October 18, 2023
New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Via Electronic Submittal

RE: Chevron USA Incorporated Temporary Pit Application
Cotton Draw 4 33 FEDERAL
Section 4 of T25S, R32E, Lea County

Ms. Victoria Venegas,

Enclosed is a complete C-144 permit application for a Temporary Pit with non-low chloride drilling fluid located at an existing Chevron USA Inc. BLM lease # USA NMNM 054031 located in Section 4, T25S R32E. 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 - 3

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

Sincerely,

Tony Vallejo
Sr. Workforce Safety & Environmental Specialist - Factory
jvallejo@chevron.com

Chinedu Akwukwaegbu
Wells Engineer
cawq@chevron.com

Chas Holder
Biology and Environmental Monitoring Team Leader (Arcadis U.S., Inc.)
Charles.Holder@arcadis.com

Chevron USA Incorporated
Chevron USA Inc.
6301 Deauville Blvd
Midland, TX 79706
Tel 325-450-1413

C-144 Permit Package
Cotton Draw 4 33 Federal, Temporary Pit
Section 4 of T25S, R32E, Lea County

CO 4 33 Federal #303H
CO 4 33 Federal #201H
CO 4 33 Federal #301H
CO 4 33 Federal #202H
CO 4 33 Federal #302H
CO 4 33 Federal #203H

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 NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD 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 USA Inc.** OGRID #: **4323**
Address: **6301 Deauville Blvd., Midland, TX 79706**
Facility or well name: **CO 4 33 Federal 303H, 201H, 301H, 202H, 302H, 203H**
API Number: **Pending** OCD Permit Number: **[fVV2331049187]**
U/L or Qtr/Qtr **J, K, N, O** Section **4** Township **25S** Range **32E** County: **Lea**
Center of Proposed Design: Latitude **32.15589** Longitude **-103.67958** 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.

Variances 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 **See Appendices A, B, Figure 7**	☐ Yes ☒ No ☐ NA
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. **(Does not apply to below grade tanks)** - Written confirmation or verification from the municipality; Written approval obtained from the municipality **See Figures 2 & 7**	☐ Yes ☒ No
Within 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 **See Figure 4**	☐ Yes ☒ No
Within 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 **See Figures 6, 8, 9, Appendix G**	☐ Yes ☒ No
Within a 100-year floodplain. **(Does not apply to below grade tanks)** - FEMA map **See Figure 3**	☐ Yes ☒ No
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 300feet 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 H_2S, 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**	
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ 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
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. - 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. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division **See Figure 4**	☐ Yes ☒ No
Within an unstable area. - 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. - 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): Tony Vallejo Title: Sr. Workforce Safety & Environmental Specialist - Factory

Signature: Tony Vallejo Date: 10/18/2023

e-mail address: jvallejo@chevron.com Telephone: 325-450-1413

18.
OCD Approval: ☒ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: Victoria Venegas **Approval Date:** 11/06/2023

Title: Environmental Specialist **OCD Permit Number:** [fVV2331049187]

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

Cotton Draw 4 33 Federal, Temporary Pit

Section 4 of T25S, R32E

Depth to Groundwater, 19.15.17.10.3(a)

Figure 7, Appendices A & B, and the discussion presented below demonstrate that the groundwater within the broader area of the proposed site ranges from 34 to 406.5 feet near the 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. Depth to water for the most recent, reliable measurement and the well identification number are shown adjacent to each well on **Figure 7**. The approximate boundary of the Pecos River Basin alluvial aquifer is located ~6.5 miles to the west of the Temporary Pit (**Figure 7**). Water well data, including gauging dates, are detailed in **Appendix A** (USGS) and **Appendix B** (NMOSE).

All USGS-gauged water wells located within 5 miles of the temporary pit had depth to water > 30 ft bgs.

- The nearest USGS-gauged water well to the pit location is located approximately 1.25 miles to the north and is completed in the Chinle Formation. Water level in the well was measured at 290 ft bgs in 2012 (3,209 ft above NGVD29).
- To the north, another USGS-gauged well is located 4.8 miles away and is completed in the Alluvium. Water level was measured at 34 ft bgs (3,556 ft above NAVD88) in 2012.
- To the east, the nearest well is located 4.8 miles away and is completed in the Santa Rosa Formation. Water level was measured at 119 ft bgs (3,354 ft above NAVD88) in 2013.
- A USGS-gauged well is located approximately 3.7 miles west of the proposed pit had a depth to water of 390 ft bgs in 1976. This well is completed in the Rustler Formation and other aquifers overlying the Rustler.
- Another USGS-gauged well located approximately 3.9 miles west of the proposed pit location had a reported depth to water of 406.5 ft bgs (3,861.7 ft NGVD 29). This well is completed in the Seven Rivers Formation and other overlying aquifers.

- No USGS water wells were found to the south of the proposed pit location.

A NMOSE-gauged water well, located approximately 1.7 miles north of the proposed pit, had a depth to water level of 314 ft bgs. This well is 500 feet deep and likely completed in the Triassic Dockum.

A NMOSE well is located 4.8 miles farther to the north of the proposed pit location. The reported depth to water in this well was 133 ft bgs. The well is 541 feet deep and is likely completed in the Triassica Dockum.

A NMOSE-gauged well is reported at approximately 4.7 miles to the east of the proposed pit location. The well is 150 feet deep and the reported depth to water is 90 ft. Bgs. Based on the well depth, it is likely completed in the Alluvium / Ogallala aquifer.

A layer of Quaternary alluvium is present at surface in the vicinity of the proposed location and is composed of unconsolidated to partially consolidated sand, silt, gravel, clay and caliche. The alluvium & underlying Ogallala formation generally ranges from 100 to 200 feet thick in this area (Arcadis 2020[1]). The Quaternary deposits / Ogallala formation are underlain by the Triassic Dockum Group including the Chinle and Santa Rosa formations and deeper, Permian-age strata (Figure 9). The Chinle Formation outcrops several miles to the east of the proposed location and the Permian strata outcrop several miles to the west along the course of the Pecos River.

Geotechnical report and boring log were obtained at the proposed pit location (**Attachment 2**). In March 2018, five exploratory soil borings were drilled to depths of 30 feet to 80 feet in the vicinity of the proposed pit. Water was not encountered in the borings and they were subsequently plugged.

[1] Arcadis 2020. Cotton Draw Development Area Environmental Field Survey. Prepared for Chevron.

Proximity to Surface Water, 19.15.17.10.3(b)

Figure 6 visualizes USGS contour lines and the USGS National Hydrography Dataset. 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 in excess of 17 miles west of the pit location.
- There is one (ephemeral) water feature in excess of 5 miles south 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 Malaga, approximately 23 miles to the west.

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 BLM Karst areas. The proposed Temporary Pit is mapped in a "Low Potential" karst area. The area lies near the western end of the Delaware Basin, and is situated north of the Gypsum Plain (Hill 1996[2]). 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[3]). There are, however, 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. An Evaluation of Unstable Conditions is presented in Appendix G that details several lines of evidence in support of this position. In summary:

1. There are no dissolution features within 5-miles of the proposed location (**Figure 11**),
2. Karst forming strata are over ~1,000-feet deep beneath the proposed location (**Appendix G - Figure G.1**),
3. An Arcadis field study of the area indicated no karst features were identified (**Attachment 1**),
4. Tetra Tech geotechnical report and boring log from the proposed Two Recycled Storage Ponds did not indicate karst potential (**Attachments 2**),
5. The Bureau of Land Management, Paul Murphy prepared the Environmental Assessment (EA), document number - DOI-BLM-NM-

[2] Hill, C.A. 1996 Geology of the Delaware Basin, Guadalupe, Apache and Glass Mountains: New Mexico and West Texas: Permian Basin Section: Midland, Texas, SEPM, 480 pp.

[3] Land, Lewis and George Veni. 2014. Electrical resistivity surveys, Johnson Estate drill site, Loving County, Texas. National Cave and Karst Research Institute Report of Investigation 5, Carlsbad, NM. March 2014.

P020-2018-0846-EA, evaluating CO Grizzly 3 27 Fed. 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**).

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 with respect to the Flood Insurance Rate 100-Year Floodplain (**Figure 3**).

Site Specific Information, Figures 1-11

Temporary Pit containing non-low chloride fluids

Cotton Draw 4 33 Federal, Temporary Pit

Section 4 of T25S, R32E

LEGEND

- Proposed Temporary Pit
- Townships

0 3 6

Miles

CHEVRON U.S.A. INC.
COTTON DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 301
PROPOSED TEMPORARY RESERVE PIT

VICINITY MAP

ARCADIS

FIGURE 1

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_IMDB\UPro\CottonDraw\C144 Figures\Pit_301.aprx DATE: 9/5/2023 2:42 PM

LEGEND

Proposed Temporary Pit

1,000 ft Buffer

0 400 800

Feet

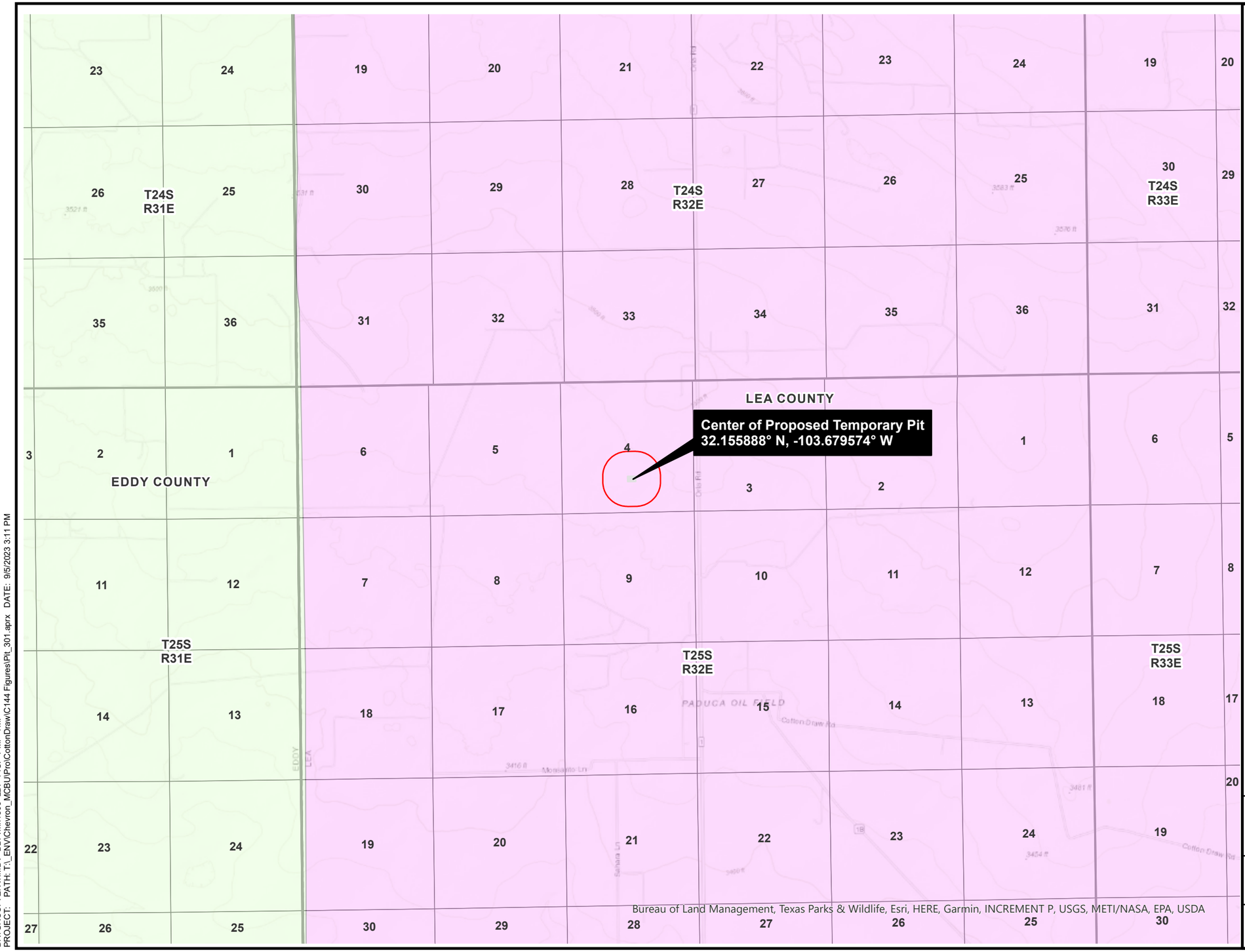
CHEVRON U.S.A. INC.
COTTON DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 301
PROPOSED TEMPORARY RESERVE PIT

SITE OVERVIEW

ARCADIS

FIGURE
2

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\CottonDraw\C144 Figures\Plt_301.aprx DATE: 9/5/2023 2:42 PM



