



September 8, 2025

New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Sante Fe, NM 87505

Via Electronic Submittal

RE: C-144 Temporary Pit Application
DL 4 33 FEDERAL COM and 4 9 FEDERAL COM (Pad 601)
Section 4 of T22S, R33E, Lea County

Dear NMOCD Representative,

Enclosed is a complete C-144 permit application for a Temporary Pit with non-low chloride drilling fluid located at an existing Chevron U.S.A. Inc. BLM lease #USA NMNM 096244 located in Section 4, T22S R33E. This package includes the following documentation:

- C-144 for Non-Low Chloride Temporary Pit
- Siting Criteria Demonstration
- Siting Criteria Figures 1-11
- Variance Requests
- Appendix A – USGS Groundwater Data
- Appendix B – NMOSE Water Data
- Appendix C – Hydrogeologic Data
- Appendix D – Design Plan
- Appendix E – Operating and Maintenance Plan
- Appendix F – Closure Plan
- Appendix G – Evaluation of Unstable Conditions
- Attachments 1 – Environmental Field Survey, Karst Evaluation

Please do not hesitate to contact us if you require any additional information or clarification supporting the approval of this application.

Respectfully,

Adriane Kenney
Environmental Specialist
AKenney@chevron.com

Austin White
Drilling Engineer
Austin.White@chevron.com

Charles Holder
Arcadis U.S. Inc Project Manager
Charles.Holder@arcadis.com

Chevron U.S.A. Inc.
1400 Smith Street
Houston, TX 77002
Tel 832 854 5620

**C-144 Permit Package
DL 4 33 FEDERAL COM and DL 4 9 FEDERAL COM
(Pad 601) Temporary Pit
Section 4 of T22S, R33E, Lea County**

DL 4 33 FEDERAL COM (Pad 601) #601H
DL 4 33 FEDERAL COM (Pad 601) #602H
DL 4 33 FEDERAL COM (Pad 601) #603H
DL 4 9 FEDERAL COM (Pad 601) #613H
DL 4 9 FEDERAL COM (Pad 601) #614H
DL 4 9 FEDERAL COM (Pad 601) #615H

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

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

Form C-144
Revised April 3, 2017

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOC District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOC District Office.

Pit, Below-Grade Tank, or
Proposed Alternative Method Permit or Closure Plan Application

Type of action: ☐ Below grade tank registration
☒ Permit of a pit or proposed alternative method
☐ Closure of a pit, below-grade tank, or proposed alternative method
☐ Modification to an existing permit/or registration
☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: Chevron U.S.A. Inc. OGRID #: 4323
Address: 6301 Deauville Blvd., Midland, TX 79706
Facility or well name: DL 4 33 FEDERAL COM (601H, 602H, 603H) and DL 4 9 FEDERAL COM (613H, 614H, 615H) [PAD 601]
API Number: Pending OCD Permit Number: _____
U/L or Qtr/Qtr F Section 4 Township 22S Range 33E County: Lea
Center of Proposed Design: Latitude 32.421625° Longitude -103.577250° NAD83
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☒ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☒ no
☒ Lined ☐ Unlined Liner type: Thickness 40 mil ☐ LLDPE ☒ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☒ Welded ☐ Factory ☐ Other _____ Volume: 1 x 18,095 bbl, 1 x 10,909 bbl Dimensions: L 327 ft x W 216 ft x D 8 ft

3.
☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: _____ bbl Type of fluid: _____
Tank Construction material: _____
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness _____ mil ☐ HDPE ☐ PVC ☐ Other _____

4.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.
Fencing: Subsection D of 19.15.17.11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)
☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)
☒ Four foot height, four strands of barbed wire evenly spaced between one and four feet
☐ Alternate. Please specify _____

6.

Netting: Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)

- ☐ Screen ☐ Netting ☐ Other _____
- ☐ Monthly inspections (If netting or screening is not physically feasible)

7.

Signs: Subsection C of 19.15.17.11 NMAC

- ☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- ☒ Signed in compliance with 19.15.16.8 NMAC

8.

Variations and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

- ☒ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval. **See Variance Requests**
- ☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC***Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Siting criteria does not apply to drying pads or above-grade tanks.*****General siting****Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.**

- ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells

☐ Yes ☐ No
☒ NA

Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.

- ☒ NM Office of the State Engineer - iWATERS database search; ☒ USGS; ☐ Data obtained from nearby wells

☐ Yes ☒ No
☐ NA

See Appendices A, B, Figure 7Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)**

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

☐ Yes ☒ No

See Figures 2 & 7Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)**

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes ☒ No

See Figure 4Within an unstable area. **(Does not apply to below grade tanks)**

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes ☒ No

See Figures 6, 8, 9, Appendix GWithin a 100-year floodplain. **(Does not apply to below grade tanks)**

- FEMA map

☐ Yes ☒ No

See Figure 3**Below Grade Tanks**

Within 100 feet of a continuously flowing watercourse, significant watercourse, lakebed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.)

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300 feet of any other fresh water well or spring, in existence at the time of the initial application.
NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 100 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Temporary Pit Non-low chloride drilling fluid

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

See Figure 6

☐ Yes ☒ No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

See Figure 2

☐ Yes ☒ No

Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

See Appendices A, B, and Figures 1 & 2

☐ Yes ☒ No

Within 300 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

See Figures 2, 5, & 6

☐ Yes ☒ No

Permanent Pit or Multi-Well Fluid Management Pit

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

10.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☒ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- See Appendix C**
- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC **Attached**
- ☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC **See Appendix D**
- ☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC **See Appendix E**
- ☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC **See Appendix F**

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

11.

Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ A List of wells with approved application for permit to drill associated with the pit.
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- ☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12. **Permanent Pits Permit Application Checklist:** Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Climatological Factors Assessment
☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Quality Control/Quality Assurance Construction and Installation Plan
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Nuisance or Hazardous Odors, including H₂S, Prevention Plan
☐ Emergency Response Plan
☐ Oil Field Waste Stream Characterization
☐ Monitoring and Inspection Plan
☐ Erosion Control Plan
☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13. **Proposed Closure:** 19.15.17.13 NMAC **See Appendix F**

Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☒ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Multi-well Fluid Management Pit
☐ Alternative

Proposed Closure Method: ☐ Waste Excavation and Removal
☐ Waste Removal (Closed-loop systems only)
☒ On-site Closure Method (Only for temporary pits and closed-loop systems)
☒ In-place Burial ☐ On-site Trench Burial
☐ Alternative Closure Method

14. **Waste Excavation and Removal Closure Plan Checklist:** (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15. **Siting Criteria (regarding on-site closure methods only):** 19.15.17.10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells See Appendices A & B, and Figure 7	☐ Yes ☒ No ☐ NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells See Appendices A & B, and Figure 7	☐ Yes ☒ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells See Appendices A & B, and Figure 7	☒ Yes ☐ No ☐ NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site See Figure 6	☐ Yes ☒ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image See Figure 2	☐ Yes ☒ No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application.	☐ Yes ☒ No

- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site See Appendices A & B, and Figure 7	☐ Yes ☒ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within 300 feet of a wetland.	☐ Yes ☒ No
US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site See Figures 2, 5 & 6	☐ Yes ☒ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.	☐ Yes ☒ No
- Written confirmation or verification from the municipality; Written approval obtained from the municipality See Figure 2	☐ Yes ☒ No
Within the area overlying a subsurface mine.	☐ Yes ☒ No
- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division See Figure 4	☐ Yes ☒ No
Within an unstable area.	☐ Yes ☒ No
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map See Figures 6, 8, & 9, Appendix G	☐ Yes ☒ No
Within a 100-year floodplain.	☐ Yes ☒ No
- FEMA map See Figure 3	☐ Yes ☒ No

16.

On-Site Closure Plan Checklist: (19.15.17.13 NMAC) *Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.*

- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC **Attached**
☒ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
☒ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
See Appendix D
☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC **See Appendix F**
☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC **See Appendix F**
☒ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC **See Appendix F**
☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
See Appendix F
☒ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC **See Appendix F**
☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC **See Appendix F**
☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC **See Appendix F**

17.

Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Adriane Kenney Title: Environmental Specialist

Signature:  Date: September 8, 2025

e-mail address: akenney@chevron.com Telephone: 832-854-5620

18.

OCD Approval: ☐ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: _____ **Approval Date:** _____

Title: _____ **OCD Permit Number:** _____

19.

Closure Report (required within 60 days of closure completion): 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ Closure Completion Date: _____

20.

Closure Method:

- ☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

21.

Closure Report Attachment Checklist: *Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.*

- ☐ Proof of Closure Notice (surface owner and division)
- ☐ Proof of Deed Notice (required for on-site closure for private land only)
- ☐ Plot Plan (for on-site closures and temporary pits)
- ☐ Confirmation Sampling Analytical Results (if applicable)
- ☐ Waste Material Sampling Analytical Results (required for on-site closure)
- ☐ Disposal Facility Name and Permit Number
- ☐ Soil Backfilling and Cover Installation
- ☐ Re-vegetation Application Rates and Seeding Technique
- ☐ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude _____ Longitude _____ NAD: ☐ 1927 ☐ 1983

22.

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

Siting Criteria Demonstration (19.15.17.10)

Temporary Pit containing non-low chloride fluids

DL 4 33 FEDERAL COM and 4 9 FEDERAL COM (Pad 601)

Section 4 of T22S, R33E

Depth to Groundwater, 19.15.17.10.3(a)

Figure 7, Appendices A & B, and the discussion presented below demonstrate that the depth to groundwater within the broader area of the proposed site ranges from 56 (in an alluvium well) to 820 feet (in a Triassic Dockum well) near the proposed temporary pit.

Figure 7 depicts the location of the pit relative to the locations of water wells within 5 miles of the pit for which water level data are available. The average depths to water for wells shown on **Figure 7** are contained in **Appendix B**. Relatively thin strata of the Pecos River Basin alluvial aquifer is mapped beneath the site by the USGS (**Figure 7**) but the alluvial aquifer in this area has very low productivity in terms of well yields. Water well data, including gauging dates for the USGS data, are detailed in **Appendix A** (USGS) and **Appendix B** (NMOSE). Six active USGS-gauged water wells are located within 5 miles of the proposed temporary pit location. Water levels in these wells range from 56 feet to 391 feet based on historical data for the active USGS wells found within the 5 mile search radius.

- The nearest USGS-gauged water well to the proposed pit location is approximately 2.4 miles to the north and is completed in the Chinle Formation (of the Triassic Dockum Group). The reported depth to water in this well is 179 ft bgs (3,501 feet above NAVD88) in 1968.
- Farther to the north at a distance for 2.5 ft from the pit location is another USGS-gauged well which is also completed in the Chinle Formation. It has a reported depth to water of 179 feet bgs (3,509 feet above NGVD29),
- To the northeast of the proposed pit location, a USGS-gauged well is located approximately 2.85 miles away. It had a reported depth to water of 55.7 ft bgs (3,604.6 feet NAVD88) and is completed in the alluvium / Ogallala Aquifer.
- Another USGS-gauged well is located approximately 3.8 miles to the southeast of the pit location. It has a reported depth to water of 391 ft bgs (3,128 feet above NAVD88) in 1996 and is completed in the Chinle Formation.
- A USGS-gauged well is located 4.2 miles to the southeast of the proposed pit location. It is completed in the Chinle Formation, and it had a depth to water of 388 ft bgs (3,118.9 feet above NAVD88) in 1972.
- The 6th USGS-gauged active well within the 5-mile radius of the proposed pit location is located approximately 4.7 miles southwest of the pit location. It is completed in the Triassic Dockum Formation (in the Santa Rose Aquifer) and had a reported water level of 370 feet bgs (3,369.7 feet above NAVD88) in 1972.

Several active NMOSE-gauged wells are located to the north, northeast and southwest within 5 miles of the proposed pit located. These wells appear to be completed in the Triassic Dockum based on their depths. Reported depths to water range from 340 ft bgs to 820 ft bgs in the NMOSE database.

The proposed temporary pit area and vicinity are underlain by recent eolian deposits consisting of drift sand a few feet in thickness and local occurrences of sand dunes (**Figure 9**). The eolian deposits are underlain by Pleistocene to recent alluvial deposits consisting of unconsolidated to partially consolidated sand, silt, gravel, clay and caliche and Tertiary Ogallala deposits of similar composition. Alluvium / Ogallala thickness in this area appears to be approximately 200 feet or less. Triassic Dockum strata underlie the alluvium / Ogallala deposits, and its thickness appears to be over 1,000 feet. The Dockum Group has been divided into three formations: lower red shale, siltstone, and very fine-grained sandstone called the Tecovas Formation (or Pierce Canyon redbeds); middle reddish-brown and gray sandstone called the Santa Rosa sandstone; and upper brick-red to maroon and purple shale with thin beds of fine red or gray sandstone and siltstone called the Chinle Formation.

Geotechnical report and boring log were obtained at the proposed pit location (**Attachment 2**). In August 2020, one exploratory soil boring was drilled to a depth of 70 feet in the vicinity of the proposed pit. Water was not encountered in the boring and it was subsequently plugged.

Proximity to Surface Water, 19.15.17.10.3(b)

Figure 6 shows USGS elevation contour lines and the USGS NHD. The map demonstrates that the location is not within 1,000 feet of a continuously flowing waterway course, any other significant watercourse or lakebed, sinkhole, or playa lake.

- The nearest surface water feature (Pecos River) is approximately 20 miles west of the pit location.
- There are NHD features (ephemeral) approximately 0. miles northeast and southwest of the pit location.

Proximity to Occupied Residences, Schools, Hospitals, Institutions or Churches, 19.15.17.10.3(c)

The ESRI aerial imagery in **Figure 2** demonstrates that the location is not within 300 feet of occupied residences, schools, hospitals, institutions or churches.

- There are no structures within 1,000 feet of the pit location.

Proximity to springs and/or Domestic Freshwater Wells 19.15.17.10.3(d)

No springs or domestic freshwater wells have been mapped within 300 ft of the pit locations.

Proximity to Incorporated Municipal Boundaries and Fresh Water Well Fields 19.15.17.10.3(e)

Figure 1 demonstrates that the location is not within incorporated municipal boundaries or defined municipal fresh water well fields covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

- The closest municipality is the city of Eunice, approximately 26 miles to the east.

Proximity to Wetlands, 19.15.17.10.3(f)

Utilizing USFWS wetland data, **Figure 5** demonstrates that the proposed location is not located within 300 feet of a wetland.

Proximity to Subsurface Mines, 19.15.17.10.3(g)

Analysis of aerial imagery in the vicinity of the proposed temporary pit show that the nearest mines are all surficial caliche pits. There are no subsurface mines in the area as indicated in **Figure 4**.

Proximity to Unstable Area, 19.15.17.10.3(h)

Figure 8 identifies the location of the proposed temporary pit with respect to Bureau of Land Management (BLM) mapped potential karst areas. The proposed Temporary Pit is mapped in a "Low Potential" karst area. The area lies near the northeast margin of the Delaware Basin. Bedrock cropping out beneath the proposed project area is comprised of the Triassic-aged Dockum Group. Underlying the Dockum Group are the Dewey Lake redbeds. Both of these formations are composed chiefly of clastic (insoluble), non-karst-forming rocks. Beneath these formations are Permian-aged rocks of the Rustler and Salado Formations. These rocks contain significant beds of halite (i.e., rock salt) and anhydrite, making them susceptible to karst formation. The top of the Rustler Formation in the proposed project area is over 800 feet below the land surface (Crowl et al. 2011¹). Therefore, local karst potential is likely to be low. An Evaluation of Unstable Conditions is presented in Appendix G.

In the unlikely event that a void occurs during construction or operation activities, all activities must stop immediately, and the BLM should then be contacted within 24 hours to devise the best management plan to protect the environment and human safety.

Proximity to Floodplains, 19.15.17.10.3(i)

The location is within an area that has been mapped as Zone D by the Federal Emergency Management Agency (FEMA) with respect to the Flood Insurance Rate 100-Year Floodplain (**Figure 3**).

¹ Crowl, W. J., D. E. Hulse, and G. Tucker, P.E., 2011. NI 43-101 Technical Report Prefeasibility Study for the Ochoa Project, Lea County, New Mexico. Prepared for IC Potash Corporation by Gustavsen and Associates, December 30, 2011, 301 p.

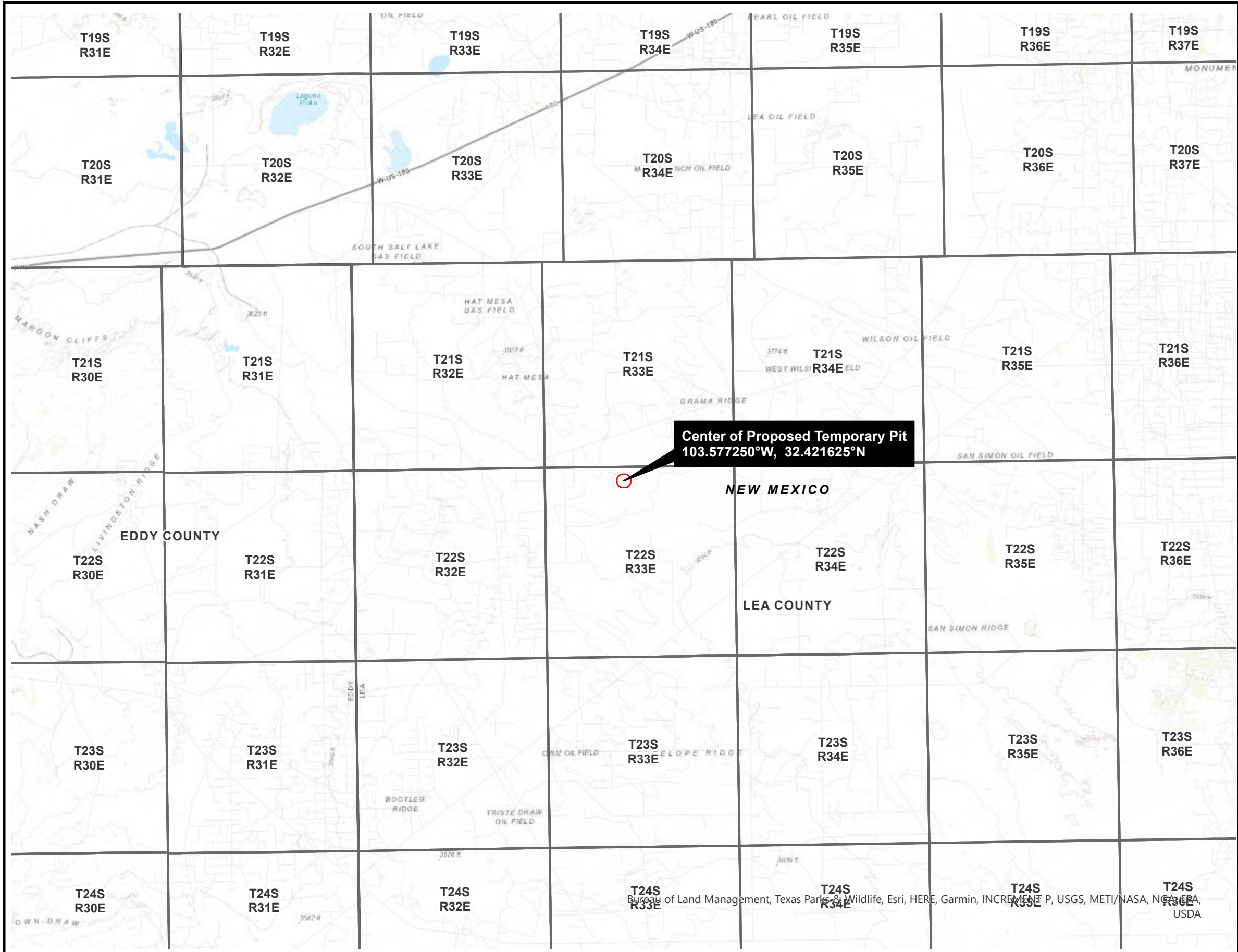
Site Specific Information, Figures 1-11

Temporary Pit containing non-low chloride fluids

DL 4 33 FEDERAL COM and 4 9 FEDERAL COM (Pad 601)

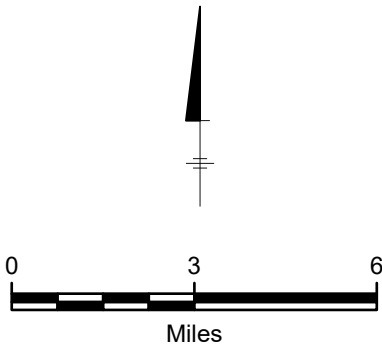
Section 4 of T22S, R33E

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PROJECT: PATH: T:\ENV\Chevron_MCBU\Projects\Dagger_Lake\C144\Pit C-144.aprx



LEGEND

- Proposed Temporary Pit
- 1,000 ft Buffer
- Townships



CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 601
PROPOSED TEMPORARY RESERVE PIT

