subsequently collected for laboratory analysis from the surface and at 1'-2' intervals thereafter to the total excavation depths.

Ranger personnel wore new latex or nitrile gloves while handling each soil sample in order to prevent cross-contamination of samples. The soil samples were containerized in sterile, laboratory-supplied containers, and were subsequently sealed in one or more zip lock bags and stored in a sample shuttle containing ice until arrival at the laboratory for chemical analysis. All sample containers were labeled with the project name, sample identification, date and time of sample collection and samplers' initials.

Upon collection, the soil samples were submitted to Cardinal Laboratories in Hobbs, New Mexico for analysis of total petroleum hydrocarbons (TPH) using EPA Method 8015; benzene, toluene, ethylbenzene and xylenes (BTEX) using EPA Method 8021; and, total chloride using Method SM4500Cl-B. The samples were managed using standard QA/QC and chain-of-custody procedures.

Photographic documentation of the assessment activities is attached. Copies of the laboratory report and chain of custody documentation are also attached.

4.2 Assessment Results

The assessment soil analytical results are summarized in the attached *Site Assessment Soil BTEX, TPH & Chloride Analytical Data* table. As summarized in this table, the laboratory analyses conducted on the samples collected from within the historic pit in the areas located outside of the reported 2019 spill boundaries documented chloride concentrations up to 3,000 mg/Kg. The laboratory analyses conducted on the samples collected from within the historic pit in the areas located inside of the reported 2019 spill boundaries documented elevated chloride concentrations up to 35,600 mg/Kg. None of the samples were found to contain benzene, BTEX or TPH concentrations in excess of the Table 1 NMAC 19.15.29.12 (GW<50') Criteria or the 19.15.29.13 NMAC Restoration, Reclamation and Re-Vegetation criteria.

Based upon a review of the analytical data collected from the historic pit area, it appears that the impact of the spill in the pit area was mainly limited to the pit surface materials (<2' bgs). However, the samples collected from test excavation P-1, located in closest proximity to the 2019 release location, were documented to contain significantly elevated chloride concentrations ranging from 11,800 mg/Kg - 19,000 mg/Kg to an approximate depth of 4' bgs. Chloride concentrations in excess of 600 mg/Kg extended beyond 7' bgs.

5.0 PROPOSED REMEDIATION PLAN

This remediation plan has been prepared to address all remaining spill impact areas at the Site that were not remediated during the 2019-2020 efforts. This remediation plan also includes provisions to further remediate the former cleanup confirmation soil sample CS-4 (A) area to the most stringent (GW ≤ 50') Table 1 NMAC 19.15.29.12 Criteria, and to remove the surface soils within the former tank battery area that were found to exceed 600 mg/Kg.

Attached is a *Proposed Remediation Area Map* which illustrates the various areas that are proposed to be remediated/excavated and the anticipated excavation depths. This map also illustrates the areas that were remediated in the 2019-2020 timeframe and which attained cleanup to the Table 1 NMAC 19.15.29.12 Criteria (GW≤50') and the 19.15.29.13 NMAC Restoration, Reclamation and Re-Vegetation criteria.

5.1 Proposed Cleanup Criteria

Based upon the Site characterization details and in accordance with the July 11, 2023 NMOCD correspondence, the site is proposed to be remediated to the most stringent Table 1 NMAC 19.15.29.12 Criteria (GW≤50') and the 19.15.29.13 NMAC Restoration, Reclamation and Re-Vegetation criteria (surface to four-foot depth interval). The proposed closure criteria are detailed below:

PROPOSED CLEANUP CRITERIA (mg/Kg)

REGULATORY STANDARD	CHLORIDE	TPH (GRO+DRO +MRO)	TPH (GRO+DRO)	BTEX	BENZENE
19.15.29.12 NMAC Table 1 Closure Criteria for Soils Impacted by a Release (GW $\leq$ 50')	600	100	---	50	10
19.15.29.13 NMAC Restoration, Reclamation and Re-Vegetation (Soils 0'-4')	600	100 ¹	---	50 ¹	10 ¹

1. Value derived from the State of New Mexico Energy, Minerals and Natural Resources Department document Procedures for the Implementation of Digital C-141 and the release rule (19.15.29 NMAC) dated December 1, 2023.

5.2 Proposed Remedial Activities

Soil removal operations will be conducted in the proposed remediation areas in order to achieve cleanup to the proposed cleanup criteria detailed above. Excavation depths in the former pad area/sample CS-4(A) area are anticipated to range from approximately 2'-6' bgs. The excavation depths in the former tank battery area are anticipated to range from approximately 1'-2' bgs. The excavation depths in the observed impact area within the historic pit are anticipated to range from less than 2' bgs to greater than 7' bgs.

Upon completion of the initial soil removal operations, soils from the excavated areas will be screened utilizing an OVM and field chloride titration kits to assist in determining if the excavation activities appear to have been completed to appropriate boundaries. If field readings indicate that soil concentrations are in exceedance of the proposed cleanup criteria, additional excavation and field screening activities will be completed until the field screening results indicate that the proposed cleanup criteria appear to have been achieved.

At such point in time that the field screening activities indicate that the excavation areas appear to have been completed to appropriate boundaries, cleanup confirmation soil samples will be collected for laboratory analysis. The samples will be collected in accordance with NMAC 19.15.29.12(D), as five-part composite samples with each sample representing no more than 200 square feet. The sample parts will be collected from various locations and depths along the excavation side walls and base. Upon collection, the composite sample parts will be placed into a new Ziplock® bag, thoroughly mixed, and a sample for laboratory analysis will be collected from the mixture.

Based on the cleanup confirmation soil sample analytical results, if any area is documented to remain in exceedance of the proposed cleanup criteria, the area will be further over excavated and additional cleanup confirmation soil samples will be collected. A minimum 48-hour notice will be provided to the NMOCD and NMSLO prior to the collection of any cleanup confirmation soil samples.

All cleanup confirmation soil samples will be collected using standard QA/QC procedures, placed into laboratory-supplied containers, and will be immediately placed into a sample shuttle

containing ice. The samples will be transported to an approved laboratory for analysis of TPH, BTEX, and total chloride using NMOCD approved laboratory methodologies.

All material generated during the proposed excavation process will be transported off-site for disposal at an NMOCD approved disposal facility.

5.3 Access Permit and Project Timeline

Due to the fact that the lease associated with EOG is now expired (NMSLO Lease ID V-4858), an application for right-of-entry permit has been submitted. Upon NMSLO/NMOCD approval of the proposed activities, and after obtaining the necessary right-of-entry permit, the proposed site activities will be completed as soon as possible. It is anticipated that the activities can be completed within 90 days of NMSLO/NMOCD approval of the proposed activities and receiving the right-of-entry permit.

6.0 INCIDENT CLOSURE AND SITE RECLAMATION

Upon confirmation that the soil remediation activities have achieved cleanup to the proposed Table 1 Criteria and Restoration Criteria, a report documenting the completed remedial efforts and cleanup confirmation sampling activities will be prepared and submitted to the NMOCD and NMSLO. Upon incident closure approval, the excavated areas will be backfilled in accordance with NMAC 19.15.29.13.

Upon completion of the Site remediation activities a reclamation plan will be prepared and submitted in accordance with NMSLO and NMOCD requirements.