LEGEND

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

FEMA Floodplain

- Zone D
- X

0 4,000 8,000

Feet

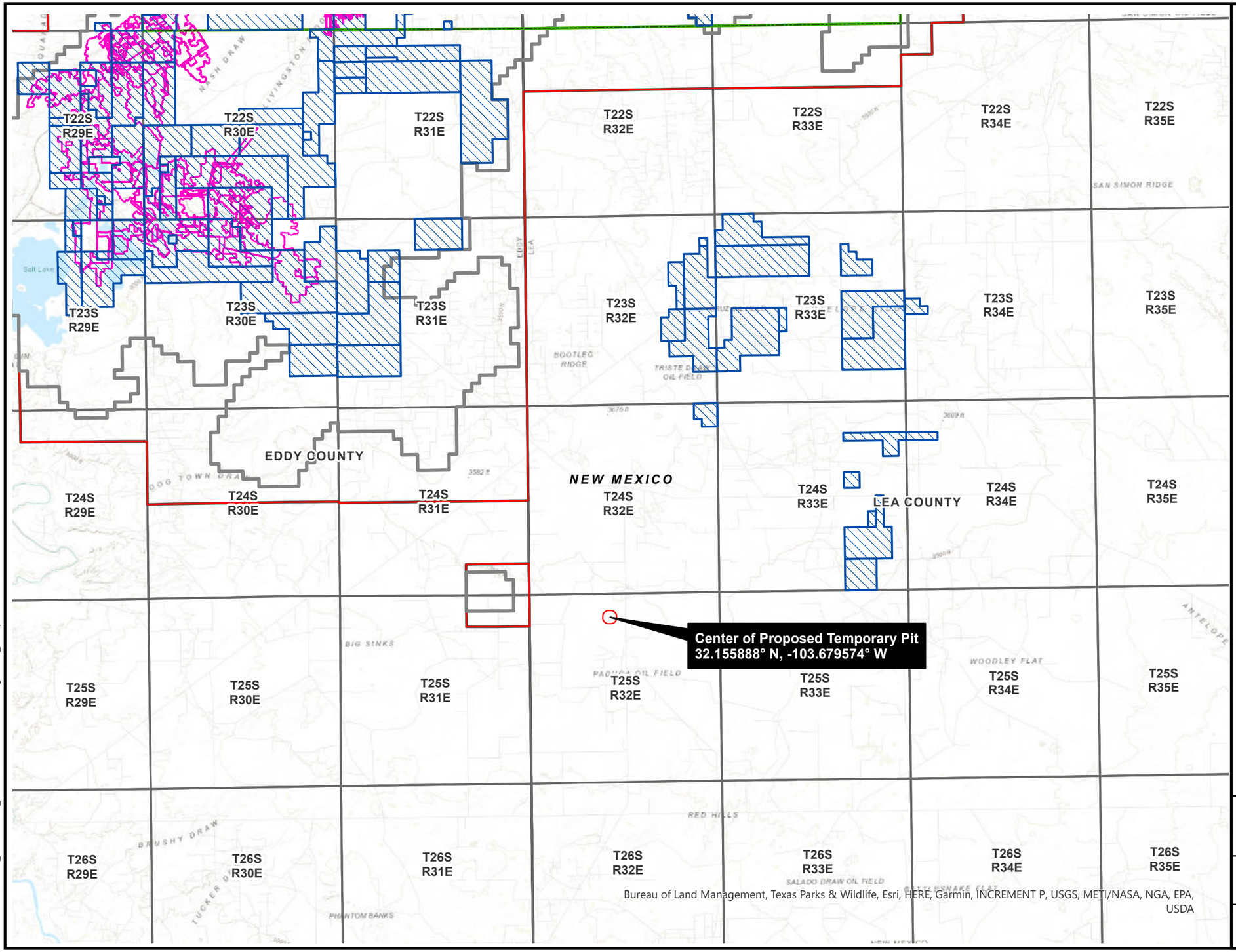
CHEVRON U.S.A. INC.
COTTON DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 301
PROPOSED TEMPORARY RESERVE PIT

FLOODPLAIN MAP

ARCADIS

FIGURE 3

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\CottonDraw\C144 Figures\Plt_301.aprx DATE: 9/5/2023 3:11 PM



LEGEND

- 1,000 ft Buffer
- Mine Workings
- Potash Leases
- Four String Casing Area
- Known Potash Leasing Area
- Schedule of Proposed Actions
- Townships

0 20,000 40,000

Feet

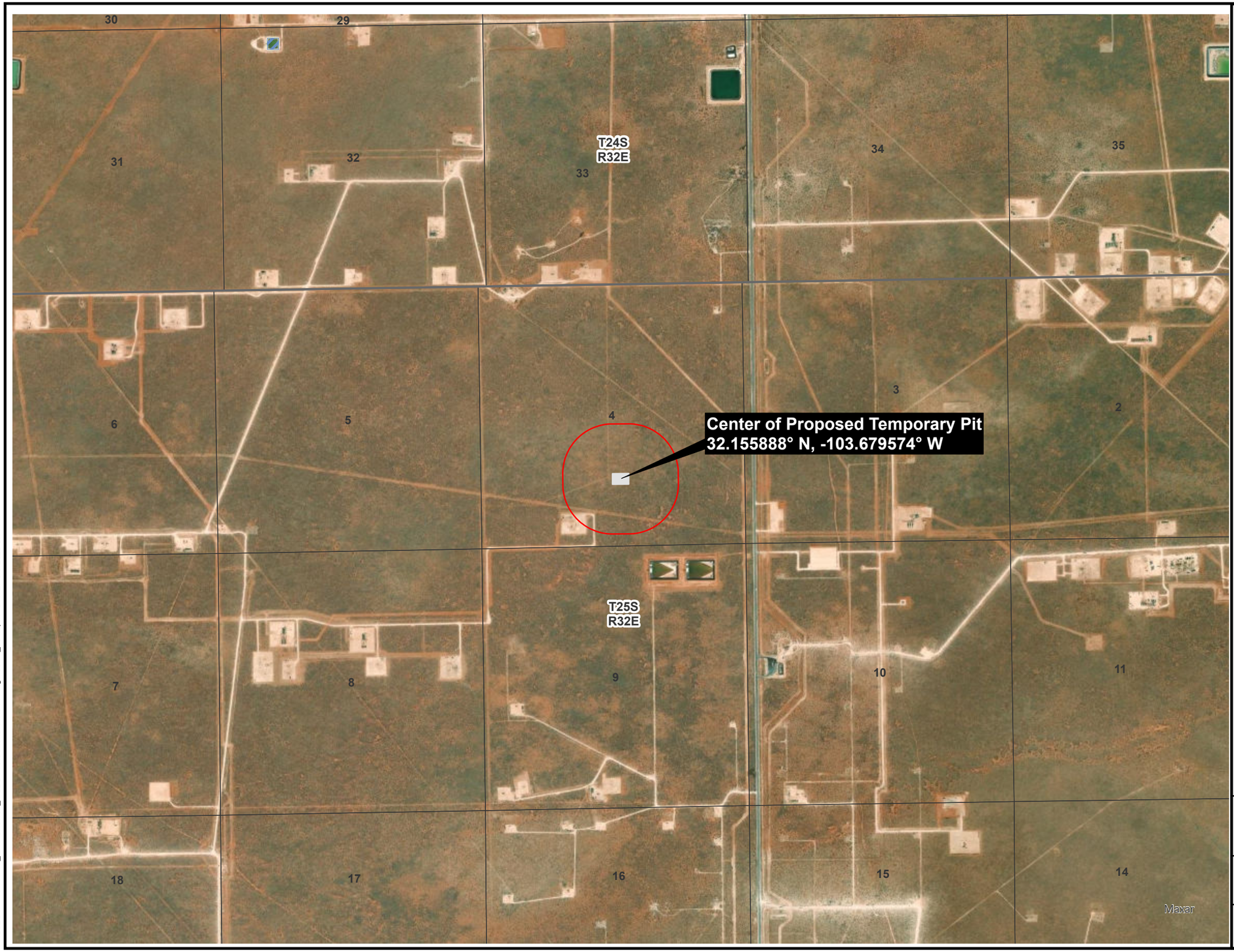
CHEVRON U.S.A. INC.
COTTON DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 301
PROPOSED TEMPORARY RESERVE PIT

SUBSURFACE MINES - POTASH

ARCADIS

FIGURE 4

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\CottonDraw\C144 Figures\Pit_301.aprx DATE: 9/5/2023 3:11 PM



LEGEND

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

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

Data Source: BLM CFO. 2018. USFWS NWI.

0 2,000 4,000
Feet

CHEVRON U.S.A. INC.
COTTON DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 301
PROPOSED TEMPORARY RESERVE PIT

WETLANDS MAP

ARCADIS

FIGURE
5

DIV/GROUP: ENV/MDV DR: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\CottonDraw\C144 Figures\Pit_301.aprx DATE: 9/5/2023 3:11 PM

LEGEND

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

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

Data Source: BLM CFO. 2018. USGS NHD.

0 4,000 8,000
Feet

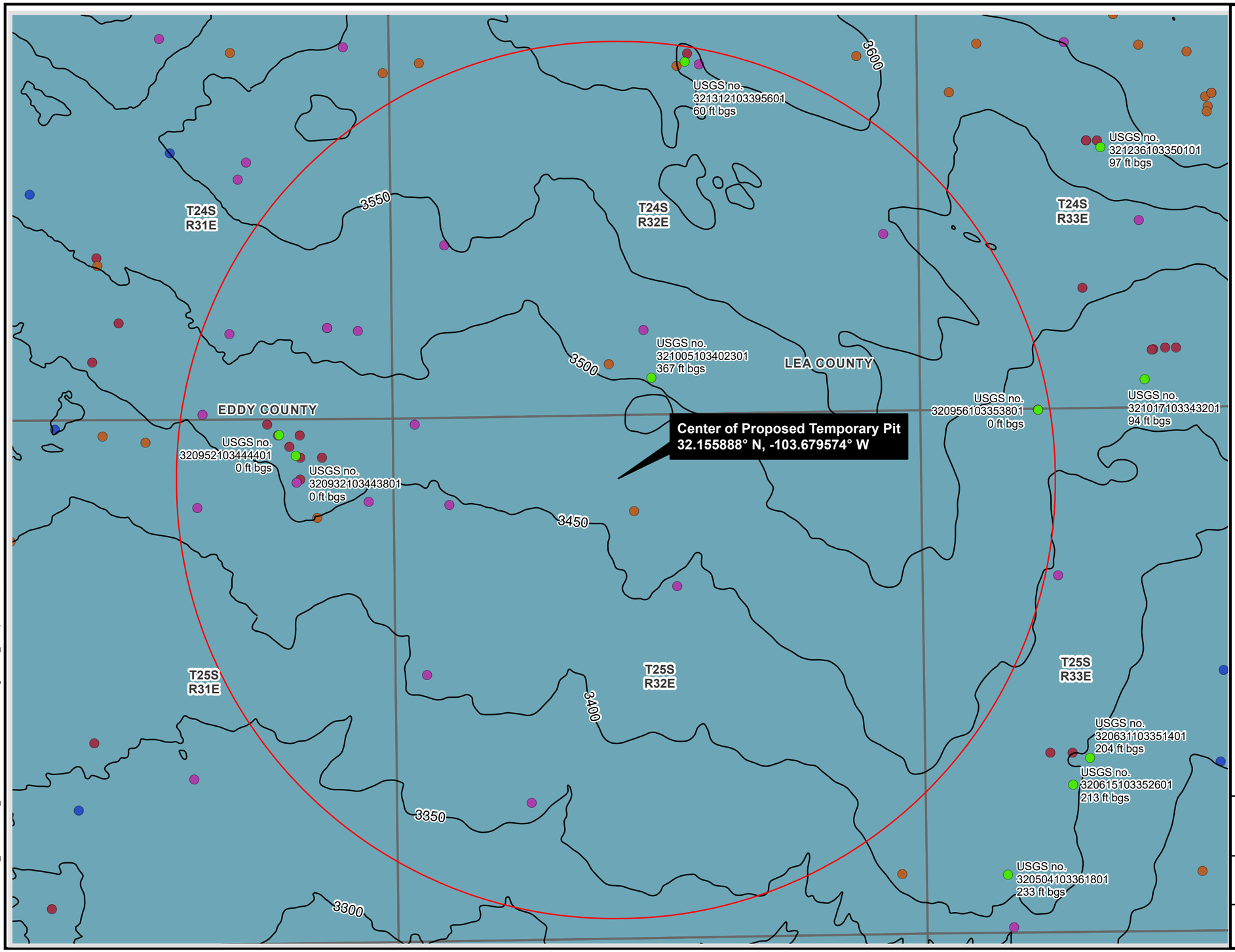
CHEVRON U.S.A. INC.
COTTON DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 301
PROPOSED TEMPORARY RESERVE PIT

ELEVATION CONTOUR & NHD MAP

ARCADIS

FIGURE
6

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\CottonDraw\C144 Figures\Pit_301.aprx DATE: 9/5/2023 3:11 PM



LEGEND

- 5 Mile Buffer
- Townships
- USGS Contour Lines
- USGS Groundwater Wells

OSE POD Wells

- Active
- 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.

0 6,000 12,000
Feet

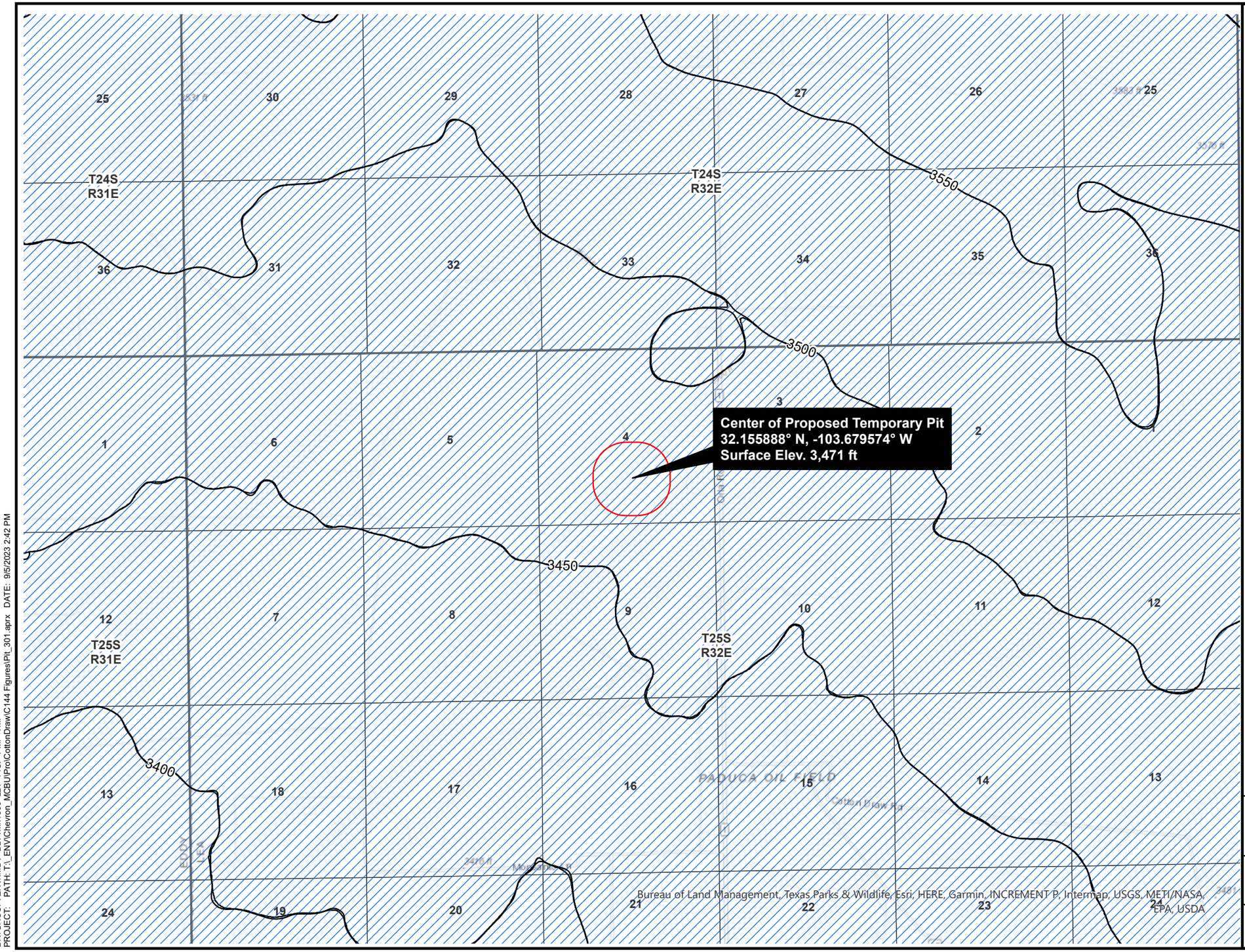
CHEVRON U.S.A. INC.
COTTON DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 301
PROPOSED TEMPORARY RESERVE PIT