VICINITY MAP



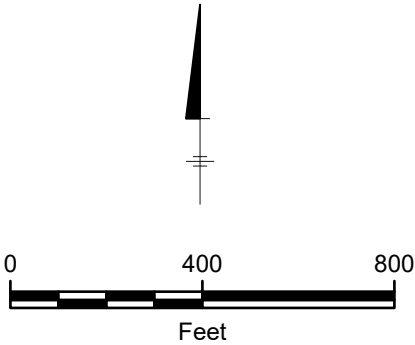
FIGURE
1

DNV\GROUP: ENV\INDV DB: vmm1306 LD: PIC: PM: TM: DATE: 11/8/2024 10:47 AM
PROJECT: PATH: T:\ENV\Chevron_MCBU\Projects\Dagger_Lake\C144\Pit C-144.aprx



LEGEND

-  Proposed Temporary Pit
-  1,000 ft Buffer

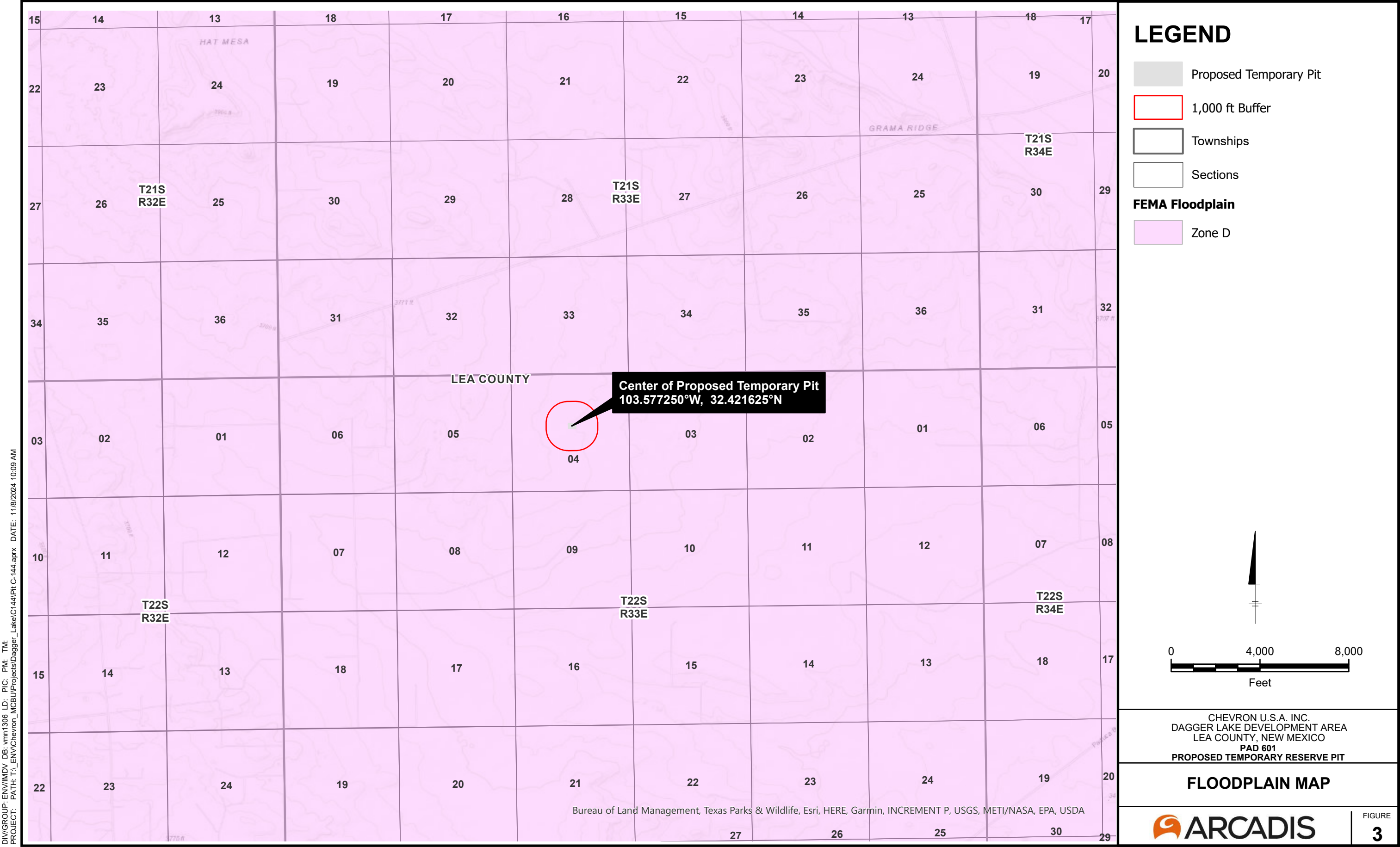


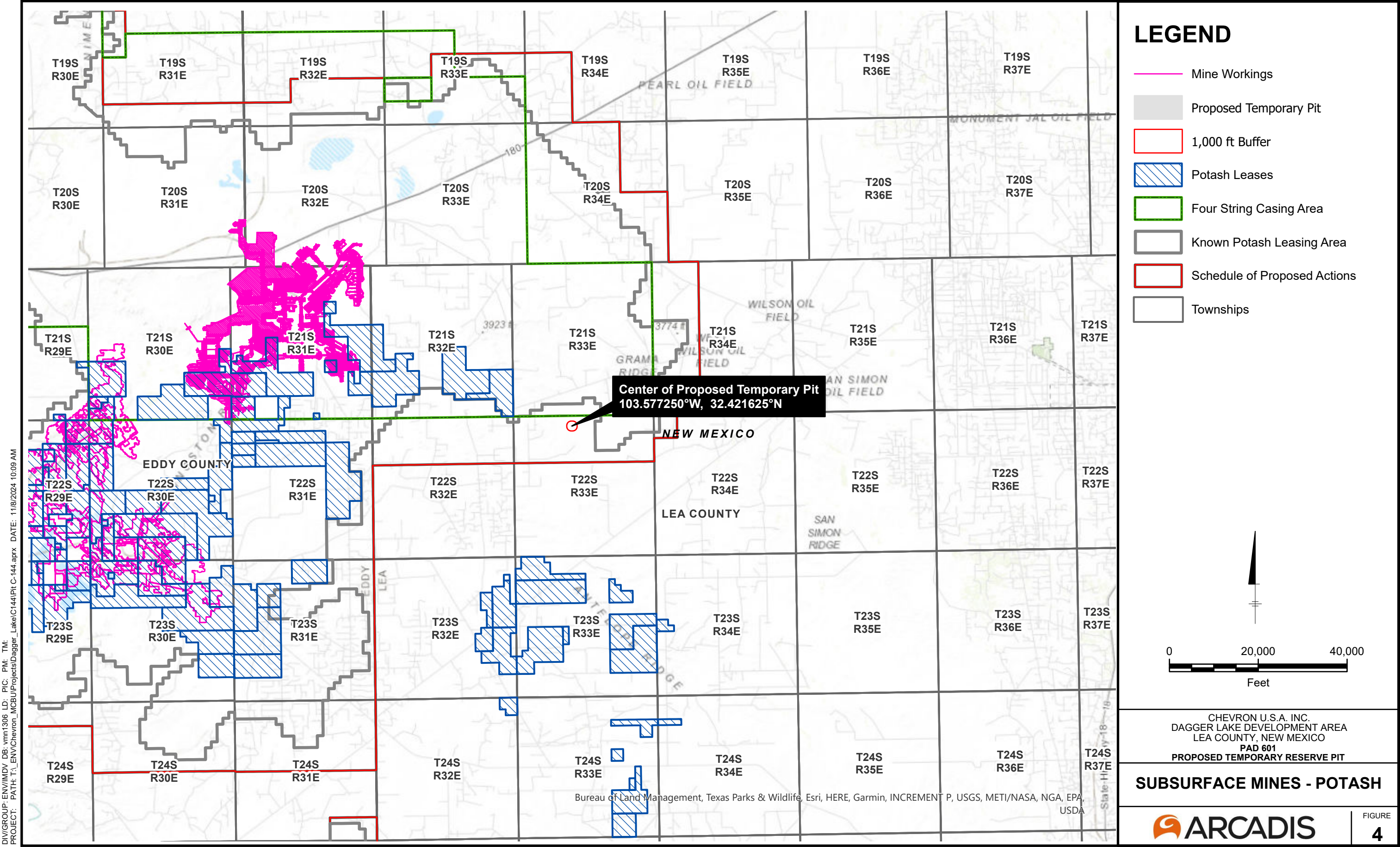
CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 601
PROPOSED TEMPORARY RESERVE PIT

SITE OVERVIEW



FIGURE
2





DIV/GRP: ENV/INDV DB: vmm1306 LD: PIC: PM: TM: DATE: 11/8/2024 10:47 AM
PROJECT: PATH: T:_ENV\Chevron_MCBU\Projects\Dagger_Lake\C144\Pit C-144.aprx

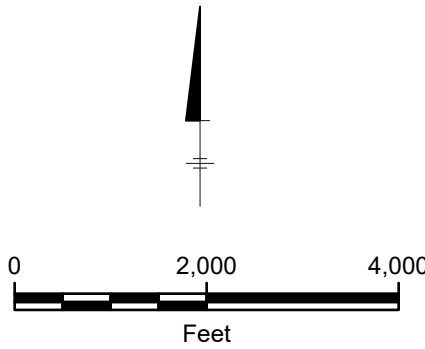


LEGEND

- Proposed Temporary Pit
- 1,000 ft Buffer
- Freshwater Pond
- Riverine
- Townships
- Sections

Notes:
1. USFWS - United States Fish and Wildlife Service
2. NWI - National Wetlands Inventory

Data Source: BLM CFO. 2018. USFWS NWI.



CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 601
PROPOSED TEMPORARY RESERVE PIT

WETLANDS MAP

FIGURE
5

DIV\GROUP: ENV\INDV DB: vmm1306 LD: PIC: PM: TM: DATE: 11/8/2024 10:09 AM
PROJECT: PATH: T:_ENV\Chevron_MCBU\Projects\Dagger_Lake\C144\Pit C-144.aprx

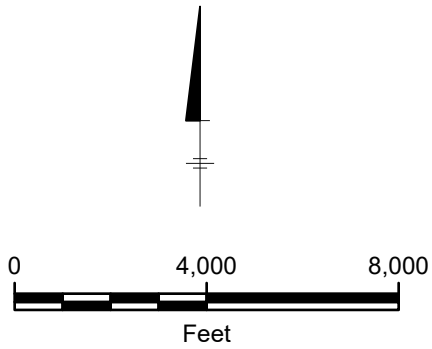


LEGEND

- 1,000 ft Buffer
- Proposed Temporary Pit
- USGS Contour Lines NM
- ArtificialPath
- StreamRiver
- LakePond
- Reservoir

Notes:
1. USGS - United States Geological Survey
2. NHD - National Hydrography Dataset

Data Source: BLM CFO. 2018. USGS NHD.



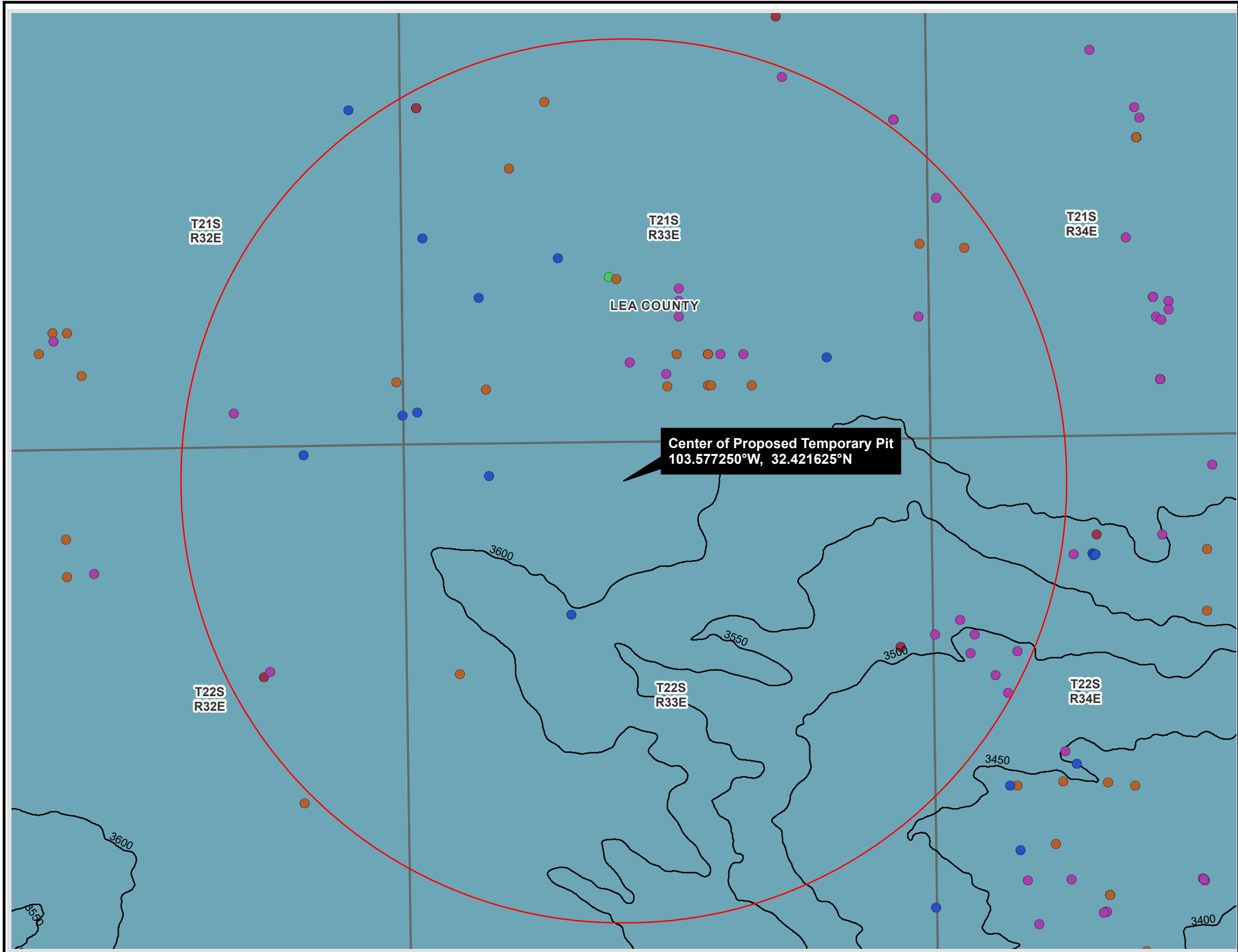
CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 601
PROPOSED TEMPORARY RESERVE PIT

ELEVATION CONTOUR & NHD MAP

ARCADIS

FIGURE
6

DIV/GRP: ENV/INDV DB: vmm1306 LD: PIC: PM: TM: DATE: 11/8/2024 10:09 AM
PROJECT: PATH: T:_ENV\Chevron_MCBU\Projects\Dagger_Lake\C144\Pit C-144.aprx

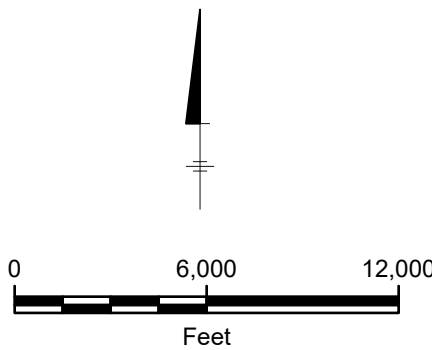


LEGEND

- USGS Contour Lines
- 5 Mile Buffer
- Townships
- OSE POD Wells**
 - Active
 - Inactive
 - Pending
 - Plugged
 - Unknown
- Pecos River Basin Alluvial Aquifer

Notes:
1. USGS - United States Geological Survey
2. NMOSE - New Mexico Office of the State Engineer

Data Source: BLM CFO. 2018. USGS and NMOSE.

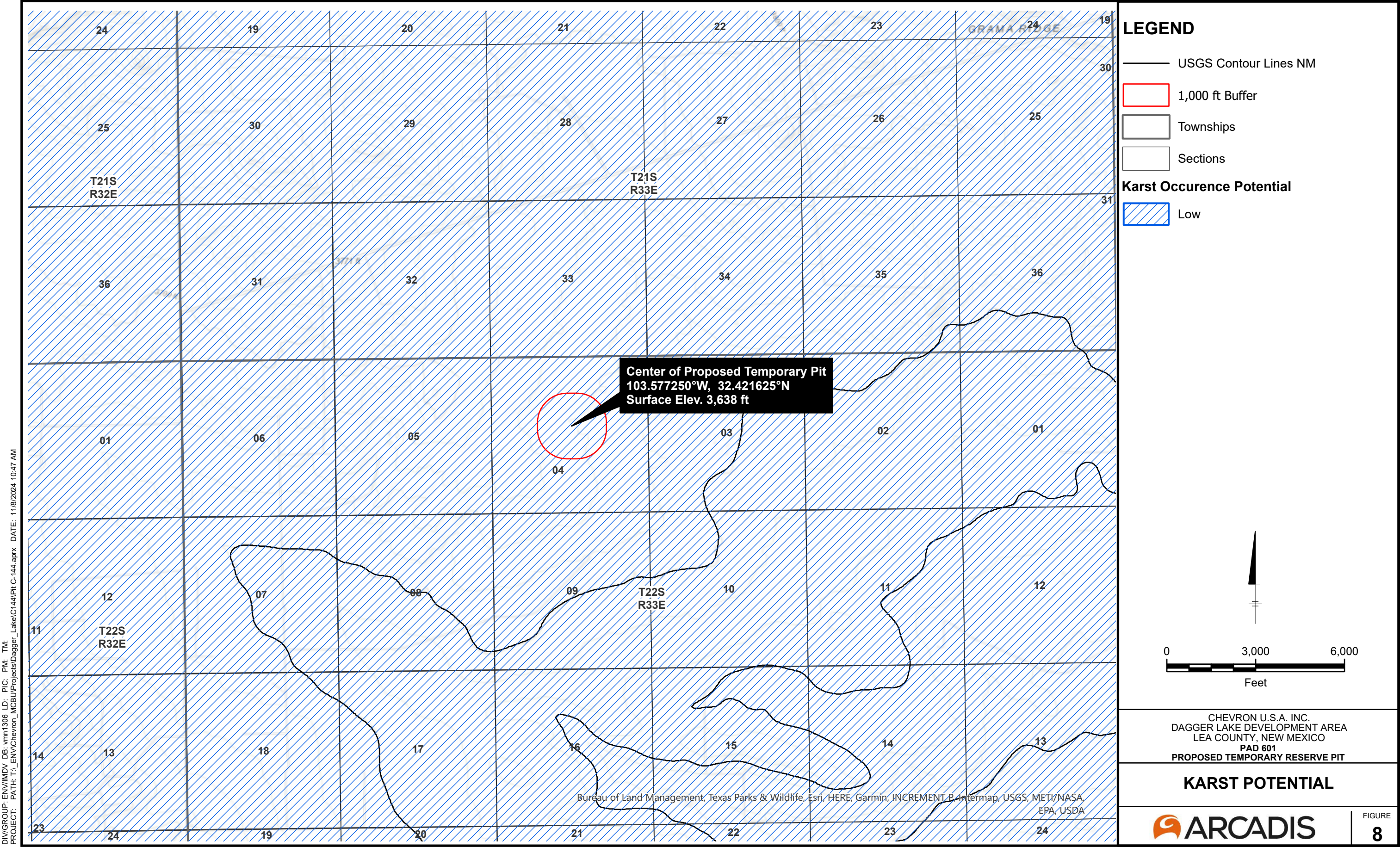


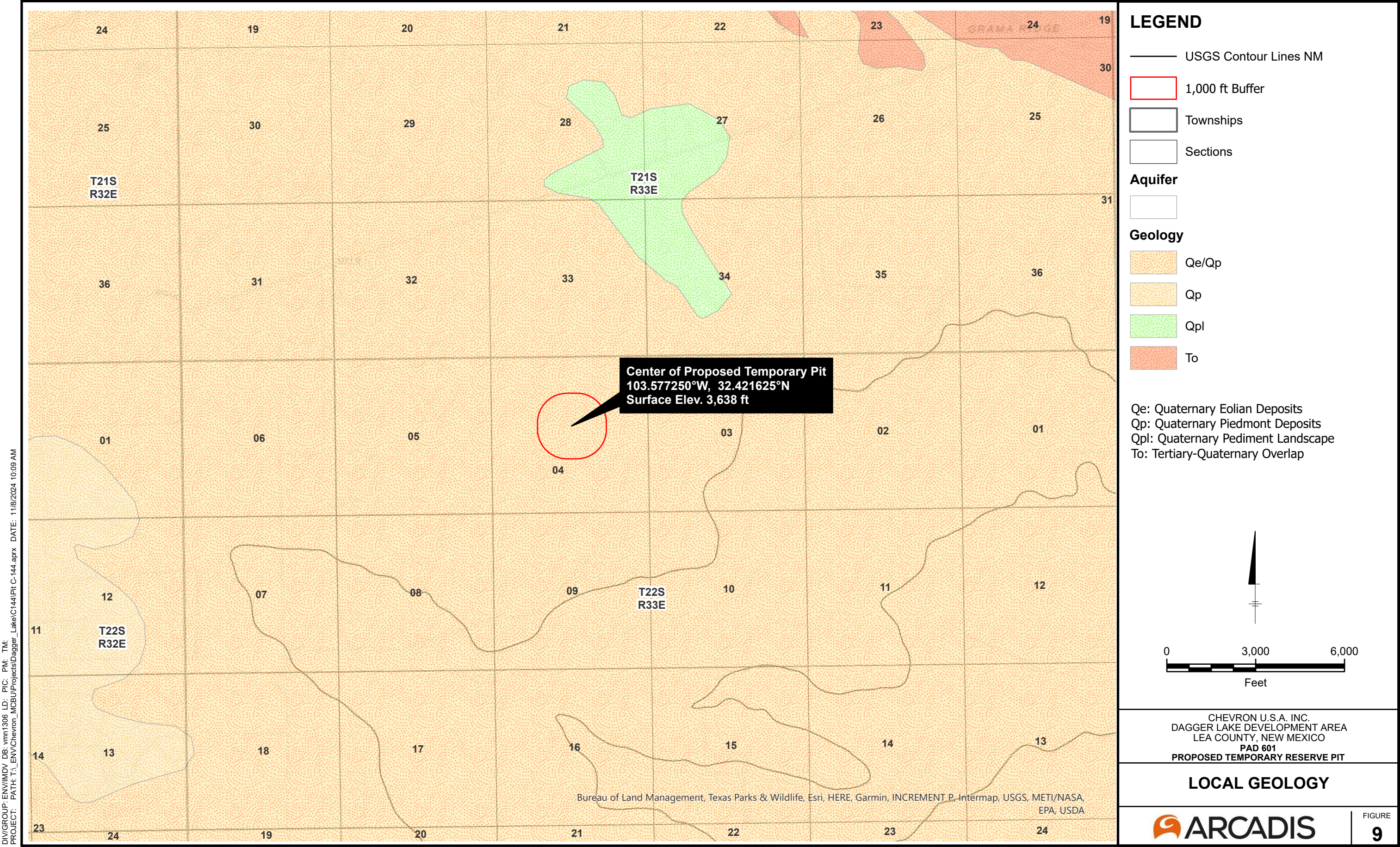
CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 601
PROPOSED TEMPORARY RESERVE PIT