FIGURES

TOPOGRAPHIC MAP

AREA MAP

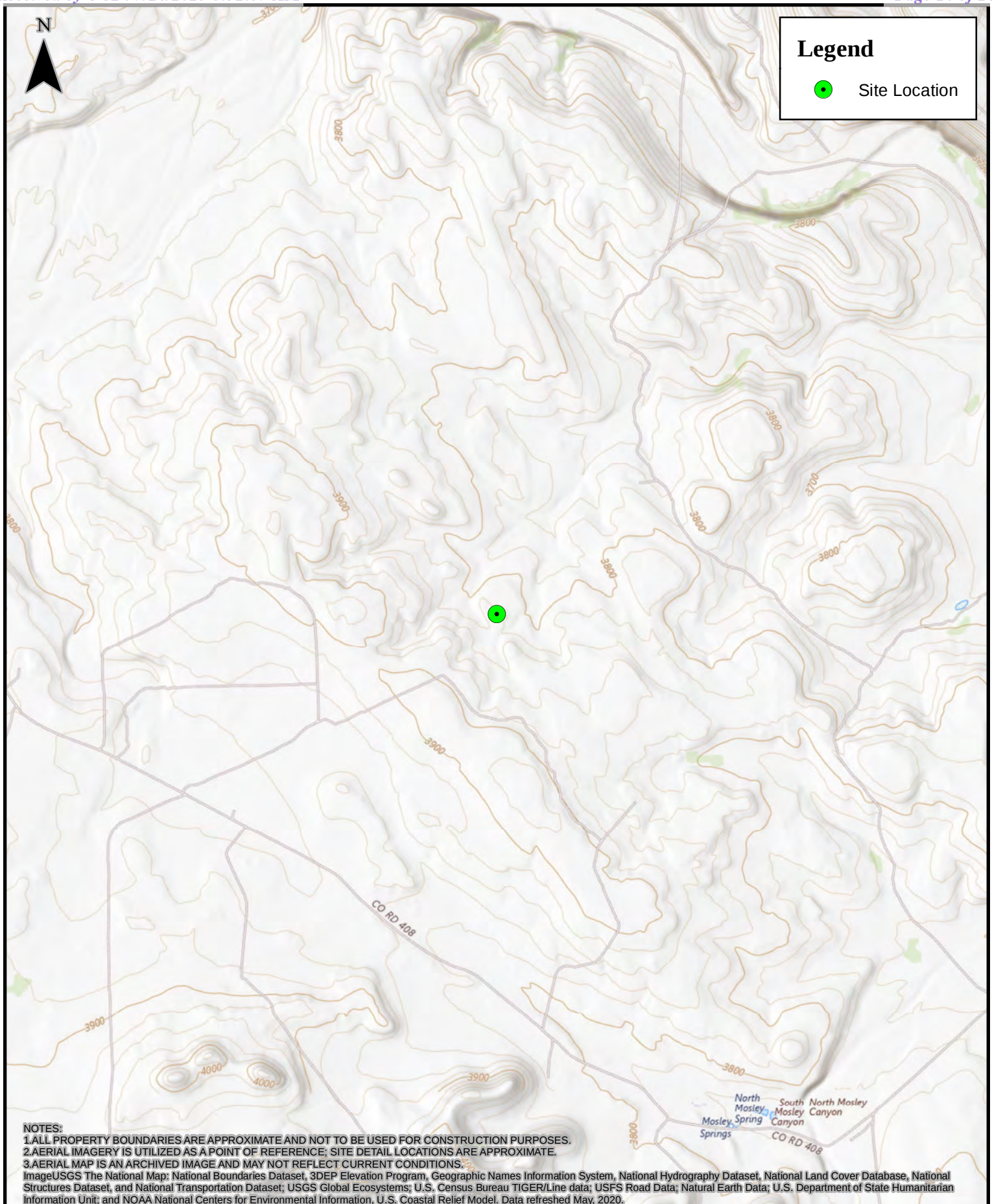
DEPTH-TO-GROUNDWATER INFORMATION LOCATION MAP

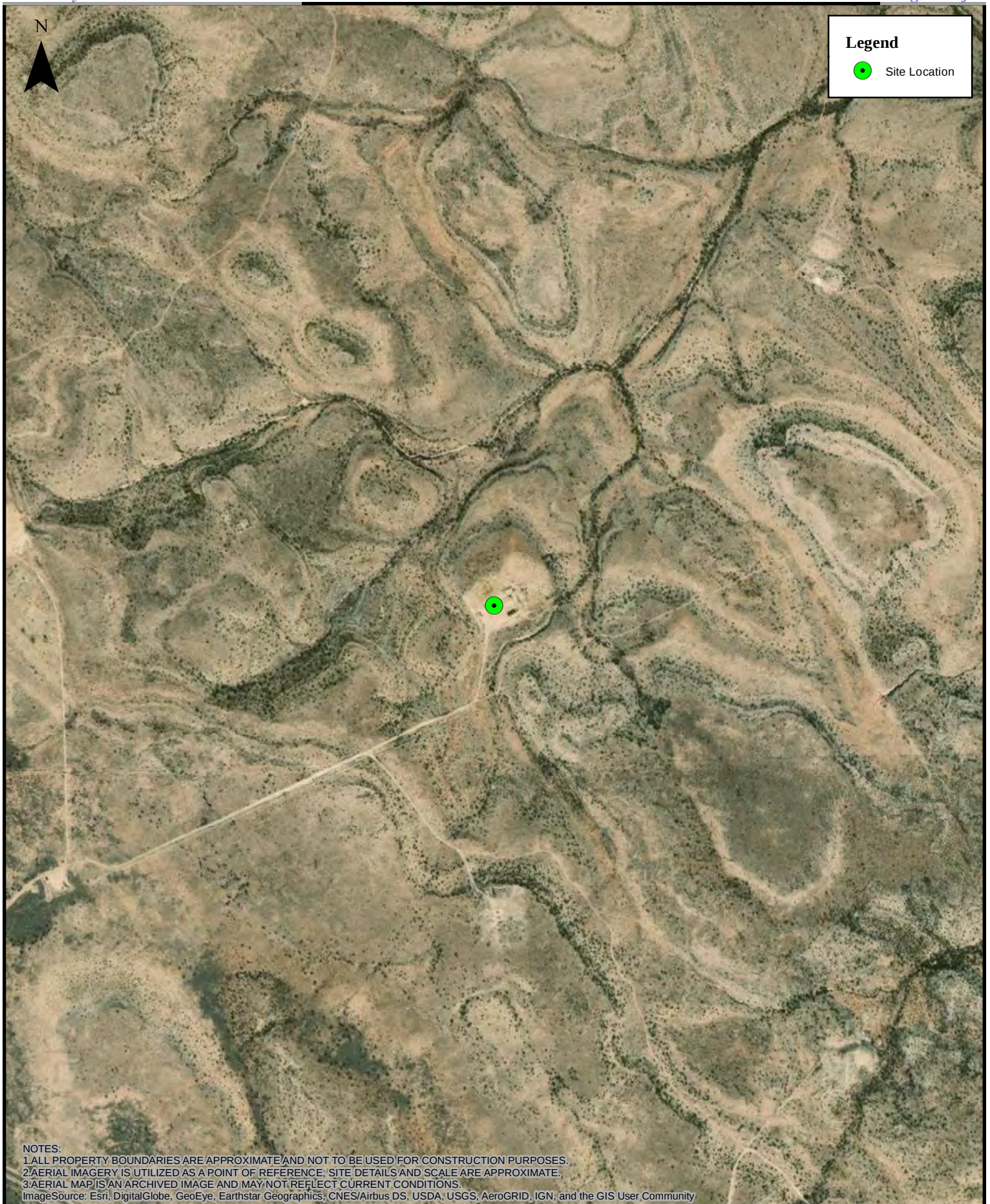
KARST TOPOGRAPHY MAP

NATIONAL WETLAND INVENTORY MAP

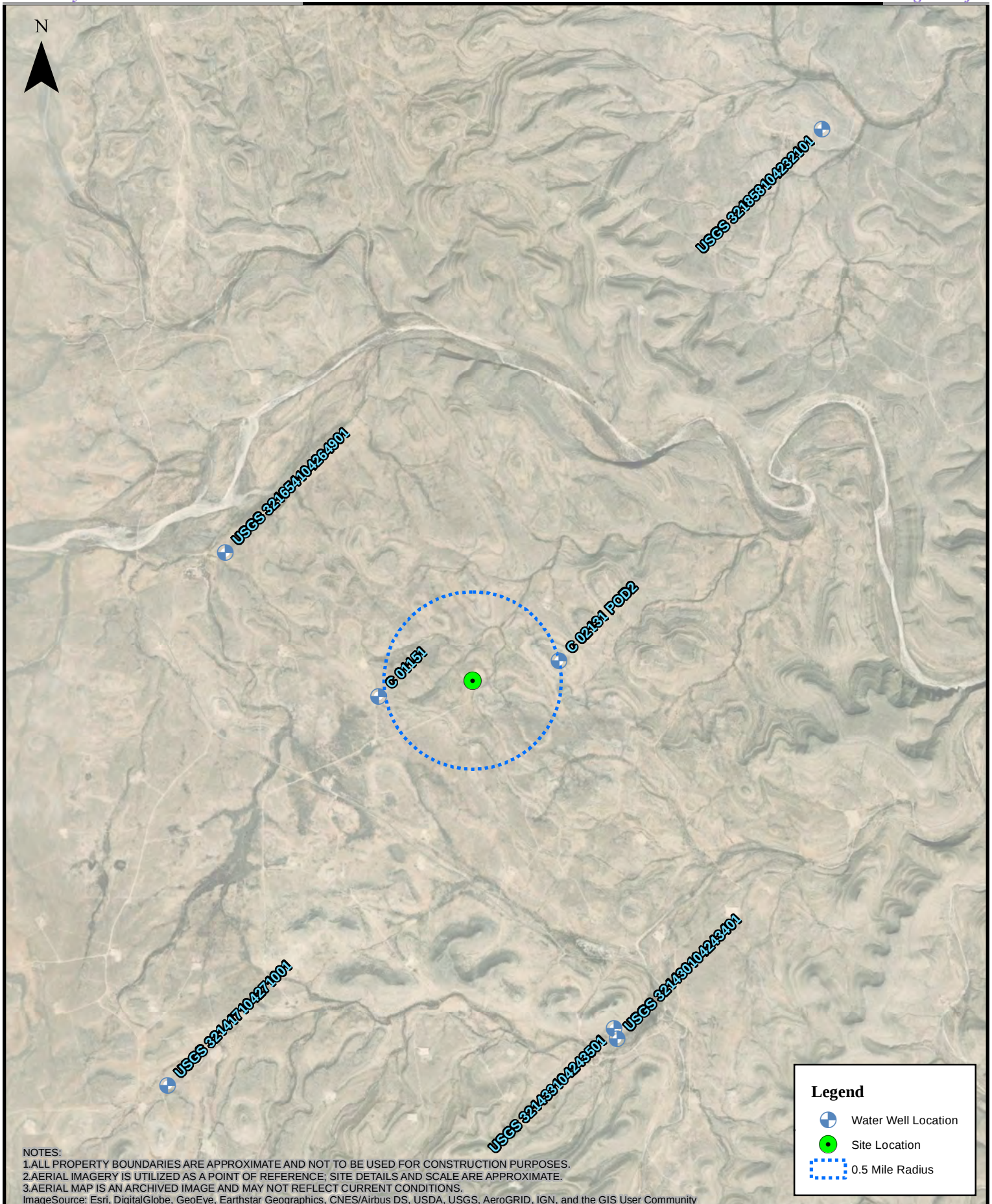
ASSESSMENT SAMPLE LOCATION MAP

PROPOSED REMEDIATION AREA MAP



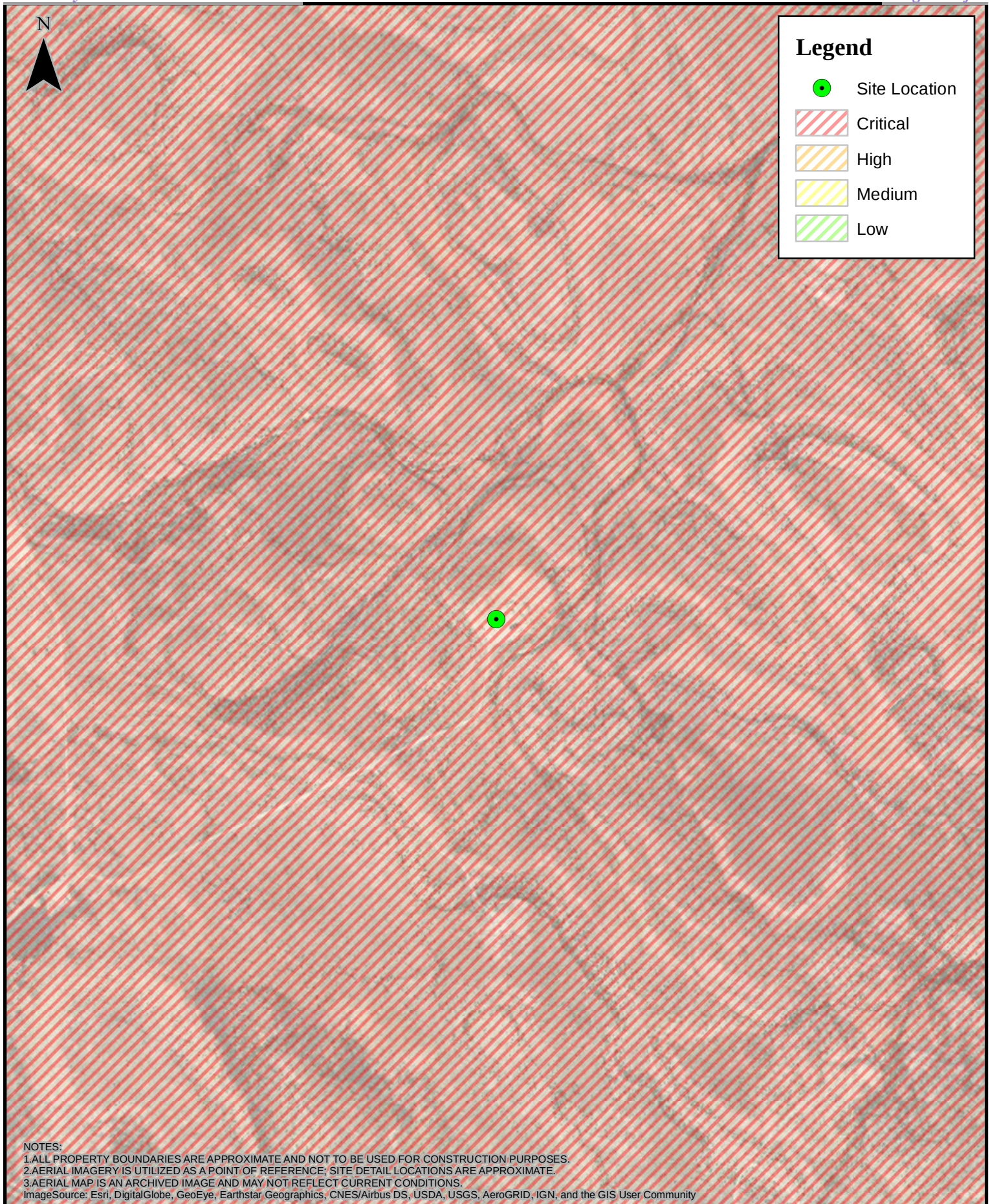


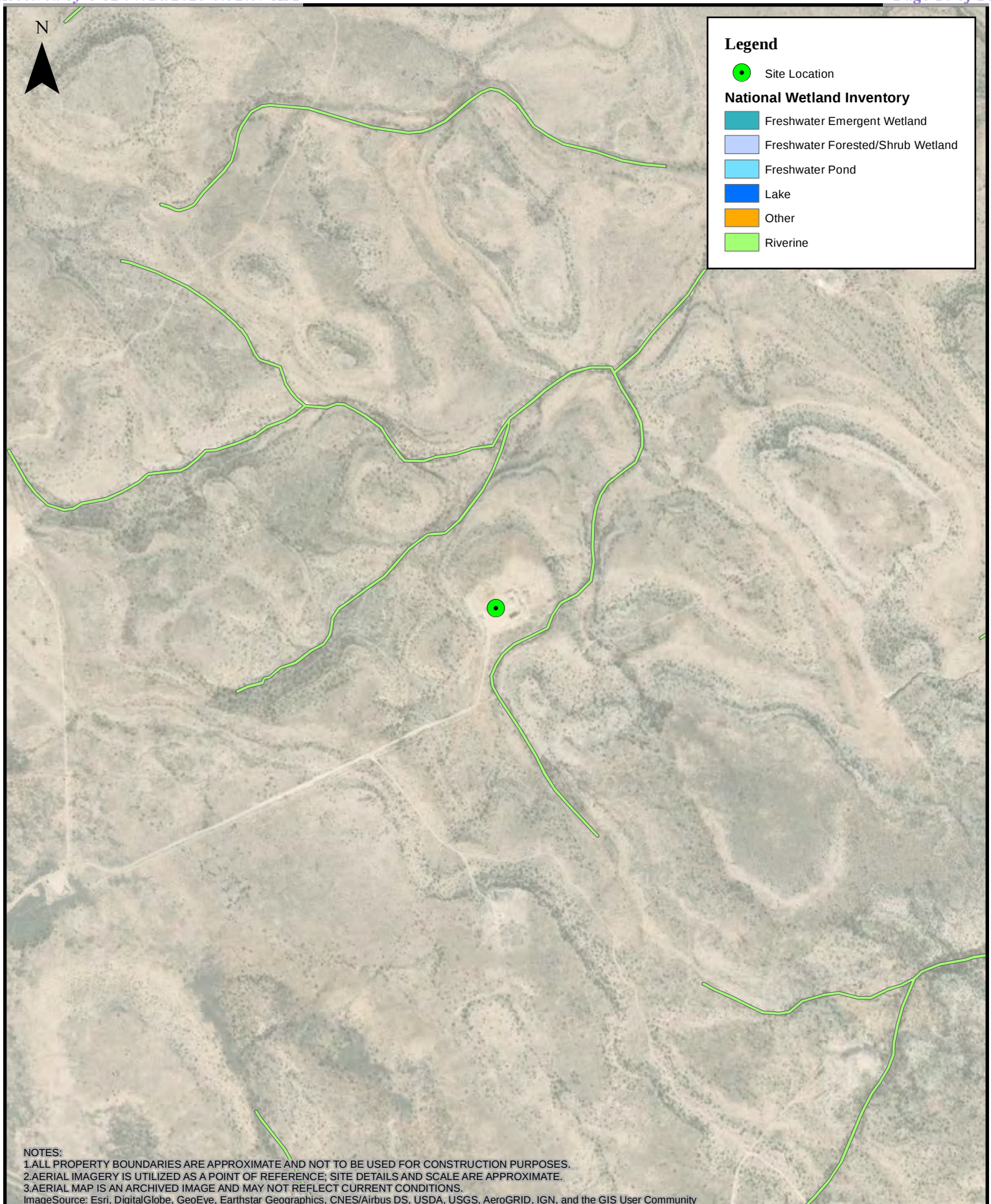
 0 250 500 1,000 1,500 2,000 Feet 1:10,000	Area Map Opuntia Draw ATG State Com #1 EOG Resources, Inc.
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0 1,100 2,200 4,400 6,600 8,800 Feet
1:44,500

Depth-to-Groundwater Information Location Map
Opuntia Draw ATG State Com #1
EOG Resources, Inc.





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

1:10,000

National Wetland Inventory Map
Opuntia Draw ATG State Com #1
EOG Resources, Inc.



Legend

-  Assessment Sample Location
-  2010 Release Impact Area (Approximate)
-  2019 Release Location
-  Observed Impact Area (2019 Release)
-  Historic Pit Location



NOTES:

1. ALL PROPERTY BOUNDARIES ARE APPROXIMATE AND NOT TO BE USED FOR CONSTRUCTION PURPOSES.
2. AERIAL IMAGERY IS UTILIZED AS A POINT OF REFERENCE; SITE DETAIL LOCATIONS ARE APPROXIMATE.
3. AERIAL MAP IS AN ARCHIVED IMAGE AND MAY NOT REFLECT CURRENT CONDITIONS.

ImageSource: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



0 15 30 60 90 120 Feet

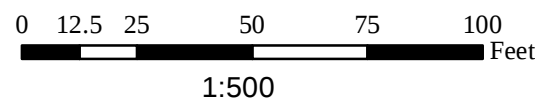
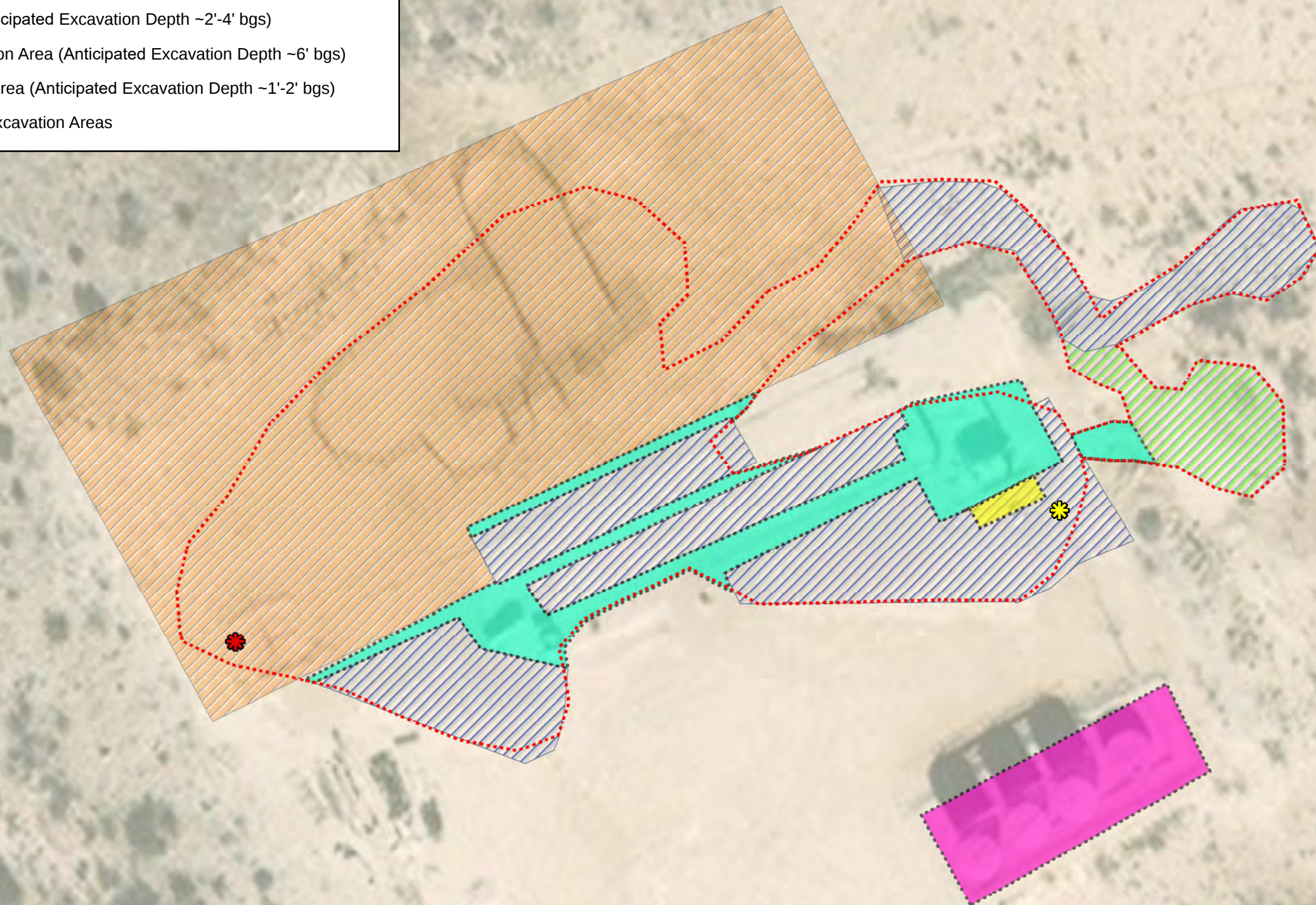
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Assessment Sample Location Map

Opuntia Draw ATG State Com #1
EOG Resources, Inc.

Legend

-  2010 Release Impact Area (Approximate)
-  2019 Release Location
-  Observed Impact Area (2019 Release)
-  Historic Pit Location
-  Reported Impact Area (2019-2020 Assessment Documents No Elevated Concentrations)
-  Proposed Pad Area Remediation (Anticipated Excavation Depth ~2'-4' bgs)
-  Proposed Sample CS-4(A) Remediation Area (Anticipated Excavation Depth ~6' bgs)
-  Proposed Tank Battery Remediation Area (Anticipated Excavation Depth ~1'-2' bgs)
-  Previously Completed Remediation/Excavation Areas



NOTES:
1.ALL PROPERTY BOUNDARIES ARE APPROXIMATE AND NOT TO BE USED FOR CONSTRUCTION PURPOSES.
2.AERIAL IMAGERY IS UTILIZED AS A POINT OF REFERENCE; SITE DETAIL LOCATIONS ARE APPROXIMATE.
3.AERIAL MAP IS AN ARCHIVED IMAGE AND MAY NOT REFLECT CURRENT CONDITIONS.
ImageSource: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Proposed Remediation Area Map
Opuntia Draw ATG State Com #1
EOG Resources, Inc.

TABLES

SITE ASSESSMENT SOIL SAMPLE BTEX, TPH, & CHLORIDE ANALYTICAL DATA

SITE ASSESSMENT SOIL BTEX (EPA 8021), TPH (SW 8015) & CHLORIDE (EPA 4500) ANALYTICAL DATA EOG-MIDLAND OPUNTIA DRAW ATG STATE COM #1 All values presented in parts per million (mg/Kg)													
SAMPLE ID	DATE	DEPTH (FT)	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C6-C10	TPH DRO C10-C28	TPH MRO C28-C36	TPH (GRO+DRO)	TPH (GRO+DRO+MRO)	CHLORIDE
P-1/0'	5/2/2025	0'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	19,000
P-1/2'	5/2/2025	2'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	19.1	<10.0	19.1	19.1	11,800
P-1/4'	5/2/2025	4'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	33.9	10.9	33.9	44.8	12,600
P-1/6'	5/2/2025	6'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	4,800
P-1/7'	5/2/2025	7'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,720
P-2/0'	5/2/2025	0'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	35,600
P-2/2'	5/2/2025	2'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	544
P-2/4'	5/2/2025	4'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	352
P-2/6'	5/2/2025	6'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	384
P-3/0'	5/2/2025	0'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	48.0
P-3/2'	5/2/2025	2'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	848
P-3/4'	5/2/2025	4'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	400
P-3/5'	5/2/2025	5'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	320
P-4/0'	5/2/2025	0'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	16.6	13.3	16.6	29.9	35,600
P-4/2'	5/2/2025	2'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,800
P-4/4'	5/2/2025	4'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,070
P-4/6'	5/2/2025	6'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	608
P-4/7'	5/2/2025	7'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	464
PBG-1/0'	5/2/2025	0'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,730
PBG-1/2'	5/2/2025	2'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	11.0	<10.0	11.0	11.0	3,000
PBG-1/4'	5/2/2025	4'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	3,000
PBG-1/6'	5/2/2025	6'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	960
PBG-1/8'	5/2/2025	8'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	784
PBG-2/0'	5/2/2025	0'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	48.0
PBG-2/2'	5/2/2025	2'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,400
PBG-2/4'	5/2/2025	4'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	992
PBG-2/6'	5/2/2025	6'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	320
BA-1/0'	5/2/2025	0'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	624
BA-1/2'	5/2/2025	2'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	208
BA-1/4'	5/2/2025	4'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	224
BA-2/0'	5/2/2025	0'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	672
BA-2/2'	5/2/2025	2'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	176
BA-2/4'	5/2/2025	4'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	96.0
BA-2/5'	5/2/2025	5'	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	64.0
19.15.29.12 NMAC Table 1 Closure Criteria for Soils Impacted by a Release (GW ≤ 50')			10	---	---	---	50	---	---	---	---	100	600
19.15.29.13 NMAC Reclamation Criteria (0'-4' Soils Only)			10 ³	---	---	---	50 ³	---	---	---	---	100 ³	600
Notes:													
1. Results exceeding the Table 1 Closure Criteria are presented in bold type and are highlighted yellow.													
2. Results exceeding the NMAC Restoration, Reclamation and re-vegetation chloride concentration requirements are presented in bold red type.													
3. Value derived from the State of New Mexico Energy, Minerals and Natural Resources Department document Procedures for the Implementation of Digital C-141 and the release rule (19.15.29 NMAC) dated December 1, 2023.													

ATTACHMENT 1 – SITE PHOTOGRAPHS



PHOTOGRAPH NO. 1 – A current view of the Site during the May 2, 2025 Site activities. The view is towards the southeast.

(Approximate GPS Coordinates: 32.271138, -104.423346)



PHOTOGRAPH NO. 2 – A view of the pit area at the Site. The view is towards the north.



PHOTOGRAPH NO. 3 – A current view of the former tank battery area. The view is towards the southeast.

(Approximate GPS Coordinates: 32.270980, -104.423055)



PHOTOGRAPH NO. 4 – A view during the assessment activities in the former pit area. Plastic liner material associated with the pit can be observed in the photograph.

ATTACHMENT 2 – DEPTH-TO-GROUNDWATER INFORMATION

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 Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
	C 01151		SW	SE	30	23S	25E	553470.0	3570487.0 *	

* UTM location was derived from PLSS - see Help

Driller License:	Driller Company:		
Driller Name:			
Drill Start Date:	Drill Finish Date:	Plug Date:	
Log File Date:	PCW Rcv Date:	Source:	Artesian
Pump Type:	Pipe Discharge Size:	Estimated Yield:	
Casing Size:	Depth Well:	Depth Water:	

Meter Information

Meter Number:	531	Meter Make:	MASTER METER
Meter Serial Number:	1748542	Meter Multiplier:	100.0000
Number of Dials:	6	Meter Type:	Diversion
Unit of Measure:	Gallons	Reading Frequency:	Monthly (No Reading Expected)

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
1999-10-20	1999	8000.000	A	ms		0.000	
1999-11-03	1999	17617.000	A	ms		2.951	

YTD Meter Amounts:

Year	Amount
1999	2.951

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6/10/25 12:29 PM MST

Point of Diversion Summary

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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 Nbr	Q64	Q16	Q4	Sec	Tw	Rng	X	Y	Map
C 02131	POD2	SE	NW	SE	29	23S	25E	555109.9	3570807.5	

* UTM location was derived from PLSS - see Help

Driller License:	1690	Driller Company:	VISION RESOURCES, INC
Driller Name:	JASON MALEY (LD)		
Drill Start Date:		Drill Finish Date:	Plug Date:
Log File Date:		PCW Rcv Date:	Source:
Pump Type:		Pipe Discharge Size:	Estimated Yield:
Casing Size:	7.00	Depth Well:	800
		Depth Water:	

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Search Results -- 1 sites found

site_no list =

- 321417104271001

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 321417104271001 24S.24E.12.12312

Groundwater: Field measurements ▼

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°14'17", Longitude 104°27'10" NAD27

Land-surface elevation 3,988 feet above NAVD88

The depth of the well is 340 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Artesia Group (313ARTS) local aquifer.

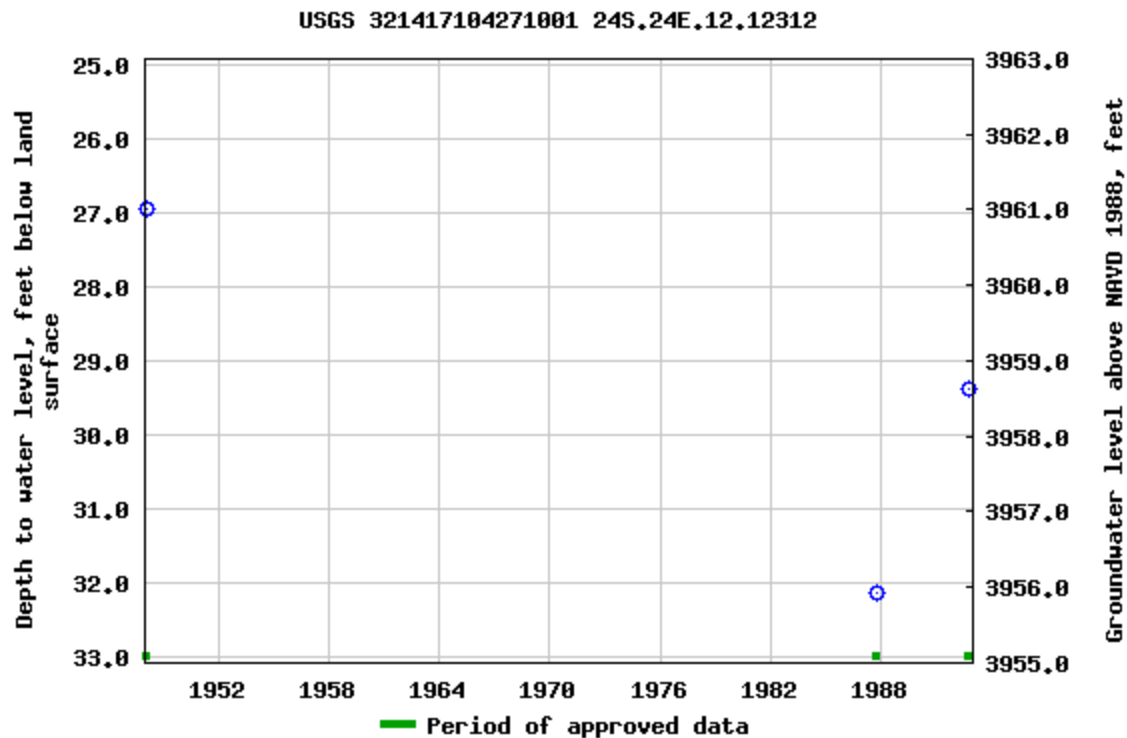
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site_no list =

- 321430104243401

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USGS 321430104243401 24S.25E.05.443243

Groundwater: Field measurements ▼

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°14'30", Longitude 104°24'34" NAD27