USGS AND NMOSE GROUNDWATER WELLS

ARCADIS

FIGURE 7

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\CottonDraw\IC144 Figures\Pit_301.aprx DATE: 9/5/2023 2:42 PM



LEGEND

- 1,000 ft Buffer
- USGS Contour Lines NM
- Townships
- Sections

Karst Occurence Potential

- Low

0 3,000 6,000

Feet

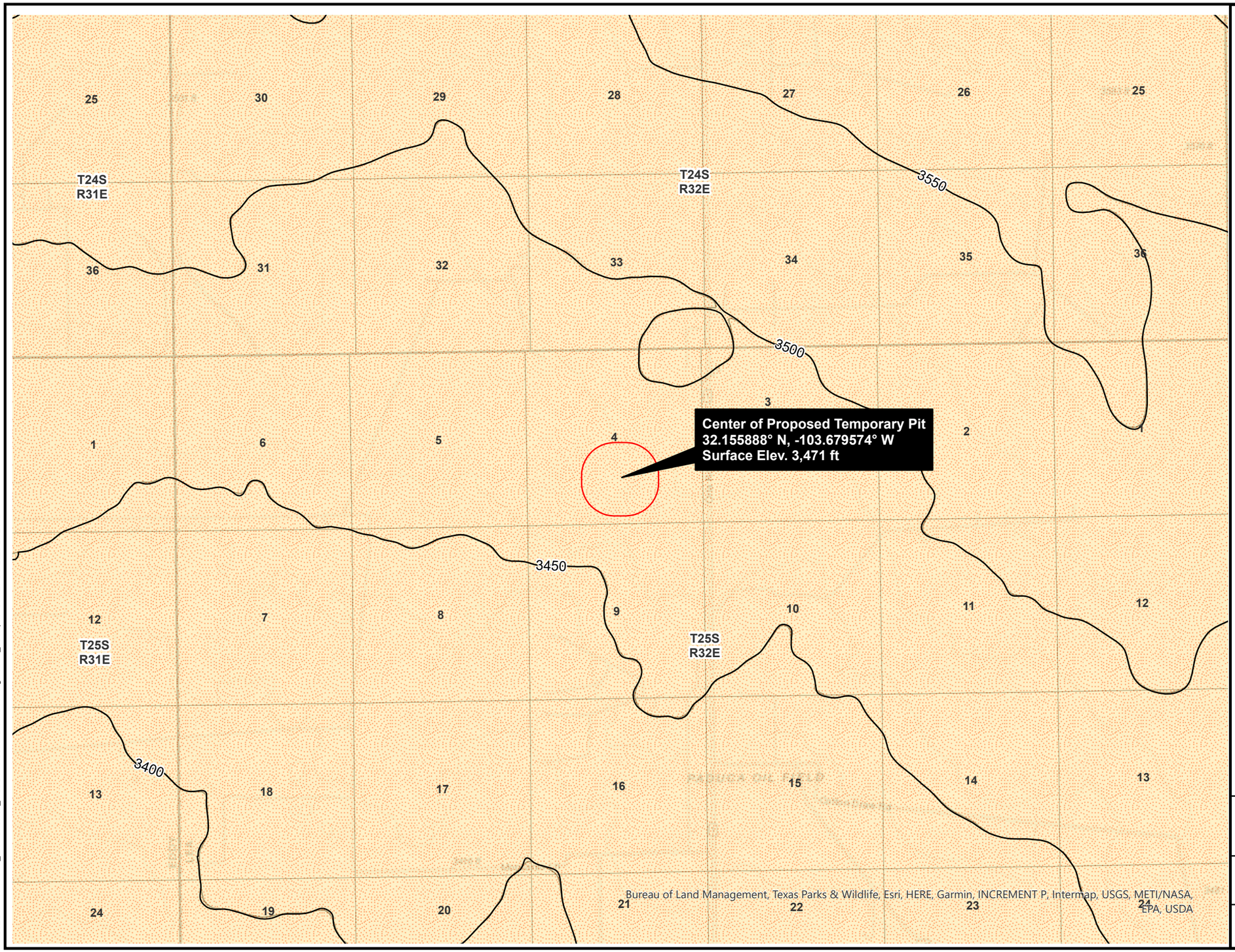
CHEVRON U.S.A. INC.
COTTON DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 301
PROPOSED TEMPORARY RESERVE PIT

KARST POTENTIAL

ARCADIS

FIGURE
8

DIV/GROUP: ENV/MDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Proj\CottonDraw\C144 Figures\Pit_301.aprx DATE: 9/5/2023 2:42 PM



LEGEND

- 1,000 ft Buffer
- USGS Contour Lines NM
- Townships
- Sections

Aquifer

Geology

- Qe/Qp

Qe: Quaternary Eolian Deposits
Qp: Quaternary Piedmont Deposits

0 3,000 6,000
Feet

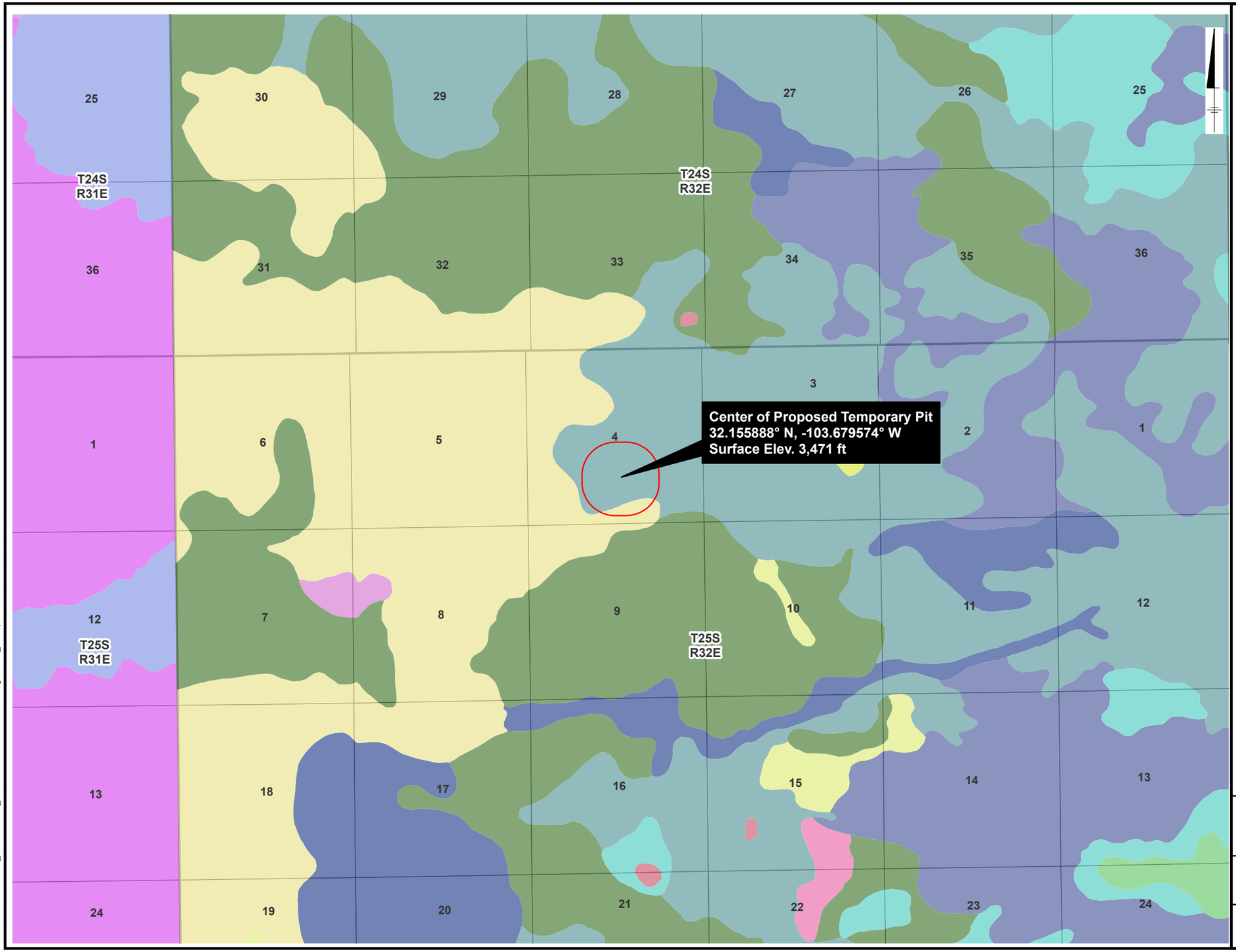
CHEVRON U.S.A. INC.
COTTON DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 301
PROPOSED TEMPORARY RESERVE PIT

LOCAL GEOLOGY

ARCADIS

FIGURE
9

DIV/GROUP: ENV/IMDV DB: vnn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\CottonDraw\C144 Figures\Plt_301.aprx DATE: 9/5/2023 2:42 PM



LEGEND

- 1,000 ft Buffer
- Townships
- Sections

Lea County Soil Data

- BE: Berino-Cacique loamy fine sands association
- BF: Berino-Cacique fine sandy loams association
- CLP: Caliche pit
- KD: Kermit-Palomas fine sands, 0 to 12 percent slopes
- MF: Maljamar and palomas fine sands, 0 to 3 percent slopes
- PT: Pyote loamy fine sand
- PU: Pyote and maljamar fine sands
- PY: Pyote soils and dune land
- SE: Simona fine sandy loam, 0 to 3 percent slopes
- SR: Simona-Upton association
- TF: Tonuco loamy fine sand
- WK: Wink loamy fine sand

Eddy County Soil Data

- BA: Berino loamy fine sand, 0 to 3 percent slopes
- BB: Berino complex, 0 to 3 percent slopes, eroded
- PA: Pajarito loamy fine sand, 0 to 3 percent slopes, eroded

0 3,000 6,000

Feet

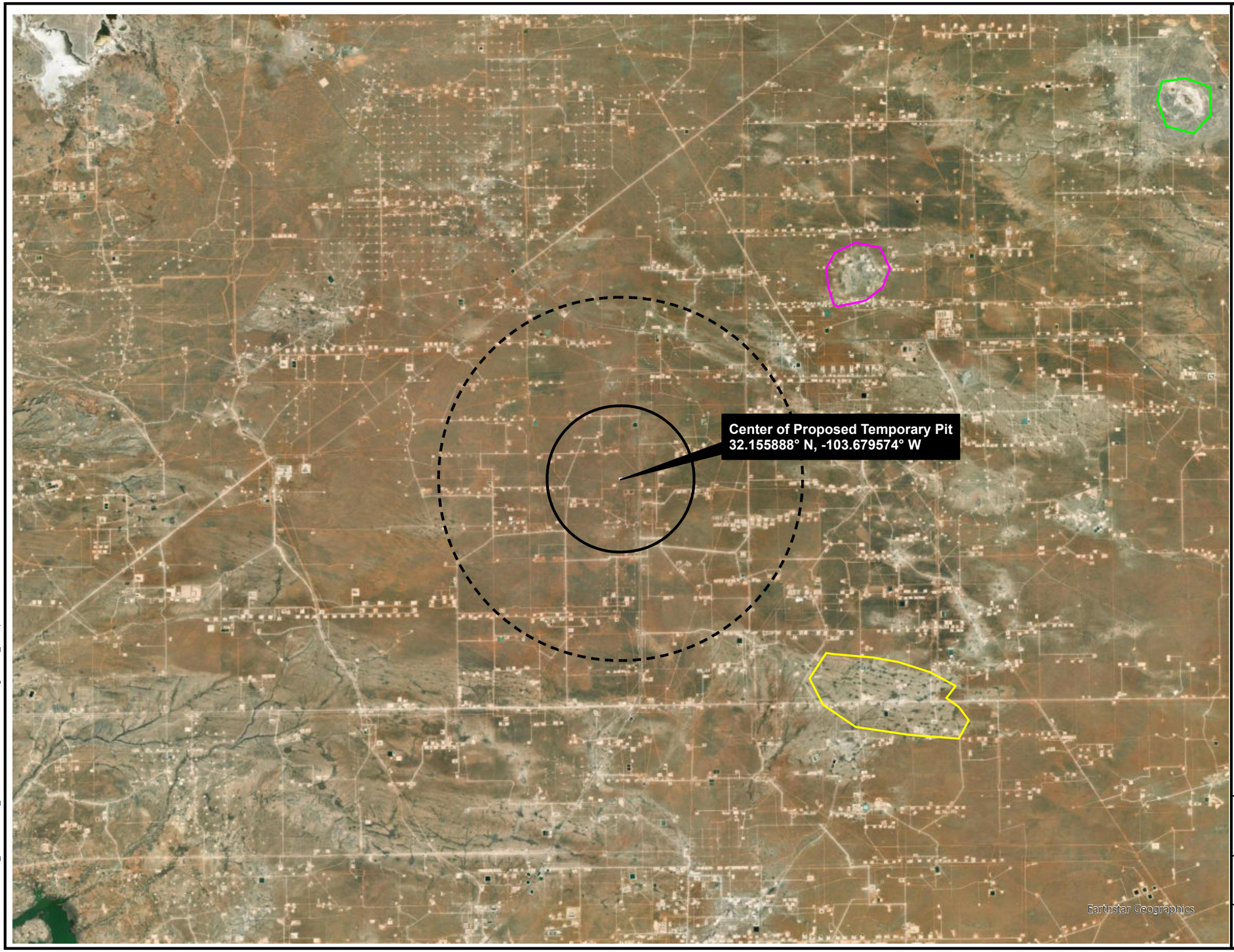
CHEVRON U.S.A. INC.
COTTON DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 301
PROPOSED TEMPORARY RESERVE PIT

SOILS

ARCADIS

FIGURE
10

DIV/GROUP: ENV/MDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\CottonDraw\C144 Figures\Pit_301.aprx DATE: 9/5/2023 2:42 PM



LEGEND

- Proposed Temporary Pit
- San Simon Sink
- Bell Lake Sink
- Area with Multiple Small Depressions
- 2 Mile Buffer
- 5 Mile Buffer

0 3 6

Miles

CHEVRON U.S.A. INC.
COTTON DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 301
PROPOSED TEMPORARY RESERVE PIT

AERIAL IMAGERY OF DISSOLUTION FEATURES

ARCADIS

FIGURE
11

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\CottonDraw\C144 Figures\Pit_301.aprx DATE: 9/5/2023 3:11 PM

Variance Requests

Temporary Pit containing non-low chloride fluids

Cotton Draw 4 33 Federal, Temporary Pit

Section 4 of T25S, R32E

Variance Requests
Cotton Draw 4 33 Federal (303H, 201H, 301H, 202H,302H, 203H)
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
Pun ture Resis ance (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 responsability 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.