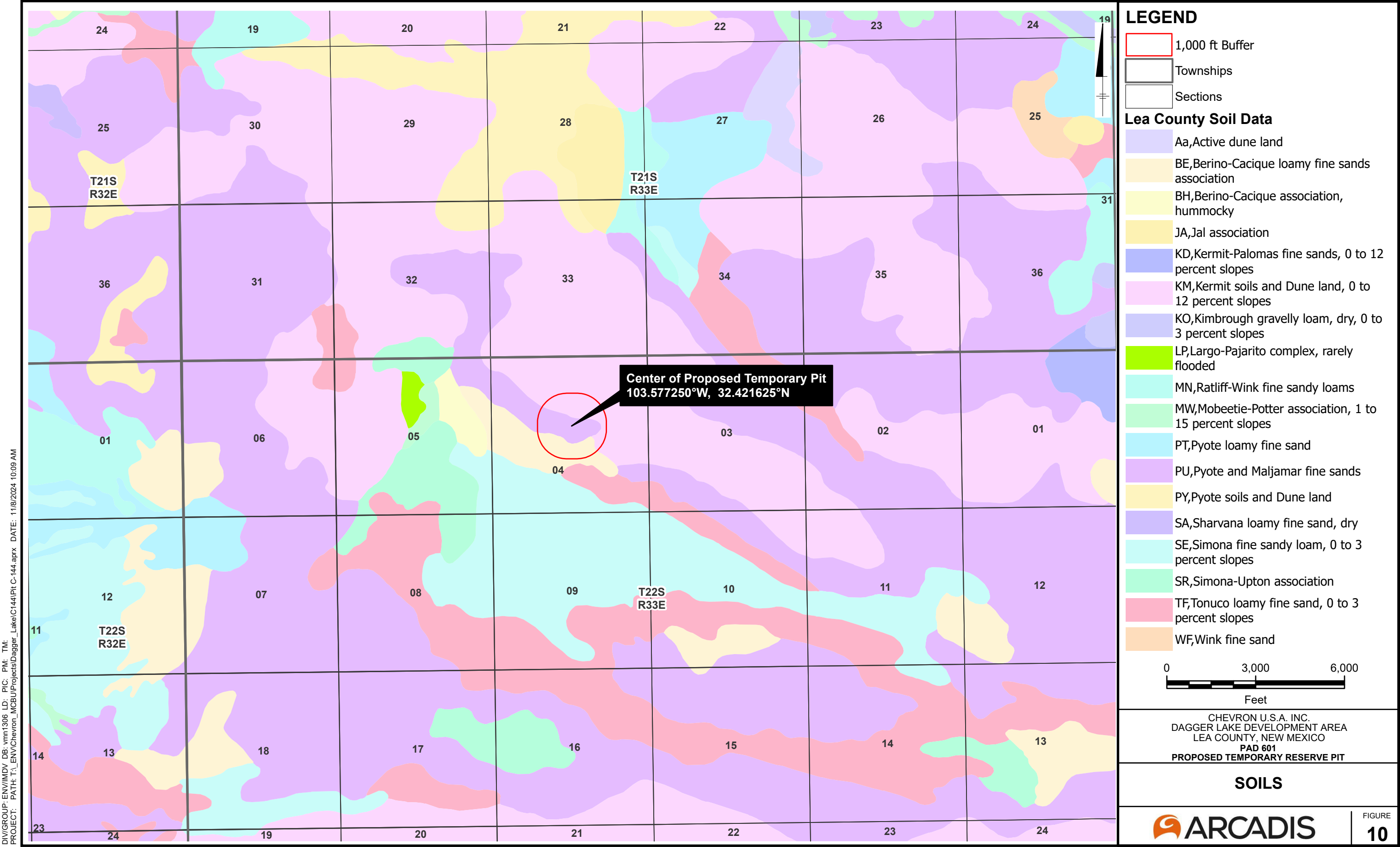
**USGS AND NMOSE
GROUNDWATER WELLS**



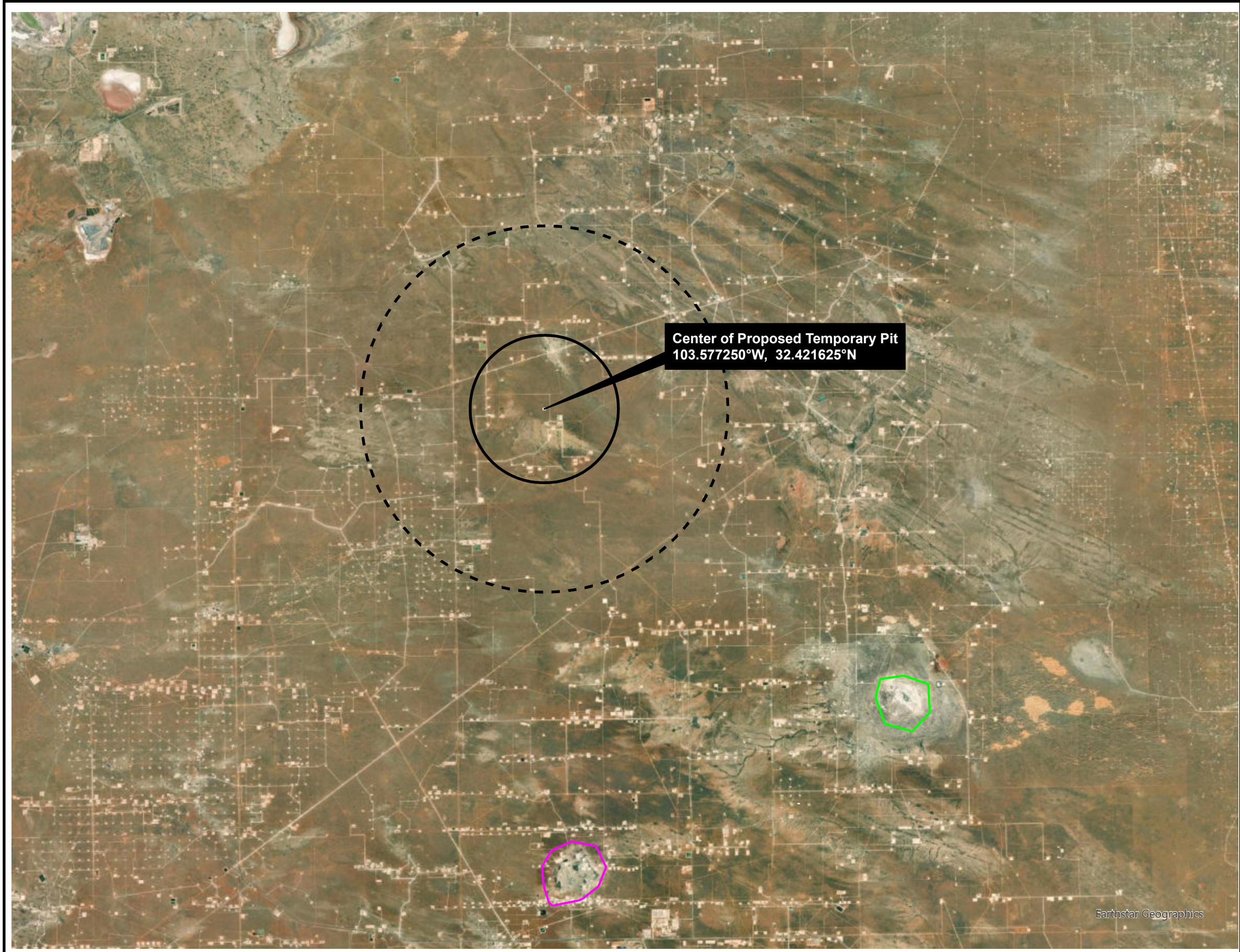
FIGURE
7





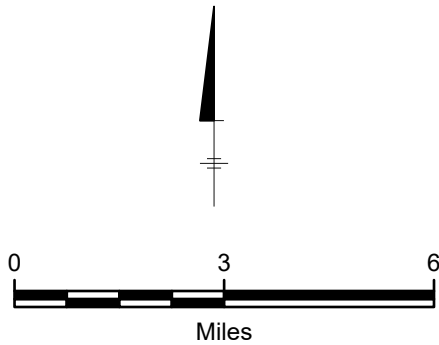


DIV/GRP: ENV/INDV DB: vmm1306 LD: PIC: PM: TM: DATE: 11/8/2024 10:47 AM
PROJECT: PATH: T:_ENV\Chevron_MCBU\Projects\Dagger_Lake\C144\Pit C-144.aprx



LEGEND

- Proposed Temporary Pit
- San Simon Sink
- Bell Lake Sink
- 2 Mile Buffer
- 5 Mile Buffer



CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 601
PROPOSED TEMPORARY RESERVE PIT

**AERIAL IMAGERY OF
DISSOLUTION FEATURES**

ARCADIS

FIGURE
11

Variance Requests

Temporary Pit containing non-low chloride fluids

DL 4 33 FEDERAL COM and 4 9 FEDERAL COM (Pad 601)

Section 4 of T22S, R33E

Variance Requests

DL 4 33 FEDERAL COM and 4 9 FEDERAL COM (Pad 601)

(601H, 602H, 603H, 613H, 614H, 615H)

Temporary Pit

Variance Request 1 of 2 – Extension of Closure Timeline for Temporary Pit

Reason for the requested variance

The Operator wishes to standardize closure practices and procedures across all active development areas where Temporary Pits are used. A closure timeline extension allows for improved flexibility in managing closure operations and would improve efficiency by allowing the closure of multiple pits during a single campaign.

The closure timeline is stated with the definition of a Temporary Pit, in that a pit *“must be closed within six months from the date the operator releases the drilling or workover rig from the first well using the pit”*.

For purposes of this variance, the Operator proposes a timeline based on the date of the first occurrence of Rig Down Move Out (RDMO). RDMO is defined as the activity when the drilling rig is moved off location. Typically, RDMO occurs after the completion of drilling the last well on the pad. On pads where the Operator plans to return to the pad, multiple RDMO dates occur. This variance does not consider subsequent RDMO affecting the closure timeline dates after the first RDMO. The Operator proposes dewatering the pit within 30 days of RDMO and proposes closing the pits within 1 year of RDMO.

The Operator uses a batch drilling process for drilling multiple wells on a single pad. The common procedure is to drill all the surface hole sections first followed by intermediate hole sections and finally production hole sections. The drilling rig skid moves to the next well without performing rig down activities when batch drilling. For the proposed four-well pad, the rig drills surfaces in the order of wells one to four, then intermediates in the order of wells four to one, and finally productions in the order of one to four. Note that specific orders may change based off well design and location specific factors, but the process of skidding and batch drilling is consistent throughout.

If the Operator ceases operations before drilling is complete and the rig is moved off the pad location, this constitutes a RDMO date and the 1-year closure criteria is based off the earliest RDMO date.

The Operator may utilize a shallow rig for drilling of only the surface and/or intermediate hole sections, if permitted to do so. The rig down and move out of the shallow rig does not constitute an RDMO date if the larger rig intending to drill production holes arrives within 3 months.

Demonstration that the variance will provide equal or better protection of fresh water, public health, and the environment.

In order to uphold the Operator's commitment to people and the environment, the following assurances will be provided in excess of the baseline requirements of 19.15.17 NMAC.

- The Operator will dewater the Temporary Pit within 30 days after RDMO.
- The Operator will utilize a 40-mil HDPE liner, as proposed in **Variance 2**.
- No fluid will be stored in the pit for any purpose after the completion of drilling activities other than in the event of emergency actions as described in 19.15.17.14 NMAC.
- The pits will be visually inspected on a monthly basis between RDMO and closure.
- If fluid is seen in the pit during inspection, then the Operator will mobilize equipment to have the pits drained within 7 days.
- The operator will maintain a fence around the perimeter of the pits and ensure it remains in good repair until closure.

Variance Request 2 of 2 – Proposed Use of High-Density Polyethylene (HDPE) Liner for Temporary Pit in lieu of Linear Low-Density Polyethylene (LLDPE) Liner**Memorandum**

To: New Mexico Oil Conservation Division (NMOCD)

From: Chevron MCBU - Facilities Engineering Group

Subject: Variance Request for Use of HDPE Liner Material for Temporary Reserve Pits in New Mexico

Date: 7/23/2020

Chevron requests a variance to NMAC 19.15.17.11 (F) for use of high-density polyethylene (HDPE) geomembrane for the lining of temporary drilling reserve pits. HDPE is a preferred material which Chevron will install during drilling reserve pit construction. Chevron will utilize an HDPE geomembrane which offers equal or better performance than a typically available 20-mil string reinforced linear low-density polyethylene (LLDPE) material detailed in 19.15.17.11 (F), NMAC. An HDPE liner of equivalent thickness or greater than the 20-mil LLDPE will be installed. The following are considered in the design for implementation of the HDPE material to ensure the product is an equivalent, to the LLDPE material described, for temporary reserve drilling pits in New Mexico.

- An HDPE liner that has a thickness of less than 30-mils will be installed in a reserve pit as a shop-fabricated, extruded liner, and will not be field welded. Only HDPE liners of 30-mils in thickness or greater will be field welded for use in the temporary reserve pits.
- HDPE has lower permeability compared to LLDPE. This provides high barrier protection for soils during drilling operations and usage of the pits.
- HDPE may be installed with an underlying geotextile or similar material to provide additional protection from puncture or stress cracking. The subgrade for the liner system will be screened of deleterious materials and rocks and will be suitable for the liner installation. The use of geotextile or similar material will be evaluated on a specific case-by-case basis by Chevron.
- The HDPE liner used in Chevron's temporary reserve pits will have an equivalent or higher tear resistance and puncture resistance than that of a typical 20-mil string reinforced liner.
- HDPE material properties and liner has improved UV resistance to degradation when compared to LLDPE. This allows for extended life and improved long-term durability in pit liner applications.

All requirements for temporary pits' design and construction will be met in accordance with NMAC 19.15.17.11 and liner compatibility will comply with EPA SW-846 Method 9090A. Any requirements that may not be able to be adequately addressed, will be addressed under a separate variance request on a case-by-case basis.

Disclaimer: Tetra Tech, Inc. has not evaluated the full design of temporary reserve pits for Chevron and is not involved in the construction or operation of Chevron's lined, temporary reserve pits. Chevron understands that they will ensure that specific pit designs meet the criteria and intent of the NMAC and applicable codes for each pit location and construction.



7/23/2020

7/23/2020
Nathan Langford, P.E.
Tetra Tech, Inc.



SOLMAX

TECHNICAL DATA SHEET

HDPE Series, 40 mils

Black, Smooth

2801 Boul. Marie-Victorin Varennes, Quebec Canada J3X 1P7
Tel: (450) 929-1234 Sales: (450) 929-2544 Toll free in North America: 1-800-571-3904 www.Solmax.com www.solmax.com

PROPERTY	TEST METHOD	FREQUENCY ⁽¹⁾	UNIT Imperial	
SPECIFICATIONS				
Thickness (min. avg.)	ASTM D5199	Every roll	mils	40.0
Thickness (min.)	ASTM D5199	Every roll	mils	36.0
Melt Index - 190/2.16 (max.)	ASTM D1238	1/Batch	g/10 min	1.0
Sheet Density (8)	ASTM D792	Every 10 rolls	g/cc	≥ 0.940
Carbon Black Content	ASTM D4218	Every 2 rolls	%	2.0 - 3.0
Carbon Black Dispersion	ASTM D5596	Every 10 rolls	Category	Cat. 1 & Cat. 2
OIT - standard (avg.)	ASTM D3895	1/Batch	min	100
Tensile Properties (min. avg) (2)	ASTM D6693	Every 2 rolls		
Strength at Yield			ppi	88
Elongation at Yield			%	13
Strength at Break			ppi	162
Elongation at Break			%	700
Tear Resistance (min. avg.)	ASTM D1004	Every 5 rolls	lbf	28
Puncture Resistance (min. avg.)	ASTM D4833	Every 5 rolls	lbf	80
Dimensional Stability	ASTM D1204	Certified	%	± 2
Stress Crack Resistance (SP-NCTL)	ASTM D5397	1/Batch Per	hr	500
Oven Aging - % retained after 90 days	ASTM D5721	formulation		
HP OIT (min. avg.)	ASTM D5885		%	80
UV Res. - % retained after 1600 hr	ASTM D7238	Per formulation		
HP-OIT (min. avg.)	ASTM D5885		%	50
Low Temperature Brittleness	ASTM D746	Certified	°F	- 106
SUPPLY SPECIFICATIONS (Roll dimensions may vary ±1%)				

NOTES

1. Testing frequency based on standard roll dimension and one batch is approximately 180,000 lbs (or one railcar).
2. Machine Direction (MD) and Cross Machine Direction (XMD or TD) average values should be on the basis of 5 specimens each direction.
8. Correlation table is available for ASTM D792 vs ASTM D1505. Both methods give the same results.

* All values are nominal test results, except when specified as minimum or maximum.

* The information contained herein is provided for reference purposes only and is not intended as a warranty of guarantee. Final determination of suitability for use contemplated is the sole responsibility of the user. SOLMAX assumes no liability in connection with the use of this information.

Solmax is not a design professional and has not performed any design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation or specification.



TECHNICAL DATA SHEET

HDPE Series, 40 mils

Black, Top Side Single Textured

2801 Boul. Marie-Victorin Varennes, Quebec Canada J3X 1P7
 Tel: (450) 929-1234 Sales: (450) 929-2544 Toll free in North America: 1-800-571-3904 www.Solmax.com www.solmax.com

PROPERTY	TEST METHOD	FREQUENCY ⁽¹⁾	UNIT Imperial	
SPECIFICATIONS				
Nominal Thickness		-	mils	40
Thickness (min. avg.)	ASTM D5994	Every roll	mils	38.0
Lowest ind. for 8 out of 10 values			mils	36.0
Lowest ind. for 10 out of 10 values			mils	34.0
Asperity Height (min. avg.) (3)	ASTM D7466	Every roll	mils	16
Textured side		-		Top
Melt Index - 190/2.16 (max.)	ASTM D1238	1/Batch	g/10 min	1.0
Sheet Density (8)	ASTM D792	Every 10 rolls	g/cc	≥ 0.940
Carbon Black Content	ASTM D4218	Every 2 rolls	%	2.0 - 3.0
Carbon Black Dispersion	ASTM D5596	Every 10 rolls	Category	Cat. 1 & Cat. 2
OIT - standard (avg.)	ASTM D3895	1/Batch	min	100
Tensile Properties (min. avg.) (2)	ASTM D6693	Every 2 rolls		
Strength at Yield			ppi	88
Elongation at Yield			%	13
Strength at Break			ppi	88
Elongation at Break			%	150
Tear Resistance (min. avg.)	ASTM D1004	Every 5 rolls	lbf	30
Puncture Resistance (min. avg.)	ASTM D4833	Every 5 rolls	lbf	90
Dimensional Stability	ASTM D1204	Certified	%	± 2
Stress Crack Resistance (SP-NCTL)	ASTM D5397	1/Batch Per	hr	500
Oven Aging - % retained after 90 days	ASTM D5721	formulation		
HP OIT (min. avg.)	ASTM D5885		%	80
UV Res. - % retained after 1600 hr	ASTM D7238	Per formulation		
HP-OIT (min. avg.)	ASTM D5885		%	50
Low Temperature Brittleness	ASTM D746	Certified	°F	- 106
SUPPLY SPECIFICATIONS (Roll dimensions may vary ±1%)				

NOTES

1. Testing frequency based on standard roll dimension and one batch is approximately 180,000 lbs (or one railcar).
2. Machine Direction (MD) and Cross Machine Direction (XMD or TD) average values should be on the basis of 5 specimens each direction.
3. Lowest individual and 8 out of 10 readings as per GRI-GM13 / 17, latest version.
8. Correlation table is available for ASTM D792 vs ASTM D1505. Both methods give the same results.