Land-surface elevation 3,795 feet above NAVD88

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

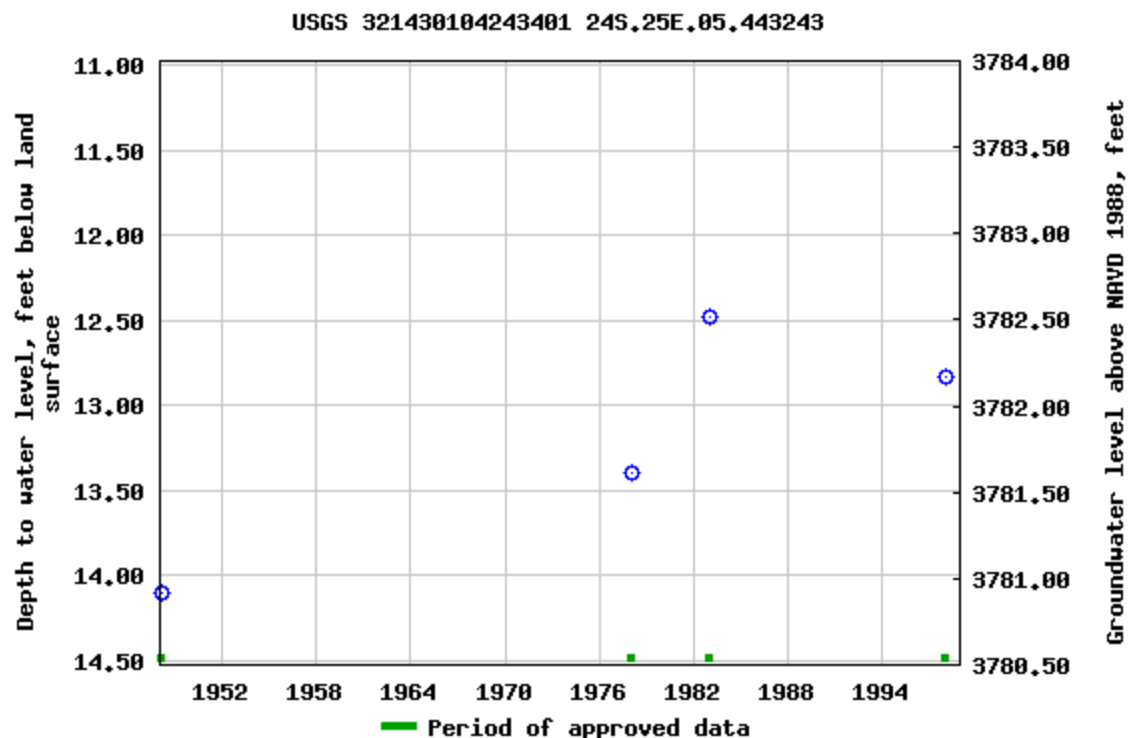
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site_no list =

- 321433104243501

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USGS 321433104243501 24S.25E.05.443212

Groundwater: Field measurements ▼

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°14'33", Longitude 104°24'35" NAD27

Land-surface elevation 3,828 feet above NAVD88

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

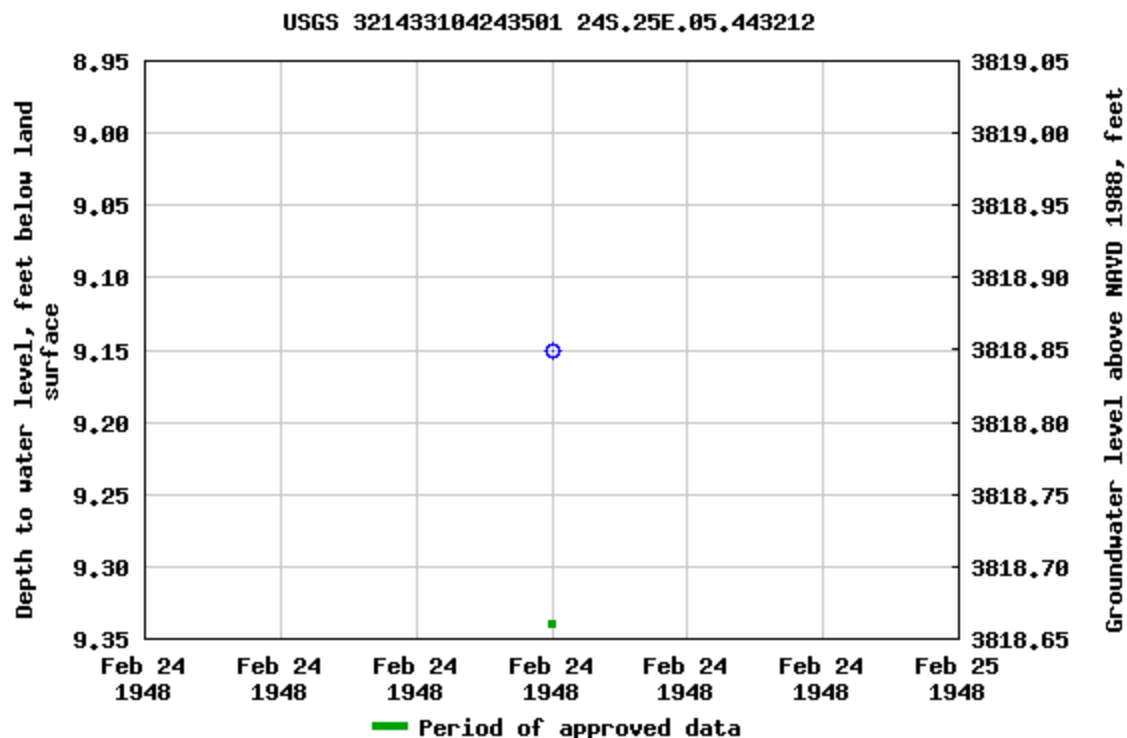
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0.71 0.59 nadww01



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site_no list =

- 321654104264901

Minimum number of levels = 1

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USGS 321654104264901 23S.24E.25.21234

Groundwater: Field measurements ▼

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°16'54", Longitude 104°26'49" NAD27

Land-surface elevation 3,757 feet above NAVD88

The depth of the well is 170 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Yates Formation, Guadalupe Group (313YATS) local aquifer.

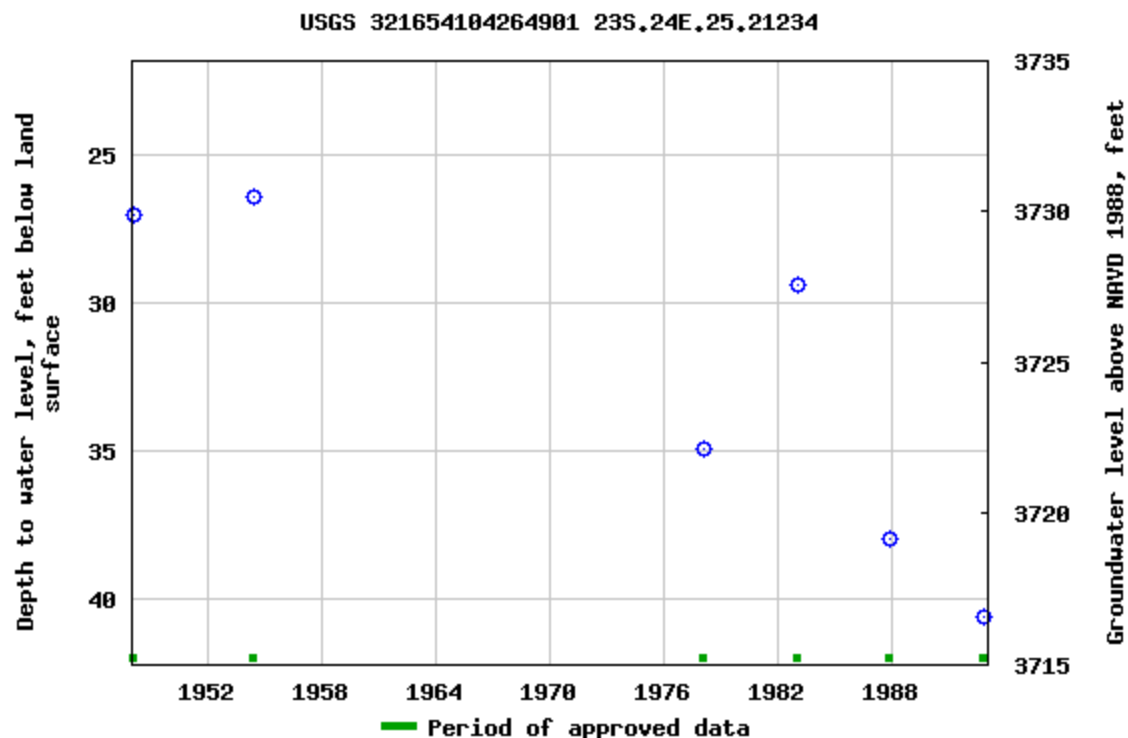
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site_no list =

- 321858104232101

Minimum number of levels = 1

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USGS 321858104232101 23S.25E.10.31334

Groundwater: Field measurements ▼

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Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°18'58", Longitude 104°23'21" NAD27

Land-surface elevation 3,678 feet above NAVD88

The depth of the well is 120 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

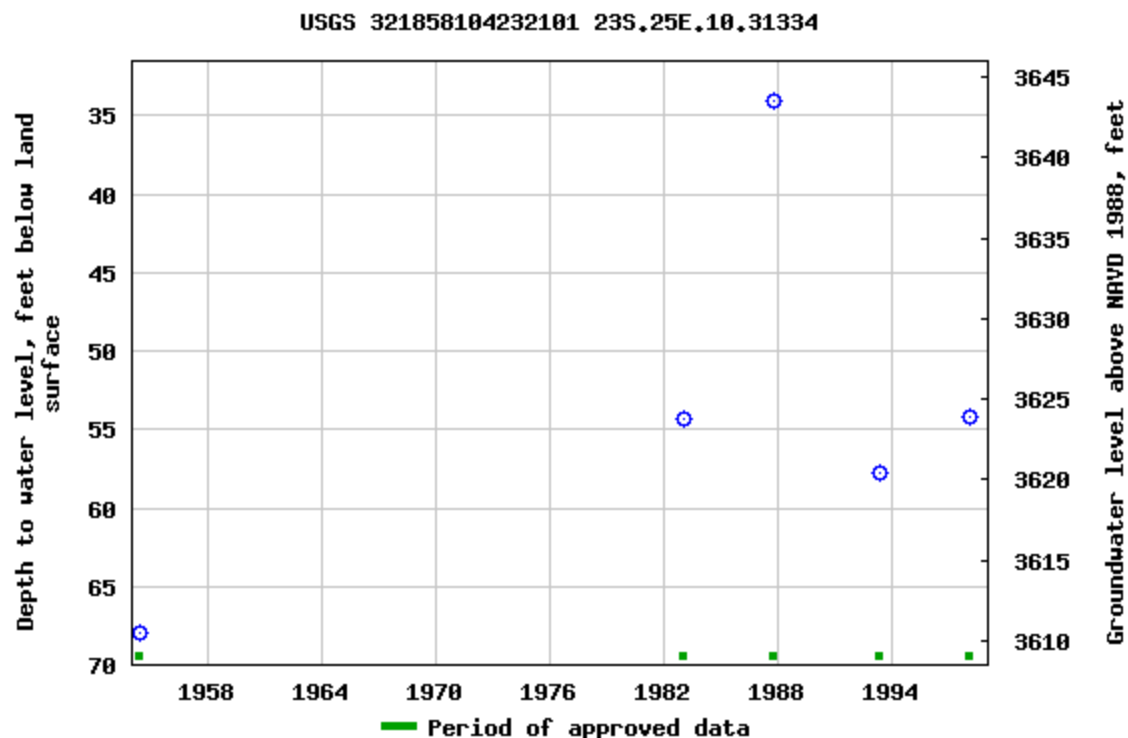
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0.7 0.52 nadww02

ATTACHMENT 3 – BIOLOGICAL REVIEW REPORTS



PROJECT INFORMATION

Project Title: Opuntia Draw ATG State Com #1 Exploratory
Project Type: (NO PROJECT REVIEW) SPECIES LIST ONLY
Latitude/Longitude (DMS): 32.271164 / -104.423046
County(s): EDDY
Project Description: Exploratory

REQUESTOR INFORMATION

Project Organization:
Contact Name: Will Kierdorf
Email Address: Will@RangerEnv.com
Organization: Ranger Environmental Services, LLC
Address: PO Box 201179, Austin TX 78720
Phone: 512-335-1785

OVERALL STATUS

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

About this report:

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

Opuntia Draw ATG State Com #1 Exploratory



Buffered Project Boundary	NM State Forestry Division	U.S. Army Corps of Engineers
Project_Boundary	NM State Parks	U.S. Bureau of Reclamation
Bureau of Land Management	National Park Service	U.S. Department of Agriculture
City Land	Other Federal Agency	U.S. Fish and Wildlife Service
County Land	Other Federal Agency	U.S. Forest Service
Department of Defense	State Land Office	U.S. Natural Resources Conservation Service
Department of Energy	State of New Mexico	
NM Department of Game & Fish	Tribal Land	

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

Special Status Animal Species Potentially within 2000 Meters of Project Area

Common Name	Scientific Name	USFWS (ESA)	NMDGF (WCA)	NMDGF SGCN/SERI	USFS	USFS SCC	BLM
Boreal Chorus Frog	Pseudacris maculata			SGCN			
Barking Frog	Craugastor augusti			SGCN			
Plains Leopard Frog	Lithobates blairi			SGCN			BLM WATCH
Aplomado Falcon	Falco femoralis		E	SGCN			
Elf Owl	Micrathene whitneyi			SGCN			BLM WATCH
Western Burrowing Owl	Athene cunicularia hypugaea			SGCN	Sensitive Species	USFS R3 SCC	BLM SENSITIVE
Common Nighthawk	Chordeiles minor			SGCN			
Lewis's Woodpecker	Melanerpes lewis			SGCN		USFS R3 SCC	BLM WATCH
Pygmy Nuthatch	Sitta pygmaea			SGCN			
Sprague's Pipit	Anthus spragueii			SGCN			BLM SENSITIVE
Loggerhead Shrike	Lanius ludovicianus			SGCN		USFS R3 SCC	BLM WATCH
Bell's Vireo	Vireo bellii		T	SGCN			BLM SENSITIVE
Varied Bunting	Passerina versicolor		T	SGCN	Sensitive Species		
Vesper Sparrow	Poocetes gramineus			SGCN			
Thick-billed Longspur	Rhynchophanes mccownii			SGCN			BLM SENSITIVE
Chestnut-Collared Longspur	Calcarius ornatus			SGCN			BLM SENSITIVE
Least Shrew	Cryptotis parva		T	SGCN			BLM WATCH
Pale Townsend's Big-Eared Bat	Corynorhinus townsendii pallescens			SGCN	Sensitive Species	USFS R3 SCC	BLM SENSITIVE
Black-Tailed Prairie Dog	Cynomys ludovicianus			SGCN	Sensitive Species		BLM SENSITIVE
Mule Deer	Odocoileus hemionus			SERI			
Pronghorn	Antilocapra americana			SERI			
Gray-Banded Kingsnake	Lampropeltis alterna		E	SGCN			BLM WATCH

Special Status Animal Species Potentially within 2000 Meters of Project Area

Common Name	Scientific Name	USFWS (ESA)	NMDGF (WCA)	NMDGF SGCN/SERI	USFS	USFS SCC	BLM
Western Ribbon Snake	Thamnophis proximus		T	SGCN	Sensitive Species		
Desert Massasauga	Sistrurus catenatus edwardsii			SGCN			

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

Special Status Plant Species Potentially within 2000 Meters of Project Area

Common Name	Scientific Name	USFWS (ESA)	NMAC	NMRPCS	USFS	USFS SCC	BLM
Lee's Pincushion Cactus	Escobaria sneedii var. leeii	LT	E	SS			

NMAC = New Mexico Administrative Code, E = Endangered; NMRPCS = [New Mexico Rare Plant Conservation Strategy](#), SS = NM Rare Plant Conservation Strategy Species; USFS = U.S. Forest Service, Sensitive Species = A species likely to occur on USFS lands that is of concern for a potential reduction in population viability; SCC = Species of Conservation Concern; BLM = Bureau of Land Management, BLM SENSITIVE = A species that occurs on BLM lands and whose viability is at risk, BLM WATCH = Species that may be added to the sensitive species list in future pending new information regarding species status.

Project Recommendations

This report includes a preliminary species list that may be used during early stages of project or conservation planning. Even if this report indicates that your proposed project location would require a custom review from a biologist, **no review will be returned** until additional project details are provided. **To obtain a project review**, please submit additional details regarding the **type** of project, project **objectives**, anticipated project **duration**, **timing** of project construction, the composition and dimensions/quantities of **materials** that will be utilized for project implementation, any **equipment** that will be used, anticipated **ground disturbance** that will occur, wildlife surveys or observations that have occurred on or near the project site, and **any other relevant details** regarding potential effects of project activities on wildlife or wildlife habitat. **Photographs** of the project site are especially useful.

Although this project report may include management recommendations based on the project location, additional conservation measures may be needed. The Department can not fully assess potential effects and associated management recommendations until a **project type and description** have been submitted and an appropriate **impact buffer** for that project type has been applied. Also, the species list within this report represents an estimation of special status species that could be present at the site of a small-scale project. Species lists for projects that occur across **broader geographic scales** (e.g., one or more counties, multiple habitat types) are more appropriately obtained from the **Department's Biota Information System of New Mexico (BISON-M) database**. Species lists generated by the ERT may contain modeled species distributions in order to predict species occurrences within areas that lack previous wildlife inventories or surveys. This list can be refined using occurrence-based information within BISON-M regarding wildlife-habitat relationships and biological needs for species that might be present within the project footprint.

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

The proposed project occurs near an important bat area. This area may contain important bat roosting resources, such as caves or mines, that potentially could be affected by certain project activities. Follow the guidelines below to minimize disturbance to roosting bats.

- Avoid use of pesticides, firearms, open-flame torches, or heavy smoke-producing equipment, especially from April through September.
- If artificial lighting is needed, use only light sources powered by batteries, or cyalume glow/light sticks. Keep the site clean by picking up refuse or materials from project lighting or operations whenever they are shut down.
- If the use of permanent outdoor lights cannot be avoided, design all outdoor lighting in accordance with the New Mexico Night Sky Protection Act, which requires that outdoor lighting be fitted with shielding that directs light downward, rather than upward or laterally, to prevent sky glow and associated impacts to bats.
- For any surface disturbing activities, the project footprint (including a 350 foot buffer) should avoid potential roost sites such as caves or mines, especially from April through July. Tree clearing activities and prescribed burns should include a minimum 0.5 miles buffer from any such features.
- If caves, mines, bridges, or other man-made structure suitable as potential bat roosts are encountered within the project area, they should not be entered during any time of year, and no roosting or hibernating bats should be contacted or disturbed. Report any dead or injured bats to the Department, which can facilitate contacts with other appropriate personnel.

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

The proposed project occurs within or near a riparian area. Because riparian areas are important wildlife habitats, the project footprint should avoid removing any riparian vegetation or creating ground disturbance either directly within or affecting the riparian area, unless the project is intended to restore riparian habitat through non-native plant removal and replanting with native species. If your project involves removal of non-native riparian trees or planting of native riparian vegetation, please refer to the Department's habitat handbook guideline for [Restoration and Management of Native and Non-native Trees in Southwestern Riparian Ecosystems](#). The [New Mexico Riparian Habitat Map \(NMRipMap\)](#) may also provide useful information on local riparian habitat composition and structure.

Disclaimers regarding recommendations:

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

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Eddy County, New Mexico



Local office

New Mexico Ecological Services Field Office

☎ (505) 346-2525

📠 (505) 346-2542

2105 Osuna Road Ne

Albuquerque, NM 87113-1001

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

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1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
 2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Mexican Spotted Owl <i>Strix occidentalis lucida</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8196	Threatened
Northern Aplomado Falcon <i>Falco femoralis septentrionalis</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1923	EXPN
Piping Plover <i>Charadrius melodus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened

Clams

NAME	STATUS
Texas Hornshell <i>Popenaias popeii</i> Wherever found There is proposed critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/919	Endangered

Insects

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

Flowering Plants

NAME	STATUS
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Lee Pincushion Cactus *Coryphantha sneedii* var. *leei* Threatened

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/2504>

Sneed Pincushion Cactus *Coryphantha sneedii* var. *sneedii* Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4706>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ² and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their nests, should follow appropriate regulations and implement required avoidance and minimization measures, as described in the various links on this page.

The [data](#) in this location indicates that no eagles have been observed in this area. This does not mean eagles are not present in your project area, especially if the area is difficult to survey. Please review the 'Steps to Take When No Results Are Returned' section of the [Supplemental Information on Migratory Birds and Eagles document](#) to determine if your project is in a poorly surveyed area. If it is, you may need to rely on other resources to determine if eagles may be present (e.g. your local FWS field office, state surveys, your own surveys).

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>

- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply).

Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds

- Supplemental Information for Migratory Birds and Eagles in IPaC
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases [birds of concern](#), including [Birds of Conservation Concern \(BCC\)](#), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the [Nationwide avoidance and minimization measures for birds](#) document, and any other project-specific avoidance and minimization measures suggested at the link [Measures for avoiding and minimizing impacts to birds](#) for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles document](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Cactus Wren <i>Campylorhynchus brunneicapillus guttatus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8834	Breeds Mar 5 to Sep 30
Varied Bunting <i>Passerina versicolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 25 to Sep 30

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental](#)

[Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

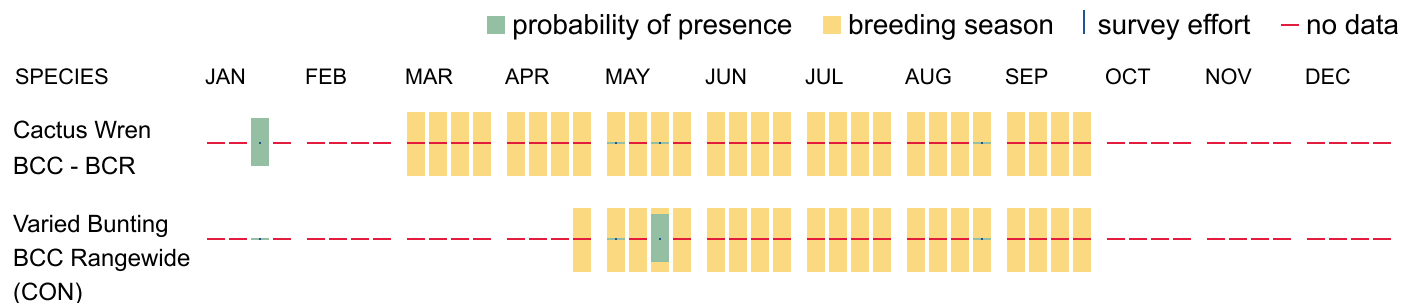
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Avoidance & Minimization Measures for Birds](#) describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the [Probability of Presence Summary](#). [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the [Bald and Golden Eagle Protection Act](#) and those species marked as "Vulnerable". See the FAQ "What are the levels of concern for migratory birds?" for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Bald and Golden Eagle Protection Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ "Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Facilities

Wildlife refuges and fish hatcheries

Refuge and fish hatchery information is not available at this time

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters.

Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

ATTACHMENT 4 – GOSHAWK SITE REVIEW REPORTS



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

NMSLO Cultural Resources Cover Sheet Confidential Exhibit _____ .

Exhibit Type (check one):

- ☒ Archaeological Survey
☐ ARMS Review
☐ Other (describe): _____

NMCRIS Activity No. (if any): 144712

Section/Township/Range: Section 29 of Township 23S, Range 25E

Cultural Resources Report/Exhibit Title:

A Class III Archaeological Survey of EOG's Opuntia Draw ATG State Com #1 Release, Eddy County, New Mexico

Cultural Resources Consultant:

Goshawk Environmental Consulting, Inc.

Project Proponent (Applicant):

EOG Resources, Inc.

Applicant Project Title/Description:

Opuntia Draw ATG State Com #1 Release, Eddy County, New Mexico

If Archaeological Survey, avoidance and protection measures have been devised.

Yes ☐ No ☐ N/A ☒

If ARMS Inspection, please summarize results:

(A) ☒ The entire area of potential effect or project area has been previously surveyed to current standards and **no cultural properties were found** within the survey area.

(B) ☒ The entire area of potential effect or project area has been previously surveyed to current standards and **cultural properties were found** within the survey area.

(C) ☒ The entire area of potential effect or project area **has not been previously surveyed**.

For agency use only:

NMSLO Lease No.: _____

Lease Analyst: _____

Exhibit Routed to Field Operations Division: _____

Date



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

NMSLO Cultural Resources Cover Sheet Exhibit

NMCRIS Activity Number: 151904

(if applicable)

Exhibit Type (select one)

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

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

☒ Archaeological Survey

Findings:

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

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

Comments:

Project Details:

NMSLO Lease Number (if available):

Cultural Resources Consultant: Goshawk Environmental Consulting, Inc.

Project Proponent (Applicant): EOG Resources, Inc.

Project Title/Description: Opuntia Draw ATG State Com #1 Remediation

Project Location:

County(ies): Eddy

PLSS/Section/Township/Range): Township 23S; Range 25E; Section 29

For NMSLO Agency Use Only:

NMSLO Lease Number:

Acknowledgment-Only:

☐

Lease Analyst:

Date Exhibit Routed to Cultural Resources Office:

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

Form Revised 12 22



13 August 2025

Mr. Ben Trees
EOG Resources, Inc.
5509 Champions Drive
Midland, TX 79706

**Re: Opuntia Draw ATG State Com #1 Remediation - Comprehensive Resource Review
Eddy County, New Mexico**

EXECUTIVE SUMMARY

Construction of the proposed Opuntia Draw ATG State Com #1 Remediation project would not impact any sensitive natural or cultural resources. Field investigations did not reveal Waters of the US (WATERS), karst resources, Threatened or Endangered (T/E) species, or other sensitive species within the area of the proposed project.

BACKGROUND

Goshawk Environmental Consulting, Inc. (Goshawk) conducted a comprehensive resource review for the proposed Opuntia Draw ATG State Com #1 Remediation in Eddy County, New Mexico. The Opuntia Draw ATG State Com #1 Remediation includes remediating one 1.41-acre well pad (proposed project).

The proposed project is situated on state-owned land within Section 29 of Township 23S, Range 25E (Map 1). This resource review included a desktop review of ecological resources (including WATERS, T/E Species, and sensitive plant and animal species), karst resources, and cultural resources. Sensitive species considered during the desktop review included burrowing owls and raptors, and potential habitat for Scheer's beehive cactus, Wright's waterwillow, gypsum milkvetch, and Tharp's blue-star (special status plant species [SSPS]).

Field investigations were conducted on 16 and 29 July 2025. The purpose of these investigations was to evaluate whether the proposed project contained any protected/sensitive resources, the approximate size and location of identified protected/sensitive resources, and associated development constraints, if applicable.

ECOLOGICAL RESOURCE REVIEW

WATERS OF THE US

Goshawk evaluated the proposed project to determine if any WATERS, as regulated by the US Army Corps of Engineers (USACE), are present. The topographic map (Map 2) indicates the proposed project is located entirely within grasslands (white background). The terrain is relatively flat with elevations ranging from approximately 3,800 to 3,810 feet above mean sea level. There are no potential WATERS indicated within the proposed project on the topographic map. The nearest mapped water feature is a tributary of Opuntia Draw, located approximately 154 feet southeast of the proposed project. An unimproved road is also mapped approximately 195 feet southeast of the proposed project.





The aerial orthoimagery (Map 3) indicates the proposed project is within disturbed rangeland, within a shrubland vegetative community. Channelization within the unnamed tributary of Opuntia Draw is visible on the aerial orthoimagery, and darker vegetative signatures, typically indicative of mesic conditions, are visible along the tributary corridors. The unimproved road indicated on the topographic map is visible on the aerial orthoimagery as a caliche road.

FIELD INVESTIGATIONS

According to the field investigations, terrain within the proposed project is gently to moderately sloping (Photo 1). The vegetative community observed during the field investigations was consistent with that shown in the aerial orthoimagery. Vegetation was dominated by shrubs intermixed with grasses and forbs (Photo 2). Species observed include honey mesquite, creosote, prickly pear, yucca, mariola, prickly leaf dogweed, and cholla. Goshawk does recommend stormwater controls be installed and maintained during the remediation process to avoid impacts to the nearby tributaries.

SPECIES OF CONCERN

THREATENED OR ENDANGERED SPECIES

The proposed project was evaluated for both federally and state-listed T/E species. An internet search of the US Fish and Wildlife Service (USFWS) *Information for Planning and Consultation* (IPaC) screening tool was used to identify federally listed T/E species “that should be considered as part of an effects analysis” for areas within 5 miles of the proposed project (Table 1). Critical habitat for these species is not mapped within the proposed project. Additionally, a report from the New Mexico Department of Game and Fish (NMDGF) Biota Information System of New Mexico (BISON-M) was obtained and reviewed for Eddy County (Table 2).

Table 1: IPaC 5-mile Report

Species	Status	Impacts Expected	Observed?
Birds			
Piping plover	Federally listed	No	No
Southwestern willow flycatcher	Federally listed	No	No
Fish			
Pecos gambusia	Federally listed	No	No
Invertebrates			
Texas hornshell	Federally listed	No	No
Plants			
Lee pincushion cactus	Federally listed	No	No

**Table 2: BISON-M Eddy County List
of Threatened or Endangered Species**

Species	Status	Impacts Expected	Observed?
Birds			
Lesser prairie-chicken	Federally listed	No	No
Common ground-dove	State-listed	No	No





Species	Status	Impacts Expected	Observed?
Yellow-billed cuckoo	Federally listed	No	No
Lucifer hummingbird	State-listed	No	No
Broad-billed hummingbird	State-listed	No	No
Piping plover	Federally and State-listed	No	No
Rufa red knot	Federally listed	No	No
Least tern	State-listed	No	No
Neotropic cormorant	State-listed	No	No
Brown pelican	State-listed	No	No
Bald eagle	State-listed	No	No
Common black hawk	State-listed	No	No
Mexican spotted owl	Federally listed	No	No
Northern aplomado falcon	Federally and State-listed	No	No
Peregrine falcon	State-listed	No	No
Northern beardless-tyrannulet	State-listed	No	No
Thick-billed kingbird	State-listed	No	No
Southwestern willow flycatcher	Federally and State-listed	No	No
Bell's vireo	State-listed	No	No
Gray vireo	State-listed	No	No
Baird's sparrow	State-listed	No	No
Varied bunting	State-listed	No	No
Mammals			
Least shrew	State-listed	No	No
Spotted bat	State-listed	No	No
Reptiles & Amphibians			
Western river cooter	State-listed	No	No
Dunes sagebrush lizard	Federally and State-listed	No	No
Gray-banded kingsnake	State-listed	No	No
Yellow-bellied water snake	State-listed	No	No
Arid land ribbonsnake	State-listed	No	No
Mottled rock rattlesnake	State-listed	No	No
Western narrow-mouth toad	State-listed	No	No
Fish			
Pecos bluntnose shiner	Federally and State-listed	No	No
Blue sucker	State-listed	No	No
Gray redbhorse	State-listed	No	No
Mexican tetra	State-listed	No	No
Pecos pupfish	State-listed	No	No





Species	Status	Impacts Expected	Observed?
Pecos gambusia	Federally and State-listed	No	No
Greenthroat darter	State-listed	No	No
Bigscale logperch	State-listed	No	No
Invertebrates			
Ovate vertigo snail	State-listed	No	No
Pecos springsnail	State-listed	No	No
Texas hornshell	Federally and State-listed	No	No

FEDERALLY LISTED SPECIES

The T/E species listed in the IPaC Trust Resource Report for areas within 5 miles of the proposed project are the piping plover, southwestern willow flycatcher, Pecos gambusia, Texas hornshell, and Lee pincushion cactus.

The piping plover is a migrant shoreline species known to winter along beaches in the Gulf of Mexico and migrate to the Northern Great Plains to nest. Wintering habitats include coastal habitats, sandy mud flats, ephemeral pools, and seasonally emergent seagrass beds. Due to the lack of coastal or lakeshore habitat within the proposed project, no impacts to this species are expected.

Habitat for the southwestern willow flycatcher is found within riparian areas and streams that occur within a 100-year floodplain in Catron, Grant, Hidalgo, Mora, Rio Arriba, Socorro, Taos, and Valencia counties, which are not within the vicinity of the proposed project.

The historical range of the Pecos gambusia was the Pecos River Basin in western Texas and southeast New Mexico. Present day populations exist only in Jeff Davis and Pecos counties near Balmorhea, and in Leon and the Diamond-Y Spring near Fort Stockton, which are not within the vicinity of the proposed project.

The Texas hornshell historically occurred in the Pecos-Rio Grande drainage; however, due to an increase in salinity, much of this habitat is no longer considered suitable. This species is currently only found in four locations: an 8.5-mile stretch of the Black River in New Mexico, the Lower Rio Grande in Texas, the Devil's River in Texas, and the Delaware River in New Mexico. Due to the distance to one of the four known occupied locations, it is unlikely the proposed project would negatively impact the Texas hornshell.

The Lee pincushion cactus is endemic to New Mexico and is restricted to areas within Eddy County, particularly within, or adjacent to, Carlsbad Caverns National Park and the Guadalupe Mountains. This cactus occurs primarily on steep limestone slopes within Chihuahuan Desert scrubland communities at elevations ranging from 4,000 to 5,000 feet. The proposed project is lower than what is considered primary Lee pincushion cactus habitat; therefore, impacts to this species are unlikely.





BURROWING OWLS AND RAPTORS

Burrowing owls are considered a species of concern by the USFWS. Burrowing owls are generally associated with dry, open plains; however, they also utilize grasslands, shrublands, and human-modified landscapes. They depend on burrows that were previously excavated by other animals, such as prairie dogs, badgers, ground squirrels, and foxes. Although they are migratory, some individuals will over-winter in southeast New Mexico. Raptors and their active nests are protected by the Migratory Bird Treaty Act. A variety of species can potentially occur in southeast New Mexico, occupying many different habitat types. Most often, raptors build a large stick nest, typically in taller trees and shrubs.

No burrowing owls, raptors, or nests were observed during the field investigations.

THARP'S BLUE-STAR

Tharp's blue-star is a BLM Special Status Species (Sensitive) and a New Mexico State Threatened species. This species, a perennial suffrutescent herb, occupies a variety of substrates, including shallow, well-drained gypsum, caliche, and dolomite sedimentary outcrops and alluvium deposits, between 3,000 and 3,800 feet in elevation within Eddy County, New Mexico and Pecos County, Texas. An extensive survey utilizing linear transects within a 200-meter buffer, during the field investigations, did not reveal any Tharp's blue-star (Map 4). No direct impacts to this species are expected.

CONTINGENCY MEASURES

Direct impacts (including harassment, harm, killing, and/or collecting) to any T/E, Special Status Species, or other species of concern should be avoided. A New Mexico State Lands Office Biologist will be notified as needed regarding species of concern.

KARST RESOURCES

The proposed project is within gypsum karst terrain, which is characterized by underground drainage through enlarged solutional conduits. Gypsum karst terrains may contain sinkholes, sinking streams, caves, and springs, known as karst features. These karst features, as well as occasional fissures and discontinuities in the bedrock, provide the primary sources for rapid recharge of the groundwater aquifers in the region.

Sinkholes and cave entrances collect water and often accumulate rich, organic materials and soils. The stable microclimate near cave entrances supports a greater diversity and density of plant life, which provides habitat for a greater diversity and density of wildlife. The interior of caves supports a large variety of troglobitic, or cave environment-dependent species. The troglobitic species have adapted specifically to the cave environment, due to constant temperatures, constant high humidity, and total darkness.

The proposed project occurs within a critical karst potential occurrence zone as mapped by the BLM (Map 5). Critical karst potential occurrence zones contain a high density of significant cave systems and/or bedrock fractures and other karst features that lead to the rapid recharge of karst groundwater aquifers from surface runoff. These areas provide critical drinking water supplies for major





communities, ranching operations, and springs that support rivers and vital riparian habitat. These areas include the Capitan Reef and associated Capitan Aquifer west of the Pecos River as well as the surface outcropping of the Castile gypsum formation in southern Eddy County.

An extensive survey including linear transects within 200 meters of the proposed project did not reveal any surface evidence of karst features (Map 6).

CULTURAL RESOURCES REVIEW

Cultural resources on public lands, including archaeological sites and historic properties, are protected by federal law and regulations (Section 106 of the National Historic Preservation Act and the National Environmental Policy Act). A Class III cultural resource inventory was conducted on 29 July 2025 during New Mexico Cultural Resources Information System Activity 151904 to identify any resources eligible for listing on the National Register of Historic Places. No historic properties were identified within the area of potential effect.

SUMMARY

Based on the results of the comprehensive resource review, it is Goshawk's opinion that construction of the proposed Opuntia Draw ATG State Com #1 Remediation is unlikely to impact any ecological resources, karst resources, or cultural resources. Therefore, construction of the proposed project can proceed as planned. Please note that continued diligence is needed during construction to minimize impacts to resources. If you have any questions or desire additional information, please contact our office.

Sincerely,

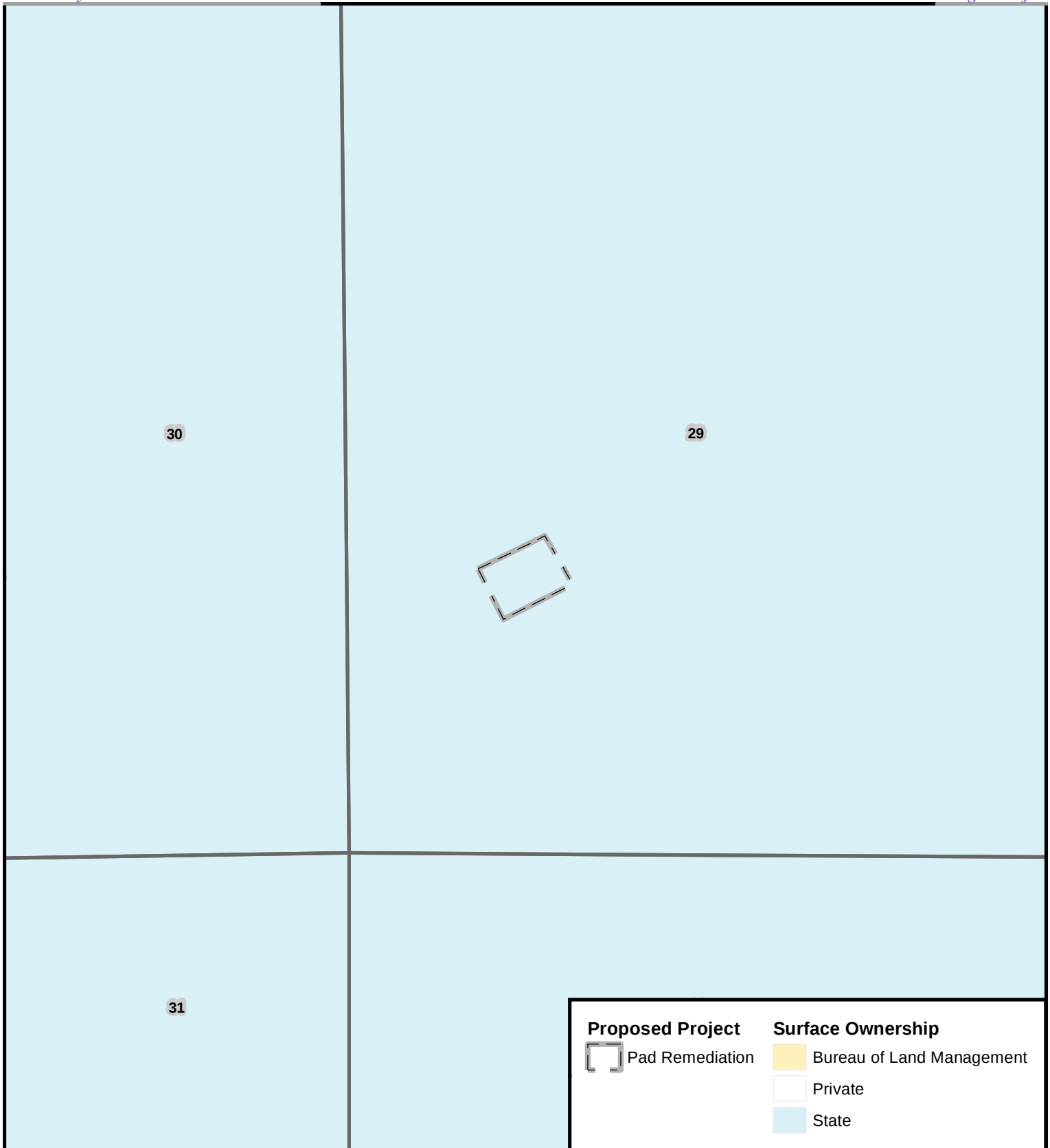
Siobhan Pritchett
Environmental Specialist/Archaeologist





APPENDIX A MAPS





Proposed Project	Surface Ownership
Pad Remediation	Bureau of Land Management
	Private
	State

Map Source: U.S. Bureau of Land Management - New Mexico State Office - GIS Data Download.