SOLMAX

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
Pun ture Resis ance (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.

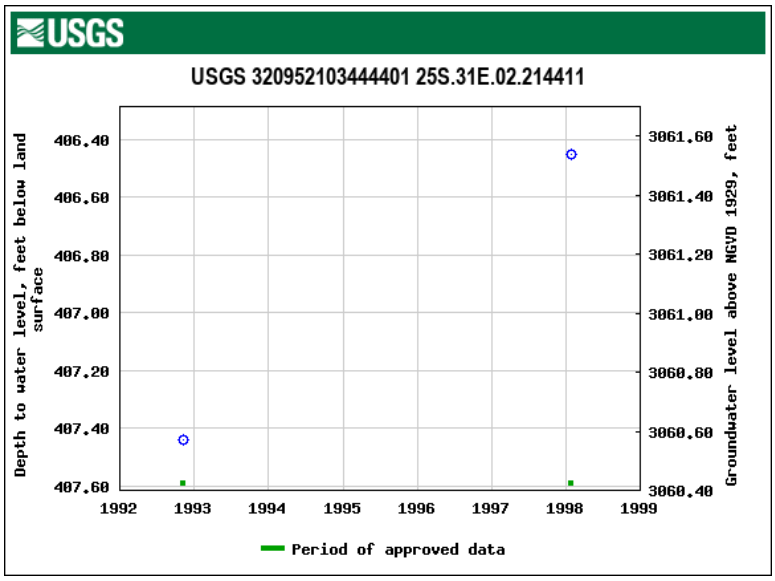
Appendix A

United States Geological Survey

Groundwater Data

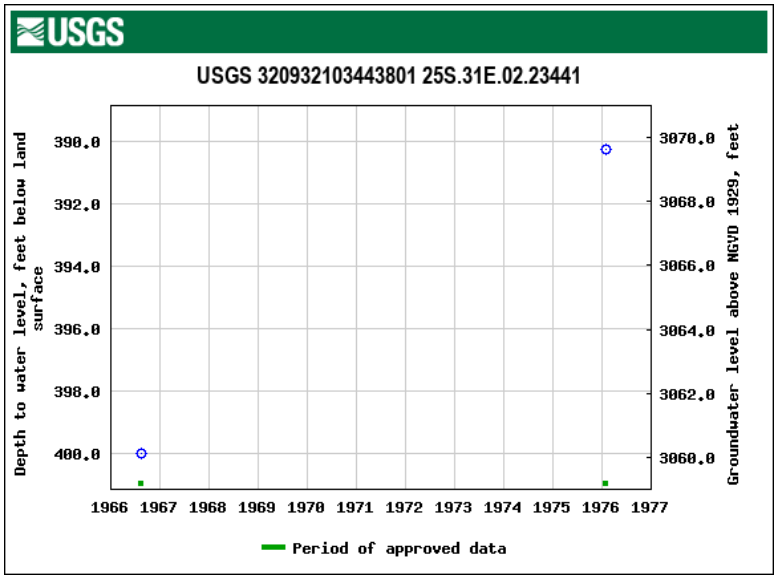
USGS 320952103444401 25S.31E.02.214411

Latitude 32°09'50.0", Longitude 103°44'41.2" NAD83
Eddy County, New Mexico
Hydrologic Unit 13070001
Well depth: not determined.
Land surface altitude: 3,468.0 feet above NGVD29.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Azotea Tongue of Seven Rivers Formation" (313AZOT) local aquifer.

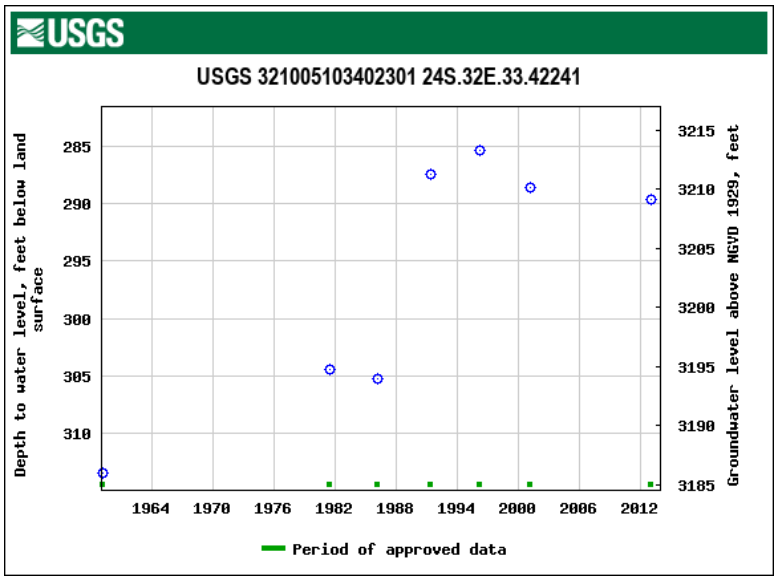


USGS 320932103443801 25S.31E.02.23441

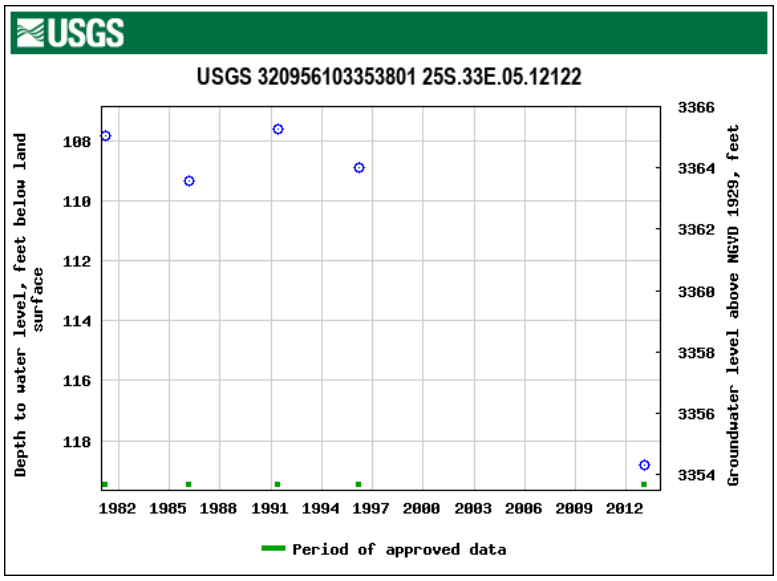
Latitude 32°09'37.4", Longitude 103°44'29.6" NAD83
Eddy County, New Mexico
Hydrologic Unit 13070001
Well depth: 1016 feet
Land surface altitude: 3,460.00 feet above NGVD29.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Rustler Formation" (312RSLR) local aquifer.



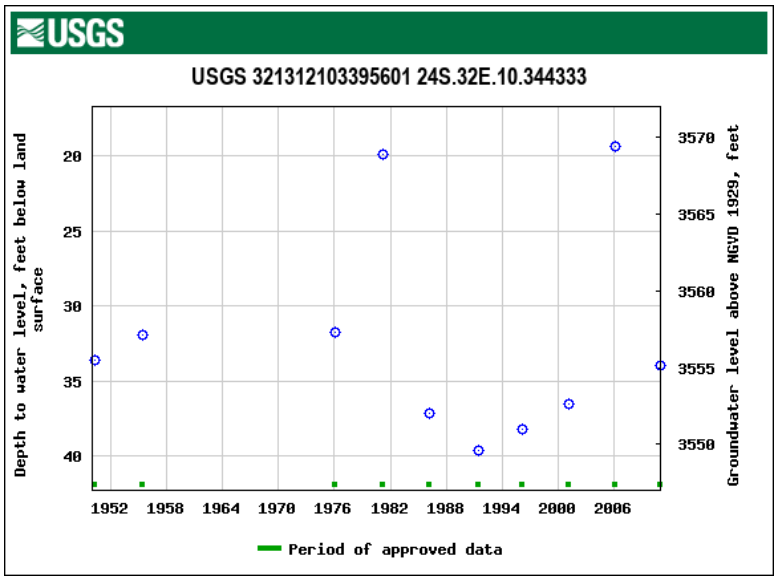
USGS 321005103402301 24S.32E.33.42241
Latitude 32°10'21.6", Longitude 103°40'18.9" NAD83
Lea County, New Mexico
Hydrologic Unit 13070001
Well depth: 367 feet
Land surface altitude: 3,499.00 feet above NGVD29.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Chinle Formation" (231CHNL) local aquifer.



USGS 320956103353801 25S.33E.05.12122
Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°09'59.4", Longitude 103°35'47.2" NAD83
Land-surface elevation 3,473.00 feet above NGVD29
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.



USGS 321312103395601 24S.32E.10.344333
Latitude 32°13'30.4", Longitude 103°39'52.7" NAD83
Lea County, New Mexico
Hydrologic Unit 13070007
Well depth: 60 feet
Land surface altitude: 3,589.00 feet above NGVD29.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) 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 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04634 POD1	CUB	LE	4	3	3	10	25S	32E	625643	3556522	2185	55		
C 04536 POD1	C	LE	1	2	2	33	24S	32E	625019	3561244	2807	500	314	186
C 04620 POD1	CUB	LE	4	3	4	06	25S	32E	621445	3558018	3222	55		
C 04635 POD1	CUB	ED	4	3	4	01	25S	31E	619958	3558078	4694	55		
C 04618 POD1	CUB	LE	3	4	3	18	25S	32E	621041	3554886	5070	55		
C 04665	CUB	LE	1	1	2	30	24S	32E	621350	3562798	5440	120		
C 02568	CUB	ED	4	3	1	01	25S	31E	619103	3558892*	5549	1025		
C 04654 POD1	CUB	ED	3	3	4	25	24S	31E	619764	3561226	5601	55		
C 02570	CUB	ED	4	2	4	02	25S	31E	618704	3558489*	5932	895		
C 02569	CUB	ED	4	4	2	02	25S	31E	618699	3558891*	5952	1016		
C 02572	CUB	ED	4	2	2	02	25S	31E	618695	3559294*	5999	852		
C 03830 POD1	CUB	ED	4	2	4	02	25S	31E	618632	3558432	6003	450		
C 04636 POD1	CUB	ED	3	4	3	25	24S	31E	619200	3561279	6122			
C 04643 POD1	C	ED	4	2	2	05	23S	27E	619200	3561279	6122	305	135	170
C 02573	CUB	ED	1	4	2	02	25S	31E	618499	3559091*	6169			
C 02571	CUB	ED	4	1	2	02	25S	31E	618292	3559294*	6398	860		
C 04622 POD1	CUB	LE	3	3	4	24	24S	32E	629436	3563006	6609			
C 02574	CUB	ED	1	1	2	02	25S	31E	618092	3559494*	6625			
C 04633 POD1	CUB	ED	2	1	1	35	24S	31E	617394	3561170	7731			
C 02312	CUB	LE	1	2	1	05	25S	33E	632292	3559772	7766	150	90	60
C 03528 POD1	C	LE	1	1	2	15	24S	32E	626040	3566129	7794	541	133	408
C 04593 POD1	CUB	ED	3	4	4	34	24S	31E	616903	3559674	7828	55		
C 04632 POD1	CUB	ED	1	2	2	10	25S	31E	616802	3557964	7849	55		
C 02350	CUB	ED		4	3	10	24S	32E	625826	3566333*	7959	60		

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

Average Depth to Water: **168 feet**

Minimum Depth: **90 feet**

Maximum Depth: **314 feet**

Record Count: 24

UTMNAD83 Radius Search (in meters):

Easting (X): 624636.28 **Northing (Y):** 3558462.8 **Radius:** 8045

Appendix C – Hydrogeologic Data

Temporary Pit containing non-low chloride fluids

Cotton Draw 4 33 Federal, Temporary Pit

Section 4 of T25S, R32E

Appendix C – Hydrogeologic Data
Cotton Draw 4 33 Federal
Temporary Pit

Topography and Surface Hydrology

The location of the proposed temporary pit is in southwestern Lea County, New Mexico between the Mescalero Ridge and the Pecos River in the Pecos Valley section of the Great Plains physiographic province. The pit lies at an elevation of 3,471 ft above sea level and the general area in the vicinity of the pit is characterized by bluffs surrounded by relatively flat to gentle sloping terrain (**Figure 7**). The land surface slopes gently to the southwest at approximately 25 feet per mile.

Surface water within the survey area is affected naturally by geology, precipitation, and water erosion. The area is located in the semi-arid southwest on the northern edge of the Chihuahuan Desert where annual precipitation averages 10.5 inches with the greatest rainfall occurring as monsoonal storms in late summer (July – September). About half of the annual precipitation is received during this period via brief, intense storms that can cause large amounts of runoff and potential flooding (NM OSE 2010).

Southwestern Lea County, including the temporary pit area, lies within the Lower Pecos River Basin. The major stream flowing through this basin is the Pecos River which is located approximately 17 miles to the west of the survey area 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. The Pecos River bisects Eddy County and runs through the center of the City of Carlsbad. The Pecos River is dammed by Brantley Dam and by Avalon Dam 10-miles northwest and 5-miles north of Carlsbad, respectively, and by Red Bluff Dam located just across the New Mexico – Texas State line.

There are no streams or other tributaries to the Pecos River in the vicinity of the proposed location for the temporary pit. Anthropogenic activities that could affect surface water resources in the area include livestock grazing management and oil and gas development. Surface water flow direction for various parts of the area depends on the slope of the land which is generally to the southwest. Surface drainage flows ephemerally during precipitation events and collects in depressions, infiltrates soil, or evaporates. At its closest point, the Pecos River is located approximately 17 miles west of the survey area.