(Rev. 03 / 2018-05-31)

Appendix A

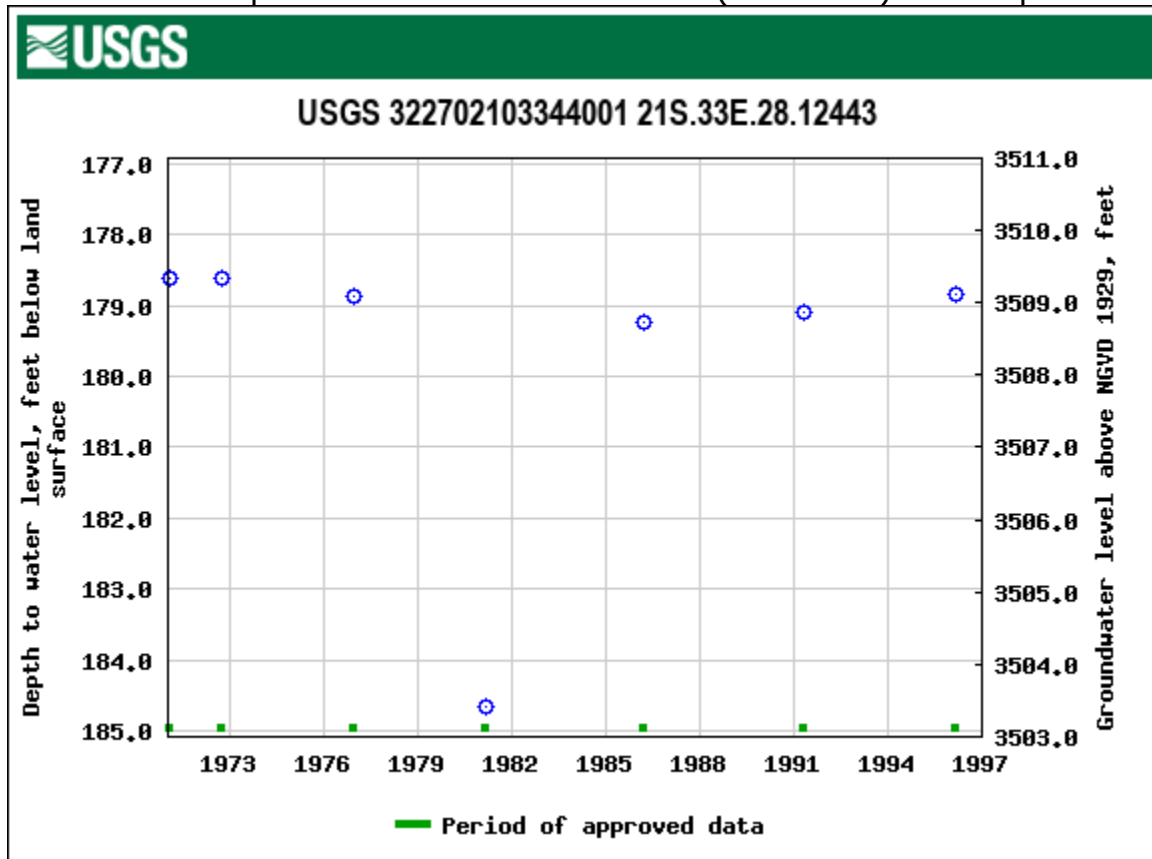
United States Geological Survey

Groundwater Data

USGS 322702103344001 21S.33E.28.12443

DESCRIPTION:

Latitude 32°27'13", Longitude 103°34'42" NAD27
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: 224 feet
Land surface altitude: 3,688.00 feet above NGVD29.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Chinle Formation" (231CHNL) local aquifer



USGS 322702103344002 21S.33E.28.12443A

DESCRIPTION:

Latitude 32°27'02", Longitude 103°34'40" NAD27

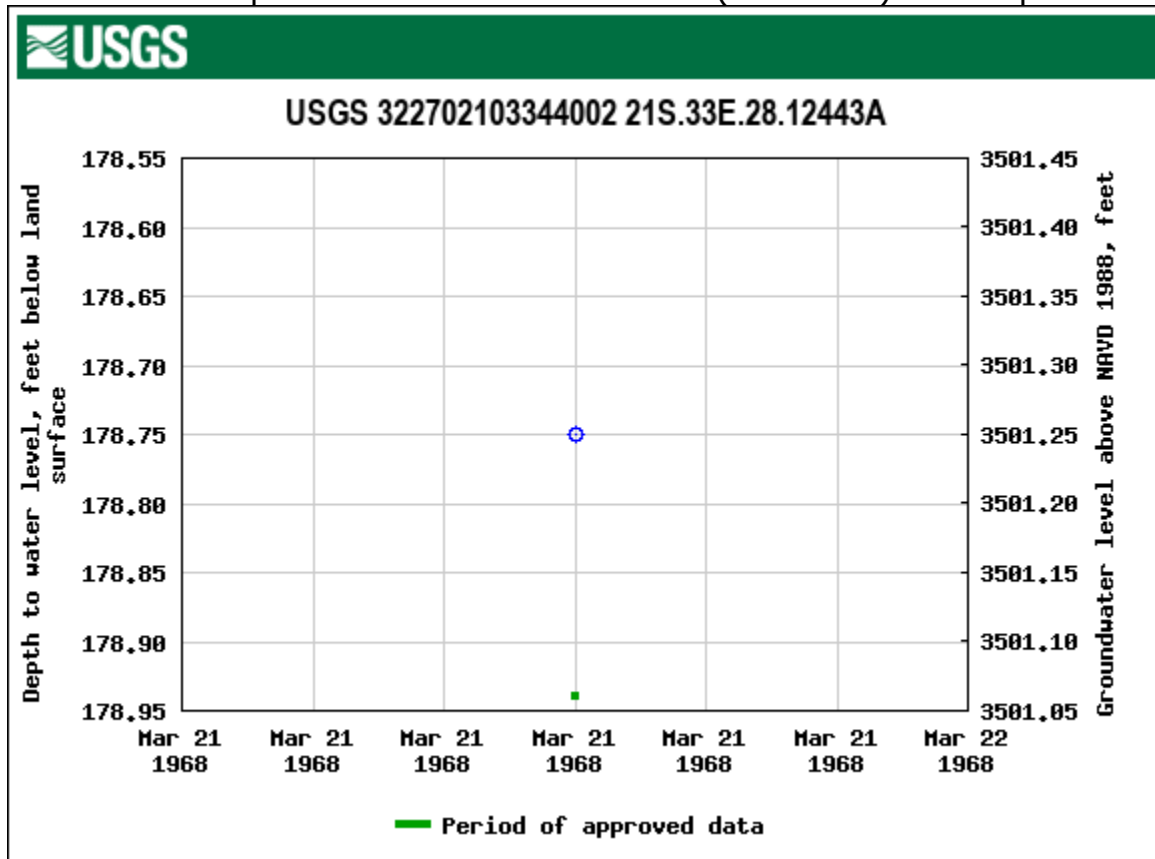
Lea County, New Mexico , Hydrologic Unit 13070007

Well depth: not determined.

Land surface altitude: 3,680 feet above NAVD88.

Well completed in "Other aquifers" (N9999OTHER) national aquifer.

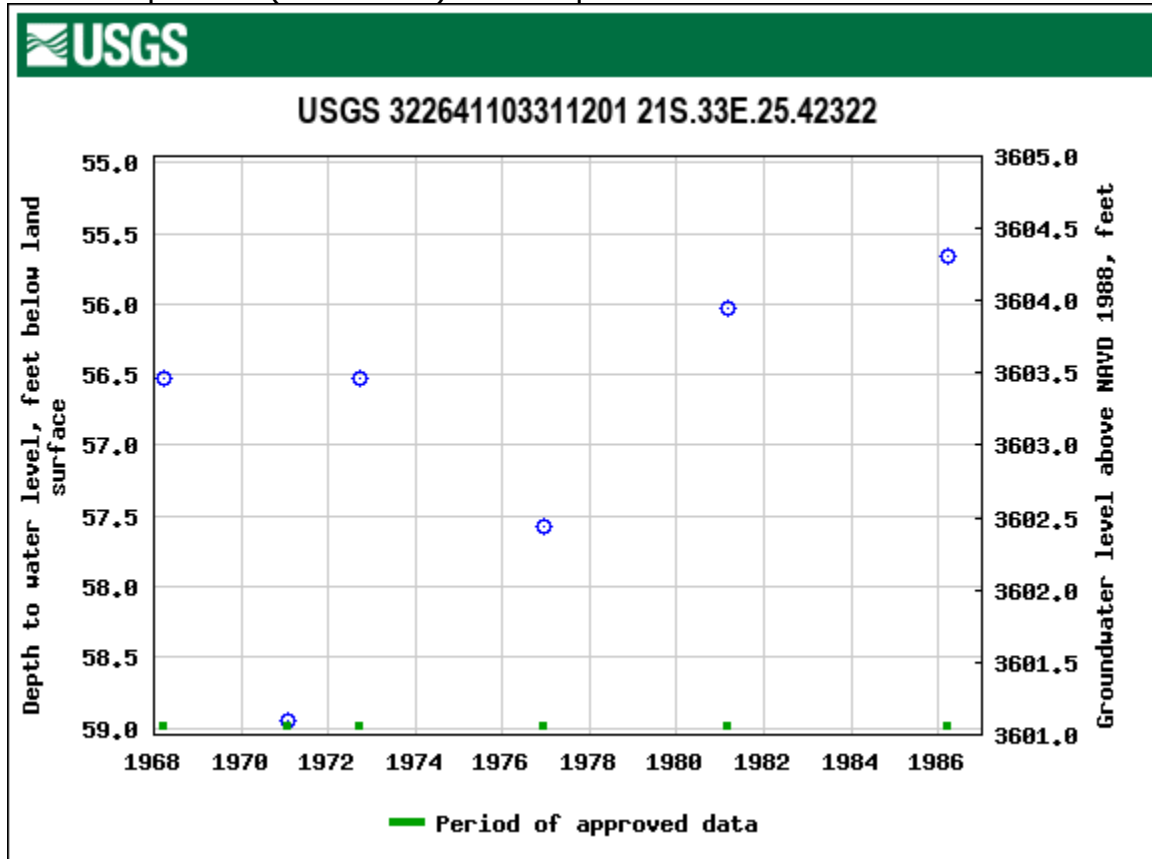
Well completed in "Chinle Formation" (231CHNL) local aquifer



USGS 322641103311201 21S.33E.25.42322

DESCRIPTION:

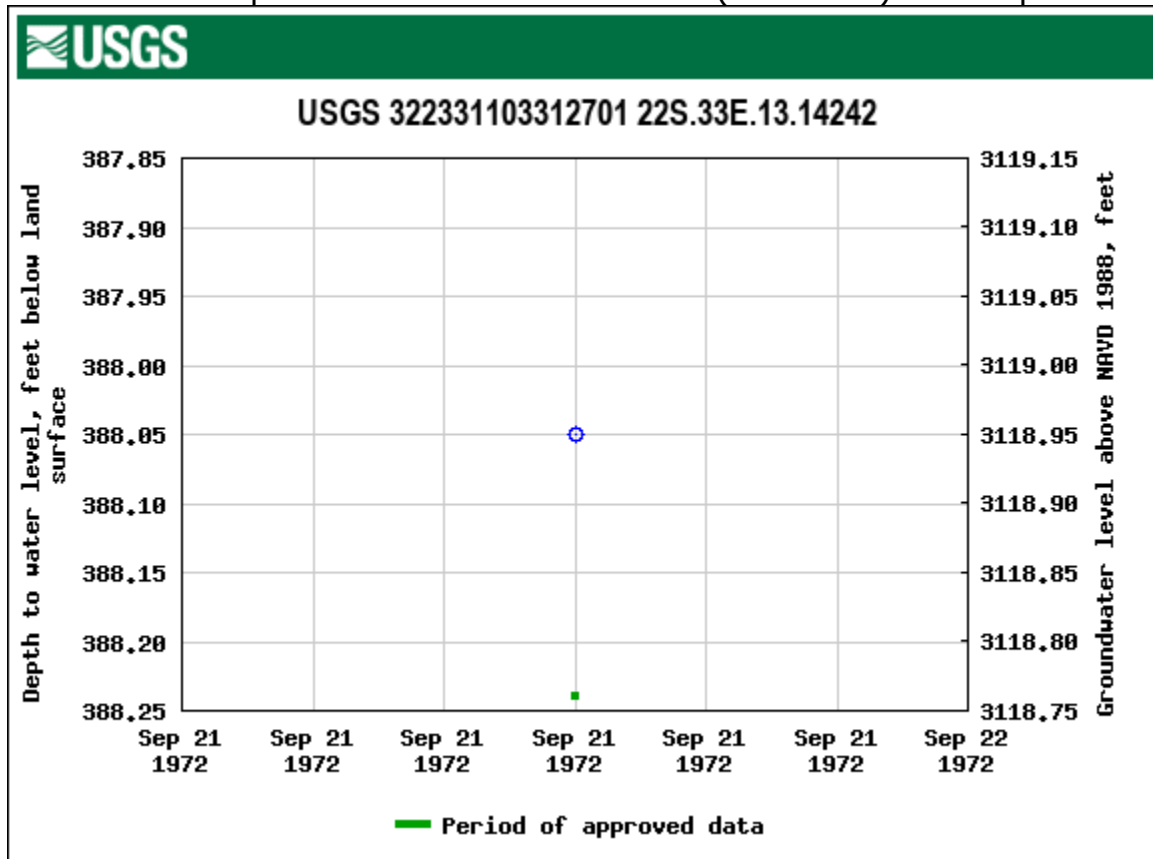
Latitude 32°26'41", Longitude 103°31'12" NAD27
Lea County, New Mexico , Hydrologic Unit 13060011
Well depth: 68 feet
Land surface altitude: 3,660 feet above NAVD88.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer



USGS 322331103312701 22S.33E.13.14242

DESCRIPTION:

Latitude 32°23'31", Longitude 103°31'27" NAD27
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: 490 feet
Land surface altitude: 3,507 feet above NAVD88.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Chinle Formation" (231CHNL) local aquifer



USGS 322325103313301 22S.33E.13.23131**DESCRIPTION:**

Latitude 32°23'38.6", Longitude 103°31'33.6" NAD83

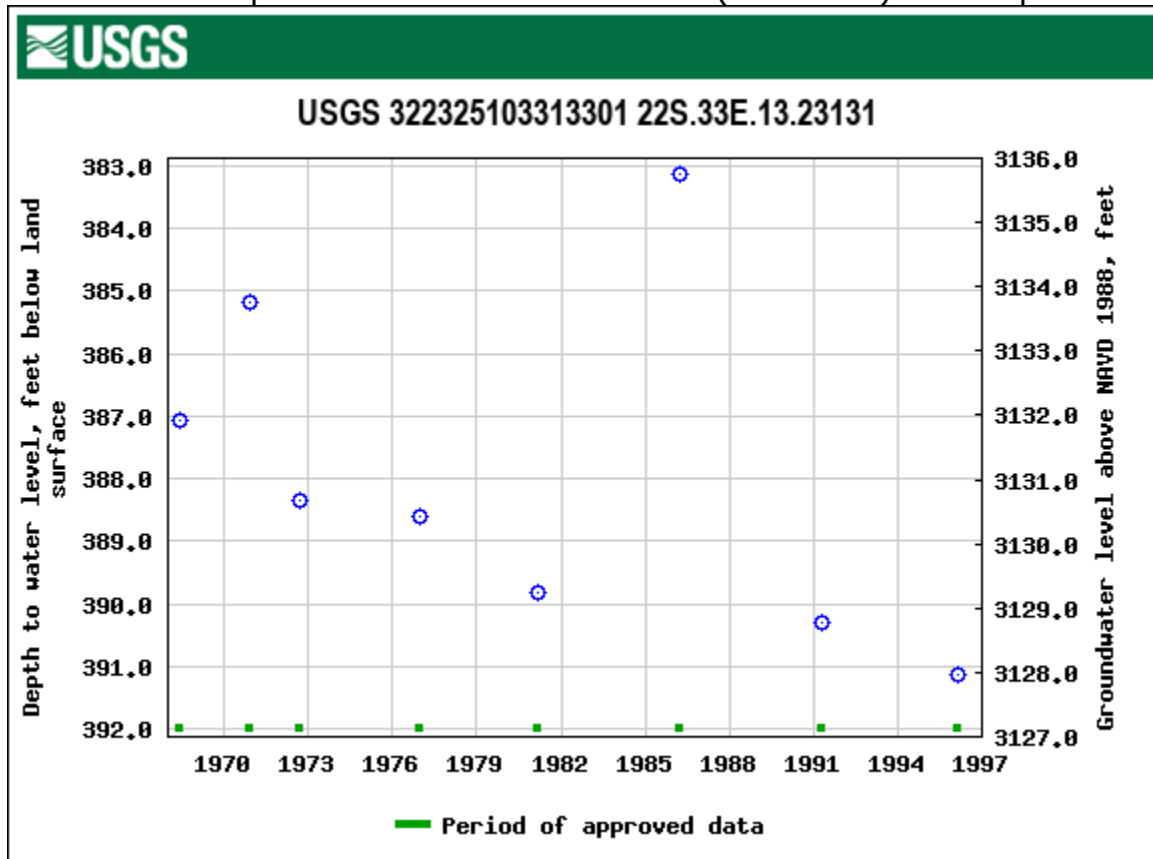
Lea County, New Mexico , Hydrologic Unit 13070007

Well depth: 508 feet

Land surface altitude: 3,519 feet above NAVD88.

Well completed in "Other aquifers" (N9999OTHER) national aquifer.

Well completed in "Chinle Formation" (231CHNL) local aquifer



USGS 322314103383601 22S.32E.14.32422

DESCRIPTION:

Latitude 32°23'14", Longitude 103°38'36" NAD27

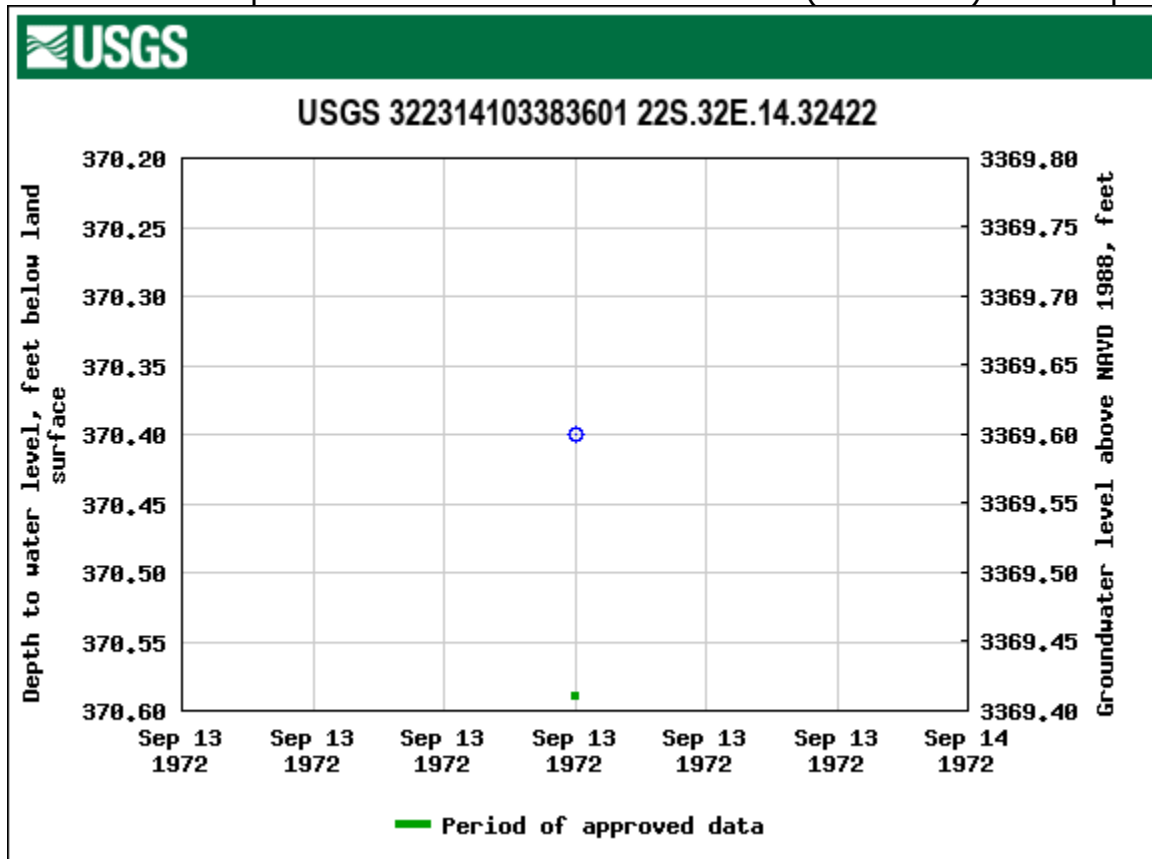
Lea County, New Mexico , Hydrologic Unit 13070007

Well depth: 380 feet

Land surface altitude: 3,740 feet above NAVD88.