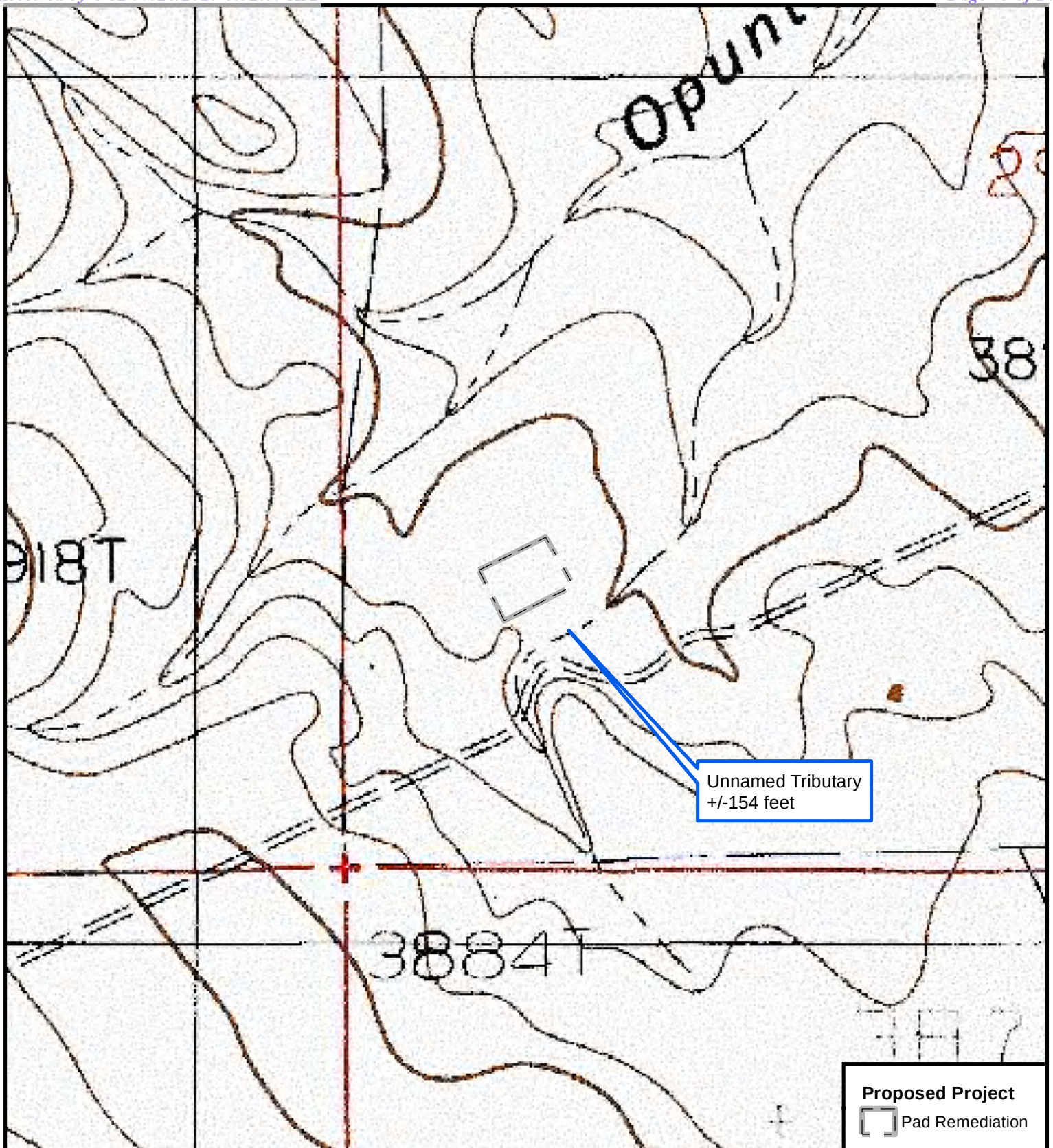
0 250 500 Feet

SP

Map 1
Surface Ownership
Eddy County, New Mexico

Opuntia Draw ATG State Com #1
Township 23S; Range 25E; Section 29

Date: 11 August 2025



Map Source: USGS, Carnero Peak, New Mexico
Quadrangle.

0 250 500 Feet

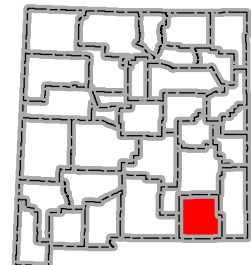


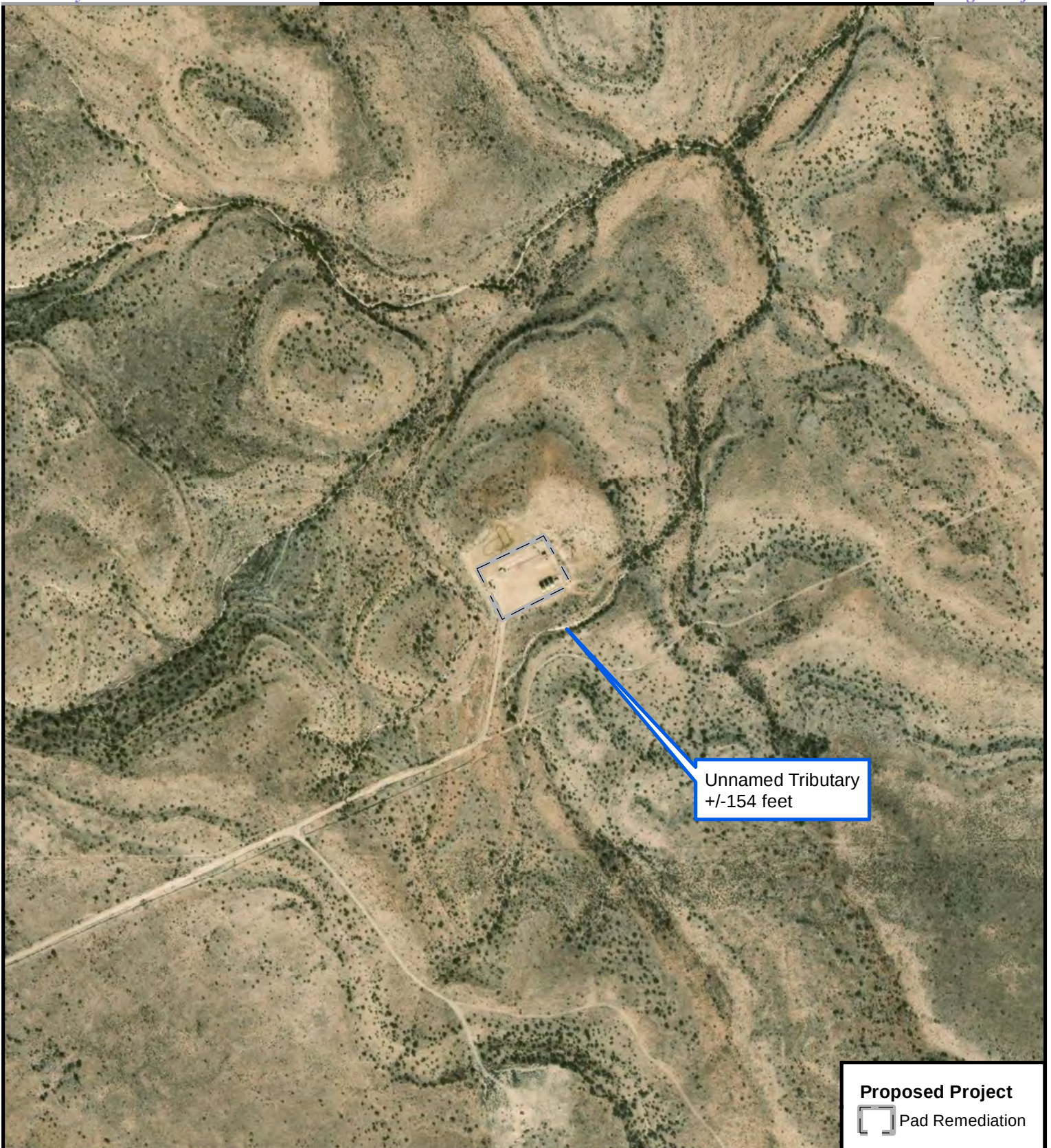
SP

Map 2
USGS Topographic
Eddy County, New Mexico

Opuntia Draw ATG State Com #1
Township 23S; Range 25E; Section 29

Date: 11 August 2025





Map Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGrid, IGN, and the GIS User Community.

0 250 500 Feet

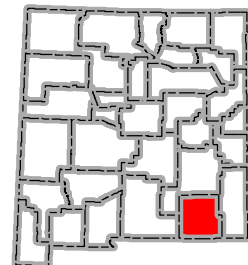


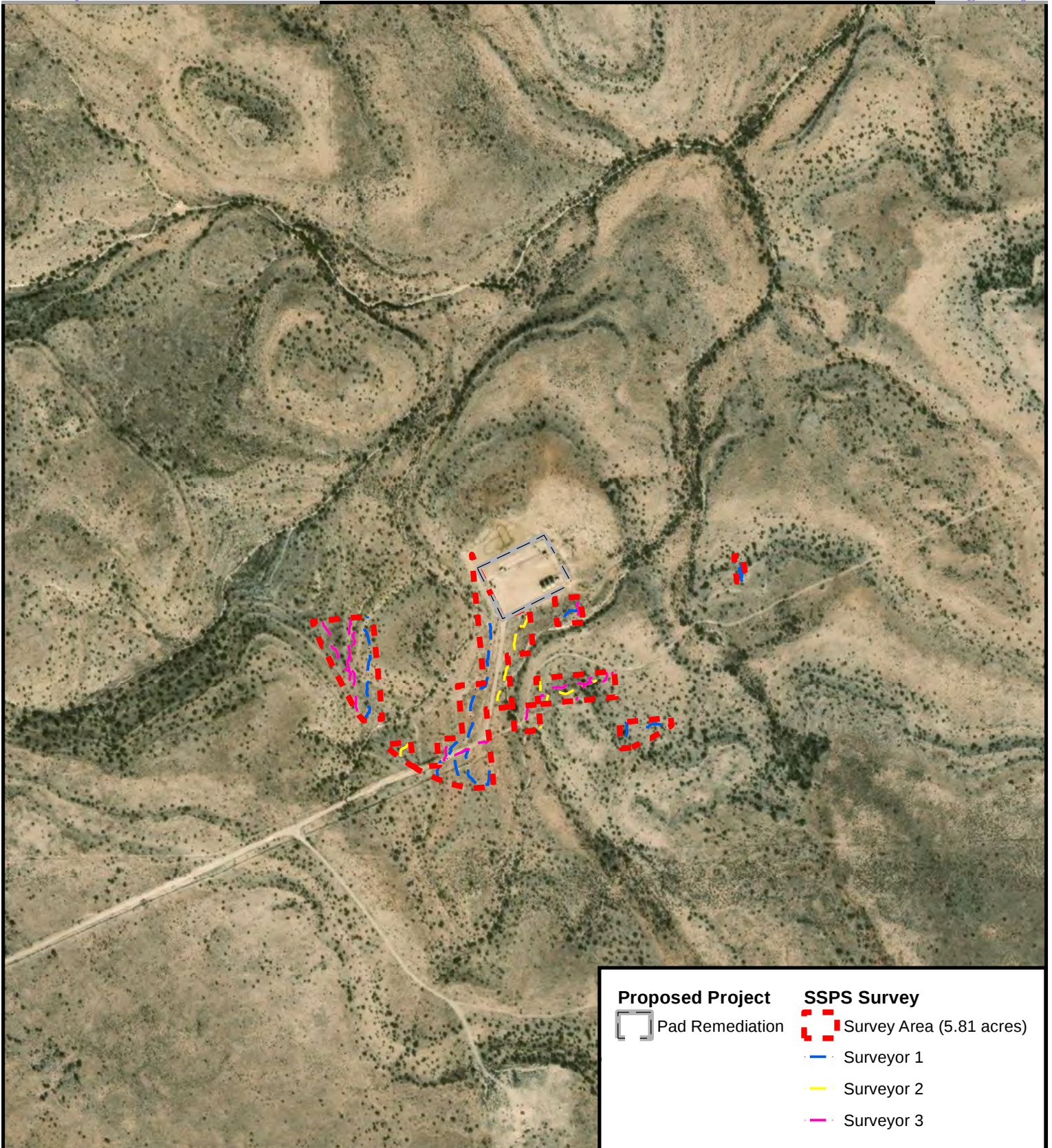
SP

Map 3
Aerial Orthoimagery
Eddy County, New Mexico

Opuntia Draw ATG State Com #1
Township 23S; Range 25E; Section 29

Date: 11 August 2025





Proposed Project

 Pad Remediation

SSPS Survey

 Survey Area (5.81 acres)

 Surveyor 1

 Surveyor 2

 Surveyor 3

Map Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGrid, IGN, and the GIS User Community.

0 250 500 Feet



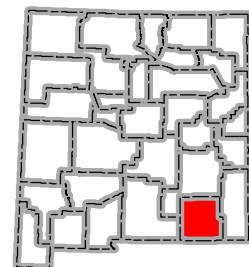
Map 4

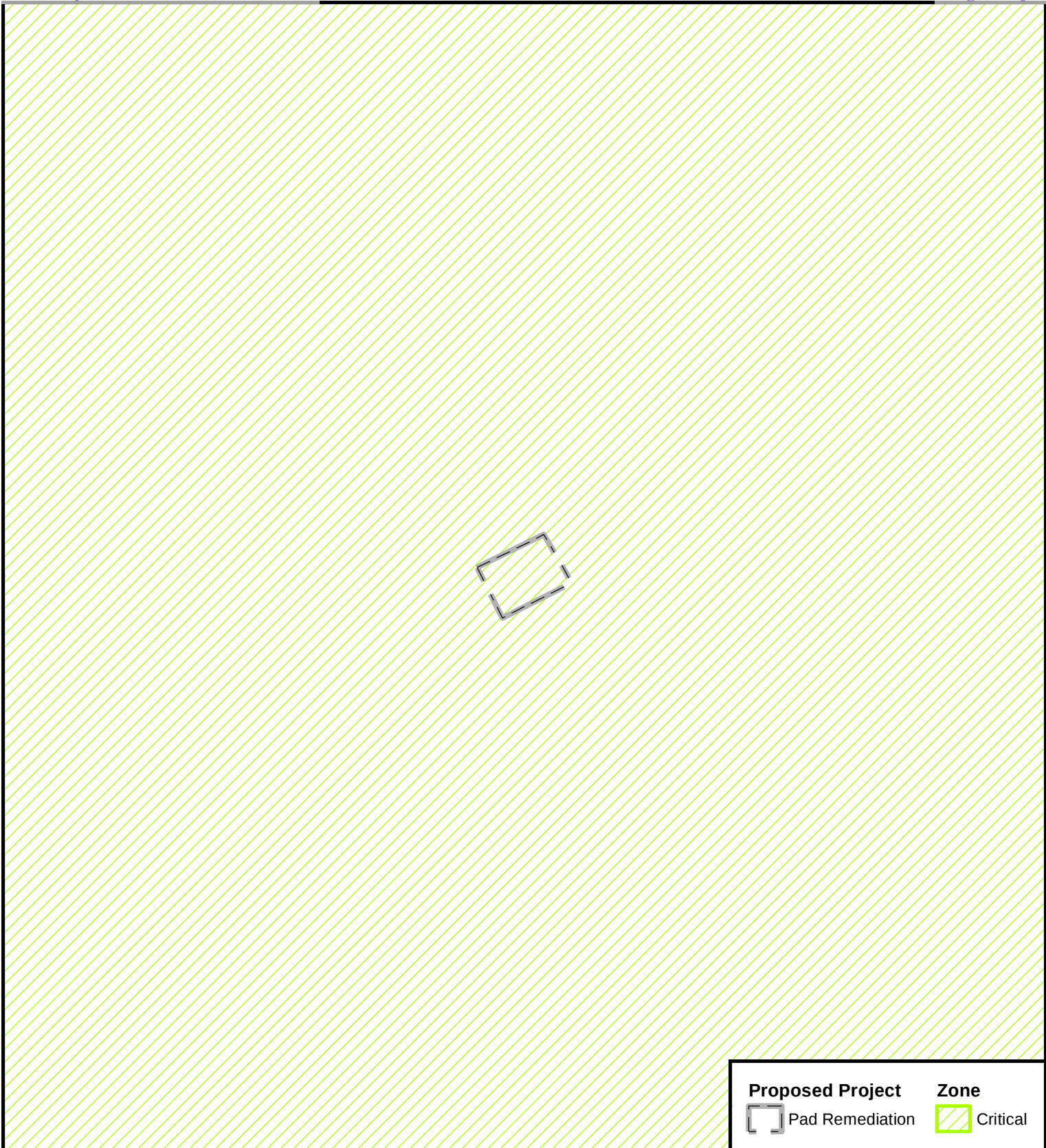
Special Status Plant Species Survey
Eddy County, New Mexico

Opuntia Draw ATG State Com #1

Township 23S; Range 25E; Section 29

Date: 11 August 2025





Map Source: U.S. Bureau of Land Management - New Mexico State Office - GIS Data Download.

0 250 500 Feet

SP

Map 5
Karst Potential Occurrence Zones
Eddy County, New Mexico

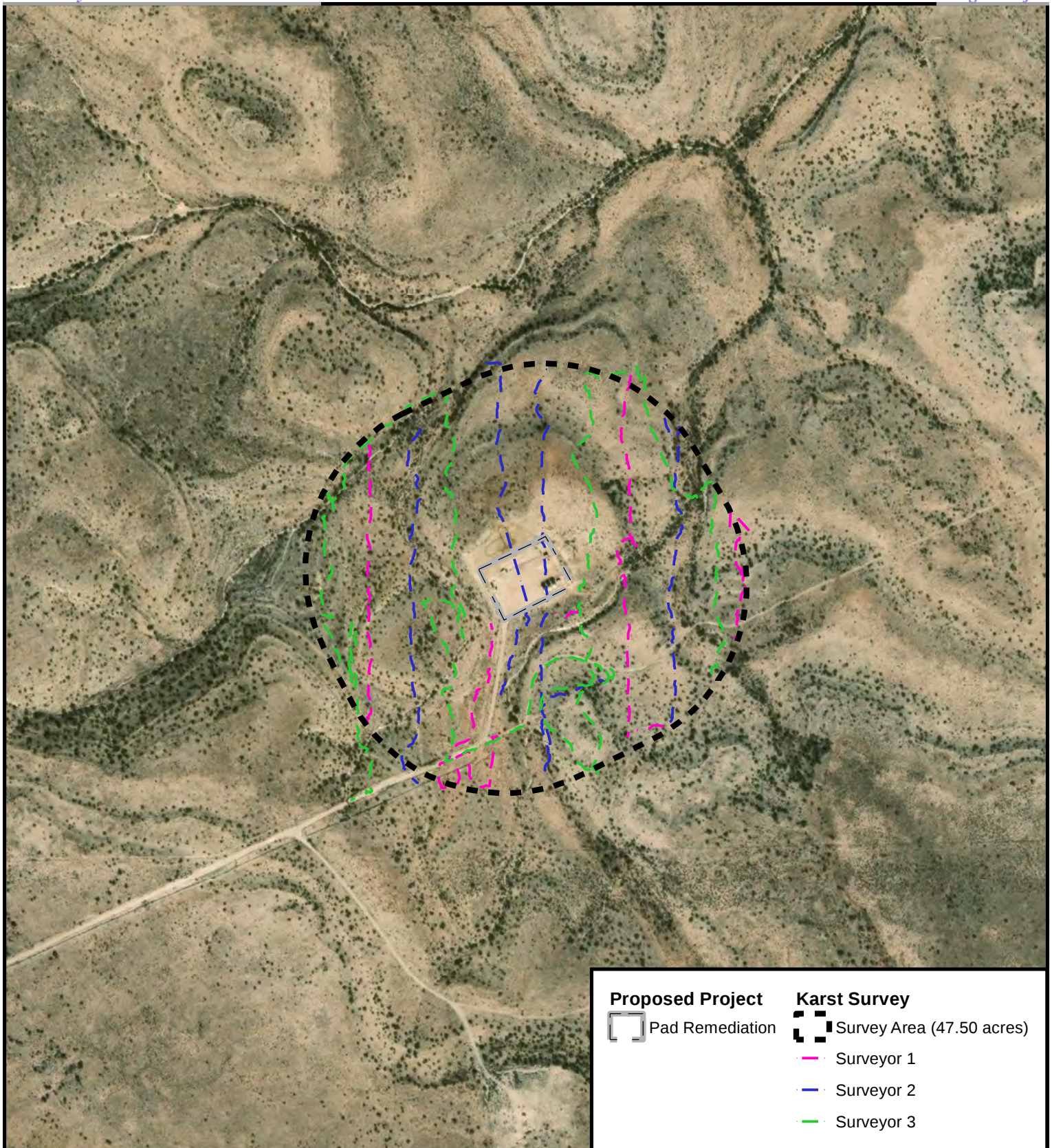
Opuntia Draw ATG State Com #1
Township 23S; Range 25E; Section 29

Proposed Project
 Pad Remediation

Zone
 Critical

Date: 11 August 2025

N



Map Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGrid, IGN, and the GIS User Community.

0 250 500 Feet

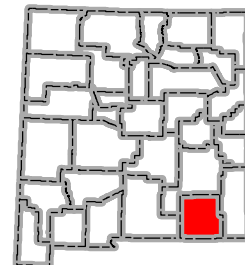


SP

Map 6
Karst Survey
Eddy County, New Mexico

Opuntia Draw ATG State Com #1
Township 23S; Range 25E; Section 29

Date: 11 August 2025





APPENDIX B PHOTOS





Photo #:	Date:	
1	16 July 2025	
Gently to Moderately Sloping Terrain within Proposed Project		

Photo #:	Date:	
2	16 July 2025	
Typical Shrubland Vegetation Intermixed with Grasses and Forbs within Proposed Project		





**KARST SURVEY OF THE PROPOSED
OPUNTIA DRAW ATG STATE COM #1 REMEDIATION
EDDY COUNTY, NEW MEXICO**

SECTION 29; TOWNSHIP 26S; RANGE 29E

Report Prepared for:

New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

On Behalf of:

EOG Resources, Inc.
5509 Champions Drive
Midland, TX 79706

Report Prepared by:

Goshawk Environmental Consulting, Inc.
P.O. Box 735
Buda, Texas 78610

August 2025





TABLE OF CONTENTS

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2.0 METHODOLOGY 1

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1.0 BACKGROUND

EOG Resources, Inc. (EOG) is requesting permission to remediate one 1.41-acre well pad (proposed project).