Soils

The majority of the soil complexes mapped within the survey area are the Pyote and Maljamar fine sands (Pu) and Maljamar & Palomas fine sands (Mf). The Pu soil is summarized by the USDA as mainly occurring on nearly level to gently undulating uplands. The Mf soil is summarized as occurring on broad plains, alluvial fans, and piedmont slopes.

The soils within the survey area are listed below in the following table. A map depicting the soils mapped within the survey area is provided in **Figure 10**.

Table 1 Soils Within the Survey Area

Soil Abbreviation and Name	Slope	Soil Type
Mf – Maljamar & Palomas fine sands	0 to 9 percent slope	Deep
Pu - Pyote and maljamar fine sands	0 to 3 percent slope	Deep, well drained

Loamy Sand Soil Type Description

The majority of the soil complexes mapped within the area of the proposed temporary pit are Pyote and maljamar fine sands (Pu) which are classified as loamy sand soils. These soils are typically moderately deep or very deep soils that consist of loamy sand underlain by fine sands. Slopes range from 0 to 3 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 Indiangrass, 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 100 to 200 feet. Triassic Dockum strata outcrop along Paduca Breaks to the southeast of the survey area. Triassic Dockum strata underlie the alluvium / Ogallala deposits and its thickness appears to be approximately 400 to 500 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.

- 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.

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 have the potential to provide small quantities of water to water supply wells. However, no water wells were found in the immediate vicinity of the proposed site (**Figure 7**). Several water wells have been identified within 1.25 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 some are completed in the Alluvium/Ogallala and some in the Dockum including one which may be completed in the lower part of the Triassic Dockum or the Rustler Formation.

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 in excess of 290 feet based on the closest USGS-gauged well which is located 1.25 miles from the proposed site. The depths to water within a 5-mile radius of the proposed site range from 34 feet (approximately 4.8 miles north of the proposed site) to 406.5 feet in a Santa Rosa Dockum well located approximately 3.9 miles west of the proposed site.

Groundwater within 5 miles of the proposed location appears to be present in the Pecos River Basin Alluvial aquifer contained within Quaternary deposits present at surface and underlain by the Ogallala aquifer. This part of Lea County appears to be situated at or near the northern edge of the Pecos River Basin Alluvium aquifer. In this area, the Alluvium/Ogallala appears to be 200 feet in thickness or less and contains water based on data from the USGS and NMOSE database. The proposed location, however, is not

located above the mapped extent of the Pecos River Basin Alluvial aquifer. The Triassic Dockum formations which underlie the Alluvium/Ogallala are also sources of potable water. There are several water wells within 5 miles of the location based on the USGS and NMOSE data and zero water wells within 1 mile of the location. Reported well yields in the NMOSE database for the water wells in the general area range from 3 gallons per minute (gpm) to 20 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 Lea Co., NM 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. [Web page]. Located at http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html. Accessed: February 2021.

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.

USDA. 2016. Sandy Ecological Site Characteristics. [Web page]. Located at https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&repType=regular&id=R042XA051NM. Accessed: September 2017.

Appendix D – Design Plan

Temporary Pit containing non-low chloride fluids

Cotton Draw 4 33 Federal, Temporary Pit

Section 4 of T25S, R32E

Appendix D – Design Plan

Cotton Draw 4 33 Federal Pit

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 atthe 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 isin 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 LinearLow-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.

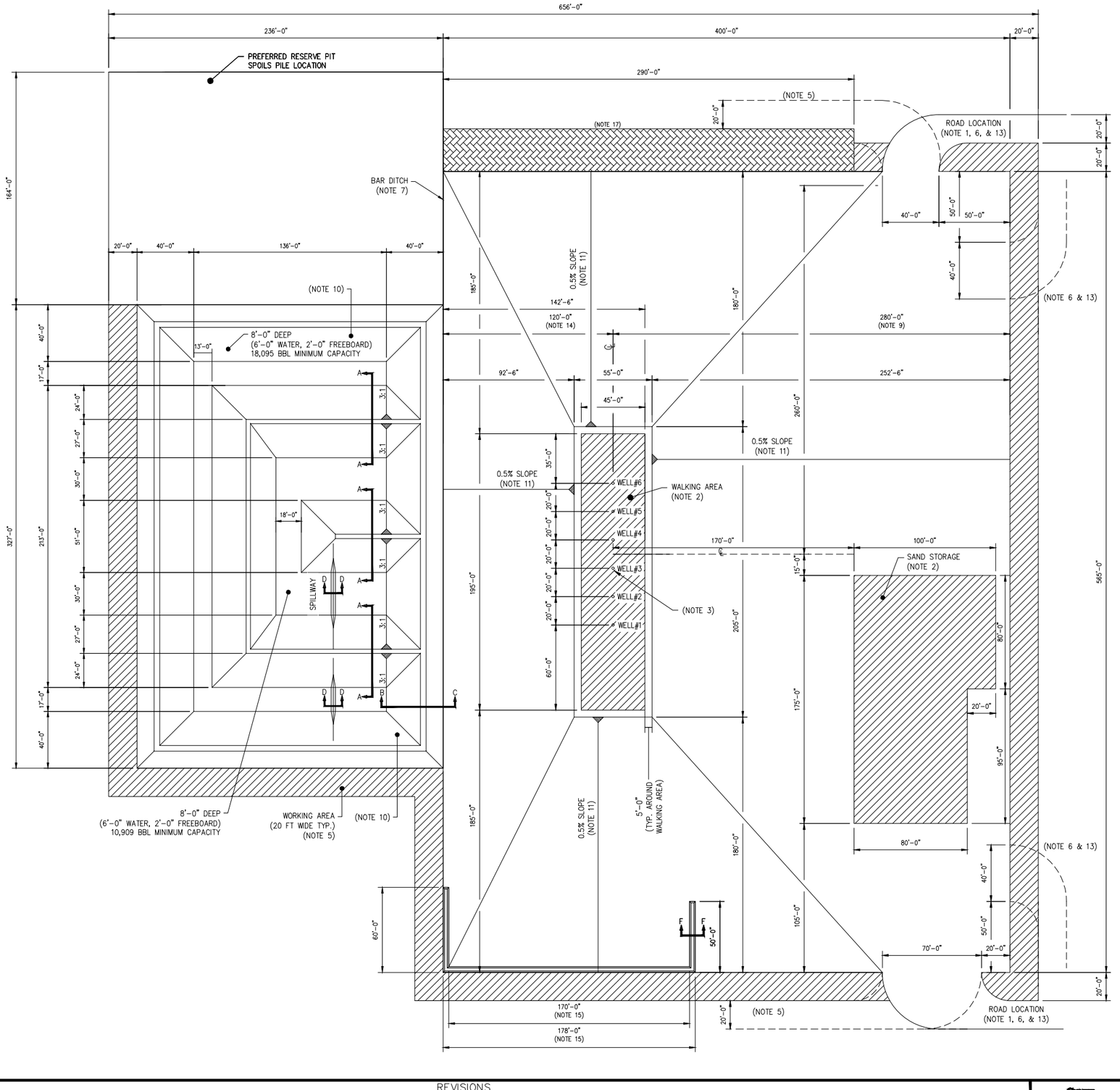
- The edged of the liner will be anchored in the bottom of a compacted earth field trench that is 18 inches deep.

- 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.

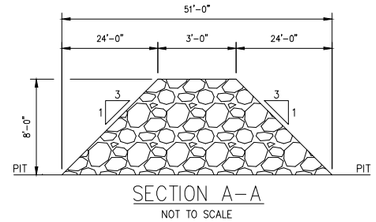
- The design includes a 4 foot berm and bar ditch around the entirety of the pit to prevent run onof surface water. The berm will be maintained from construction to closure.

- The volume of the temporary pit does not exceed 10 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.



MAGNETIC NORTH



SECTION A–A
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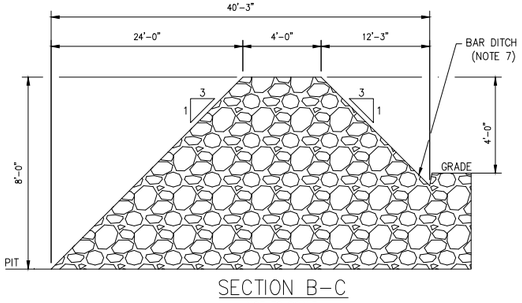

SECTION B–C
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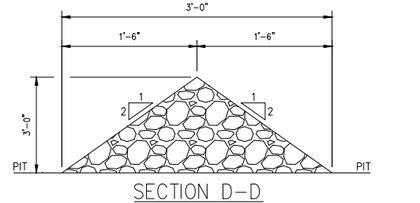
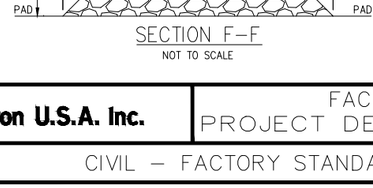


SECTION D–D
NOT TO SCALE

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. SHADED WORKING AREA IS NOT A PART OF THE PERMITTED PAD. PERMITTED PAD AREA TO INCLUDED OPS KICK OUT 595' x 400' FOR A 6 WELL PAD.
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. 1FT. X 4FT. BAR DITCHING TO BE PROVIDED BETWEEN PAD AND RESERVE PIT, DITCH WILL BE FILLED WITH 1" CLEAN ROCK.
8. 6 LOADS OF ROCK FOR DRILLING TRAILERS & DITCH COM ROCK DROPPED IN NEW CORNER.
9. DIMENSION SOUTH OF THE WELLS CAN BE REDUCED TO 260' IF BASIS OF DESIGN IS CONVENTIONAL FRAC OPERATIONS. MOC REQUIRED.
10. PAINT 8' LONG PIT LEVEL MARKERS EVERY 2' FROM THE BOTTOM LABEL BY THE LENGTH OF THE INCLINE FROM THE BOTTOM OF THE PIT.
11. PREDOMINANT DRAINING DIRECTION TO BE FIELD–DETERMINED BASED ON LOCAL TOPOGRAPHY.
12. FOR THE 6–WELL PAD, DISTANCE IN BETWEEN WELLS IS 20'–0".
13. 0.5% CROWN THROUGH CENTERLINE OF ROAD ENTRANCE TO THE PAD FOR WATER RUN OFF.
14. DIMENSION NORTH OF THE WELLS CAN BE INCREASED TO 150' IF BASIS OF DESIGN IS ESP AS THE ARTIFICIAL LIFT METHOD. MOC REQUIRED.
15. NORTH BERM WALL MUST BE OFFSET BY 5'–0" TO THE SOUTH FOR ESP WELLS.
16. AN ADDITIONAL CONTAINMENT BERM NOT REQUIRED IF PAD BOUNDARY BERM IS PLANNED.
17. LOCATION WILL BE BASED OFF FE INFRASTRUCTURE. (PAD FLOWLINES, GAS LIFT, ETC.) THIS SECTION ONLY NEEDS TO BE CLEARD, BALANCED AND FINISHED.



SECTION F–F
NOT TO SCALE

SCALE: 1"=40'

SHEET CIV01

REVISIONS								
4	APPROVED FOR CONSTRUCTION BASIN DESIGN, DRF 21103 CSD 04/05/21	EV	CKHT	3	APPROVED FOR CONSTRUCTION 3S E&D, DRF 22589 JL 05/04/23	3S	QTY	△
3	APPROVED FOR CONSTRUCTION BASIN DESIGN, DRF 21252 EV 08/31/21	EB	UGOS	△				△
2	APPROVED FOR CONSTRUCTION BASIN DESIGN, DRF 22011 EV 04/26/22	-	QTY	△				△

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

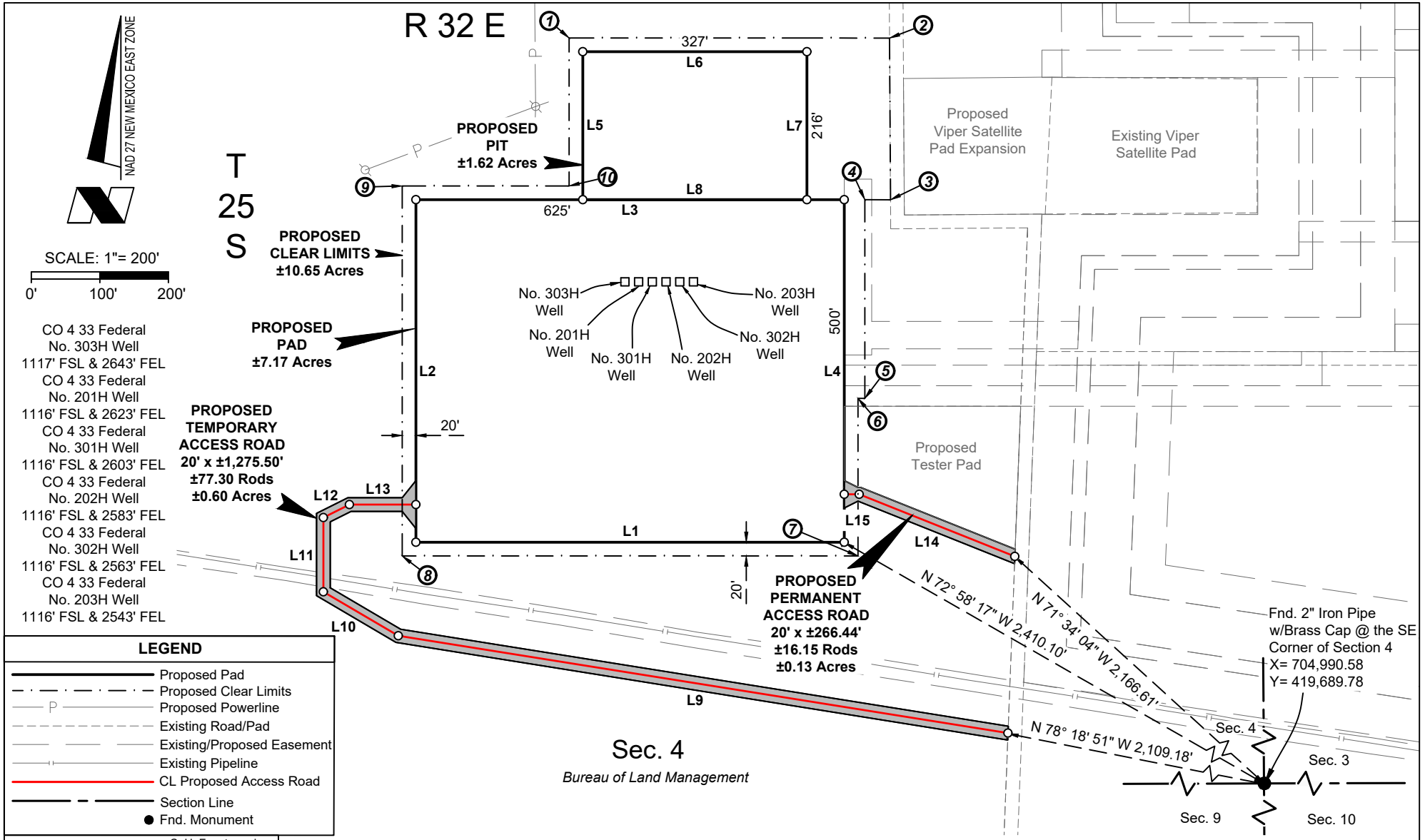
DR. JLH
ENG. KVPY

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

3

PLOT DATE: 05/04/2023, FILE NAME: 2020-PADSWELLS-MECH-CIV-PVD-MCB-0002-13

LEASE NUMBER
API NUMBER
DWG NUMBER
ALTERNATE



CO 4 33 Federal
No. 303H Well
1117' FSL & 2643' FEL
CO 4 33 Federal
No. 201H Well
1116' FSL & 2623' FEL
CO 4 33 Federal
No. 301H Well
1116' FSL & 2603' FEL
CO 4 33 Federal
No. 202H Well
1116' FSL & 2583' FEL
CO 4 33 Federal
No. 302H Well
1116' FSL & 2563' FEL
CO 4 33 Federal
No. 203H Well
1116' FSL & 2543' FEL

LEGEND

- Proposed Pad
- Proposed Clear Limits
- Proposed Powerline
- Existing Road/Pad
- Existing/Proposed Easement
- Existing Pipeline
- CL Proposed Access Road
- Section Line
- Fnd. Monument

C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq.
Lafayette, LA 70508
Ph. 337-237-2200
Fax. 337-232-3299

REVISIONS	
03/31/2023 AMR	Revised Well Name
06/26/2023 JTI	Revised Pad, Pit, & Access
07/18/2023 VHV	Added clear limits, tester pad
08/04/2023 BPT	Added Pad Expansion
DRAWN BY: BPT	PROJ. MGR.: AMR
DATE: 03/13/2023	
JOB#: 2235898.00	SHEET 1 OF 2

NOTE:
See Sheet 2 of 2 for Reference Notes and Certification.