Well completed in "Other aquifers" (N9999OTHER) national aquifer.

Well completed in "Santa Rosa Sandstone" (231SNRS) local aquifer



Appendix B

New Mexico Office of the State Engineer

Water Column/Average Depth to Water Data



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

(quarters are smallest to largest)

(meters)

(In feet)

POD Number	Code	Sub basin	County	Q64	Q16	Q4	Sec	Tws	Range	X	Y	Map	Distance	Well Depth	Depth Water	Water Column
CP 01356 POD1		CP	LE	SE	NE	NE	33	21S	33E	634560.0	3590014.3		2107	1098	555	543
CP 00854 POD1		CP	LE	NW	NW	NE	33	21S	33E	633879.4	3590223.3		2151	950	600	350
CP 01881 POD1		CP	LE	NE	SE	NE	06	22S	33E	631319.3	3588157.2		2411			
CP 01899 POD1		CP	LE	SE	SE	SE	08	22S	33E	632811.3	3585622.5		2620			
CP 01411 POD2		CP	LE		NW	NE	34	21S	33E	635534.5	3590380.4		2926	1125		
CP 01355 POD1		CP	LE	NE	NW	SW	27	21S	33E	634773.1	3591061.4		3161	1192	582	610
CP 01411 POD1		CP	LE		NE	NE	34	21S	33E	635968.3	3590386.0		3215	1149		
CP 01357 POD1		CP	LE	SE	SW	NW	27	21S	33E	634782.4	3591347.9		3435	1286	578	708
CP 01349 POD1		CP	LE	NE	SW	NW	27	21S	33E	634782.0	3591569.7		3647	1188	572	616
CP 00601 POD1	R	CP	LE		NE	NW	28	21S	33E	633502.0	3591791.0 *		3720	223		
CP 01888 POD1		CP	LE	SE	NW	SW	31	21S	33E	629995.7	3589316.9		3934			
CP 01878 POD1		CP	LE	SE	NE	SE	36	21S	32E	629722.6	3589247.8		4174			
CP 01880 POD1		CP	LE	SW	SE	SE	20	21S	33E	632561.5	3592129.3		4216			
CP 01882 POD1		CP	LE	NE	SE	NE	30	21S	33E	631127.9	3591410.4		4228			
CP 01887 POD1		CP	LE	NE	NE	NE	35	21S	33E	637492.5	3590319.9		4380			
CP 01883 POD1		CP	LE	SW	NE	SW	19	21S	33E	630084.4	3592493.3		5725			
C 04566 POD1		CUB	LE	NW	NE	NE	02	22S	32E	627930.5	3588524.4		5816			
CP 00600 POD1		CP	LE		NE	SE	25	21S	33E	639152.0	3591054.0 *		6185	65		
CP 01724 POD1		CP	LE	SW	NW	NW	18	22S	34E	639475.4	3585260.6		6399	1172	800	372
CP 01725 POD1		CP	LE	NW	NE	NW	18	22S	34E	639914.0	3585521.7		6691	1137	800	337
CP 01721 POD1		CP	LE	SE	NE	NW	18	22S	34E	640181.0	3585244.9		7045	1108	820	288
CP 01723 POD1		CP	LE	SE	SE	NW	18	22S	34E	640117.0	3584905.1		7131	1140	785	355
CP 01701 POD1		CP	LE		NW	SW	35	21S	32E	626652.4	3589283.1		7178	840	560	280
C 02821		C	LE	NE	NE	SW	14	22S	32E	627303.0	3584563.0 *		7324	540	340	200
CP 01455 POD1		CP	LE	SE	NW	SE	18	22S	34E	640574.0	3584515.4		7715	1033	615	418
CP 02006 POD1		CP	LE	NE	SE	NW	25	19S	34E	639478.2	3593226.4		7717	51		

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

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

(quarters are smallest to largest)

(meters)

(In feet)

POD Number	Code	Sub basin	County	Q64	Q16	Q4	Sec	Tws	Range	X	Y	Map	Distance	Well Depth	Depth Water	Water Column
CP 00794 POD1		CP	LE	SE	NW	NW	18	21S	33E	629976.0	3594865.0 *		7756	160		
CP 00795 POD1		CP	LE	SE	NW	NW	18	21S	33E	629976.0	3594865.0 *		7756	170		
CP 01722 POD1		CP	LE	SE	SE	NE	18	22S	34E	640963.6	3584949.9		7881	1122	785	337
CP 00578		CP	LE		SE	SW	11	21S	33E	636674.0	3595445.0 *		7934	165	150	15

Average Depth to Water: **610 feet**

Minimum Depth: **150 feet**

Maximum Depth: **820 feet**

Record Count: 30

Basin/County Search:

County: LE

UTM Filters (in meters):

Easting: 633729.41

Northing: 3588077.40

Radius: 008045

* UTM location was derived from PLSS - see Help

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

Appendix C – Hydrogeologic Data

Temporary Pit containing non-low chloride fluids

DL 4 33 FEDERAL COM and 4 9 FEDERAL COM (Pad 601)

Section 4 of T22S, R33E

Appendix C – Hydrogeologic Data

Dagger Lake Pad 601

Temporary Pit

TOPOGRAPHY AND SURFACE HYDROLOGY

The location of the proposed temporary pit is in Lea County, New Mexico approximately 2.5 miles east of Antelope Ridge in the Pecos Valley section of the Great Plains physiographic province. The pit lies at an elevation of 3,650 feet above sea level with relatively flat to gentle sloping terrain and no well-established drainages (**Figure 7**). Antelope Draw occurs approximately 0.5 miles southeast of the location and drains to the southeast. No other well-established drainages occur in the vicinity of the proposed temporary pit.

Surface water within the proposed pit area is affected naturally by the shallow geology, precipitation, and some water erosion. The area is located in the semi-arid southwest near the northern edge of the Chihuahuan Desert. The climate is characterized by low annual precipitation, low humidity, and high average annual temperature and ranges from dry subhumid to arid. Precipitation is quite variable both regionally and seasonally and averages about 12 inches or less annually with the greatest rainfall occurring as monsoonal storms during the summer months. The area is situated at the southwest edge of the Great Plains dust-bowl area and is sometimes subjected to severe windstorms (Nicholson and Clebsch 1961).

Southwestern Lea County, including the proposed pit area, lies within the Lower Pecos River Basin. The major stream in this Basin is the Pecos River, which is located approximately 26 miles to the west in southeastern Eddy County. Surface water in the Lower Pecos River Basin comes from three main sources: inflow from the Upper Pecos River Basin, flood inflow from storm events, and groundwater base inflow.

Anthropogenic activities that currently affect surface water resources in the proposed pit area include livestock grazing management and oil and gas development. Surface water flow direction is likely to the northeast following the surface topography. To the southeast of the proposed pit location, surface water likely flows into Antelope Draw and along the draw in a southeasterly direction. No other draws or other well-established drainage features occur in the proposed pit area.

Soils

The soil complexes mapped within the survey area are the Berino-Cacique loamy fine sands association (BE), the Pyote and Maljamar Fine Sands (PU), and the Kermit soils and Dune land (KM) and are described further in the following table. A map depicting the soils mapped within the area is provided in **Figure 10** and summarized in **Table 1**.

Table 1 Soils Within the Survey Area

Soil Abbreviation and Name	Slope	Soil Type
BE – Berino-Cacique loamy fine sands association	0 to 3 percent slope	Deep
PU – Pyote and Maljamar Fine Sands	0 to 3 percent slope	Deep
KM – Kermit soils and Dune Land	0 to 12 percent slope	Deep

Loamy Sand Soil Type Description

All the soils within the survey area are classified as loamy sand soils. These loamy sand soils consist of the Berino and Kermit. These soils are typically moderately deep or very deep soils that consist of loamy sand underlain by fine sands. Slopes range from 0 to 12 percent within these loamy sand soils. If these soils are unprotected by plant cover, they are easily wind blown into low hummocks. These soils have rapid permeability and are well drained. These soils support grassland vegetative communities dominated by species such as sand bluestem, yellow Indiagrass, black grama, dropseed species, and little bluestem. Dominant shrub species observed within these soils were creosote bush (*Larrea tridentate*), mesquite (*Prosopis glandulosa*), rubber rabbitbrush (*Ericameria nauseosa*), and yucca sp. (*Yucca sp.*). The annual grasses and forbs population will fluctuate with the variation of amount of rainfall annually and with the seasons. Without brush and graze control the vegetative communities within these soils will become shrub dominate, and there will be a loss of grass cover and increased surface soil erosion (USDA 2016).

Geology

The area in the vicinity of the proposed pit location is underlain by recent eolian deposits consisting of drift sand a few feet in thickness and local occurrences of sand dunes (**Figure 9**). The eolian deposits are underlain by Pleistocene to recent alluvial deposits consisting of unconsolidated to partially consolidated sand, silt, gravel, clay and caliche. A thin layer of Tertiary Ogallala Formation may underlie the alluvium. Alluvium / Ogallala thickness in this area appears to be approximately 200 feet. Triassic Dockum strata underlie the alluvium / Ogallala deposits and its thickness appears to be over 1,000 feet in some places. The Dockum Group has been divided into three formations: lower red shale, siltstone, and very fine-grained sandstone called the Tecovas Formation (or Pierce Canyon redbeds); middle reddish-brown and gray sandstone called the Santa Rosa sandstone; and upper brick-red to maroon and purple shale with thin beds of fine red or gray sandstone and siltstone called the Chinle Formation.

- The Tecovas or Pierce Canyon redbeds (considered Permian by some geologists and sometimes correlated with the Dewey Lake redbeds) overlie the Rustler Formation. The Tecovas' thickness is approximately 350 feet, and it consists of red sandy shale and fine-grained sandstones with greenish-gray inclusions.

- The Santa Rosa sandstone consists of reddish-brown and gray, medium- to coarse-grained, micaceous, well-cemented sandstone and conglomerate. The sandstone is typically cross-bedded and is interbedded with red shale and siltstone. The thickness of the Santa Rosa sandstone generally ranges from approximately 200 to 300 feet over most of the area where it occurs.
- The Chinle Formation consists of a series of red shales and thin interbedded sandstones and appears to be about 200 feet thick in this area but can be as much as several hundred feet thick in other parts of southern Lea County (located to the east).

Dewey Lake redbeds (sometimes correlated with the Tecovas Formation) underlie the Triassic Dockum and overlie the Rustler Formation. Dewey Lake is a series of red beds consisting of micaceous red siltstone, shale, and sandstone with gypsum cementation

The Rustler Formation consists largely of anhydrite, gypsum, interbedded sandy clay and shale, and dolomitic limestone near the upper part of the formation. The Rustler overlies the Salado Formation and is approximately 400 feet thick in this area (Nicholson and Clebsch 1961). The Rustler typically consists of a lower clastic unit composed mainly of red and gray shale and some interbedded anhydrite and an upper anhydrite unit containing dolomitic limestone beds of varying thicknesses.

Geologic units in the general area which potentially contain usable groundwater are the Alluvium/Ogallala, the Dockum Group, and possibly the Rustler Formation.

Groundwater

In the vicinity of the proposed pit, the Rustler Formation, Dockum Group and the Alluvium / Ogallala sediments have the potential to provide small quantities of water via water supply wells. No water wells were found in the immediate vicinity of the proposed site (**Figure 7**) with the closest well located approximately 1.5 miles to the north. It is approximately 1.5 miles to the north to the closest well with reported depth to water data. Several water wells have been identified within 1.5 to 5 miles of the site which are used primarily to support domestic, livestock and / or oil and gas exploration and development water needs. The depths of the wells indicate that most are completed in the Triassic Dockum (Chinle and / or Santa Rosa formations).

Depth to Water: An analysis of publicly available data from the NMOSE and USGS indicate that the depth to groundwater beneath the proposed location is 56 feet or more based on a USGS-gauged water well which is located approximately 2.85 miles to the northeast of the proposed site. Other USGS and NMOSE wells located near the proposed site (within 2.5 miles) have reported depths to water in excess of 179 feet. The depths to water within a 5-mile radius of the proposed site range from 56 feet (approximately 2.85 miles northeast of the proposed site) to 820 feet in a well located approximately 4.5 southeast of the proposed site.

Reported well yields in the NMOSE database for the water wells in the general area range from very low (less than 5 gallons per minute (gpm) to 100 gpm

Recharge:

Recharge is by direct precipitation and infiltration from intermittent streamflow and subsurface groundwater flow from upgradient areas. The region is characterized by an annual precipitation of 10 to 20 inches and high average annual evaporation rates. Most recharge is episodic and associated with periods of heavy rainfall. Recharge is most likely to occur during long-duration rainfall events or periods of frequent, smaller rainfall events. Otherwise, the water is has a high likelihood of being lost to evapotranspiration. The average annual recharge rate for the Pecos River Basin aquifer in the general area (including Lea County) is between 0 and 0.5 inches/year (Hutchison et al. 2011).

REFERENCES

- Hutchison, W.R., I.C. Jones and R. Anaya. 2011. Update of the groundwater availability model for the Edwards-Trinity (plateau) and Pecos Valley aquifers of Texas.
- New Mexico Office of the State Engineer (NMOSE). 2010. New Mexico Water Rights Reporting System Water Column/Average Depth to Water Report. Available at <http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html>. Accessed: October 2023.
- Nicholson, Alexander, Jr. and Clebsch, Alfred, Jr. 1961. Ground-Water Report 6 – Geology and Ground-Water Conditions in Southern Lea County, New Mexico. United States Geological Survey in cooperation with the New Mexico Institute of Mining and Technology, State Bureau of Mines and Mineral Resources Division and the New Mexico State Engineer.
- U.S. Department of Agriculture (USDA). 2013. Natural Resources Conservation Service. Soil Surveys by State. Available at www.nrcs.usda.gov. Accessed: October 9, 2023.
- USDA. 2016. Sandy Ecological Site Characteristics. Available at <https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&repType=regular&id=R042XA051NM>. Accessed: September 2022.

Appendix D – Design Plan

Temporary Pit containing non-low chloride fluids

DL 4 33 FEDERAL COM and 4 9 FEDERAL COM (Pad 601)

Section 4 of T22S, R33E

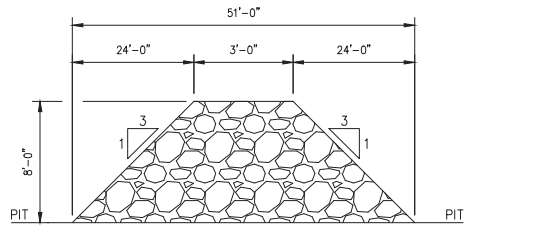
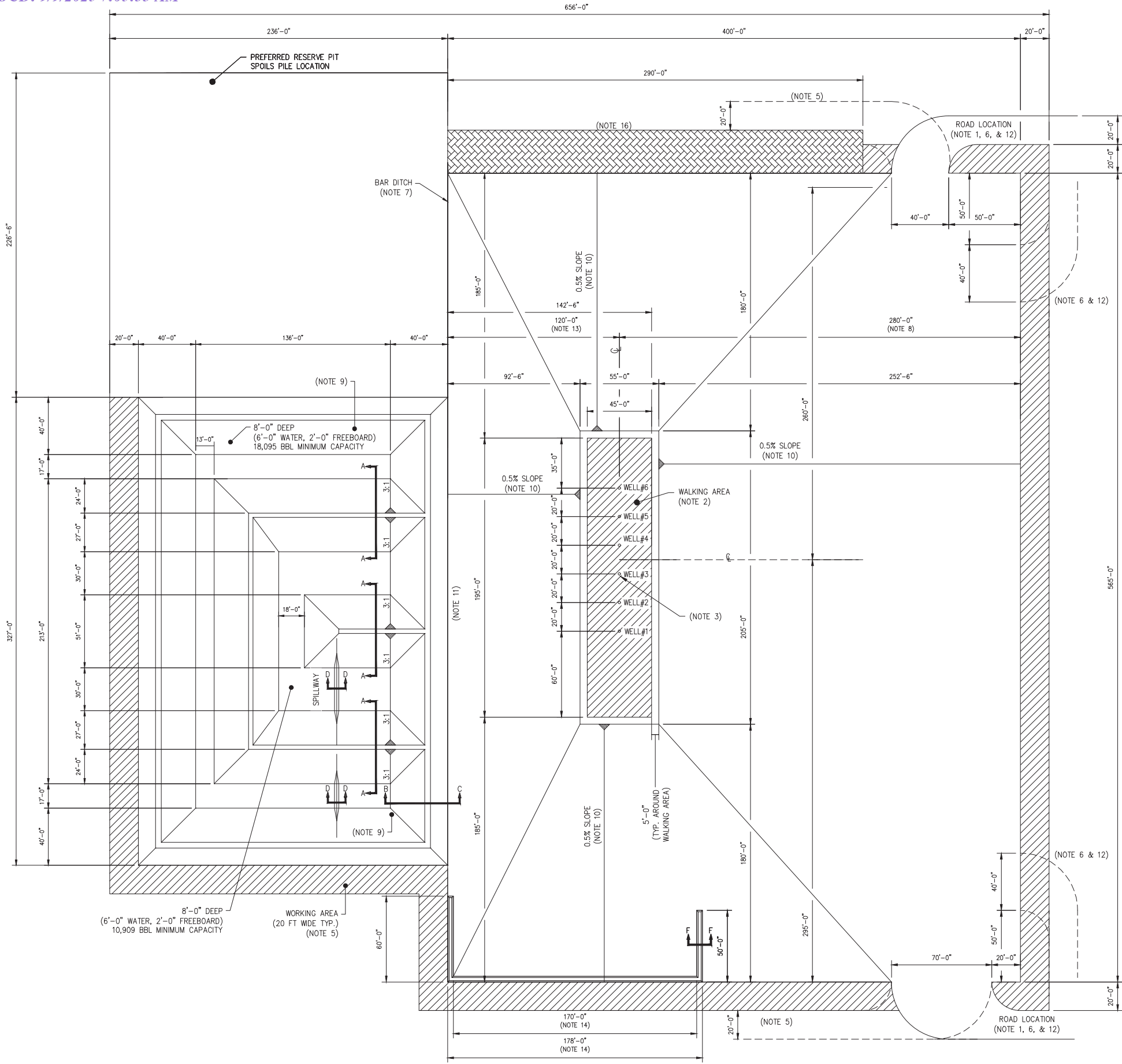
Appendix D – Design Plan**DL 4 33 FEDERAL COM and 4 9 FEDERAL COM (Pad 601)****Temporary Pit**

The Operator will design and construct the temporary pit to contain liquids and solids; prevent contamination of fresh water; and protect public health and the environment. The Design and Construction will follow the requirements listed below:

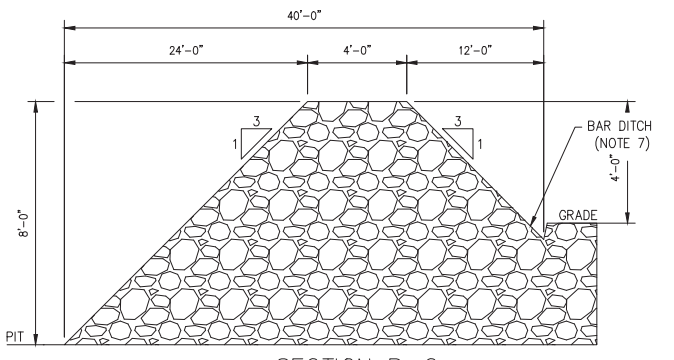
- The topsoil will be stripped and stockpiled prior to construction for use as the final cover during closure.
- A sign, consistent the requirements of 19.15.16.8 NMAC, will be utilized and made viewable at the location of the pit.
- Fencing will be in place around the perimeter of the pits and the Operator will ensure it remains in good repair until closure.
- Netting will not be installed on the temporary pit; however, the operator will inspect for and report any discovery of dead migratory birds or other wildlife while the pit contains fluid and is in use.
- The design of the pit, including the berms, geomembrane material, and construction notes below, is intended to ensure the confinement of liquids to prevent releases.
- The subgrade and interior slopes will be screened for deleterious materials and rocks and will be suitable for the liner installation. An underlying geotextile may be used to provide additional protection from puncture or stress cracking.
- The slopes of the pit will be constructed at a two horizontal to one vertical foot ratio.
- A 40-mil HDPE liner resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions, and ultraviolet light will be installed in the pit. Liner compatibility will comply with EPA SW-846 Method 9090A. Technical data sheets for the liner material can be found in *Variance Request 2 of 2 – Proposed Use of High-Density Polyethylene (HDPE) Liner for Temporary Pit in lieu of Linear Low-Density Polyethylene (LLDPE) Liner*.
- Liner seams will be minimized as is practical during construction and will only be oriented up and down a slope. When field welding the liner seams, the liner will overlap a minimum of 4 inches and a maximum of 6 inches. Welds will be minimized in corners and irregularly shaped area.