The proposed project would be within gypsum karst terrain, a landform characterized by underground drainage through solutionally enlarged conduits. Gypsum karst terrain may contain sinkholes, sinking streams, caves, and springs. Sinkholes that lead to underground drainages and voids are common. These karst features, as well as occasional fissures and discontinuities in the bedrock, provide the primary sources for rapid recharge of the groundwater aquifers in the region.

The Bureau of Land Management (BLM) categorizes all areas within the Carlsbad Field Office (CFO) as areas with low, medium, high, or critical karst potential occurrence zones. These zones are based on geology, occurrence of known caves, density of karst features, and potential impacts to freshwater aquifers. The proposed project occurs in a critical karst potential occurrence zone (Map 1), on state-owned land (Map 2).

Critical karst potential occurrence zones contain a high density of significant cave systems and/or bedrock fractures and other karst features that lead to the rapid recharge of karst groundwater aquifers from surface runoff. These areas provide critical drinking water supplies for major communities, ranching operations, and springs that support rivers and vital riparian habitat. These areas include the Capitan Reef and associated Capitan Aquifer west of the Pecos River as well as the surface outcropping of the Castile gypsum formation in southern Eddy County.

2.0 METHODOLOGY

Goshawk Environmental Consulting, Inc. (Goshawk) conducted a karst survey of the proposed project, which included a resource review, field investigation, and report of findings. The resource review was performed prior to the field investigation to gather site-specific information and evaluate the potential for karst features within the proposed project. The field investigation included an extensive search for karst features, with special attention given to areas identified in the resource review as potential karst areas. Additionally, former land use practices and modifications were evaluated.

The karst survey was performed in accordance with BLM CFO Karst Survey Requirements and the New Mexico State Land Office (NMSLO) Compliance Standards Document. Utilizing GIS software, a 200-meter karst survey corridor was placed around unsurveyed portions of the proposed project. The resultant survey area covered 47.50 acres. The surveyors walked the survey area systematically, attempting to maintain survey transects spaced no farther than 50 meters apart. Maintaining transects at 50-meter intervals was not always possible due to vegetation and other surface restrictions. Goshawk utilized handheld Garmin eTrex 20 GPS units to record possible karst features located during the field investigation, as well as to record the surveyors' tracks. Digital photographs of the survey area were taken to document current conditions.





2.1 RESOURCE REVIEW

The resource review included inspection of the US Geological Survey (USGS) Carnero Peak, New Mexico topographic quadrangle; Federal Emergency Management Administration (FEMA) National Flood Hazard Data; Geologic Map of New Mexico; Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) database; and recent aerial orthoimagery.

2.1.1 USGS Topographic Map

The USGS topographic quadrangle (Map 3) indicates the proposed project is on relatively flat terrain. Mapped elevations range from approximately 3,800 to 3,810 feet above mean sea level. The topographic map indicates the karst survey area is entirely within grassland (white background). One unimproved road is mapped 195 feet southeast of the proposed project. One water feature, an unnamed tributary, is mapped approximately 154 feet southeast of the proposed project. The proposed project is drained by overland sheet flow generally toward the northeast. There are no features on the topographic map that would suggest potential karst within the survey area.

2.1.2 FEMA National Flood Hazard Data

The FEMA National Flood Hazard data indicates the karst survey area is within Zone X, which is defined as areas outside special flood hazard area (Map 4). The nearest floodplain is approximately 1.37 miles northwest of the proposed project.

2.1.3 Geologic Map of New Mexico

The geologic map (Map 5) indicates the survey area is underlain by the Seven Rivers Formation (Guadalupean). The Seven Rivers Formation is comprised of gypsum, anhydrite, salt, dolomite, and siltstone (New Mexico Bureau of Geology and Mineral Resources 2003). Though it is not uncommon for any of the geologic formations of the area to exhibit karst features, the Geologic Map of New Mexico does not provide specific evidence that karst features may exist within the survey area.

2.1.4 Soils Map

The NRCS SSURGO spatial data (Map 6) indicates the soil map unit underlying the survey area is Ector extremely rocky loam (EE). The Ector series consists of very shallow to shallow, well drained soils that are moderately permeable above a moderately, slowly permeable limestone bedrock. They formed in calcareous loamy residuum derived from limestone (United States Department of Agriculture 2007). The soil map units do not provide specific evidence of karst features within the survey area.

2.1.5 Aerial Orthoimagery

The aerial orthoimagery (Map 7) indicates the survey area is within disturbed rangeland, within a shrubland vegetation. The unimproved road depicted on the topographic map is visible on the aerial orthoimagery as a caliche road. Channelization within the unnamed tributary, and darker vegetative signatures, indicative of mesic conditions, are visible along the tributary corridors. There is no evidence on the aerial orthoimagery that would suggest potential karst features within the survey area.





2.2 FIELD INVESTIGATION

Goshawk conducted the field investigation on 16 July 2025 within the karst survey area. The field investigation was conducted on foot by Chelsea Barnett (Surveyor 1), Nicole Pavlock (Surveyor 2), and Zane Homesley (Surveyor 3). The GPS tracks for the karst surveyors are indicated in Map 8.

Terrain within the survey area was gently to moderately sloping (Photo 1). The caliche road identified during the field investigation was consistent with that shown on the aerial orthoimagery.

The vegetative communities observed during the field investigation were consistent with those shown on aerial orthoimagery. The shrubland areas appeared to be closely associated with soils that are rocky loam (Photo 2). The primary species noted within the shrublands included honey mesquite, creosote, yucca, prickly pear, mariola, prickly leaf dogweed, and cholla. Barren areas appeared to be closely associated with limestone (Photo 3). Vegetative coverage was estimated at 30 percent with good visibility of the ground surface. No potential karst features were observed within the survey area during the field investigation; however, subsurface voids not visible on the surface may still exist.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Although unidentified subsurface karst features within the survey area are possible, no obvious potential karst features were identified during an extensive survey of the area. Goshawk recommends remediation be allowed to proceed as planned. Typical Conditions of Approval should be implemented for the proposed project.

REFERENCES

New Mexico Bureau of Geology and Mineral Resources

2003 Geologic Map of New Mexico, Scale 1:500,000.

US Department of Agriculture

2007 Electronic document, <https://soilseries.sc.egov.usda.gov/osdname.aspx>, accessed 7 February 2022.

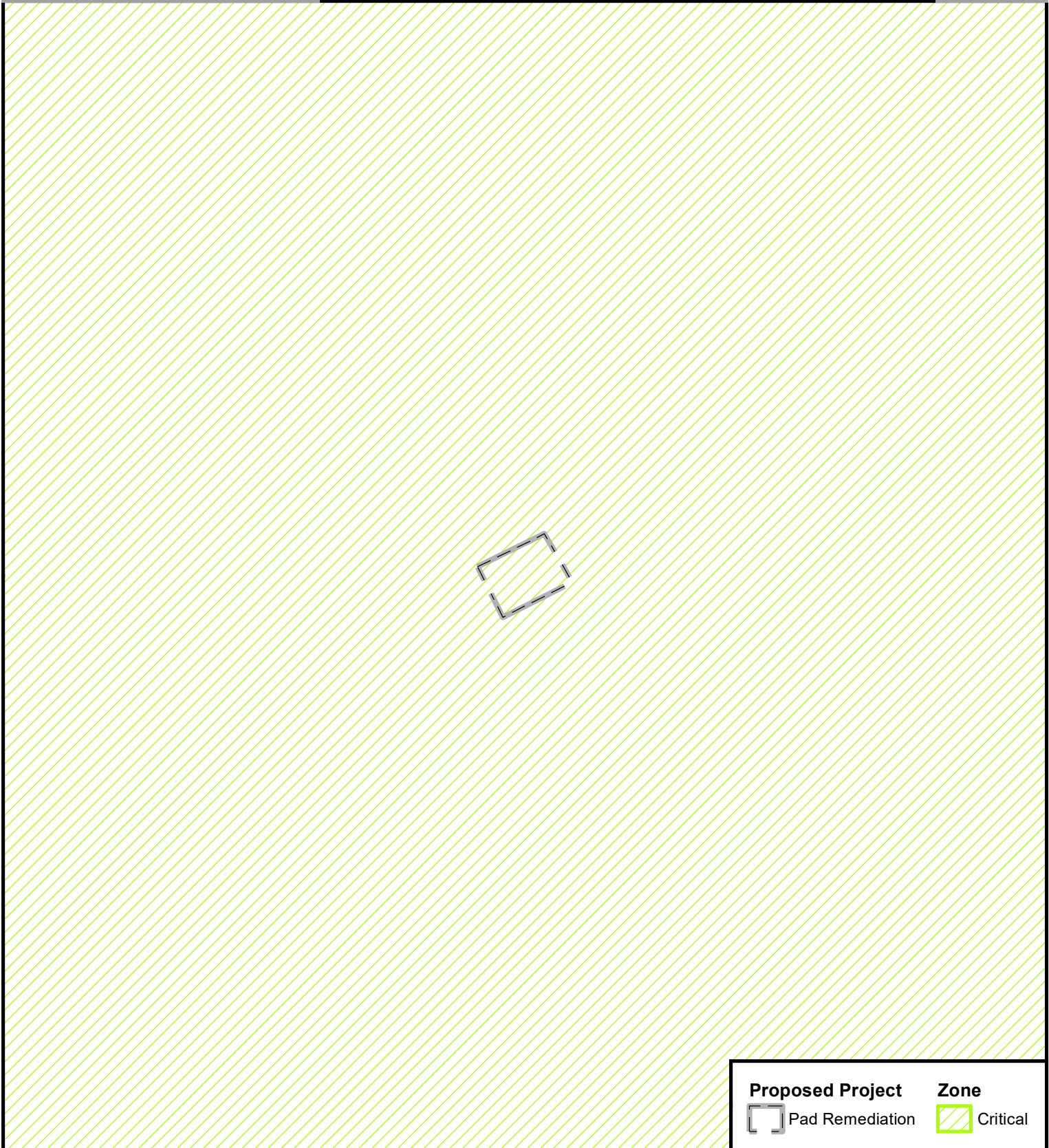




APPENDIX A

MAPS





Map Source: U.S. Bureau of Land Management - New Mexico State Office - GIS Data Download.

0 250 500 Feet



SP

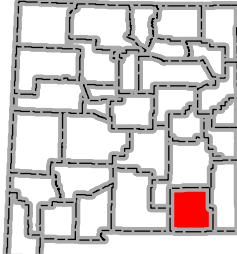
Map 1
Karst Potential Occurrence Zones
Eddy County, New Mexico

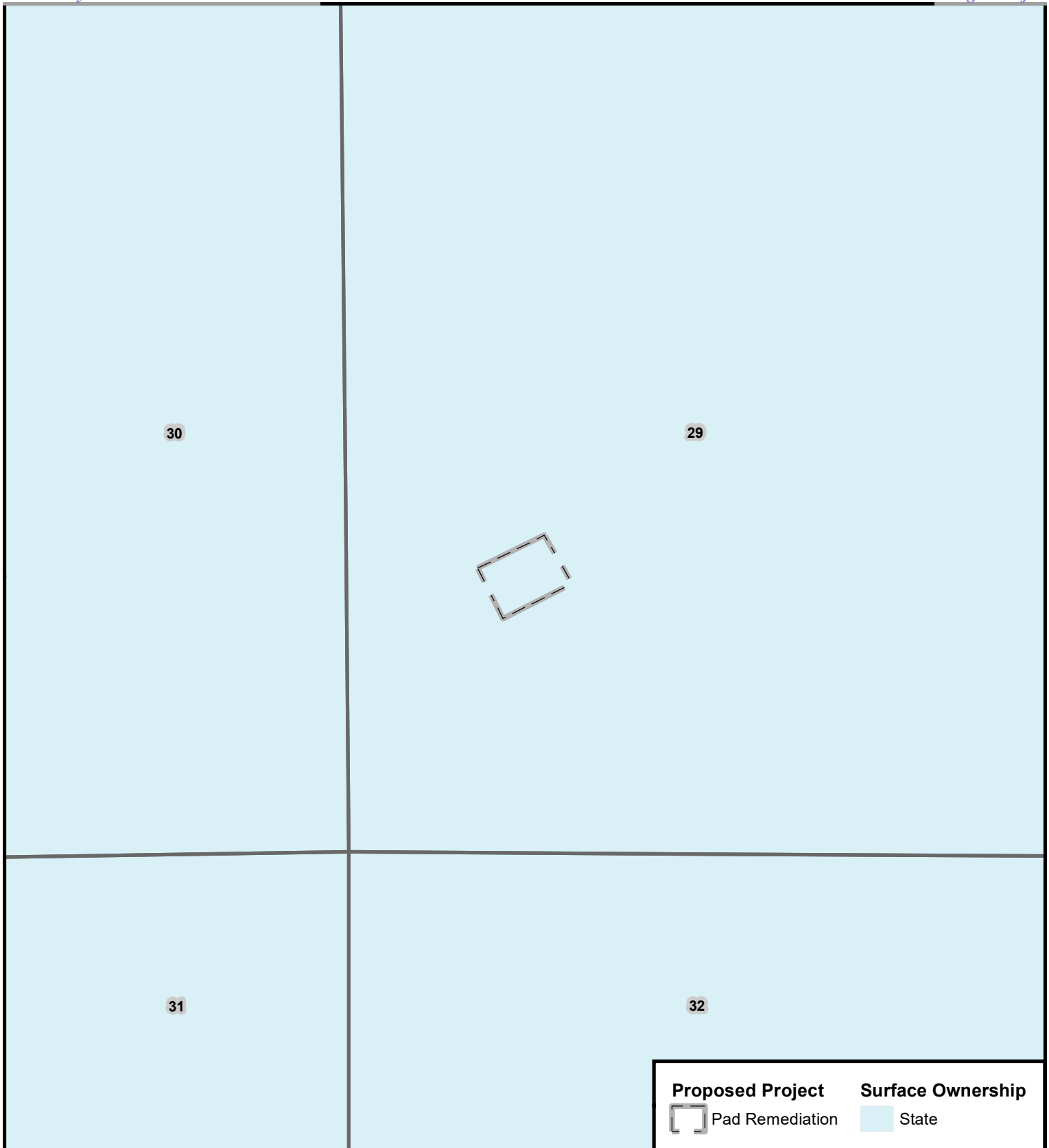
Opuntia Draw ATG State Com #1
Township 23S; Range 25E; Section 29

Proposed Project
 Pad Remediation

Zone
 Critical

Date: 13 August 2025





Map Source: U.S. Bureau of Land Management -
New Mexico State Office - GIS Data Download.

0 250 500 Feet

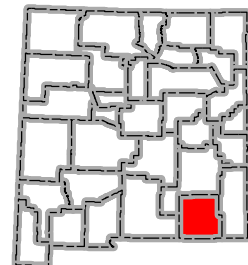


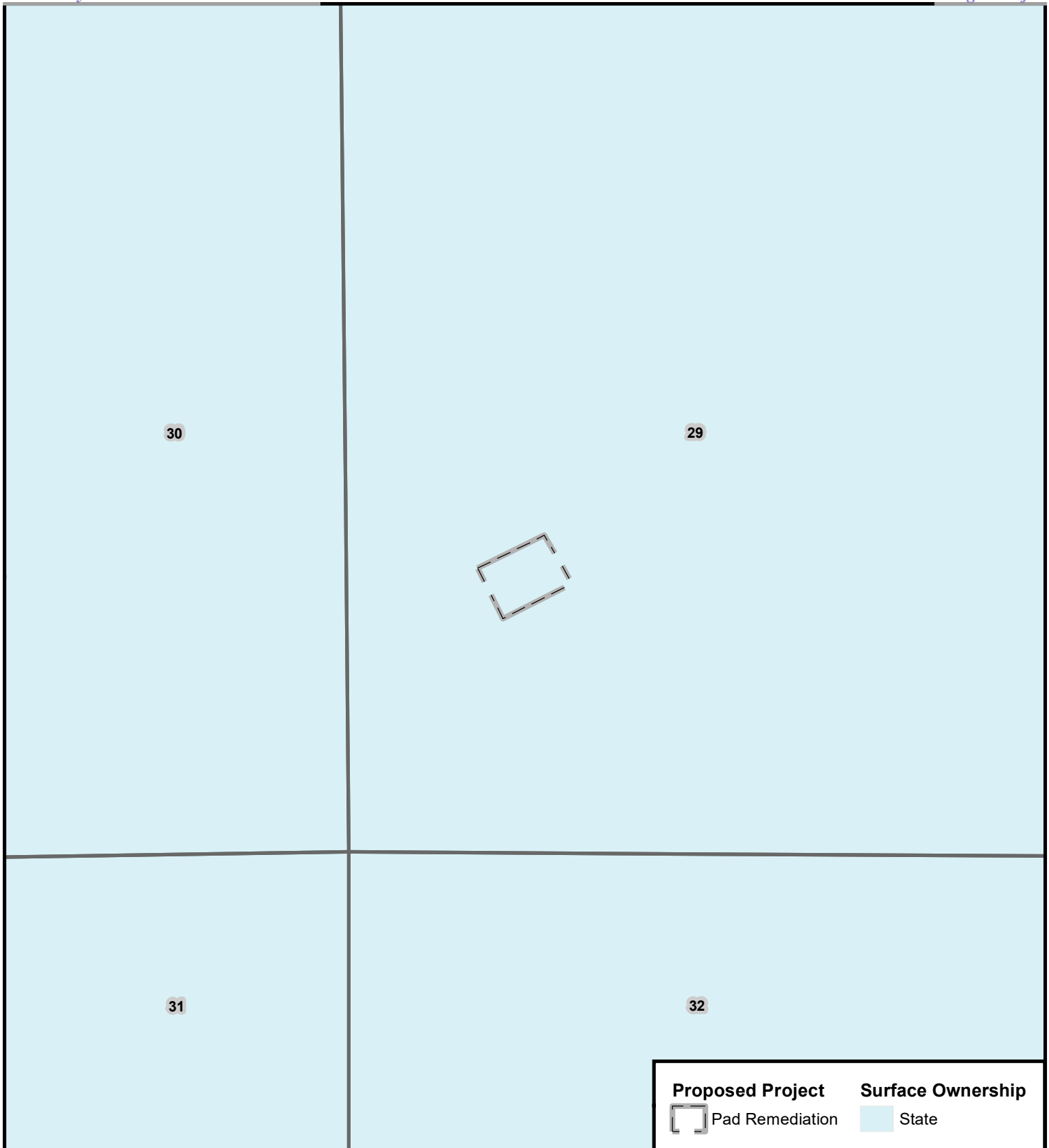
S.P.

Map 1
Surface Ownership
Eddy County, New Mexico

Opuntia Draw ATG State Com #1
Township 23S; Range 25E; Section 29

Date: 13 August 2025





Map Source: U.S. Bureau of Land Management -
New Mexico State Office - GIS Data Download.

0 250 500 Feet

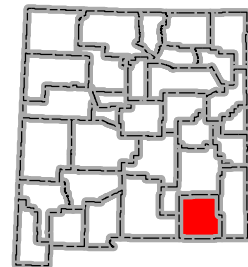


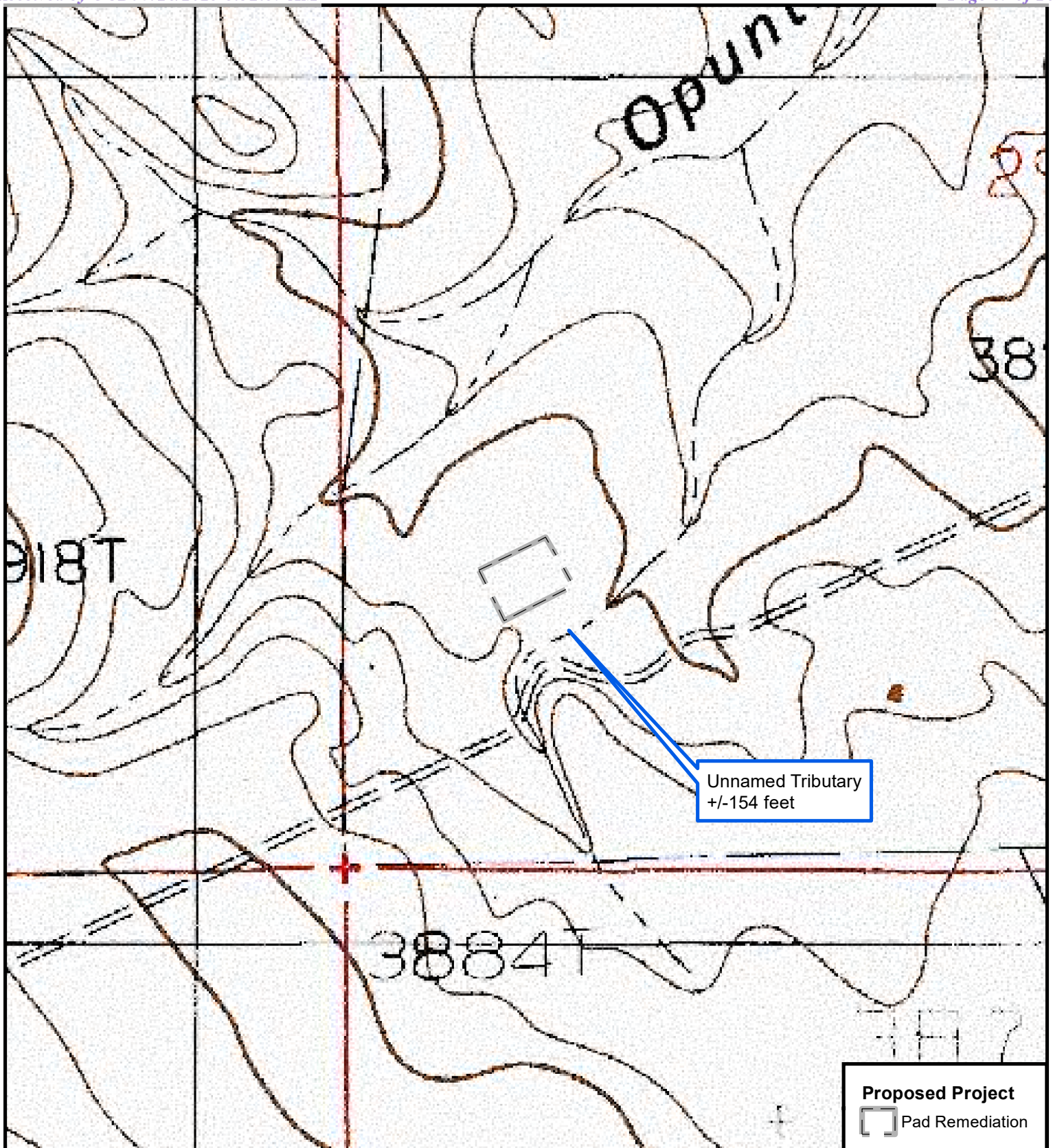
S.P.