PAD PLAT
COTTON DRAW PAD 301
CHEVRON U.S.A. INC.
SITUATED IN
SECTION 4, T25S-R32E
LEA COUNTY, NEW MEXICO

PROPOSED PAD		
Line	Bearing	Distance
L1	WEST	625.00'
L2	NORTH	500.00'
L3	EAST	625.00'
L4	SOUTH	500.00'

PROPOSED PIT		
Line	Bearing	Distance
L5	NORTH	216.00'
L6	EAST	327.00'
L7	SOUTH	216.00'
L8	WEST	327.00'

CENTERLINE PROPOSED ACCESS ROAD		
Line	Bearing	Distance
L9	N 80° 55' 50" W	900.86'
L10	N 59° 34' 32" W	126.86'
L11	NORTH	108.27'
L12	N 63° 22' 56" E	42.58'
L13	EAST	96.93'

CENTERLINE PROPOSED ACCESS ROAD		
Line	Bearing	Distance
L14	N 68° 12' 53" W	244.52'
L15	WEST	21.92'

NOTE:
Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective. As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards, such as fiber optic cables, PVC pipelines, etc. may exist undetected on site.

NOTE:
Many states maintain information centers that establish links between those who dig (excavators) and those who own and operate underground facilities (operators). It is advisable and in most states, law, for the contractor to contact the center for assistance in locating and marking underground utilities. For guidance, New Mexico One Call www.nm811.org.

NOTE:
This plat represents a limited survey made on the ground on June 22, 2023 for construction purposes and is for the exclusive use of Chevron U.S.A. Inc. This plat does not represent a boundary survey. Boundary line and monuments depicted hereon are for reference purposes only. The basis of bearings, distances, areas, and coordinates shown hereon are grid.

FENSTERMAKER
C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq.
Lafayette, LA 70508
Ph. 337-237-2200
Fax. 337-232-3299

REVISIONS	
03/31/2023 AMR	Revised Well Name
06/26/2023 JTI	Revised Pad, Pit, & Access
07/18/2023 VHV	Added clear limits, tester pad
08/04/2023 BPT	Added Pad Expansion
DRAWN BY: BPT	PROJ. MGR.: AMR
DATE: 03/13/2023	
JOB#: 2235898.00	SHEET 2 OF 2

FOR THE EXCLUSIVE USE OF CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional Surveyor, do hereby state the above plat to be true and correct to the best of my knowledge.
08/16/2023

ROBERT L. LASTRAPES 23006 PROFESSIONAL SURVEYOR

Robert L. Lastrapes
Professional Surveyor
Registration No. 23006

NW PAD CORNER
X = 702,061.13' (NAD27 NM E)
Y = 420,895.58'
LAT. 32.155474° N (NAD27)
LONG. 103.680414° W
X = 743,246.31' (NAD83/2011 NM E)
Y = 420,953.71'
LAT. 32.155598° N (NAD83/2011)
LONG. 103.680891° W
ELEV. 3,467' (NAVD88)

NE PAD CORNER
X = 702,686.13' (NAD27 NM E)
Y = 420,895.58'
LAT. 32.155464° N (NAD27)
LONG. 103.678395° W
X = 743,871.31' (NAD83/2011 NM E)
Y = 420,953.70'
LAT. 32.155588° N (NAD83/2011)
LONG. 103.678872° W
ELEV. +3,471' (NAVD88)

NW PIT CORNER
X = 702,304.70' (NAD27 NM E)
Y = 421,111.58'
LAT. 32.156064° N (NAD27)
LONG. 103.679623° W
X = 743,489.87' (NAD83/2011 NM E)
Y = 421,169.71'
LAT. 32.156188° N (NAD83/2011)
LONG. 103.680100° W
ELEV. +3,471' (NAVD88)

NE PIT CORNER
X = 702,631.70' (NAD27 NM E)
Y = 421,111.58'
LAT. 32.156059° N (NAD27)
LONG. 103.678566° W
X = 743,816.87' (NAD83/2011 NM E)
Y = 421,169.71'
LAT. 32.156182° N (NAD83/2011)
LONG. 103.679044° W
ELEV. +3,471' (NAVD88)

SW PAD CORNER
X = 702,061.13' (NAD27 NM E)
Y = 420,395.58'
LAT. 32.154100° N (NAD27)
LONG. 103.680424° W
X = 743,246.33' (NAD83/2011 NM E)
Y = 420,453.70'
LAT. 32.154224° N (NAD83/2011)
LONG. 103.680901° W
ELEV. +3,467' (NAVD88)

SE PAD CORNER
X = 702,686.13' (NAD27 NM E)
Y = 420,395.58'
LAT. 32.154089° N (NAD27)
LONG. 103.678404° W
X = 743,871.34' (NAD83/2011 NM E)
Y = 420,453.69'
LAT. 32.154213° N (NAD83/2011)
LONG. 103.678882° W
ELEV. +3,466' (NAVD88)

SW PIT CORNER
X = 702,304.70' (NAD27 NM E)
Y = 420,895.58'
LAT. 32.155470° N (NAD27)
LONG. 103.679627° W
X = 743,489.88' (NAD83/2011 NM E)
Y = 420,953.70'
LAT. 32.155594° N (NAD83/2011)
LONG. 103.680104° W
ELEV. +3,469' (NAVD88)

SE PIT CORNER
X = 702,631.70' (NAD27 NM E)
Y = 420,895.58'
LAT. 32.155465° N (NAD27)
LONG. 103.678571° W
X = 743,816.88' (NAD83/2011 NM E)
Y = 420,953.70'
LAT. 32.155589° N (NAD83/2011)
LONG. 103.679048° W
ELEV. +3,472' (NAVD88)

CLEAR LIMITS CORNER #1
X = 702,284.70' (NAD27 NM E)
Y = 421,131.58'
LAT. 32.156119° N (NAD27)
LONG. 103.679687° W
X = 743,469.87' (NAD83/2011 NM E)
Y = 421,189.71'
LAT. 32.156243° N (NAD83/2011)
LONG. 103.680164° W

CLEAR LIMITS CORNER #2
X = 702,752.24' (NAD27 NM E)
Y = 421,131.31'
LAT. 32.156111° N (NAD27)
LONG. 103.678176° W
X = 743,937.41' (NAD83/2011 NM E)
Y = 421,189.44'
LAT. 32.156235° N (NAD83/2011)
LONG. 103.678654° W

CLEAR LIMITS CORNER #3
X = 702,753.67' (NAD27 NM E)
Y = 420,895.32'
LAT. 32.155462° N (NAD27)
LONG. 103.678176° W
X = 743,938.85' (NAD83/2011 NM E)
Y = 420,953.45'
LAT. 32.155586° N (NAD83/2011)
LONG. 103.678654° W

CLEAR LIMITS CORNER #4
X = 702,716.13' (NAD27 NM E)
Y = 420,895.58'
LAT. 32.155463° N (NAD27)
LONG. 103.678298° W
X = 743,901.31' (NAD83/2011 NM E)
Y = 420,953.70'
LAT. 32.155587° N (NAD83/2011)
LONG. 103.678775° W

CLEAR LIMITS CORNER #5
X = 702,716.13' (NAD27 NM E)
Y = 420,605.58'
LAT. 32.154666° N (NAD27)
LONG. 103.678303° W
X = 743,901.33' (NAD83/2011 NM E)
Y = 420,663.70'
LAT. 32.154790° N (NAD83/2011)
LONG. 103.678781° W

CLEAR LIMITS CORNER #6
X = 702,706.13' (NAD27 NM E)
Y = 420,605.58'
LAT. 32.154666° N (NAD27)
LONG. 103.678336° W
X = 743,891.33' (NAD83/2011 NM E)
Y = 420,663.70'
LAT. 32.154790° N (NAD83/2011)
LONG. 103.678813° W

CLEAR LIMITS CORNER #7
X = 702,706.13' (NAD27 NM E)
Y = 420,375.58'
LAT. 32.154034° N (NAD27)
LONG. 103.678340° W
X = 743,891.34' (NAD83/2011 NM E)
Y = 420,433.69'
LAT. 32.154158° N (NAD83/2011)
LONG. 103.678817° W

CLEAR LIMITS CORNER #8
X = 702,041.13' (NAD27 NM E)
Y = 420,375.58'
LAT. 32.154045° N (NAD27)
LONG. 103.680489° W
X = 743,226.33' (NAD83/2011 NM E)
Y = 420,433.69'
LAT. 32.154169° N (NAD83/2011)
LONG. 103.680966° W

CLEAR LIMITS CORNER #9
X = 702,041.13' (NAD27 NM E)
Y = 420,915.58'
LAT. 32.155530° N (NAD27)
LONG. 103.680478° W
X = 743,226.31' (NAD83/2011 NM E)
Y = 420,973.71'
LAT. 32.155653° N (NAD83/2011)
LONG. 103.680956° W

CLEAR LIMITS CORNER #10
X = 702,284.70' (NAD27 NM E)
Y = 420,915.58'
LAT. 32.155526° N (NAD27)
LONG. 103.679691° W
X = 743,469.88' (NAD83/2011 NM E)
Y = 420,973.70'
LAT. 32.155649° N (NAD83/2011)
LONG. 103.680169° W

PAD PLAT
COTTON DRAW PAD 301
CHEVRON U.S.A. INC.
SITUATED IN
SECTION 4, T25S-R32E
LEA COUNTY, NEW MEXICO

Appendix E – Operating and Maintenance Plan

Temporary Pit containing non-low chloride fluids

Cotton Draw 4 33 Federal, Temporary Pit

Section 4 of T25S, R32E

Appendix E – Operating and Maintenance Plan
Cotton Draw 4 33 Federal (303H, 201H, 301H, 202H,302H, 203H)

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

Cotton Draw 4 33 Federal, Temporary Pit

Section 4 of T25S, R32E

Appendix F – Closure Plan
Cotton Draw 4 33 Federal (303H, 201H, 301H, 202H,302H, 203H)

Temporary Pit

Discussion of Onsite Cuttings Disposal

The proposed Temporary Pit will contain drill cuttings from the vertical sections of wells 303H, 201H, 301H, 202H,302H, and 203H. 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

Cotton Draw 4 33 Federal, Temporary Pit

Section 4 of T25S, R32E

Appendix G – Evaluation of Unstable Conditions
Pad 301
Temporary Pit

Summary

Figure 8 identifies the location of the proposed temporary pit with respect to BLM Karst areas. The BLM categorizes all areas within the Carlsbad Field Office (CFO) as having either low, medium, high or critical cave potential based on geology, occurrence of known caves, density of karst features, and potential impacts to freshwater 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. Tetra Tech geotechnical report and boring log from the proposed Two Recycled Storage Ponds did not indicate karst potential (**Attachment 2**).
4. The Bureau of Land Management, Paul Murphy prepared the Environmental Assessment (EA), document number - DOI-BLM-NM-P020-2018-0846-EA, evaluating CO Grizzly 3 27 Fed. 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 fault is 25-miles to the southwest (**USGS 2021)**.

Dissolution Features Evident on Aerial Imagery

The nearest apparent dissolution features to the proposed location are (Figure G.1):

- ~7 miles southeast of the proposed pit location is an area with small (<500-feet in diameter) depressions. - Bell Lake Sink and three other unnamed sinks, each ~2-miles in diameter, are present approximately 6-miles northeast of the proposed location. - San Ramon Sink are present ~16-miles northeast 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 (as a result of deep dissolution) is a very slow process that has been ongoing for millions of years to form these large depressions (Bachman, 1973 and Berg, 2012).

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

*Figure G.1: Stratigraphic section beneath the location of the proposed temporary pit (*Nicholson and Clebsch 1961 as cited in Arcadis 2020*)*

Arcadis Environmental Field Survey
An environmental field survey was conducted by Arcadis in February 2020 in the area surrounding the location of the proposed pit (**Attachment 1**). The on-site survey did not identify any closed depressions, caves, or fissures. The survey determined that the occurrence of voids in the surveyed area was "unlikely" based on a review of the literature, aerial photography, and an assessment of on-site conditions.

TetraTech Geotechnical Reports and Boring Logs

Geotechnical reports from 2018 for two nearby recycled water storage ponds was reviewed (**Attachment 2**). The frac pond is located <1 mile-away and in an almost identical geomorphological and geological setting as the proposed pit location. Five borings were advanced and one was terminated at 80 feet to investigate presence of groundwater but none was found. All borings consisted predominantly of clastic material (mostly sand with some silt and clay) and some calcareous material. Standard penetration testing showed subsurface materials to be generally dense to very dense at depths greater than 5-feet.