Welds will only be performed by qualified personnel.

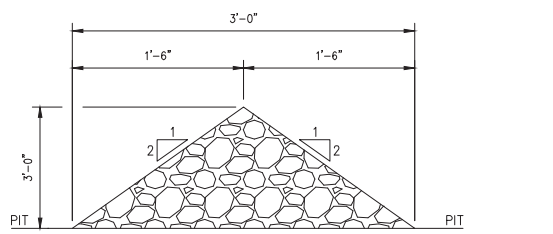
- Construction will avoid excessive stress-strain on the liner by screening the subgrade for deleterious materials and rock and using geotextile where needed, utilized experienced personnel for the installation of the liner, taking care when unrolling liner material and limiting the use of any machinery that could damage the liner.
- The edged of the liner will be anchored in the bottom of a compacted earth field trench that is 18 inches deep.
- Impingement of liquids onto the liner will be prevented by use of a loose hose discharge method. The design ensures fluid enters a malleable section of hose laying on the pit berm prior to entering the pit preventing direct impingement.
- The design includes a 4 foot berm and bar ditch around the entirety of the pit to prevent run onof surface water. The berm will be maintained from construction to closure.
- The volume of the temporary pit is 6.6 acre-ft including freeboard.
- No venting or flaring of gas will take place during the construction, use, and closure of the pit and, as such, the entirety of the pit will be lined.



SECTION A-A
NOT TO SCALE

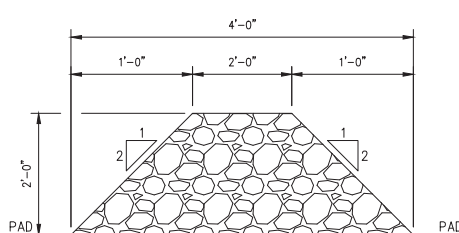


SECTION B-C
NOT TO SCALE

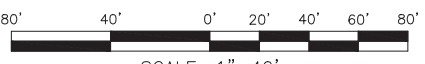


SECTION D-D
NOT TO SCALE

- NOTES:
1. PRIMARY PAD ENTRANCE MUST BE ON WEST OR EAST SIDE OF PAD FOR DRILLING LAYOUT.
 2. SEE GEO-TECHNICAL INVESTIGATION REPORT FOR COMPACTION RECOMMENDATION. SEE DRILLING MAT LAYOUT FOR DETAILS.
 3. FOR COMPLETIONS GRAVEL LOCATIONS, SEE DWG. FACTSTD-COMGRVL-CIV-PVD-MCB-0001-01.
 4. PERMITS NEEDED FOR SHADED WORK AREA AND 30'x290' OPS KICK OUT.
 5. ROAD CAN COME FROM EITHER THE NORTH OR SOUTH DIRECTION DEPENDING ON LEASE ORIENTATION.
 6. SECONDARY ACCESS ROAD IS REQUIRED FOR COMPLETIONS DRIVE-THROUGH. SECONDARY ACCESS ROAD CAN BE EITHER ON EAST/WEST EDGE OF PAD OR SOUTH EDGE OF PAD, BUT MUST BE OPPOSITE OF PRIMARY PAD ENTRANCE (REF. NOTE 1) FE MUST CONSULT D&C ADVISOR TO COMPLETE PMOC IF SECONDARY ROAD IS NOT FEASIBLE.
 7. BAR DITCHING TO BE PROVIDED BETWEEN PAD AND RESERVE PIT.
 8. DIMENSION SOUTH OF THE WELLS CAN BE REDUCED TO 260' IF BASIS OF DESIGN IS CONVENTIONAL FRAC OPERATIONS. MOC REQUIRED.
 9. PAINT 8' LONG PIT LEVEL MARKERS EVERY 2' FROM THE BOTTOM LABEL BY THE LENGTH OF THE INCLINE FROM THE BOTTOM OF THE PIT.
 10. PREDOMINANT DRAINING DIRECTION TO BE FIELD-DETERMINED BASED ON LOCAL TOPOGRAPHY.
 11. FOR THE 6-WELL PAD, DISTANCE IN BETWEEN WELLS IS 20'-0".
 12. 0.5% CROWN THROUGH CENTERLINE OF ROAD ENTRANCE TO THE PAD FOR WATER RUN OFF.
 13. DIMENSION NORTH OF THE WELLS CAN BE INCREASED TO 150' IF BASIS OF DESIGN IS ESP AS THE ARTIFICIAL LIFT METHOD. MOC REQUIRED.
 14. NORTH BERM WALL MUST BE OFFSET BY 5'-0" TO THE SOUTH FOR ESP WELLS.
 15. AN ADDITIONAL CONTAINMENT BERM NOT REQUIRED IF PAD BOUNDARY BERM IS PLANNED.
 16. LOCATION WILL DEPEND ON FE INFRASTRUCTURE AND INCLUDE PRODUCTION OPERATIONS EQUIPMENT LIKE FL, GL, WELL PANELS, CHEMICALS, ESP DRIVES, POWER POLES, ETC. THIS AREA REQUIRES ONLY CLEARING, BALANCING, AND FINISHING.



SECTION F-F
NOT TO SCALE



SCALE: 1"=40'

SHEET CIV012

REVISIONS											
0	APPROVED FOR CONSTRUCTION BASIN DESIGN, DRF 21103 CSD 04/05/21	EV	CKHT	3	APPROVED FOR CONSTRUCTION BASIN DESIGN, DRF 22199 EV 07/19/22	-	QTY	6	APPROVED FOR CONSTRUCTION 3S E&D, DRF 23913 CLG 04/11/24	3S	QTY
1	APPROVED FOR CONSTRUCTION BASIN DESIGN, DRF 21252 EV 08/31/21	EB	UGOS	4	APPROVED FOR CONSTRUCTION 3S E&D, DRF 22589 JL 05/04/23	3S	QTY	-			
2	APPROVED FOR CONSTRUCTION BASIN DESIGN, DRF 22011 EV 04/26/22	QY		5	APPROVED FOR CONSTRUCTION 3S E&D, DRF 23912 CLG 02/06/24	3S	QTY	-			

AFC

APPROVED FOR CONSTRUCTION

AFC
APPROVED FOR CONSTRUCTION

**Chevron U.S.A. Inc.**

FACTORY STANDARD DRAWINGS
PROJECT DESCRIPTION — COUNTY, STATE

CIVIL — FACTORY STANDARD 6 WELL PAD PLAN — OPEN LOOP

FACTSTD-6WPADOPN-CIV-PVD-MCB-0001-01

DR. JLH
ENG. KVPY

6

DL 4 33 FEDERAL COM
NO. 601H WELL
 X=733,305.57 (NAD 27 NM E)
 Y=517,698.74
 LAT.32.420999°N
 LONG.103.577256°W
 ELEV. 3641'

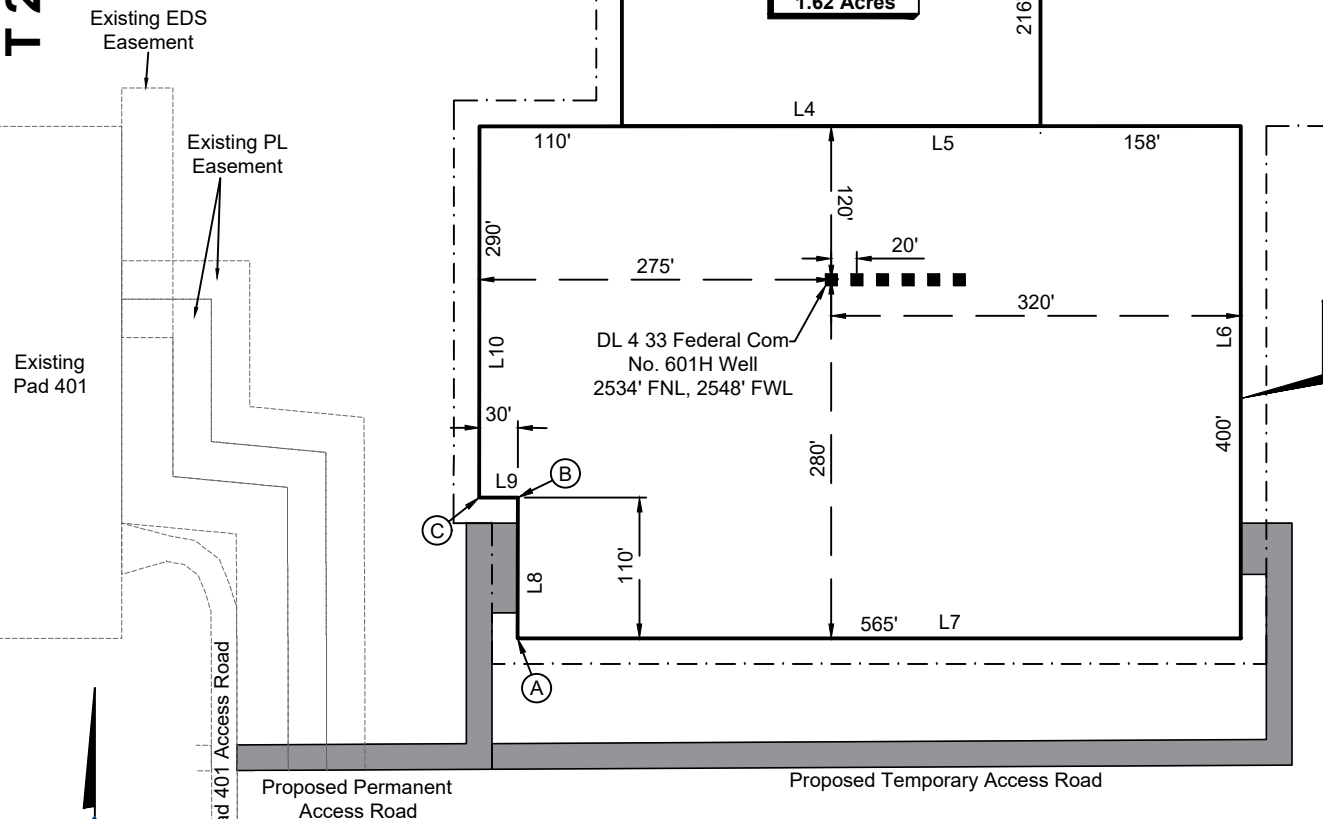
R 33 E

LEGEND

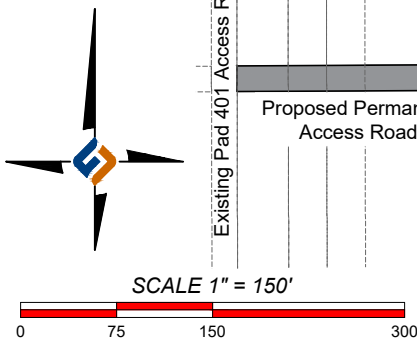
- PROPOSED PAD/PIT
- - - - - PROPOSED CLEAR LIMITS
- EDGE OF PROPOSED ACCESS ROAD
- - - - - EXIST. ROAD/FACILITY/PAD/ESMT.
- OE — OE — EXISTING OVERHEAD POWERLINE
- PL — PL — EXISTING PIPELINE
- X — X — EXISTING FENCE

T 22 S

SEC. 4
BUREAU OF LAND
MANAGEMENT



PROPOSED PAD
5.39 Acres



REVISIONS

07/24/24 Update CS 2 access road/soil storage
 08/09/24 Update CS 2 access road/soil storage

AFE: CUSA-240607



I, THE UNDERSIGNED, DO HEREBY CERTIFY THAT THE SURVEY INFORMATION FOUND ON THIS PLAT WAS DERIVED FROM FIELD NOTES OR ELECTRONIC DATA OF AN ACTUAL ON-THE-GROUND SURVEY MADE BY ME OR UNDER MY SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. NO WARRANTY IS MADE OR INTENDED FOR THE LOCATION OF ANY OR ALL EASEMENTS THAT MAY EXIST WITHIN THE BOUNDS OF THIS SURVEY.

Chad Harcrow

08/28/24

CHAD HARCROW RPLS #17777

PROJECT MANAGER: VHV
 DRAWN BY: VHV

DATE
 SURVEY DATE: 06/18/24
 SHEET 1 OF 3

WELL PLAT
DL 4 33 FEDERAL COM NO. 601H
CHEVRON U.S.A. INC.
SECTION 4, T22S-R33E
LEA COUNTY, NEW MEXICO



HOLLAND
LAND RESOURCES
 2028 E. BEN WHITE BLVD., SUITE 240-2012
 AUSTIN, TEXAS 78741
 Texas Firm No. 10194865
 ph. 281.826.1964
 email: accounting@holland-lr.com
 Fort Worth - Denver - Houston - Midland
 Oklahoma City - Pittsburgh

(NAD 27 NM E)

NW RESERVE PIT CORNER

X=733,142.08

Y=518,034.73

LAT.32.421925°N

LONG.103.577778°W

ELEV. 3639'

NE RESERVE PIT CORNER

X=733,469.08

Y=518,034.73

LAT.32.421919°N

LONG.103.576719°W

ELEV. 3636'

SW RESERVE PIT CORNER

X=733,142.07

Y=517,818.73

LAT.32.421332°N

LONG.103.577783°W

ELEV. 3640'

SE RESERVE PIT CORNER

X=733,469.07

Y=517,818.73

LAT.32.421325°N

LONG.103.576724°W

ELEV. 3638'

(NAD 27 NM E)

NW PAD CORNER

X=733,030.70

Y=517,818.65

LAT.32.421334°N

LONG.103.578144°W

ELEV. 3641'

NE PAD CORNER

X=733,625.57

Y=517,818.73

LAT.32.421322°N

LONG.103.576217°W

ELEV. 3636'

SE PAD CORNER

X=733,625.56

Y=517,418.75

LAT.32.420223°N

LONG.103.576226°W

ELEV. 3639'

SW PAD CORNER A

X=733,060.57

Y=517,418.75

LAT.32.420234°N

LONG.103.578057°W

ELEV. 3644'

SW PAD CORNER B

X=733,060.65

Y=517,528.67

LAT.32.420536°N

LONG.103.578054°W

ELEV. 3644'

SW PAD CORNER C

X=733,030.57

Y=517,528.74

LAT.32.420537°N

LONG.103.578151°W

ELEV. 3644'

PROPOSED RESERVE PIT

Line #	Length	Direction
L1	216.03	S00° 00' 04"W
L2	327.06	S89° 59' 59"W
L3	216.04	N00° 00' 05"E
L4	327.06	S89° 59' 59"E

PROPOSED PAD

Line #	Length	Direction
L5	595.00	N89° 59' 31"E
L6	400.07	S00° 00' 05"W
L7	565.10	N90° 00' 00"W
L8	109.94	N00° 02' 33"E
L9	30.09	N89° 51' 28"W
L10	289.97	N00° 01' 30"E

NOTES:

1. This plat does not represent a boundary survey and is for the exclusive use of Chevron U.S.A. Inc., boundary lines and monuments shown hereon are for reference use only. Coordinates shown are based on the New Mexico Coordinate System, State Plane NAD 27, New Mexico East Zone (3001), U.S. survey foot. Latitude and longitude are based on WGS84. Distances shown are ground distances.

2. Location of existing pipelines shown are based on standard pipeline locating equipment, scars and pipeline markers, every effort was made to locate and verify said pipelines. However caution should be exercised when performing work as pipelines and other hazards, such as fiber optic cables, PVC pipelines, etc., may exist on site that could not be located. As such be advised that New Mexico law requires that contractors contact New Mexico One Call at www.nm811.org for assistance in locating and marking underground utilities prior to construction.

DISCLAIMER:

Holland Land Resources has not performed or been asked to perform any engineering, hydrology modeling, flood plain, or "No Rise" certification analyses, including but not limited to determining whether the project will impact flood hazards in connection with Federal/FEMA, State, and/or local laws, ordinances and regulations. As such Holland Land Resources makes no warranty, guarantee, or representation of any kind as to the foregoing issues, and entities or individuals using this information shall do so at their own risk.

REVISIONS

07/24/24 Update CS 2 access road/soil storage
08/09/24 Update CS 2 access road/soil storage

AFE: CUSA-240607



I, THE UNDERSIGNED, DO HEREBY CERTIFY THAT THE SURVEY INFORMATION FOUND ON THIS PLAT WAS DERIVED FROM FIELD NOTES OR ELECTRONIC DATA OF AN ACTUAL ON-THE-GROUND SURVEY MADE BY ME OR UNDER MY SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. NO WARRANTY IS MADE OR INTENDED FOR THE LOCATION OF ANY OR ALL EASEMENTS THAT MAY EXIST WITHIN THE BOUNDS OF THIS SURVEY.

Chad Harcrow

08/28/24

CHAD HARCROW RPLS #17777

PROJECT MANAGER: VHV

DRAWN BY: VHV

DATE

SURVEY DATE: 06/18/24

SHEET 3 OF 3

WELL PLAT
DL 4 33 FEDERAL COM NO. 601H
CHEVRON U.S.A. INC.
SECTION 4, T22S-R33E
LEA COUNTY, NEW MEXICO



HOLLAND
LAND RESOURCES
2028 E. BEN WHITE BLVD., SUITE 240-2012
AUSTIN, TEXAS 78741
Texas Firm No. 10194865
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Fort Worth - Denver - Houston - Midland
Oklahoma City - Pittsburgh

Appendix E – Operating and Maintenance Plan

Temporary Pit containing non-low chloride fluids

DL 4 33 FEDERAL COM and 4 9 FEDERAL COM (Pad 601)

Section 4 of T22S, R33E

**Appendix E – Operating and Maintenance Plan
DL 4 33 FEDERAL COM and 4 9 FEDERAL COM (Pad 601)
(601H, 602H, 603H, 613H, 614H, 615H)
Temporary Pit**

The Operator and Rig Contractor will operate and maintain the Temporary Pit to contain liquids and solids, maintain the integrity of the liner system in a manner that prevents contamination of fresh water and protects public health and the environment as described below.

The operation of the Temporary Pit is summarized below.

Prior to arrival of the drilling rig, the separate pit sections are filled with the fluid required for drilling operations of the wells on the well pad. Typically, these fluids are a low chloride brackish water and a high chloride saturated brine.

During open loop drilling operations, fluid is pulled from one end of the Temporary Pit and sent to the rig pumps to be transferred downhole as the drilling fluid. Upon returning to the surface, the fluid and associated drilled solids flow to the opposite end of the Temporary Pit.

When conducting Closed Loop drilling activities, the Temporary Pit may be utilized for cuttings disposal for purposes of maintaining mud weight, mitigating downhole hazards, and managing other unforeseen circumstances. The Temporary Pit is only to be utilized in conjunction with Closed Loop drilling when drilling activities are done using Water Based Drilling Fluids. In this circumstance, drilled solids are separated from the drilling fluid with solids control equipment and then moved to the Temporary Pit.

During well cementing operations, if the low chloride fluid in the Temporary Pit meets specifications set by the Operator and Cementing Contractor, that fluid will be used as mix water for the blending of the cement slurry. During cementing operations, excess cement returns may be placed in the Temporary Pit.

Throughout well construction, if the fluid in the Temporary Pit meets the specifications set by the Operator and Rig Contractor, that fluid may be used as rig water for component cleaning and engine cooling.

If downhole problems occur during drilling operations, such as fluid losses or waterflows, the Temporary Pit is used to assist with fluid management into and out of the well. Transfer pumps and hoses are used to move these fluids.

After the drilling rig is mobilized off the well pad, any remaining fluids in the Temporary Pit will be removed and reused, recycled, or disposed of in a manner consistent with Division rules.