Map 2
Surface Ownership
Eddy County, New Mexico

Opuntia Draw ATG State Com #1
Township 23S; Range 25E; Section 29

Date: 13 August 2025





Map Source: USGS, Carnero Peak, New Mexico
Quadrangle.

0 250 500 Feet

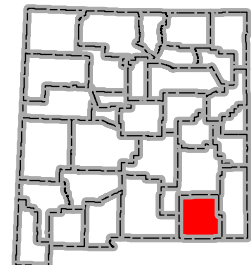


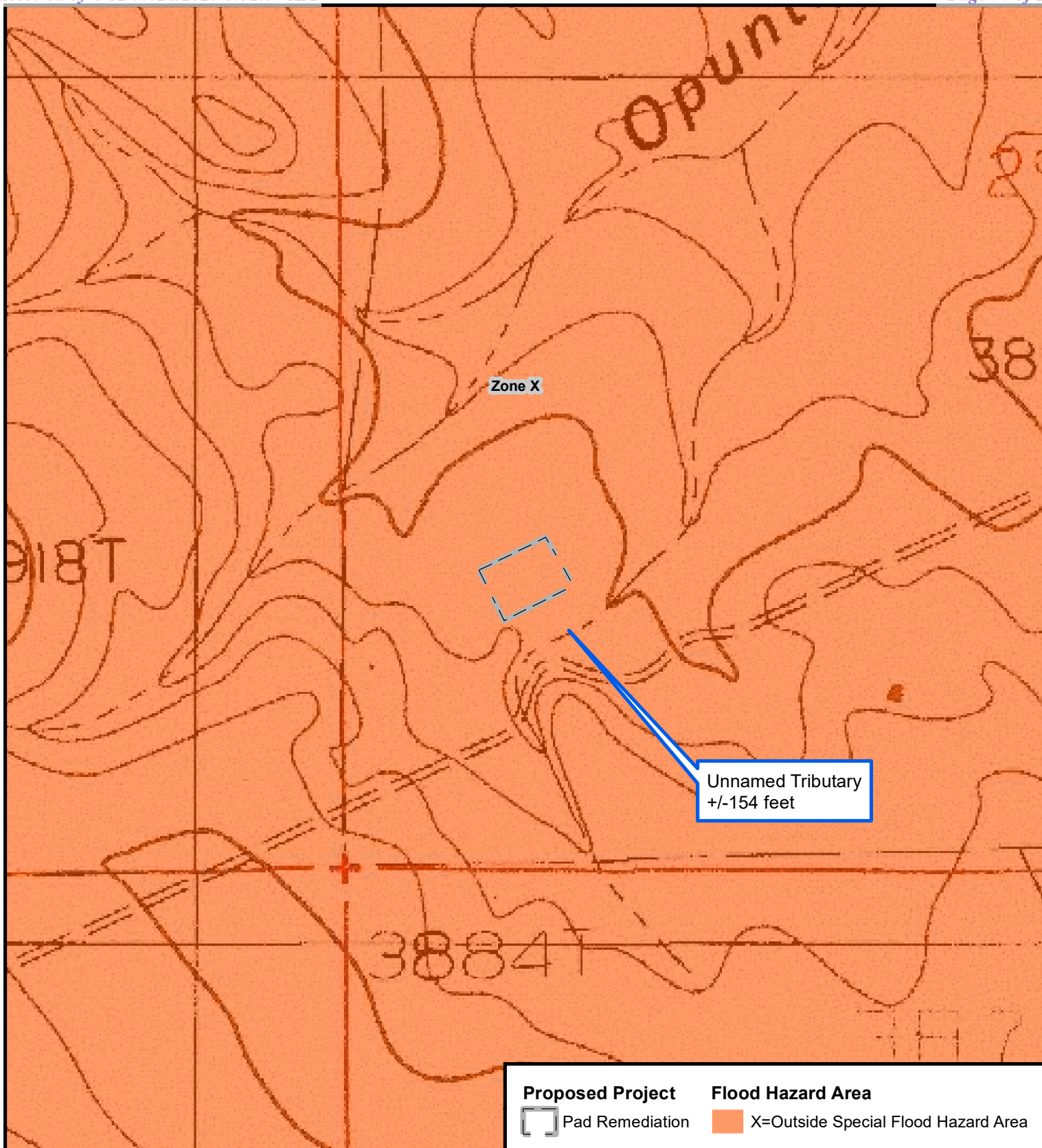
SP

Map 3
USGS Topographic
Eddy County, New Mexico

Opuntia Draw ATG State Com #1
Township 23S; Range 25E; Section 29

Date: 13 August 2025





Map Source: FEMA, DFIRM Database, Eddy County, Texas; Panels #48013C0500C; Effective Date: November 04, 2010. USGS, Carnero Peak, New Mexico Quadrangle.

0 250 500 Feet

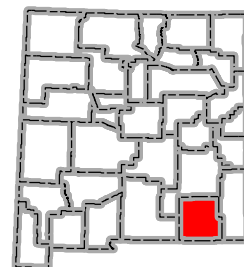


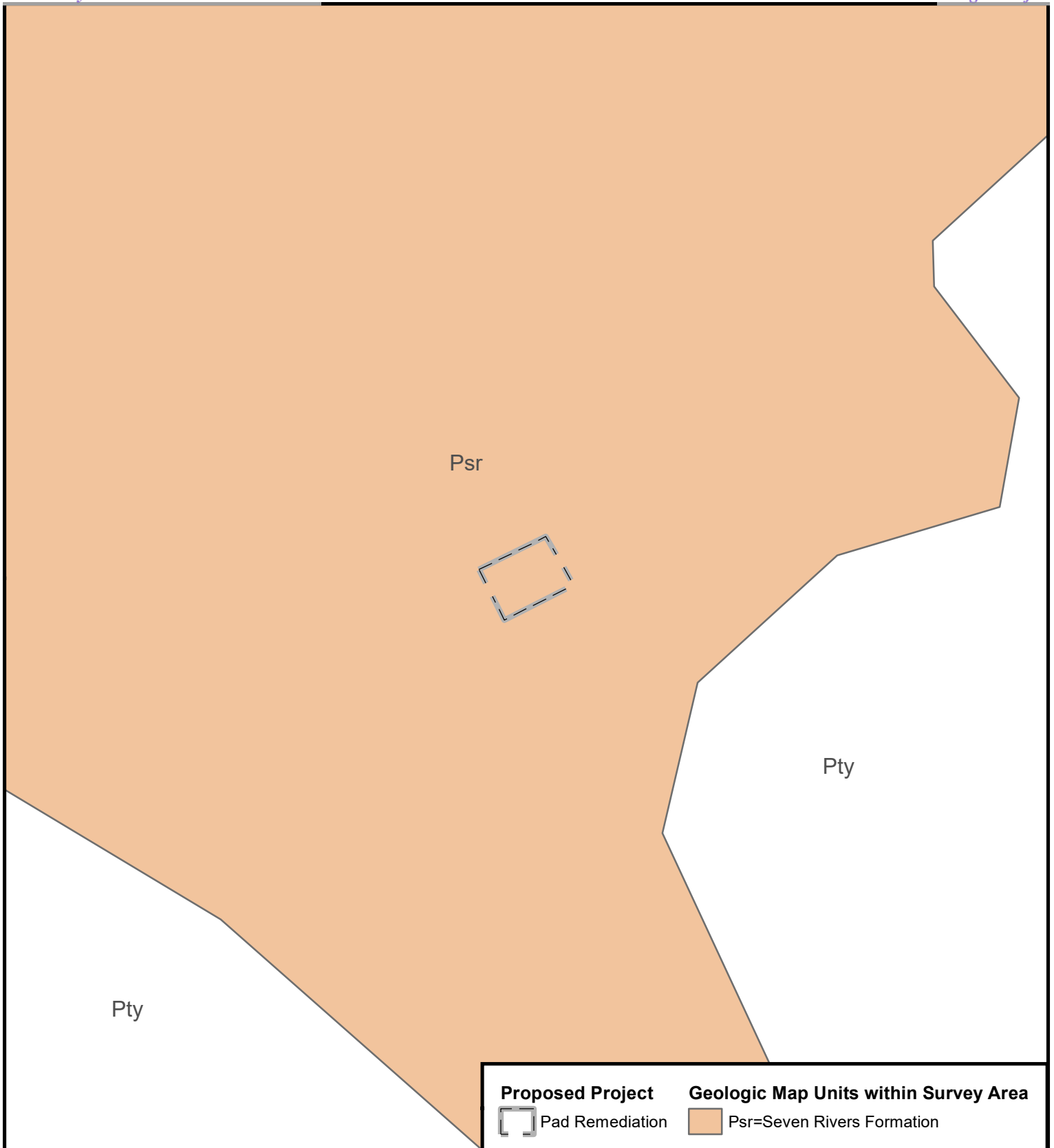
SP

Map 4 FEMA Flood Hazard Area Eddy County, New Mexico

Opuntia Draw ATG State Com #1
Township 23S; Range 25E; Section 29

Date: 13 August 2025





Proposed Project



Pad Remediation

Geologic Map Units within Survey Area



Psr=Seven Rivers Formation

Map Source: New Mexico Bureau of Geology and Mineral Resources, 2003, Geologic Map of New Mexico, 1:500,000.

0 250 500 Feet



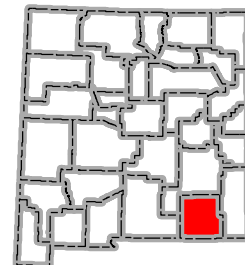
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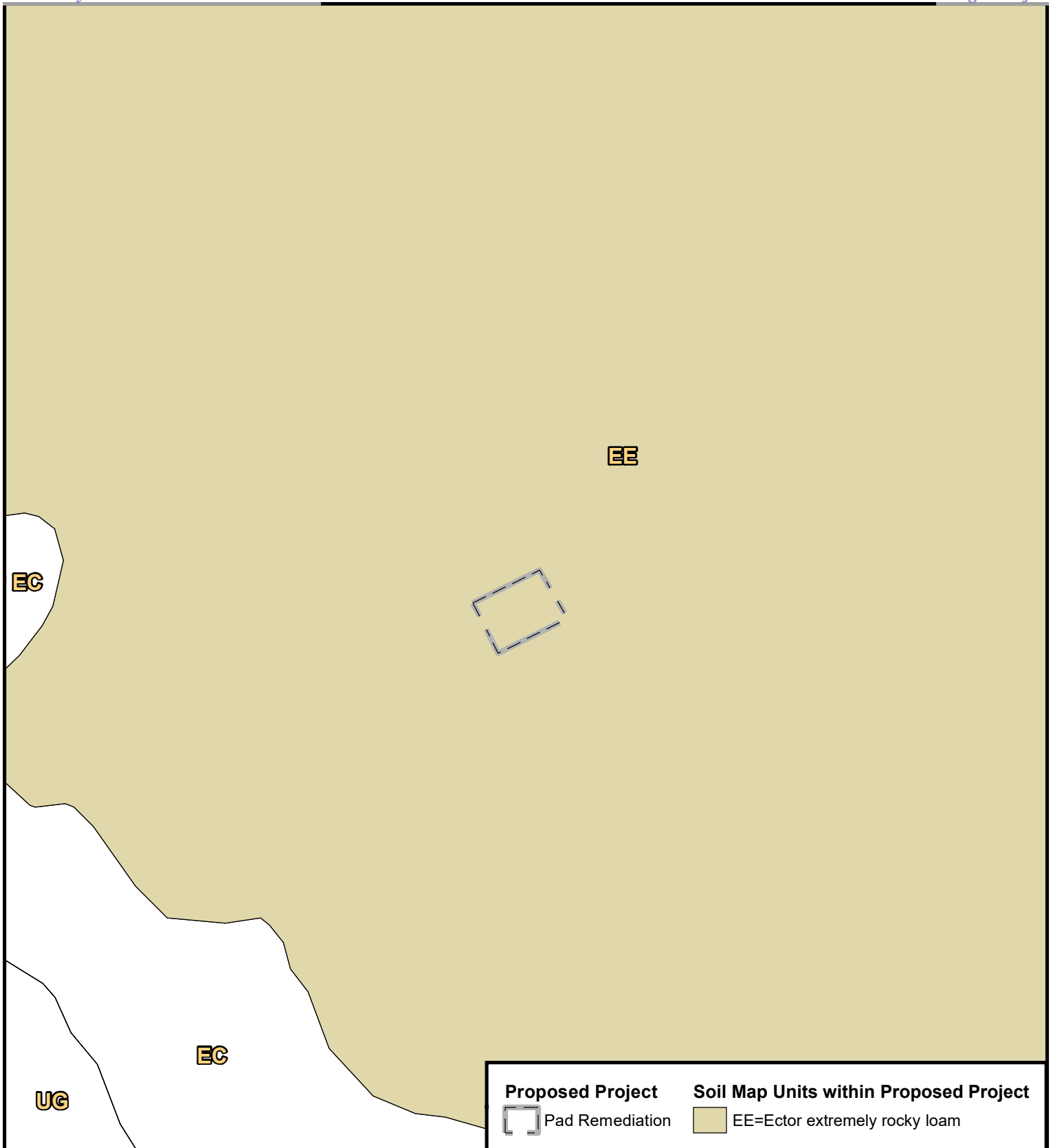
Map 5
Geologic Map Units
Eddy County, New Mexico

Opuntia Draw ATG State Com #1

Township 23S; Range 25E; Section 29

Date: 13 August 2025





Map Source: USDA/NRCS - National Geospatial Center of Excellence. Soil Survey Geographic (SSURGO) Eddy County, New Mexico.

0 250 500 Feet

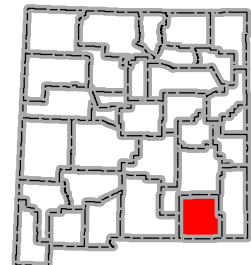


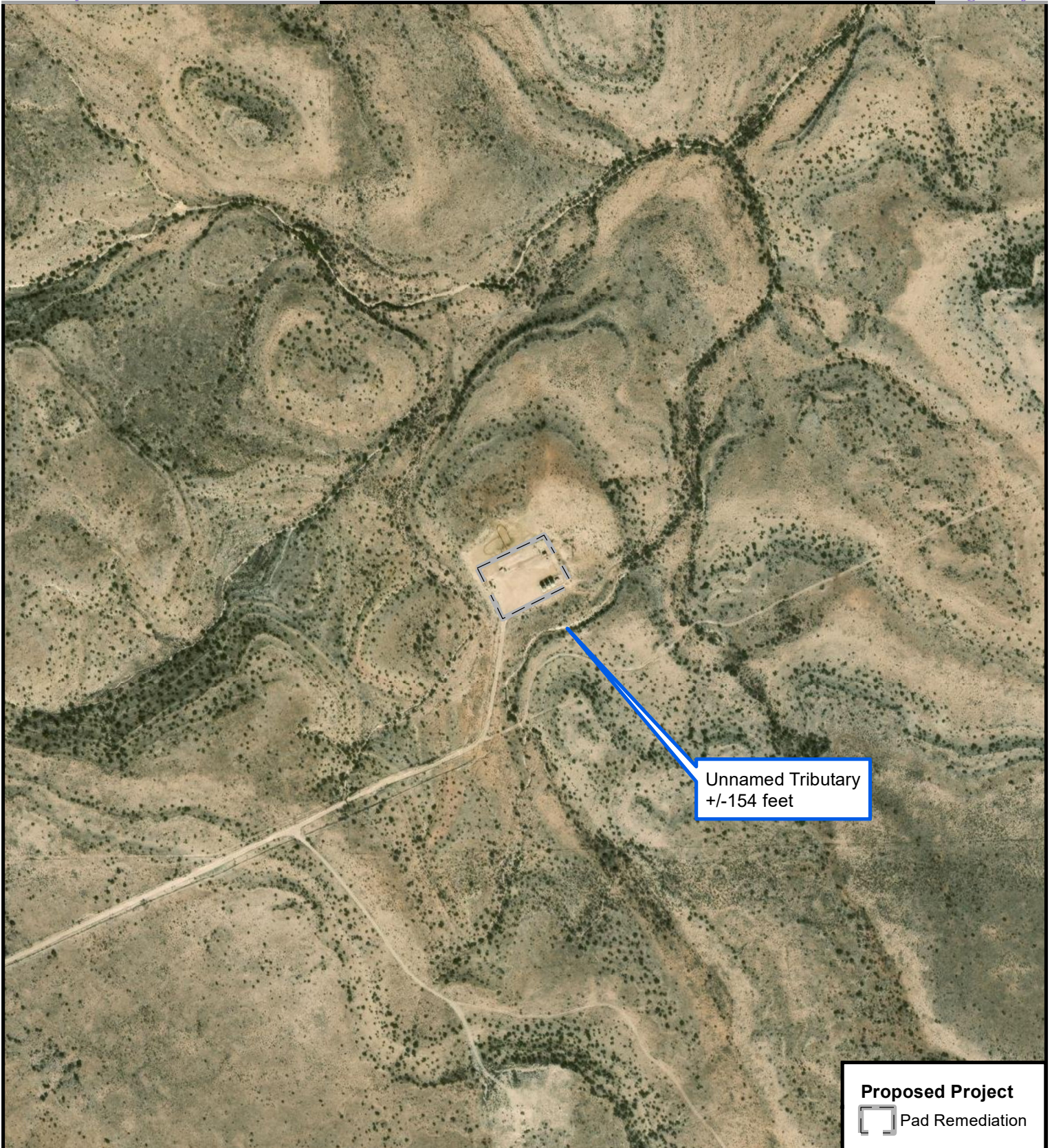
SP

Map 6
NRCS SSURGO
Eddy County, New Mexico

Opuntia Draw ATG State Com #1
Township 23S; Range 25E; Section 29

Date: 13 August 2025





Map Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGrid, IGN, and the GIS User Community.