- Cotton Draw Recycled Water Storage Ponds Site

  - 1.2 miles east of proposed pit location
  - Boring B1 was drilled to 80 ft
  - Borings B2 through B5 were drilled to 30 feet
  - 1.5 ft to 5 ft
    - 1-13 blows per foot (bpf)
    - Loose sand with silt

  - 5 ft to 80 ft
    - 9 – 100+ bpf
    - Medium dense to very dense clayey to silty sand
  - Groundwater was not encountered at the time of drilling and borings were dry 24 hours after drilling.

Mitigation of Karst Potential

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

<u>General Construction</u>:

• 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 wellpad. • 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

Arcadis 2020. Cotton Draw Final Environmental Field Survey Report. Prepared for Chevron.

Hill, C.A. 1996. Geology of the Delaware Basin, Guadalupe, Apache and Glass Mountains: New Mexico and West Texas: Permian Basin Section: Midland, Texas, SEPM, 480 pp.

Land, Lewis and George Veni. 2014. Electrical resistivity surveys, Johnson Estate drill site, Loving County, Texas. National Cave and Karst Research Institute Report of Investigation 5, Carlsbad, NM. March 2014.

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.

Stafford, Kevin W., Laura Rosales-Lagarde, and Penelope J. Boston. 2008. Castile evaporite karst potential map of the Gypsum Plain, Eddy County, New Mexico and Culberson County, Texas: A GIS methodological comparison. Journal of Cave and Karst Studies 70 (1): 35-46.

U.S. Geological Survey (USGS) 2021. New Mexico Faults, from the USGS Geologic Map Database. Available online at https://my.usgs.gov/eerma/data/index/4f4e496ee4b07f02db5a354e

Attachments 1 - 3

Temporary Pit containing non-low chloride fluids

Cotton Draw 4 33 Federal, Temporary Pit

Section 4 of T25S, R32E

Attachment 1
Arcadis Environmental Field Survey, Section 4, Karst Evaluation, Cotton Draw (2020)

Attachment 2
Tetra Tech Geotechnical Study Report, Section 9, Cotton Draw (2018)

Attachment 3
DOI-BLM-NM-P020-2018-0846-EA, Section 1.6, Scoping, Public Involvement, and Issues (2018)

Attachments 1 – Arcadis Environmental Field Survey, Section 4, Karst Evaluation, Cotton Draw (2020)

Temporary Pit containing non-low chloride fluids

Cotton Draw 4 33 Federal, Temporary Pit

Section 4 of T25S, R32E

ARCADIS Design & Consultancy for natural and built assets

Chevron U.S.A. Inc.

ENVIRONMENTAL FIELD SURVEY

Cotton Draw Development Area

April 2020

ENVIRONMENTAL FIELD SURVEY

Cotton Draw Development Area

Prepared for:
Lee Higgins
HES Specialist – CD Factory Support
Chevron Mid-Continent Business Unit
1400 Smith Street
Houston, Texas 77002

Prepared by:
Arcadis U.S., Inc.
1004 N Big Spring Street
Suite 300
Midland
Texas 79701
Tel 432 687 5400

Our Ref.:
30047010

Date:
April 2020

11 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.

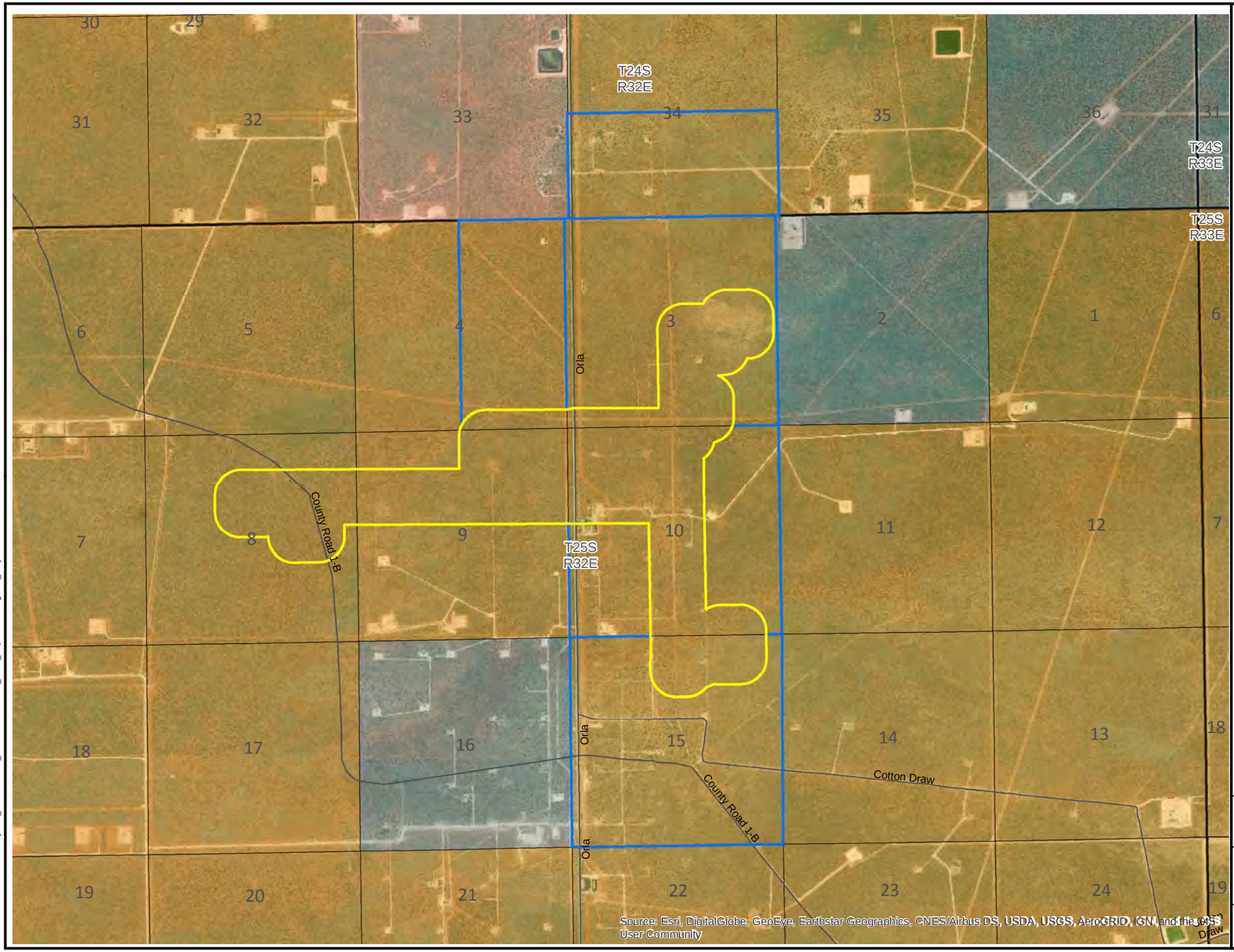
The survey area lies near the western end of the Delaware Basin, and is situated north of the Gypsum Plain (Hill 1996). Bedrock cropping out beneath the proposed project area is comprised of the Rustler Formation, a roughly 50-meter-thick sequence of limestone, siltstone, and sandstone with interbedded 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 bedrock geology of the survey area and the surrounding area is discussed in greater detail in Section 12 of this report.

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 survey area; however, the survey area is situated in an area where karst development is expected to be less intense. Karst potential is classified as low potential across the survey area as shown in **Figure 12**.

Sinkholes play an important role in recharging groundwater to underlying aquifers by allowing rapid infiltration of precipitation during and following rainfall events. As such, mitigation measures would be required in development areas to prevent contaminants from entering sinkholes.

11.1 Survey Findings and Mitigation

No karst surface features were identified within the survey area. During construction activities, if a void is encountered, all activities must stop immediately. The BLM must then be contacted within 24 hours to devise the best management plan to protect karst and human safety. These voids could occur in any portion of the survey area.



LEGEND

- Survey Area (2020)
- Survey Area (September, 2018)
- Sections
- Townships
- Lea County Roads

SURFACE OWNERSHIP

- Bureau of Land Management
- Private
- State

0 2,500 5,000

Feet

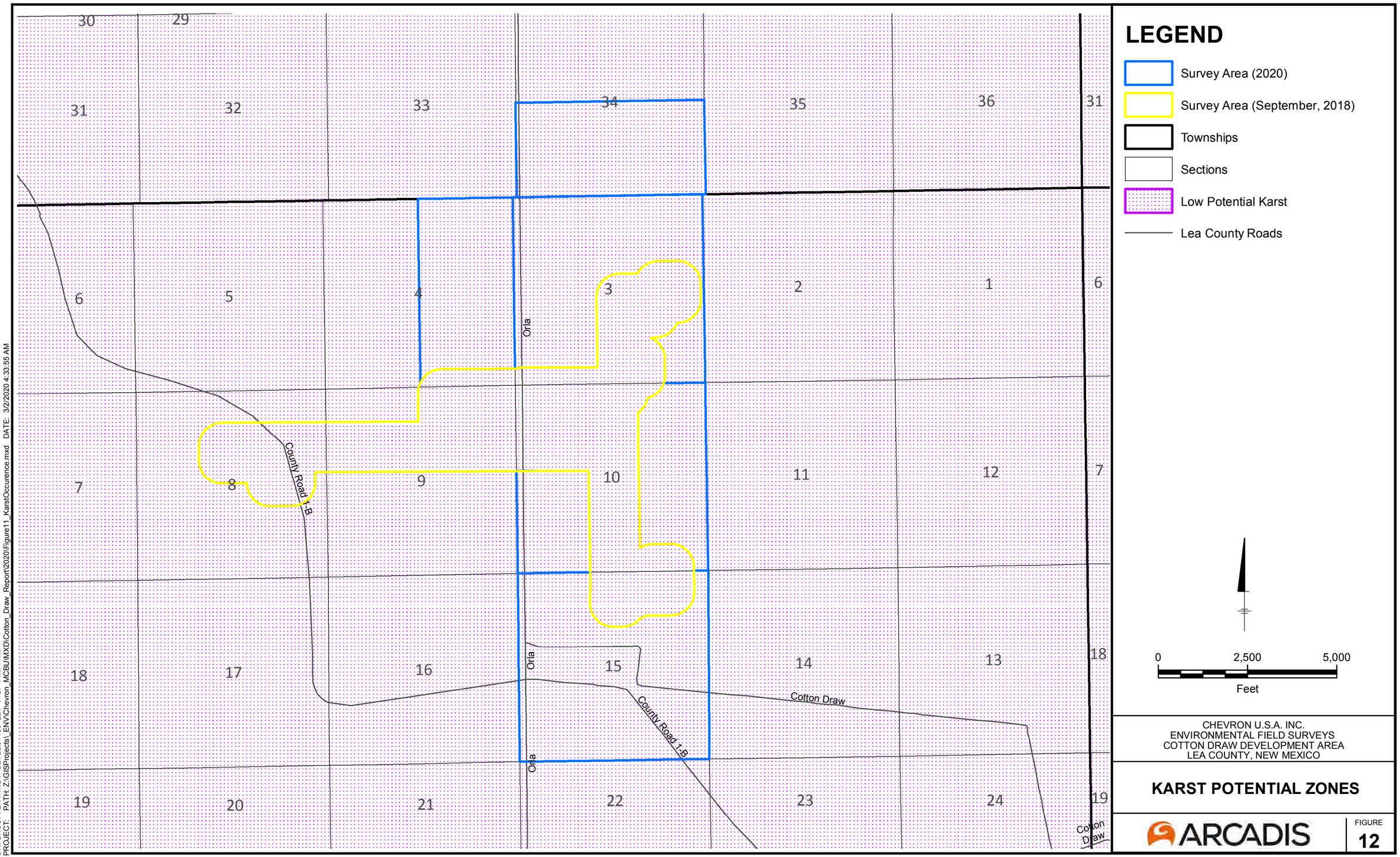
CHEVRON U.S.A. INC.
ENVIRONMENTAL FIELD SURVEYS
COTTON DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO

ENVIRONMENTAL FIELD SURVEY AREA

ARCADIS

FIGURE
2

DIV/GROUP: ENV/MDV DB: adl01180 LD: PIC: PM: TM:
PROJECT: PATH: Z:\GISProjects_ENV\Chevron_MCBU\MXD\Cotton_Draw_Report\2020\Figure2_ProjectArea.mxd DATE: 3/2/2020 4:20:31 AM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Orla
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County Road 1-B
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Orla
Cotton Draw
County Road 1-B
19
20
21
22
23
24
19
Cotton Draw
LEGEND
Survey Area (2020)
Survey Area (September, 2018)
Townships
Sections
Low Potential Karst
Lea County Roads
0
2,500
5,000
Feet
CHEVRON U.S.A. INC.
ENVIRONMENTAL FIELD SURVEYS
COTTON DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
KARST POTENTIAL ZONES
ARCADIS
FIGURE
12
DIV/GROUP: ENV/MDV DB: adl01180 LD: PIC: PM: TM:
PROJECT: PATH: Z:\GISProjects_ENV\Chevron_MCBU\MXD\Cotton_Draw_Report\2020\Figure11_KarstOccurence.mxd DATE: 3/2/2020 4:33:55 AM

APPENDIX A

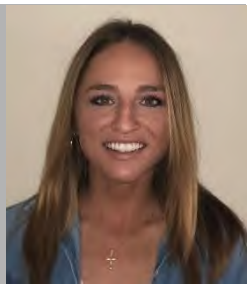
Resumes

PERSONNEL RESUME

ARCADIS Design & Consultancy for natural and built assets

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

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.