The operation of the Temporary Pit will follow the requirements listed below:

- All cuttings placed into the Temporary Pit will be produced and disposed of within the boundaries of one single lease, pursuant to the Pit Rule definition of “Onsite”.
- The Operator will not discharge into or store any hazardous waste (as defined by 40 CFR 261 and NMAC 19.15.2.7.H.3) in the pits.
- If the pit liner’s integrity is compromised above the water line, then the Operator will repair the damage within 48 hours of discovery.
- If the pit develops a leak, or if any penetration of the pit liner occurs below the liquid’s surface, then the Operator shall notify the appropriate division office pursuant to the requirements of 19.15.29 NMAC, remove all liquid above the damage or leak within 48 hours of discovery, and repair the damage or replace the pit liner as applicable.
- The injection or withdrawal of liquids from a pit is accomplished through a header, diverter or other hardware that prevents damage to the liner by erosion, fluid jets or impact from installation and removal of hoses or pipes.
- Engineering drawings demonstrate that the elevation and slopes of the pit prevent the collection of surface water run-on.
- The Operator will maintain on site an oil absorbent boom to contain and remove oil from the pit’s surface.
- The Operator will maintain the pit free of miscellaneous solid waste or debris.
- The Operator will maintain at least two feet of freeboard for the Temporary Pit. If, during extenuating circumstances, a freeboard of less than two feet is required, then a log will be maintained describing such circumstances.
- The Operator will remove all free liquids from the surface of a temporary pit within 30 days from the date the Operator releases the last drilling or workover rig associated with the relevant pit permit. The Operator will note the date of the drilling or workover rig’s release on form C-105 or C-103 upon well or workover completion.

Appendix F – Closure Plan

Temporary Pit containing non-low chloride fluids

DL 4 33 FEDERAL COM and 4 9 FEDERAL COM (Pad 601)

Section 4 of T22S, R33E

Appendix F – Closure Plan
DL 4 33 FEDERAL COM and 4 9 FEDERAL COM (Pad 601)
(601H, 602H, 603H, 613H, 614H, 615H)
Temporary Pit

Discussion of Onsite Cuttings Disposal

The proposed Temporary Pit will contain drill cuttings from the vertical sections of wells 601H, 602H, 603H, 613H, 614H, 615H. All cutting from vertical drilling will be produced and disposed of within the boundaries of one single lease, pursuant to the Pit Rule definition of “Onsite”. The disposal and closure activities will take place within the design footprint of the Temporary Pit. Proposed closure operations will be conducted in accordance with the Closure and Site Reclamation Requirements detailed in 19.15.17.13 NMAC.

Closure Notice

If planned activities deviate from this Closure Plan, an updated Closure Plan will be submitted to the Division for approval prior to initiating any closure activities.

The Operator will notify the Bureau of Land Management at least 72 hours, but not more than one week, prior to any closure activities as per approved sundry Conditions of Approval. This notice will include the project name and location description.

The Operator shall additionally notify the district office verbally and in writing at least 72 hours, but not more than one week, prior to any closure operation. This noticed will include the Operator’s name and the location to be closed by unit letter, section, township, and range.

Protocols and Procedures

1. The Operator will remove all liquids from the Temporary Pit and either:
 - a. Dispose of the liquids in a division-approved facility,
or
 - b. Recycle, reuse or reclaim the water for reuse in drilling and stimulation.
2. A five-point (minimum) composite sample will be collected from the contents of the Temporary Pit and sent to an accredited laboratory for analysis of the constituents listed in Table 2 of 19.15.17.13 NMAC.
 - a. If any concentration is higher than limits listed in Table 2, blending calculations will be used to determine the amount of soil or non-waste material needed to blend with the pit contents to achieve the Table 2 limit. The mixing ratio of soil or non-waste material to pit contents shall not exceed 3:1.
 - b. If all constituent concentrations are less than or equal to the parameters listed in Table 2 of 19.15.17.13 NMAC, no mixing shall occur.

3. The Operator will conduct blending operations, as required, and conduct a paint filter liquids test to ensure that the contents of the former pit are sufficiently stabilized to support the cover materials.
4. Cover materials will be installed as described in 'Cover Design' (below).
5. Following the implementation of the cover design, the Operator will revegetate the area as outlined in 'Reclamation and Revegetation' (below).

Soil Cover Design

After blending with non-waste containing, uncontaminated, earthen material, the Operator will cover the former Temporary Pit according to the following procedure.

1. The contents of the former pit will be positively contoured ('turtle-backed') to promote drainage away from the former pit contents and reduce infiltration. Compaction of pit materials over time and as a result of placement of overburden will be taken into consideration.
2. A 20-mil string reinforced LLDPE geomembrane liner will be installed above the pit materials.
3. At least 4-feet of compacted, uncontaminated, non-waste containing earthen fill with chloride concentrations less than 600 mg/kg will be placed above the liner.
4. Either the background thickness of topsoil or 1-foot of suitable material to establish vegetation at the site, whichever is greater, will be placed over the earthen fill.
5. The location will be recontoured to match the pre-disturbance topography and prevent surface erosion and ponding.
6. The Operator will revegetate the area as described below in 'Reclamation and Revegetation'.

Closure Report

1. Within 60 days of closure completion, the Operator will submit a closure report on form C-144, with necessary attachments to document all closure activities including sampling results, information required by 19.15.17 NMAC, a plot plan including the exact location of the former pit, details of the cover design, and photographs.
2. In the closure report, the Operator will certify that all information in the report and attachments is correct and that the Operator has complied with all applicable closure requirements and conditions specified in the approved closure plan.
3. A steel marker will be placed at the location per the requirements in Subsection F of 19.15.17.13 NMAC.

Closure Timing

As discussed in **Variance 1**, the Operator proposes closure activities will be completed within a timeline not to exceed 1 year from the rig down move out (RDMO) date. This date will be noted on form C-105 or C-103, filed with the Division upon the well's completion.

Reclamation and Revegetation

The Operator will reclaim the disturbed area to a safe and stable condition that existed prior to oil and gas operations and that blends with the surrounding undisturbed area. Areas with ongoing production or drilling operations will not be reclaimed as described herein, but will be stabilized and maintained to minimize dust and erosion

For all areas relevant to the closure process that will not be used for production operations or future drilling, the Operator will:

1. Replace topsoils and subsoils to their original relative positions and regrade the area to achieve erosion control, long-term stability, preservation of surface water flow patterns, and prevent ponding.
2. Notify the Division when the surface grading work is complete.
3. Reseed the area with an appropriate seed mix in the first favorable growing season following closure. Reseeding and weed control measures will be taken, if necessary.
4. Notify the Division when reclamation is complete: vegetative cover has been established that reflects a life-form ratio of plus or minus 50 % of pre-disturbance levels and a total percent plant cover of at least 70 % of pre-disturbance levels, excluding noxious weeds.

Alternative to Closure in Place

In the event the concentration of any contaminant in the contents, after mixing with soil or non-waste material, is higher than constituent concentrations shown in 19.15.17.13 NMAC, then the waste shall be removed from the Temporary Pit and disposed of at one of the following Division approved off-site facilities.

Sundance Services (Parabo, Inc.)
M-29-21S-38E
Permit No. NM-01-003

R360 Permian Basin, LLC
4507 W. Carlsbad Hwy, Hobbs, NM 88240
Permit No. NM-01-0006

Appendix G – Evaluation of Unstable Conditions

Temporary Pit containing non-low chloride fluids

DL 4 33 FEDERAL COM and 4 9 FEDERAL COM (Pad 601)

Section 4 of T22S, R33E

APPENDIX G – EVALUATION OF UNSTABLE CONDITIONS

Dagger Lake 4 33 Federal Com

Temporary Pit

SUMMARY

Figure 8 identifies the location of the proposed temporary pit with respect to Bureau of Land Management (BLM) mapped potential karst areas. The BLM categorizes all areas within the Carlsbad Field Office (CFO) as having either low, medium, high or critical karst occurrence potential based on geology, occurrence of known caves, density of karst features, and potential impacts to fresh water aquifers. The proposed Temporary Pit is mapped by BLM CFO in a “Low Potential” karst area.

The proposed Temporary Pit lies near the western end of the Delaware Basin and is situated north of the Gypsum Plain (Hill 1996). Bedrock cropping out beneath the proposed project area is comprised of the Rustler Formation, a roughly 50-meter-thick sequence of limestone, siltstone, and sandstone with interbedded clay and gypsum (Land and Veni 2014). The Rustler Formation is underlain by the Castile Formation, which is composed chiefly of anhydrite and is more prone to karst formation than the Rustler Formation. The Castile and Rustler formations are highly soluble and karst development in them (i.e., sinkholes and associated caves) is well recognized, particularly in the Gypsum Plain. Stafford et al. (2008) prepared a karst potential map for the Castile Formation outcrop that shows the two densest regions of karst development occur west of the proposed Temporary Pit; however, the proposed Temporary Pit is situated in an area where karst development is expected to be less intense. Karst potential is classified as low potential as shown in **Figure 8**. There are no indications that voids, or other karst features are present or are likely to form in the vicinity of the proposed location. Therefore, local karst potential is likely to be low. The following lines of evidence, detailed in the sections below, support this position:

1. There are no dissolution features within 5-miles of the proposed location (**Figure 11**),
2. An Arcadis field study of the area indicated no closed depressions, caves, or fissures in the immediate vicinity and general area of the proposed pit (**Attachment 1**),
3. TetraTech geotechnical report and boring logs from the proposed Dagger Lake AST Pad show low karst potential and boring was dry 24 hours after drilling (**Attachment 2**).
4. The Bureau of Land Management, Paul Murphy prepared the Environmental Assessment (EA), document number - DOI-BLM-NM-P020-2020-0095-EA, evaluating DL 09 16 Loch Ness Fed Com P1. This EA notes that karst were evaluated but determined to have no impacts and therefore not evaluated in the EA. (**Section 1.6, Attachment 3**).

Structurally, the region surrounding the proposed pit location is relatively undeformed, with a 0 to 3 percent slope, and the nearest mapped quaternary fault is approximately 110-miles to the west (USGS 2023).

DISSOLUTION FEATURES EVIDENT ON AERIAL IMAGERY

The nearest apparent dissolution features to the proposed location are (**Figure 11**):

- San Simon Sink, and the associated San Simon Swale are approximately 12 miles southeast of the proposed pit location.
- Bell Lake Sink is approximately 14-miles south of the proposed location.

Depth to Karst-Forming rocks

Figure G.1 shows a stratigraphic section of the formations beneath the proposed pit. The upper 1,000 feet of subsurface consists of insoluble, clastic material. These deposits are underlain by soluble, karst-forming strata.

Surface to ~1,000 feet: Based on a review of available literature for the region, no significant intervals of soluble rocks are present in the Quaternary and Triassic deposits that constitute the upper ~1,000 feet of subsurface. Because this material is largely insoluble, the potential for karst features to form within this interval is very low (Lucas and Anderson, 1993). Deeper formations at >1,000 feet: The top of the Rustler Formation is approximately 400-feet thick beneath the surface at the location of the proposed pit (Nicholson and Clebsch 1961). The Rustler Formation overlies the Salado Formation. These formations both contain thick, highly soluble beds of anhydrite and halite. The Bell Lake Sink, San Simon Swale, and San Simon Sink formed by the dissolution of salt from these deep formations. The resulting surface subsidence (due to deep dissolution) is a very slow process that has been ongoing for millions of years to form these large depressions (Bachman 1973).

<i>Period</i>	<i>Formation</i>	<i>Thickness (ft)</i>		<i>Description</i>
<i>Quaternary</i>		<i>100</i>		<i>Unconsolidated eolian and unconsolidated to partially consolidated alluvial deposits</i>
<i>Triassic</i>	<i>Chinle</i>	<i>200</i>		<i>Red shales and thinly interbedded sandstone</i>
	<i>Santa Rosa</i>	<i>200 - 300</i>		<i>Sandstone and interbedded siltstone and red shale</i>
<i>Permotriassic</i>	<i>Quartermaster (Dewey Lake)</i>	<i>560</i>		<i>Mudstone, siltstone, claystone, and interbedded sandstone</i>
<i>Permian</i>	<i>Rustler</i>	<i>400</i>		<i>Anhydrite, halite, dolomite, sandy siltstone, and polyhalite</i>

Figure G.1: Stratigraphic Section beneath the Location of the Proposed Temporary Pit
(Nicholson and Clebsch 1961)

Mitigation of Karst Potential

Not applicable; however, the following commitments will be applied as a best practice in development of the proposed pit.

General Construction:

- No blasting
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction, and no additional construction shall occur until clearance has been issued by the Authorized Officer.
- All linear surface disturbance activities will avoid sinkholes and other karst features, if they are identified during construction, to lessen the possibility of encountering near surface voids during construction, minimize changes to runoff, and prevent untimely leaks and spills from entering the karst drainage system.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

Pad Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche—no blasting.
- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).
- Following a rain event, all fluids will be vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

REFERENCES

- Bachman. 1973. Surficial features and late Cenozoic history in southeastern New Mexico: US Geological Survey, Open-File Report USGS-4339-8, Denver CO.
- Crowl, W.J., D.E. Hulse, and G. Tucker, P.E. 2011. NI 43-101 Technical Report Prefeasibility Study for the Ochoa Project, Lea County, New Mexico. Prepared for IC Potash Corporation by Gustavsen and Associates, December 30. 301pp.
- Lucas, S.G., and O.J. Anderson. 1993. Stratigraphy of the Permian-Triassic boundary in southeastern New Mexico and west Texas. *Carlsbad Region (New Mexico and West Texas)*.
- Nicholson, Alexander, Jr. and Alfred Clebsch Jr. 1961. Ground-Water Report 6 - Geology and Ground-Water Conditions in Southern Lea County, New Mexico, United States Geological Survey in cooperation with the New Mexico Institute of Mining and Technology, State Bureau of Mines and Mineral Resources Division and the New Mexico State Engineer.
- U.S. Geological Survey and New Mexico Bureau of Mines and Mineral Resources. 2023. Quaternary fault and fold database for the United States. Available at <https://www.usgs.gov/natural-hazards/earthquake-hazards/faults>. Accessed: February 25, 2023.

Attachments 1 – Arcadis Environmental Field Survey, Section 4, Karst Evaluation, Dagger Lake (2019)

Temporary Pit containing non-low chloride fluids

Dagger Lake 4 33 Federal Com Pit

Section 4, T22S, R33E



Chevron U.S.A. Inc.

ENVIRONMENTAL FIELD SURVEY

Dagger Lake Development Area

February 15, 2019

ENVIRONMENTAL FIELD SURVEY

**ENVIRONMENTAL
FIELD SURVEY**

Dagger Lake Development Area

Prepared for:

Lee Higgins

HES Specialist

Chevron U.S.A. Inc.

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Prepared by:

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Suite 100

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Tel 432 687 5400

Fax 432 687 5401

Our Ref.:

B0048872.0000

Date:

February 15, 2019

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ENVIRONMENTAL FIELD SURVEY

10 KARST

The term karst describes distinct terranes that are attributable to high solubility of underlying bedrock. Common features of such terranes include sinkholes and caves, which are formed as the bedrock is dissolved by groundwater. Karst aquifers represent saturated bedrock where its permeability has been enhanced by dissolution processes. Such aquifers can be important sources of potable groundwater.

The proposed project area lies near the northeast margin of the Delaware Basin. As discussed in further detail in Section 11.2, bedrock occurring beneath the proposed project area consists of the Triassic-aged Dockum Group. Underlying the Dockum Group are the Dewey Lake redbeds. Both of these formations are composed chiefly of clastic (insoluble), non-karst-forming rocks. Beneath these formations are Permian-aged rocks of the Rustler and Salado Formations. These rocks contain significant beds of halite (i.e., rock salt) and anhydrite, making them susceptible to karst formation. The top of the Rustler Formation in the proposed project area is approximately 800 feet below the land surface (Crowl et al. 2011).

Despite the great depth to karst-forming rocks, a number of large depressions and “sinks” are noted in the region. Bell Lake Sink and three other unnamed sinks, each about two miles in diameter, occur approximately 10 miles south of the project area (Berg 2012). A portion of San Simon Swale, an approximately 18-mile long by 6-mile wide closed depression that terminates at San Simon Sink traverses the southern portion of the site. San Simon Sink is located approximately 10 miles southeast of the project area (Bachman 1973, Berg 2012). Using Google Earth Imagery (dated 11/20/2015), the dimensions of San Simon Sink are approximately one mile long by one-half mile wide by 75 feet deep. These depressions formed by the dissolution of salt from the upper part of the Salado Formation as well as from the overlying Rustler Formation (Bachman 1973). Solution subsidence in San Simon Sink has been active within the past century; however, solution and subsidence in this area of southeastern New Mexico has been ongoing for millions of years (Bachman 1973).

In summary, evidence of karst in the region consists predominantly of large depressions that likely formed over millions of years; although there is evidence that subsidence is ongoing, at least at San Simon Sink. These depressions were most-likely created by the dissolution of salt beds in the upper part of the Salado Formation and in the Rustler Formation, even though these are overlain by approximately 800 feet of insoluble rocks. Except for the San Simon Swale, no evidence of depressions in the survey area were identified on available topographic mapping or by examining recent Google Earth imagery.

10.1 Survey Findings and Mitigation

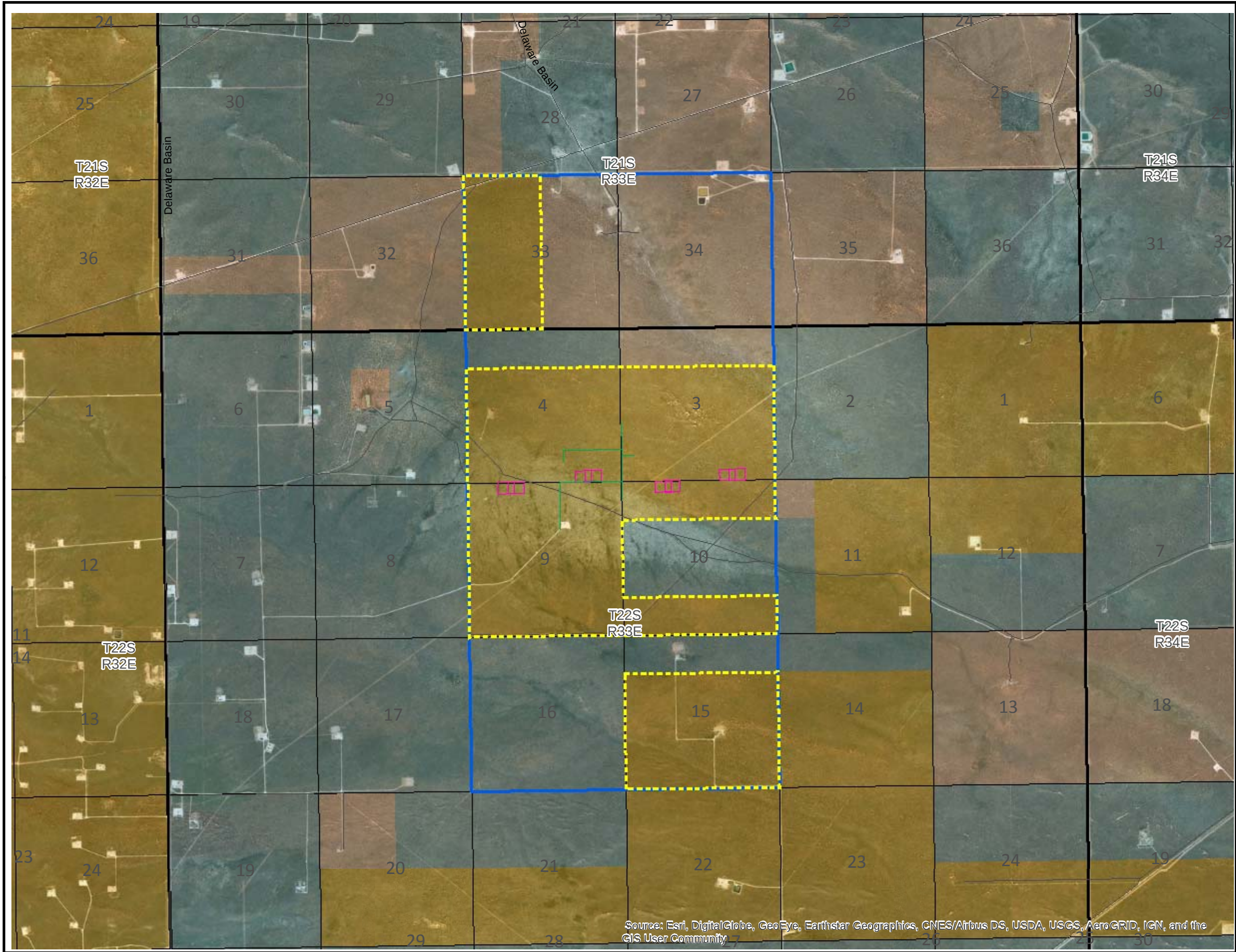
Karst potential is mapped by the BLM as “low” in the survey area (**Figure 12**). Besides San Simon Swale, only three potential karst-related features were identified during the field survey: two shallow depressions and one “opening” in the ground. Both depressions were less than nine feet across and had no open throats or evidence of focused stormwater recharge (drainage channels, etc.) Given these observations, and the large depth to soluble bedrock beneath the area, the shallow depressions are not interpreted to be karst related. Similarly, the opening in the ground, which consisted of a hole a few feet in diameter, showed no evidence that it accepted significant surface-water drainage. Furthermore, there was no evidence of subsidence in the area (for example, concentric cracks in the soil surrounding the opening or

ENVIRONMENTAL FIELD SURVEY

other evidence of slumping). Based on this information, and the aforementioned large depth to soluble rocks, the opening is not interpreted to be karst related.