0 250 500 Feet

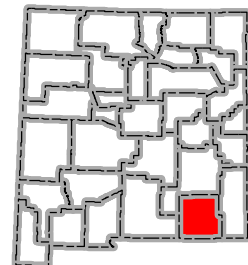


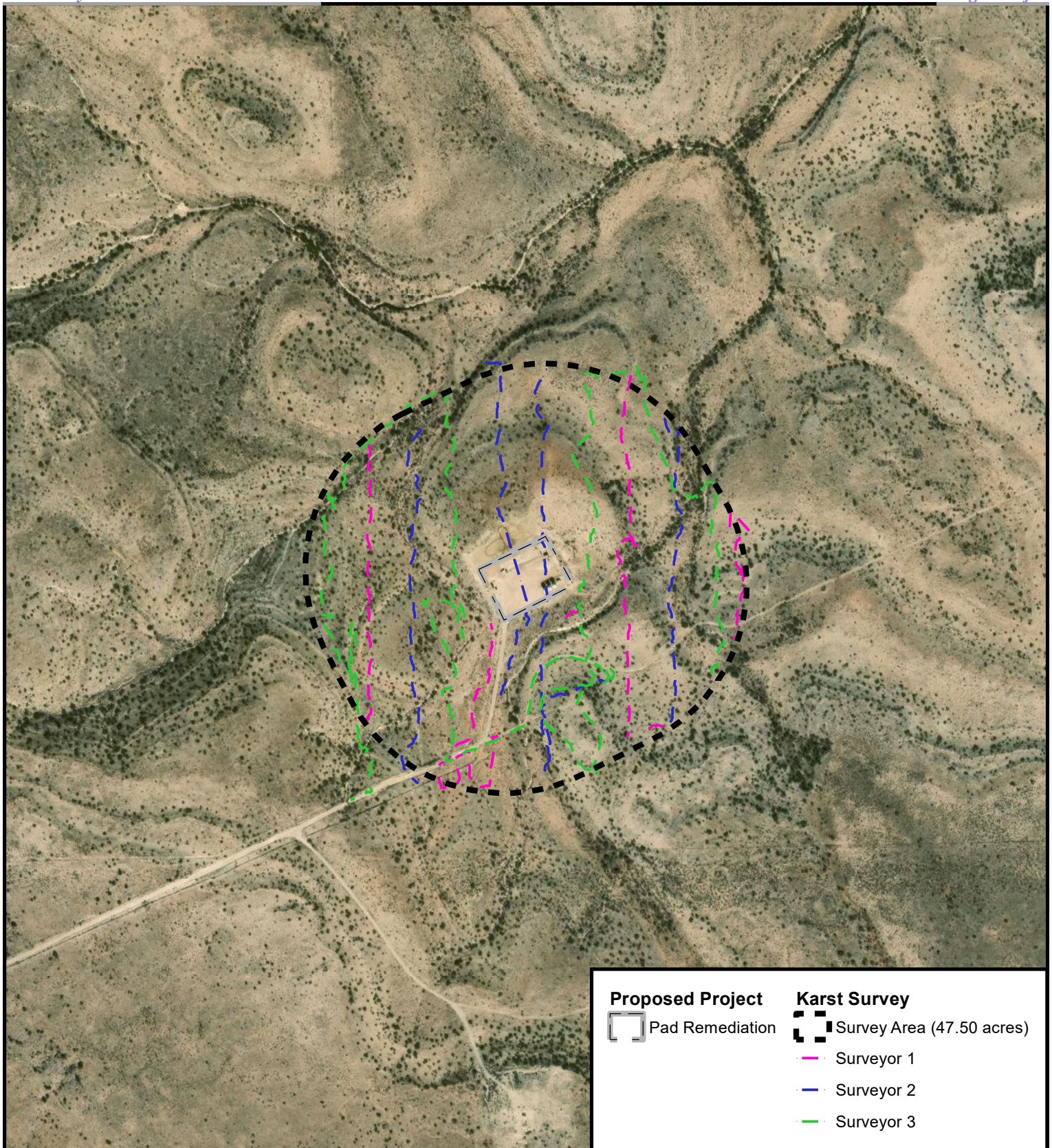
SP

Map 7
Aerial Orthoimagery
Eddy County, New Mexico

Opuntia Draw ATG State Com #1
Township 23S; Range 25E; Section 29

Date: 13 August 2025



**Proposed Project**
 Pad Remediation
Karst Survey
 Survey Area (47.50 acres)

 Surveyor 1

 Surveyor 2

 Surveyor 3

Map Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGrid, IGN, and the GIS User Community.

0 250 500 Feet

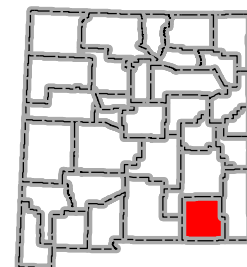


Map 8
Karst Survey
Eddy County, New Mexico

Opuntia Draw ATG State Com #1

Township 23S; Range 25E; Section 29

Date: 13 August 2025





APPENDIX B

PHOTOGRAPHS





Photo #: 1	Date: 16 July 2025	
Gently to Moderately Sloping Terrain within Proposed Project		

Photo #: 2	Date: 16 July 2025	
Typical Shrubland Vegetation Intermixed with Grasses and Forbs within Proposed Project		





Photo #: 3	Date: 16 July 2025	
Barren Areas Associated with Limestone within Proposed Project		



ATTACHMENT 5 – LABORATORY ANALYTICAL REPORT



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

May 12, 2025

WILL KIERDORF

RANGER ENVIRONMENTAL SERVICES, INC.

PO BOX 201179

AUSTIN, TX 78729

RE: OPUNTIA DRAW 1

Enclosed are the results of analyses for samples received by the laboratory on 05/06/25 11:34.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received:	05/06/2025	Sampling Date:	05/02/2025
Reported:	05/12/2025	Sampling Type:	Soil
Project Name:	OPUNTIA DRAW 1	Sampling Condition:	Cool & Intact
Project Number:	5375	Sample Received By:	Shalyn Rodriguez
Project Location:	EOG - EDDY COUNTY, NM		

Sample ID: PGB - 1/0' (H252690-01)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/06/2025	ND	1.91	95.7	2.00	7.39		
Toluene*	<0.050	0.050	05/06/2025	ND	2.09	105	2.00	6.45		
Ethylbenzene*	<0.050	0.050	05/06/2025	ND	2.21	111	2.00	7.45		
Total Xylenes*	<0.150	0.150	05/06/2025	ND	6.67	111	6.00	7.73		
Total BTEX	<0.300	0.300	05/06/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1730	16.0	05/07/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 90.0 % 44.4-145

Surrogate: 1-Chlorooctadecane 87.2 % 40.6-153

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: PGB - 1/2' (H252690-02)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/06/2025	ND	1.91	95.7	2.00	7.39		
Toluene*	<0.050	0.050	05/06/2025	ND	2.09	105	2.00	6.45		
Ethylbenzene*	<0.050	0.050	05/06/2025	ND	2.21	111	2.00	7.45		
Total Xylenes*	<0.150	0.150	05/06/2025	ND	6.67	111	6.00	7.73		
Total BTEX	<0.300	0.300	05/06/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 120 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3000	16.0	05/07/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	11.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 96.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 95.8 % 40.6-153

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: PGB - 1/4' (H252690-03)

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.91	95.7	2.00	7.39		
Toluene*	<0.050	0.050	05/07/2025	ND	2.09	105	2.00	6.45		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	2.21	111	2.00	7.45		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	6.67	111	6.00	7.73		
Total BTX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3000	16.0	05/07/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 94.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 93.5 % 40.6-153

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: PGB - 1/6' (H252690-04)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.98	99.2	2.00	5.35		
Toluene*	<0.050	0.050	05/07/2025	ND	1.96	97.9	2.00	5.78		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.94	97.2	2.00	6.94		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	6.01	100	6.00	7.82		
Total BTEx	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	05/07/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 97.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 97.9 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: PGB - 1/8' (H252690-05)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.98	99.2	2.00	5.35		
Toluene*	<0.050	0.050	05/07/2025	ND	1.96	97.9	2.00	5.78		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.94	97.2	2.00	6.94		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	6.01	100	6.00	7.82		
Total BTEx	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	784	16.0	05/07/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 94.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 94.0 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 1/0' (H252690-06)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	19000	16.0	05/07/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 82.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 79.3 % 40.6-153

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Analytical Results For:

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 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 1/2' (H252690-07)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11800	16.0	05/07/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	19.1	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 97.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 97.9 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 1/4' (H252690-08)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEx	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12600	16.0	05/07/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	33.9	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	10.9	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 91.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 95.8 % 40.6-153

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 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 1/6' (H252690-09)

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4800	16.0	05/07/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 98.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 98.4 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 1/7' (H252690-10)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1720	16.0	05/07/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 102 % 44.4-145

Surrogate: 1-Chlorooctadecane 103 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 4/0' (H252690-11)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	35600	16.0	05/07/2025	ND	448	112	400	0.00	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	16.6	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	13.3	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 96.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 98.7 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 4/2' (H252690-12)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEx	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1800	16.0	05/07/2025	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 89.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 89.0 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 4/4' (H252690-13)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1070	16.0	05/07/2025	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 102 % 44.4-145

Surrogate: 1-Chlorooctadecane 100 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 4/6' (H252690-14)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEx	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	05/07/2025	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 94.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 95.2 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 4/7' (H252690-15)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	464	16.0	05/07/2025	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 98.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 98.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 2/0' (H252690-16)

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	35600	16.0	05/07/2025	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 94.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 93.5 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 2/2' (H252690-17)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	544	16.0	05/07/2025	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 99.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 99.0 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 2/4' (H252690-18)

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	05/07/2025	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/07/2025	ND	206	103	200	3.59	
DRO >C10-C28*	<10.0	10.0	05/07/2025	ND	204	102	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	05/07/2025	ND					

Surrogate: 1-Chlorooctane 100 % 44.4-145

Surrogate: 1-Chlorooctadecane 103 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 2/6' (H252690-19)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	05/07/2025	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 85.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 76.8 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: PBG - 2/0' (H252690-20)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/07/2025	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 78.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 69.0 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: PBG - 2/2' (H252690-21)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2400	16.0	05/07/2025	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 80.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 70.8 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: PBG - 2/4' (H252690-22)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	05/07/2025	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 86.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 77.6 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: PBG - 2/6' (H252690-23)

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	05/07/2025	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 82.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 73.4 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 3/0' (H252690-24)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEx	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	05/07/2025	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 80.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 68.0 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 3/2' (H252690-25)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.82	91.1	2.00	3.76		
Toluene*	<0.050	0.050	05/07/2025	ND	1.90	94.9	2.00	4.21		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	1.88	94.0	2.00	5.00		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	5.96	99.3	6.00	4.98		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	848	16.0	05/07/2025	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 87.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 76.8 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 3/4' (H252690-26)

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.99	99.6	2.00	2.29		
Toluene*	<0.050	0.050	05/07/2025	ND	2.16	108	2.00	3.22		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	2.07	104	2.00	2.14		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	6.21	103	6.00	2.40		
Total BTX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	05/07/2025	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 86.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 76.7 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: P - 3/5' (H252690-27)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.99	99.6	2.00	2.29		
Toluene*	<0.050	0.050	05/07/2025	ND	2.16	108	2.00	3.22		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	2.07	104	2.00	2.14		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	6.21	103	6.00	2.40		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	05/07/2025	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/06/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/06/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/06/2025	ND					

Surrogate: 1-Chlorooctane 86.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 78.2 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: BA 1/0' (H252690-28)

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.99	99.6	2.00	2.29		
Toluene*	<0.050	0.050	05/07/2025	ND	2.16	108	2.00	3.22		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	2.07	104	2.00	2.14		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	6.21	103	6.00	2.40		
Total BTX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	05/07/2025	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/07/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/07/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/07/2025	ND					

Surrogate: 1-Chlorooctane 77.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 68.3 % 40.6-153

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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: BA 1/2' (H252690-29)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.99	99.6	2.00	2.29		
Toluene*	<0.050	0.050	05/07/2025	ND	2.16	108	2.00	3.22		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	2.07	104	2.00	2.14		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	6.21	103	6.00	2.40		
Total BTEx	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	05/07/2025	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/07/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/07/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/07/2025	ND					

Surrogate: 1-Chlorooctane 76.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 67.8 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: BA 1/4' (H252690-30)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/07/2025	ND	1.99	99.6	2.00	2.29	
Toluene*	<0.050	0.050	05/07/2025	ND	2.16	108	2.00	3.22	
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	2.07	104	2.00	2.14	
Total Xylenes*	<0.150	0.150	05/07/2025	ND	6.21	103	6.00	2.40	
Total BTEX	<0.300	0.300	05/07/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	05/07/2025	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/07/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/07/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/07/2025	ND					

Surrogate: 1-Chlorooctane 55.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 47.8 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: BA 2/0' (H252690-31)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.99	99.6	2.00	2.29		
Toluene*	<0.050	0.050	05/07/2025	ND	2.16	108	2.00	3.22		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	2.07	104	2.00	2.14		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	6.21	103	6.00	2.40		
Total BTEx	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	672	16.0	05/07/2025	ND	416	104	400	3.92	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/07/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/07/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/07/2025	ND					

Surrogate: 1-Chlorooctane 121 % 44.4-145

Surrogate: 1-Chlorooctadecane 120 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: BA 2/2' (H252690-32)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.99	99.6	2.00	2.29		
Toluene*	<0.050	0.050	05/07/2025	ND	2.16	108	2.00	3.22		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	2.07	104	2.00	2.14		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	6.21	103	6.00	2.40		
Total BTEx	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	05/07/2025	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/07/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/07/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/07/2025	ND					

Surrogate: 1-Chlorooctane 85.3 % 44.4-145

Surrogate: 1-Chlorooctadecane 75.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: BA 2/4' (H252690-33)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.99	99.6	2.00	2.29		
Toluene*	<0.050	0.050	05/07/2025	ND	2.16	108	2.00	3.22		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	2.07	104	2.00	2.14		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	6.21	103	6.00	2.40		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	05/07/2025	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/07/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/07/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/07/2025	ND					

Surrogate: 1-Chlorooctane 84.0 % 44.4-145

Surrogate: 1-Chlorooctadecane 73.7 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

RANGER ENVIRONMENTAL SERVICES, INC.
 WILL KIERDORF
 PO BOX 201179
 AUSTIN TX, 78729
 Fax To: (512) 335-0527

Received: 05/06/2025
 Reported: 05/12/2025
 Project Name: OPUNTIA DRAW 1
 Project Number: 5375
 Project Location: EOG - EDDY COUNTY, NM

Sampling Date: 05/02/2025
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: BA 2/5' (H252690-34)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/07/2025	ND	1.99	99.6	2.00	2.29		
Toluene*	<0.050	0.050	05/07/2025	ND	2.16	108	2.00	3.22		
Ethylbenzene*	<0.050	0.050	05/07/2025	ND	2.07	104	2.00	2.14		
Total Xylenes*	<0.150	0.150	05/07/2025	ND	6.21	103	6.00	2.40		
Total BTEX	<0.300	0.300	05/07/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	05/07/2025	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/07/2025	ND	187	93.3	200	2.89	
DRO >C10-C28*	<10.0	10.0	05/07/2025	ND	185	92.5	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	05/07/2025	ND					

Surrogate: 1-Chlorooctane 79.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 71.0 % 40.6-153

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Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Lot 9

Company Name: Ranger Environmental Services, Inc.				BILL TO				ANALYSIS REQUEST															
Project Manager: Will Kierdorf				P.O. #:																			
Address: PO Box 201179				Company: EOG Resources Inc																			
City: Austin				State: TX Zip: 78720				Attn: Chase Settle															
Phone #: 512-289-3272				Fax #: 512-335-0527				Address: 5509 Champions Dr.															
Project #: 5375				Project Owner:				City: Midland															
Project Name: Opuntia Draw 1								State: TX Zip: 79706															
Project Location: Eddy County, NM								Phone #:															
Sampler Name: J.Martinez								Fax #:															
FOR LAB USE ONLY				MATRIX		PRESERV		SAMPLING															
														or BTEX 8260									
														500)									

Lab I.D.	Sample I.D.
H85AUG90	(G)RAB OR (C)OMP.
	# CONTAINERS
	GROUNDWATER
	WASTEWATER
	SOIL
	OIL
	SLUDGE
	OTHER :
	ACID/BASE:
	ICE / COOL
	OTHER :
PBG-1/0'	DATE
PBG-1/12'	TIME
PBG-1/4'	TPH: 8015 EXT
PBG-1/6'	BTEX 8021B/5030 C
PBG-1/8'	Chloride (300 or 45)
P-1/0'	
P-1/2'	
P-1/4'	
P-1/6'	
P-1/7'	

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Relinquished By:	Date:	Received By:
<i>[Signature]</i>	5-6-25	<i>[Signature]</i>
Relinquished By:	Time:	
	1134	
Date:		
Time:		
Received By:		

REMARKS:

Please hold the following samples pending initial results:

Phone Result: ☐ Yes ☐ No Add'l Phone #: ☐ Yes ☐ No Add'l Fax #: ☐ Yes ☐ No

Standard

Email results to: will@rangerenvy.com



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2044

Company Name: Ranger Environmental Services, Inc.		BILL TO		ANALYSIS REQUEST																																							
Project Manager: Will Kierdorf		P.O. #:																																									
Address: PO Box 201179		Company: EOG Resources Inc																																									
City: Austin		Attn: Chase Settle																																									
State: TX Zip: 78720		Address: 5509 Champions Dr.																																									
Phone #: 512-289-3272 Fax #: 512-335-0527		City: Midland																																									
Project #: 5375 Project Owner:		State: TX Zip: 79706																																									
Project Name: Opuntia Draw 1		Phone #:																																									
Project Location: Eddy County, NM		Fax #:																																									
Sampler Name: J. Martinez																																											
FOR LAB USE ONLY																																											
Lab I.D. Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME		TPH: 8015 EXT		BTEX 8021B/5030 or BTEX 8260		Chloride (300 or 4500)											
11		P-4/0'		G 1		X														X		X		X		1114		X		X		X											
12		P-4/2'		G 1		X														X		X		X		1118		X		X		X											
13		P-4/4'		G 1		X														X		X		X		1124		X		X		X											
14		P-4/6'		G 1		X														X		X		X		1130		X		X		X											
15		P-4/7'		G 1		X														X		X		X		1132		X		X		X											
16		P-2/0'		G 1		X														X		X		X		1146		X		X		X											
17		P-2/2'		G 1		X														X		X		X		1150		X		X		X											
18		P-2/4'		G 1		X														X		X		X		1202		X		X		X											
19		P-2/6'		G 1		X														X		X		X		1208		X		X		X											
20		PBG-2/0'		G 1		X														X		X		X		1300		X		X		X											
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Relinquished By:		Date: 5-6-25		Received By:		Time: 11:34		Date: 5/2/2025		Time: 1300		REMARKS: Please hold the following samples pending initial results:		Phone Result: ☐ Yes ☐ No Add'l Phone #:		Fax Result: ☐ Yes ☐ No Add'l Fax #:		Email results to: will@rangerenv.com																									
Delivered By: (Circle One) 3.4/ CTO.3.		Sample Condition Cool Intact ☒ Yes ☐ No		CHECKED BY: (Initials)																																							
Sampler - UPS - Bus - Other: 3.4: #140		☐ Yes ☐ No																																									

FORM-006 R 2.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

 $30 + 4$

Email results to: will@rangerenv.com



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS

Action 509583

QUESTIONS

Operator: EOG RESOURCES INC 5509 Champions Drive Midland, TX 79706	OGRID: 7377
	Action Number: 509583
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2526926965
Incident Name	NAPP2526926965 OPUNTIA DRAW ATG STATE COM #001 @ 30-015-30757
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received
Incident Well	[30-015-30757] OPUNTIA DRAW ATG STATE COM #001

Location of Release Source*Please answer all the questions in this group.*

Site Name	Opuntia Draw ATG State Com #001
Date Release Discovered	08/30/2019
Surface Owner	State

Incident Details*Please answer all the questions in this group.*

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

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

Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure Other (Specify) Produced Water Released: 0 BBL (Unknown Released Amount) Recovered: 5 BBL Lost: -5 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Spill occurred in 2019, prior to the calculated release volume requirement. Release volume was reported to be 6 bbls of Produced Water, however there is no available calculation/gauging information to confirm this information.

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Oil Conservation Division
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Santa Fe, NM 87505

QUESTIONS, Page 2

Action 509583

QUESTIONS (continued)

Operator: EOG RESOURCES INC 5509 Champions Drive Midland, TX 79706	OGRID: 7377
	Action Number: 509583
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: Chase Settle Title: Safety & Environmental Rep II Email: chase_settle@eogresources.com Date: 09/26/2025
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QUESTIONS, Page 3

Action 509583

QUESTIONS (continued)

Operator: EOG RESOURCES INC 5509 Champions Drive Midland, TX 79706	OGRID: 7377
	Action Number: 509583
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization	
<i>Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	U.S. Geological Survey
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1000 (ft.) and ½ (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 100 and 200 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Critical
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	35600
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	44.8
GRO+DRO (EPA SW-846 Method 8015M)	33.9
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	10/13/2025
On what date will (or did) the final sampling or liner inspection occur	01/12/2026
On what date will (or was) the remediation complete(d)	01/12/2026
What is the estimated surface area (in square feet) that will be reclaimed	44995
What is the estimated volume (in cubic yards) that will be reclaimed	13424
What is the estimated surface area (in square feet) that will be remediated	44995
What is the estimated volume (in cubic yards) that will be remediated	13424
<i>These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 4

Action 509583

QUESTIONS (continued)

Operator: EOG RESOURCES INC 5509 Champions Drive Midland, TX 79706	OGRID: 7377
	Action Number: 509583
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	fEEM0112342028 LEA LAND LANDFILL
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Chase Settle Title: Safety & Environmental Rep II Email: chase_settle@eogresources.com Date: 09/26/2025
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5

Action 509583

QUESTIONS (continued)

Operator: EOG RESOURCES INC 5509 Champions Drive Midland, TX 79706	OGRID: 7377
	Action Number: 509583
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

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QUESTIONS, Page 6

Action 509583

QUESTIONS (continued)

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	Action Number: 509583
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	{Unavailable.}

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	No

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CONDITIONS

Action 509583

CONDITIONS

Operator: EOG RESOURCES INC 5509 Champions Drive Midland, TX 79706	OGRID: 7377
	Action Number: 509583
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Site Characterization and Remediation Plans are approved.	9/30/2025