FIGURE



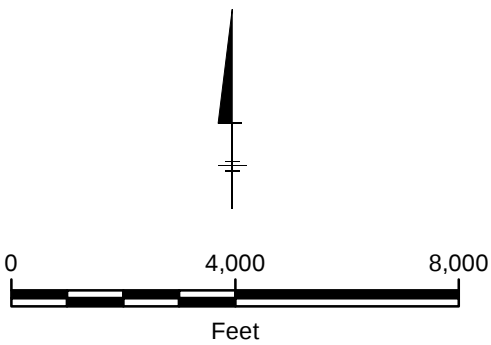


LEGEND

- Dagger Lake Development Area
- Survey Area
- Proposed ROW Site
- Proposed Pad
- Lea County Roads
- Townships
- Sections

SURFACE OWNERSHIP

- Bureau of Land Management
- Private
- State



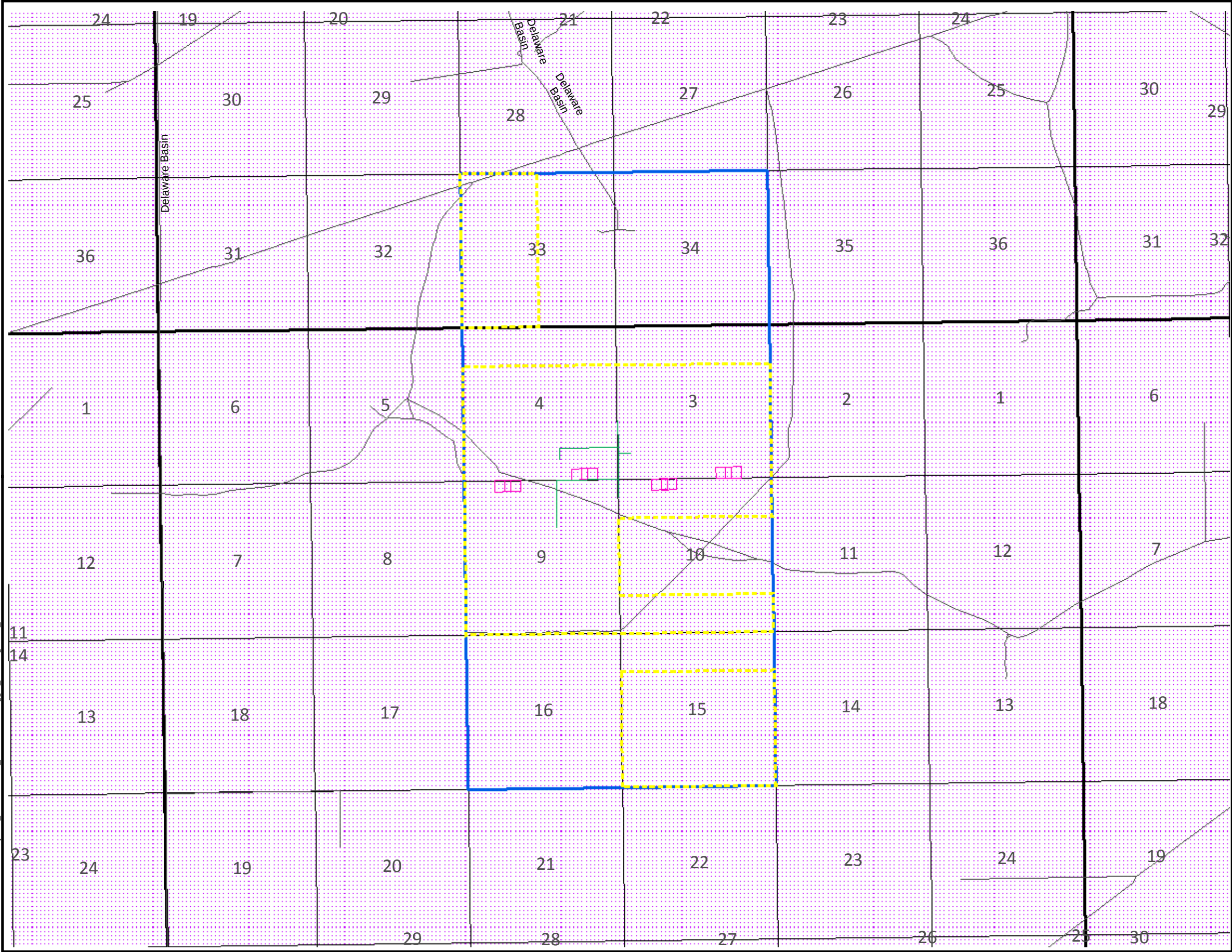
CHEVRON U.S.A. INC.
ENVIRONMENTAL FIELD SURVEYS
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO

**ENVIRONMENTAL FIELD
SURVEY AREA**

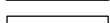
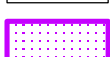


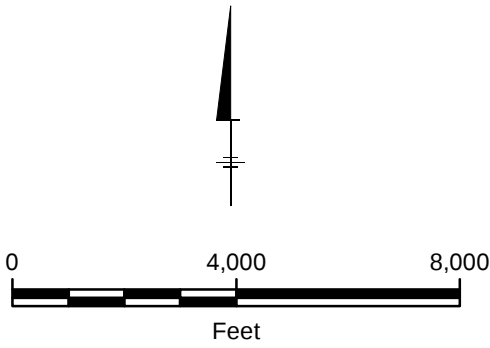
FIGURE
2

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



LEGEND

-  Dagger Lake Development Area
-  Survey Area
-  Proposed ROW Site
-  Proposed Pad
-  Lea County Roads
-  Townships
-  Sections
-  Low Potential Karst



CHEVRON U.S.A. INC.
ENVIRONMENTAL FIELD SURVEYS
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO

KARST POTENTIAL ZONES



FIGURE
12

APPENDIX A

Resumes

PERSONNEL RESUME



DANIELLE MARIE MOLINA

Staff Biologist



EDUCATION

MS, Biology, University of
Nebraska at Kearney, 2016
BS, Biology, The University of
Texas at El Paso, 2013

YEARS OF EXPERIENCE

Total – 3
With Arcadis – 1

PROFESSIONAL QUALIFICATIONS

Wetland Delineation Training
PEC Safeland
HAZWOPER 40-hr
H2S Safety Awareness
eRail Safety Training
Roadway Worker Protection
Chevron101 Training
Smith Defensive Driving
First Aid
CPR

Ms. Molina has experience as a field biologist and environmental specialist on environmental consulting projects. She has a comprehensive education in ecology, environmental and wildlife biology, and forest and range management.

Project Experience

International Boundary Water Commission (IBWC)

ARCADIS, United States; Cameron County, TX

Performed threatened and endangered species/habitat survey and Waters of the United States delineation for a proposed levee rehabilitation in southern Texas.

Environmental Assessments Confidential Client, United States

Assisted with biological surveys for rare plants and sensitive species, wetland delineation, cultural resource inventories, flood impacts assessment, and writing Environmental Assessments. Supported Arid West Ordinary High Water Mark determinations.

Environmental Assessments Paiute Pipeline, Nevada

As biologist, assisted with desert tortoise surveys and other biological assessments. Supported in Ordinary High Water Mark determinations.

Quail Project Cox and McLain Environmental Consulting, Inc., Various Locations, Texas

As environmental specialist II, conducted covey call surveys on bobwhite quail, vegetative assessments on various Texas areas, driving transect assessments and point count estimates.

Field Biologist Tetra Tech, Inc., Big Spring, Texas

Completed post-construction wildlife surveys and habitat evaluations. Analyzed impacts of wind energy projects on biological resources. Completed accurate data collection forms. Collected GPS data. Searched

PERSONNEL RESUME - Danielle Marie Molina

Project Experience Continued

for bird and bat fatalities by walking established transects. Conducted searcher efficiency and carcass persistent trials.

Oil Company Assistant

Chisholm Operating, Inc., Abilene, Texas

Coordinated day-to-day activities between contractors/pumpers. Consistently provided excellent customer service via telephone and email. Assisted in preparing wildlife management surveys. Created and maintained spreadsheets using Excel functions to improve data collection and archiving. Assisted with aerial wildlife surveys. Oversaw and managed travel arrangements for staff. Maintained successful inter-office communication by streamlining all email communications and multiple calendars. Organized and designed electronic file systems and maintained electronic and paper files. Effectively managed the receptionist area, including greeting visitors and responding to telephone and in-person requests for information promptly and courteously. Made copies, sent faxes and handled all incoming and outgoing correspondences. Generated and compiled copious data for monthly production reports.

Research Intern

African Lion Environment Research Trust (ALERT), Livingstone, Zambia

Collected behavioral data on a released pride of African lions. Actively accumulated game surveys on a 700-acre site. Consolidated data entry for clarification and analysis purposes. Locate individual lions using radio telemetry. Employed GPS units to report the location of the pride. Formulated play and/or hunting behavior data on walked lion cubs. Organized and aided in animal husbandry practices. Developed and presented conservation education to local schools. Performed snare sweeps and handled mammals. Assisted in and supported the management of project volunteers.

Enrichment and Training Intern / Administrative Assistant

Abilene Zoological Gardens, Abilene, Texas

Cared for and attended to birds within the rehabilitation zone. Conducted behavioral research on certain animals. Performed animal husbandry. Originated and prioritized the locations of various zoo animals. Performed data entry and record keeping using Excel. Responsible for accurate and concise record keeping for all enrichment activities. Executed monthly reports for zoo management. Assembled graphs and charts for high-visibility monthly reports. Developed complete natural histories on certain animals. Gathered inventory of enrichment tools.

Veterinary Assistant

Southwest Vet Clinic, Abilene, Texas

Collaborated with the veterinarian during routine and emergency animal examinations. Filled prescriptions. Meticulously sterilized medical equipment. Handled all daily maintenance and care for boarded animals.

PERSONNEL RESUME

**BRANSON CONLEY MAUCK**

Staff Ecologist

**EDUCATION**

Bachelors, Biology, Virginia
Commonwealth University, 2014

YEARS OF EXPERIENCE

Total – 4 years
With Arcadis – 1 year

CERTIFICATIONS

PEC Safeland Basic Orientation
EMPCo LPS Training
40 – hour HAZWOPER
eRail Safety Training
H2S Safe Awareness
Conrail – UPRR – Alaska Rail
Contractor Orientation
CN/US Contractor Orientation
Roadway Worker Protection
Training
Emergency Response/HazCom
Training
DOT/IATA Hazardous Materials
and Shipping Training
Freeport – McMoRan Resource
Management Training
Chevron 101 Training

Mr. Mauck is an ecologist and environmental specialist with experience in wetland delineation and assessment, endangered species and habitat surveys, and regulatory compliance for a variety of projects including oil and gas operations, energy facilities and transmission lines, roadways, military installations, airports and water infrastructure.

Project Experience**International Boundary Water Commission (IBWC)****ARCADIS, United States; Cameron County, TX**

Performed Great Plains WOTUS delineation and threatened and endangered species/habitat survey for proposed levee rehabilitation in southern Texas adjacent to the Rio Grande River.

Confidential Client**ARCADIS, United States; Questa, NM**

Performed Arid West WOTUS delineation and New Mexico Rapid Assessment Method (NMRAM) assessment of wetlands for proposed conceptual design plans and restoration/mitigation of wetlands. Assisted in the writing of conceptual design report, NMRAM memo, and wetland delineation memo for client and regulatory review.

Oil & Gas Exploration**ARCADIS, United States; TX**

Performed Arid West OWHM delineations for a proposed Chevron oil and gas exploration infrastructure on multiple ranches in west Texas. Advised and provided recommendations on permitting, jurisdiction, and T&E species and habitat.

Exxon Mobile Pipeline Company (EMPCo) – S-232, Forked Creek Mussel Survey**ARCADIS, United States; Wilmington, IL**

Performed a freshwater mussel survey for the repair of an EMPCo pipeline crossing of the Forked Creek in Wilmington, IL.

PERSONNEL RESUME - Branson Conley Mauck

Project Experience Continued

Invenergy Swisher Solar Energy Project

ARCADIS, United States; Kress, TX

Performed a wetland and WOTUS, and playa lakes delineation for a proposed solar farm. Also performed a T&E species and habitat survey within the project area. Collected data using a trimble r1 and the ArcGIS Collector App.

Johnson Space Center Invasive Species Removal and Maintenance

ARCADIS, United States; Houston, TX

Applied herbicide to hacked and cut Chinese Tallow and Chinese Privet in a wetland on Johnson Space Center property. Wetland enhancement is part of mitigation permit from the installation of a bio wall.

FCX/Collinsville – Offsite Tributary Project

ARCADIS, United States; Collinsville, OK

Performed visible smelter material removal surveys and soil sampling in proposed residential development areas. Conducted a bird nest survey for an area onsite that needed to be cleared of all vegetation. Wrote report on findings of the bird survey.

Union Pacific Railroad

ARCADIS, United States; multiple locations

Performed multiple environmental site visits, WOTUS and wetland delineations for track maintenance, expansion, and rehab. Responsibilities include delineations of jurisdictional WOTUS features, threatened and endangered species habitat and occurrence mapping, and site reclamation monitoring and reporting. Projects include UPPR/Big Spring Track Expansion Aquatic Resources Delineation; Park Hills, MO Track Washout; Corpus Christi SUB MP 36.30.

FCX Altoona Repository Design

ARCADIS, United States; Altoona, KS

Performed a wetland mitigation monitoring assessment and report for the 2018 monitoring season. Collected vegetation data and wrote report for submittal to the USACE.

Escondido Creek Linear Park

ARCADIS, United States; Kenedy, TX

Waters of the U.S. and wetlands delineation for the proposed hike and bike path adjacent to Escondido Creek. Utilized a trimble Geo XH GPS unit to collect all jurisdictional water

PERSONNEL RESUME - Branson Conley Mauck

Project Experience Continued

features. Wrote memo for permitting recommendations and features onsite. Wrote Pre-construction Notification (PCN) for client.

Magnum Poole Well #2 Pipeline Permit: Ducroz Site

ARCADIS, United States; Brazoria, Texas

Performed wetland and waters of the U.S. delineation and site assessment for proposed oil and gas exploration wells within the San Bernard WR. Compiled data and wrote an Environmental Assessment of the proposed impacts to the Refuge.

Hayhurst EFS and EA's

ARCADIS, United States; Loving, NM

Performed environmental assessment of proposed oil and gas exploration well pads, access roads, and pipeline installation. Categorized and identified vegetation, karst topography, wildlife including bird nest and potential threatened and endangered species habitat. Overall site assessment was performed to determine feasibility of proposed operations and permitting required.

DOW Seadrift Wetlands Planting

ARCADIS, United States; Seadrift, TX

Created and converted a stormwater retention basin into an emergent wetland. Tilled and spread native wetland seed mixture and planted plugs of native wetland plant species.

Southwest Gas - Southern Transmission Replacement

ARCADIS, United States; Laughlin and Henderson, NV

Performed desert tortoise presence and absence surveys. Ordinary high water mark (OHWM) delineation. Utilized trimble R1 units and ArcGIS Collector App to survey the proposed Right-of-Way (ROW) for signs and presence of the endangered Desert Tortoise and mapped out jurisdictional water of the U.S. features based on the Arid West OHWM delineation manual.

Citgo – Guadalupe River HDD Project

ARCADIS, United States; Cuero, TX

Performed a Great Plains WOTUS delineation and threatened and endangered species survey for a horizontal directional drilling (HDD) project below the Guadalupe River.

Ecologist

Stantec Consulting Services, Inc., Various Locations

Primary responsibilities included development of detailed wetland delineation submittals to the U.S. Army Corps of Engineers, performance of endangered species and habitat surveys for numerous transmission and undergrounding projects for governmental and private

PERSONNEL RESUME - Branson Conley Mauck

Project Experience Continued

agencies, performance of preliminary wetland assessment for potential solar farms, and monitoring of wetland and stream mitigation banks. Project experience includes:

- Transmission and distribution: Dominion Virginia Power on-call contracts, state-wide
- Defense/military: VDMA-Fort Pickett HERP Blackstone
- Roadways: third crossing, Hampton Roads Crossing Study SEIS, Hampton Roads, VA
- Airports and aviation: Hanover County Municipal Airport environmental services, Hanover, VA
- Solar: E.ON Solar Project environmental constraints, GA and SC

Environmental Specialist

Stantec Consulting Services, Inc., Various Locations, Virginia

Reviewed construction sites to check for compliance with DEQ permit regulations, Virginia Water Protection (VWP), and Virginia Stormwater Maintenance Plan (VSMP). Inspected construction sites and reviewed erosion and sediment control (ESC) plans to maintain compliance with permit requirements. Documented findings of inspections and submitted reports to various clients.

Aquatics Intern

Maymont Park, Richmond, Virginia

Facilitated animal rehabilitation including painted turtles and yellow-bellied sliders to build leg muscles. Exercised, rehabilitated and fed an injured American Kestrel. Fed and handled various snake species native to Virginia. Prepared food for Eastern Screech Owls. Maintained and monitored animal enclosures for cleanliness.

Ecologist Intern

Stantec Consulting Services, Inc., Various Locations, Virginia

Collected vegetation, soils and hydrology data for project consultation. Conducted biological, chemical and physical data assessment for wetland delineation. Conducted stream restoration studies. Provided regulatory support.

CHARLESTON SHIRLEY

ENVIRONMENTAL SCIENTIST I, BIOLOGIST



EDUCATION

BS Natural Resource Management
Louisiana State University and
Agricultural & Mechanical College
2013

YEARS OF EXPERIENCE

Total – 4 years
With Arcadis – <1 year

Mr. Shirley has more than two years of experience in the consulting field. He specializes in conducting surveys and monitoring of flora and fauna with an emphasis on threatened species, endangered species and species of concern. Previously he has worked with the military, public agencies and private landowners. He is an authorized biologist with the desert tortoise, *Gopherus agassizii*.

Project Experience

Ongoing Maintenance Activities on Pipeline System in the Southern California Deserts

SoCal Gas Company, Southern California Desert Areas

As an authorized biologist, monitored sites for wildlife and environmental compliance as excavation, pipe removal and replacement occurred. Performed pre-construction clearance surveys for flora and fauna.

Development Project

Confidential Client, Coyote Springs, Nevada

As an authorized biologist, conducted radio telemetry tracking of transmittered tortoises. Handled tortoises and collected body metrics and replaced transmitters on all tortoises. Monitored sites as crews worked in sensitive wildlife areas.

Water Treatment Installation

Tetra Tech, Henderson, Nevada

Performed inspection on all tortoise prevention devices. Checked site for compliance.

Range-wide Monitoring Program

U.S. Fish and Wildlife Service, Nevada, California and Utah

As an authorized biologist, tracked all transmittered tortoises, removed transmitters from all individuals being removed from project study, and managed data entry for submission to USFWS.

Community Solar Project

Valley Electric Association, Pahrump, Nevada

Monitored areas of construction for flora and fauna in ecologically sensitive areas during transmission line maintenance.

Monitoring Avian Productivity and Survivorship (MAPS) Banding
Louisiana Department of Wildlife and Fisheries and Institute for Bird Populations, Louisiana

Safely and quickly extracted birds from mist nets. Determined age and sex of passerine and non-passerine birds. Took body metrics including mass, wing cord and reproductive status.

Gopher Tortoise Health Assessment
Louisiana Department of Wildlife and Fisheries, Louisiana

Assisted with collection and processing of bodily fluids of gopher tortoise. Managed live traps and handling of tortoises.

Inventory of Recently Purchased Lands
U.S. Department of Defense, Fort Polk, Louisiana

Conducted an inventory of wildlife and habitat types on lands recently acquired by the military. Worked closely with representatives of the client during active military training to assess health and condition of the endangered red-cockaded woodpecker. Marked areas of clearcutting and suggested other forms of habitat management. Completed indices for diatoms found in flowing water bodies.

Wildlife Mortality Study
Invenergy, Bishop Hill, Illinois

Served as acting assistant field crew supervisor. Managed establishment and maintenance of transect plots on private lands. Worked with the client and private land owners to conduct a wildlife mortality study. Conducted placement trials and carcass removal trials.

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

CONDITIONS

Action 504098

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 504098
	Action Type: [C-144] Temporary Pit Plan (C-144T)

CONDITIONS

Created By	Condition	Condition Date
joel.stone	NMOCD has reviewed and approved [4323] CHEVRON USA INC's Application and Form C-144 received on 09/09/2025, for the proposed DL 4 33 FEDERAL COM (601H, 602H, 603H) and DL 4 9 FEDERAL COM (613H, 614H, 615H) [PAD 601], [FJZS2526754396] Temporary Pit with non-low chloride drilling fluid located in Unit Letter F, Section 04, Township 22S, Range 33E, Lea County, New Mexico. Letter outlining conditions has been emailed to the operator.	9/24/2025