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

Attachments 2 – Tetra Tech Geotechnical Study Report, Section 9, Cotton Draw (2018)

Temporary Pit containing non-low chloride fluids

Cotton Draw 4 33 Federal, Temporary Pit

Section 4 of T25S, R32E

TETRA TECH

Chevron North America – MCBU
Cotton Draw Site

Proposed Two Recycled Water Storage Ponds

Section 9, Township 25 South,
Range 32 East,
Lea County, New Mexico

July 2018

complex world

CLEAR SOLUTIONS™

Report of Geotechnical Study

Cotton Draw Impoundments

Lea County, New Mexico

Prepared for:
Mr. Caleb Weaver
Chevron North America – MCBU
Exploration and Production Company
6301 Deauville Blvd, Midland, TX 79706
Phone: (432) 687-7258

Prepared by:

Tetra Tech

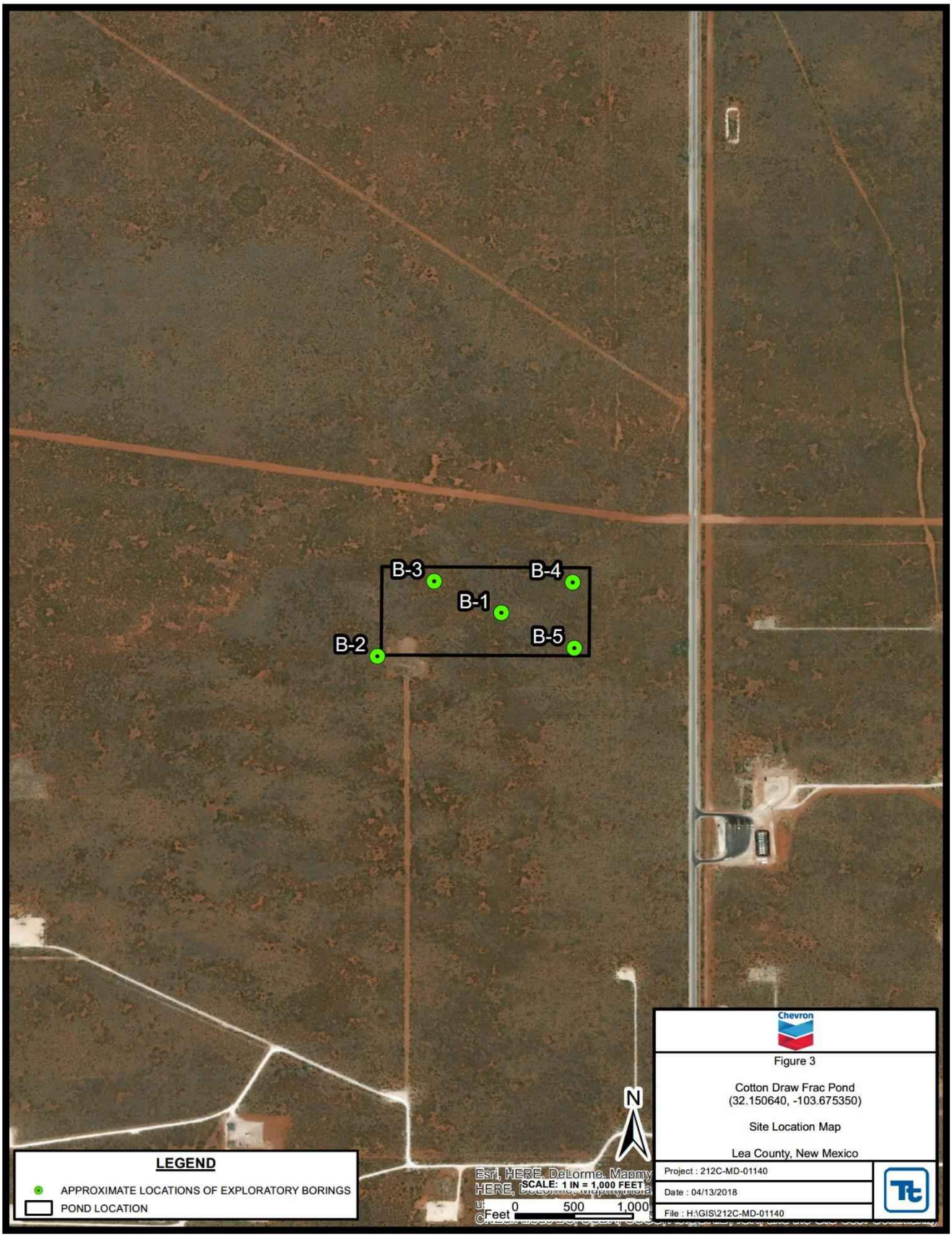
4000 North Big Spring Street, Suite 401
Midland, Texas 79705
Phone (432) 682-4559; Fax (432) 682-3946

Tetra Tech Project No. 212C-MD-01140

Thomas A. Chapel, P.E.
Principal Engineer

Reviewed by: Don Grahlherr,
P.E. Vice President

July 18, 2018


B-3
B-4
B-1
B-2
B-5
N
LEGEND
APPROXIMATE LOCATIONS OF EXPLORATORY BORINGS
POND LOCATION
SCALE: 1 IN = 1,000 FEET
0 500 1,000
Feet
Esri, HERE, DeLorme, Mapmy
Chevron
Figure 3
Cotton Draw Frac Pond
(32.150640, -103.675350)
Site Location Map
Lea County, New Mexico
Project : 212C-MD-01140
Date : 04/13/2018
File : H:\GIS\212C-MD-01140
Mapped By: Isabel Manmolejo

APPENDIX A

EXPLORATORY BORING LOGS

TETRA TECH
Tetra Tech Inc.
4000 N. Big Spring, Suite 401
Midland, TX, 79705
Telephone: 432-682-4559
Fax: 432-682-3946

BOREHOLE ID: B-1

CLIENT Chevron **PROJECT NAME** Cotton Draw Frac Pond

PROJECT NUMBER 212C-MD-01140 **PROJECT LOCATION** Lea County, New Mexico

DATE(S) OF DRILLING: 03/13/2018 **GROUND ELEVATION: NA** **METHOD: Air Rotary**

CONSULTANT: Tetra Tech, Inc. **LATITUDE: 32.150640 N** **LOGGED BY: Clint Merritt**

DRILLING CONTRACTOR: TWE **LONGITUDE: 103.675350 W** **DRILLED BY: Keith Barge**

Notes: No groundwater encountered. Blow counts have been corrected for sampler diameter. Refusal at 30 ft, borehole was offset 50 ft to SE (32.150582 N, 103.67531 W) and drilled to 80 ft to check for water.

DEPTH (ft)	SAMPLE TYPE	RECOVERY %	BLOW COUNTS	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0							
	CA 1	100	7-10-10		SM		Medium Dense to Dense, Light Brown, Fine Grained **SILTY SAND**, Dry
5	CA 2	100	13-13-11	MC = 4.8% DD = 90.2 pcf LL = NP PL = NP PI = NP Fines = 30.8%			
	CA 3	100	9-18-25				
							8.0
10	CA 4	0	35-50/4"				Medium Dense to Very Dense, Pink, Fine Grained **SILTY GRAVEL**, Dry with 20% of Caliche/Sandstone
15	CA 5	67	10-10-13				
20	CA 6	61	8-50/5"	MC = 3.1% LL = NP PL = NP PI = NP Fines = 10.7%	GP-GM		
25	CA 7	61	15-50/5"				
30	CA 8	61	7-10-15	MC = 3.0% LL = NP PL = NP PI = NP Fines = 5.1%	GP-GM		30.0
35							Dense to Very Dense, Pink, Coarse Grained **SANDY GRAVEL**, Dry
40							

BOREHOLE/TP/WELL - TT CHEVRON COTTON DRAW FRAC POND.GPJ LAB SUMMARY.GDT 7/5/18

(Continued Next Page)

TETRA TECH
Tetra Tech Inc.
4000 N. Big Spring, Suite 401
Midland, TX, 79705
Telephone: 432-682-4559
Fax: 432-682-3946

BOREHOLE ID: B-1

CLIENT Chevron **PROJECT NAME** Cotton Draw Frac Pond

PROJECT NUMBER 212C-MD-01140 **PROJECT LOCATION** Lea County, New Mexico

DEPTH (ft)	SAMPLE TYPE	RECOVERY %	BLOW COUNTS	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
40							Dense to Very Dense, Pink, Coarse Grained **SANDY GRAVEL**, Dry *(continued)*
45							
50							
55							
60							
65							
70							
75							
80							80.0 Borehole terminated at 80.0 ft.

BOREHOLE/TP/WELL - TT CHEVRON COTTON DRAW FRAC POND.GPJ LAB SUMMARY.GDT 7/5/18

Tetra Tech Inc.
4000 N. Big Spring, Suite 401
Midland, TX, 79705
Telephone: 432-682-4559
Fax: 432-682-3946

BOREHOLE ID: B-2

CLIENT Chevron **PROJECT NAME** Cotton Draw Frac Pond

PROJECT NUMBER 212C-MD-01140 **PROJECT LOCATION** Lea County, New Mexico

DATE(S) OF DRILLING: 03/12/2018 **GROUND ELEVATION: NA** **METHOD: Air Rotary**

CONSULTANT: Tetra Tech, Inc. **LATITUDE: 32.149630 N** **LOGGED BY: Clint Merritt**

DRILLING CONTRACTOR: TWE **LONGITUDE: 103.678240 W** **DRILLED BY: Keith Barge**

Notes: No groundwater encountered. Blow counts have been corrected for sampler diameter.

DEPTH (ft)	SAMPLE TYPE	RECOVERY %	BLOW COUNTS	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0							
	CA 1	100	7-10-10	MC = 5.0% DD = 104.2 pcf Fines = 20.7% Eff. Phi = 34.5 deg Eff. C = 0 psf Tot. Phi = 31.9 deg Tot. C = 0 psf			Medium Dense, Light Brown, Fine Grained **SILTY SAND**, Dry
	CA 2	100	5-3-4				3.0
5					SM		Medium Dense, Light Brown, Fine Grained **SILTY SAND**, Dry, Plastic
	ST 1	100		MC = 4.2% LL = NP PL = NP PI = NP Fines = 13.2%			7.0
							Medium Dense, Pink, Fine Grained **SILTY SAND**, Dry
10	CA 3	100	10-10-12				
15	CA 4	100	10-10-12				15.0
							Very Dense, Pink, Coarse Grained **SANDY GRAVEL**, Dry
20	CA 5	28	50/5"				
25	CA 6	0	50/0"				
30	CA 7	0	25-50/0"				30.0
							Very Dense, Light Brown, Fine Grained **SILTY SAND**, Dry, 30% of Strong Cementation, Some Gravel
35	CA 8	67	27-50/5"				
40	CA 9	22	50/4"				40.0

Borehole terminated at 40.0 ft.

BOREHOLE/TP/WELL - TT CHEVRON COTTON DRAW FRAC POND.GPJ LAB SUMMARY.GDT 7/5/18

TETRA TECH
Tetra Tech Inc.
4000 N. Big Spring, Suite 401
Midland, TX, 79705
Telephone: 432-682-4559
Fax: 432-682-3946

BOREHOLE ID: B-3

CLIENT Chevron **PROJECT NAME** Cotton Draw Frac Pond

PROJECT NUMBER 212C-MD-01140 **PROJECT LOCATION** Lea County, New Mexico

DATE(S) OF DRILLING: 03/13/2018 **GROUND ELEVATION: NA** **METHOD: Air Rotary**

CONSULTANT: Tetra Tech, Inc. **LATITUDE: 32.151371 N** **LOGGED BY: Jeremy Worrell**

DRILLING CONTRACTOR: TWE **LONGITUDE: 103.676916 W** **DRILLED BY: Keith Barge**

Notes: No groundwater encountered. Blow counts have been corrected for sampler diameter.

DEPTH (ft)	SAMPLE TYPE	RECOVERY %	BLOW COUNTS	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0							
	CA 1	61	4-10-8				Medium Dense, Brown, Fine Grained **SILTY SAND**, Dry
3.0							
5	CA 2	89	9-14-21				Medium Dense to Dense, Brown to Light Brown, Fine Grained **CLAYEY SILTY SAND**, Dry, Weakly Cemented
7.0					SC-SM		
	CA 3	100	8-8-14	MC = 5.1% DD = 101.5 pcf LL = 21 PL = 17 PI = 4 Fines = 24.9%			Very Dense, Pink to White, Fine Grained **SILTY SAND**, Dry, Some Gravel
10	ST 1						
15	CA 4	33	50/2"				
15.0							
20	CA 5	67	27-27-17	MC = 4.2% DD = 93.1 pcf LL = NP PL = NP PI = NP Fines = 14.6%	SM		Dense to Very Dense, Brown to Light Brown, Fine Grained **SILTY SAND**, Dry, Some Caliche and Gravel
25	CA 6	83	18-50/3"				
30	CA 7	17	50/3"				
35							
40	CA 8	17	50/2"				
40.0							

Borehole terminated at 40.0 ft.

BOREHOLE/TP/WELL - TT CHEVRON COTTON DRAW FRAC POND.GPJ LAB SUMMARY.GDT 7/5/18

TETRA TECH
Tetra Tech Inc.
4000 N. Big Spring, Suite 401
Midland, TX, 79705
Telephone: 432-682-4559
Fax: 432-682-3946

BOREHOLE ID: B-4

CLIENT Chevron **PROJECT NAME** Cotton Draw Frac Pond

PROJECT NUMBER 212C-MD-01140 **PROJECT LOCATION** Lea County, New Mexico

DATE(S) OF DRILLING: 03/14/2018 **GROUND ELEVATION: NA** **METHOD: Air Rotary**

CONSULTANT: Tetra Tech, Inc. **LATITUDE: 32.151354 N** **LOGGED BY: Jeremy Worrell**

DRILLING CONTRACTOR: TWE **LONGITUDE: 103.673683 W** **DRILLED BY: Keith Barge**

Notes: No groundwater encountered. Blow counts have been corrected for sampler diameter.

DEPTH (ft)	SAMPLE TYPE	RECOVERY %	BLOW COUNTS	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0					SP-SM		Medium Dense, Brown, Poorly Graded **SILTY SAND**, Dry
	CA 1	100	3-5-7	MC = 2.6% DD = 93.2 pcf LL = NP PL = NP PI = NP Fines = 10.1%			
5	ST 1	50					
							3.0 Medium Dense to Dense, Brown to Light Brown, Fine Grained **SILTY SAND**, Dry, Weakly Cemented, Some Caliche, HCl Reactive
	CA 2	89	12-12-16				
10	CA 3	67	10-50/5"				8.0 Dense to Very Dense, Pink to White, Fine Grained **SILTY SAND**, Dry, with Strongly Cemented Caliche and Some Gravel
					SM		
15	CA 4	100	12-18-14	MC = 3.2% LL = NP PL = NP PI = NP Fines = 14.1%			
20	CA 5	78	3-14-8				
25	CA 6	83	9-11-16				
30	CA 7	0	8-50/5"				
35							
40	CA 8	33	14-50/5"				40.0

Borehole terminated at 40.0 ft.

BOREHOLE/TP/WELL - TT CHEVRON COTTON DRAW FRAC POND.GPJ LAB SUMMARY.GDT 7/5/18

TETRA TECH
Tetra Tech Inc.
4000 N. Big Spring, Suite 401
Midland, TX, 79705
Telephone: 432-682-4559
Fax: 432-682-3946

BOREHOLE ID: B-5

CLIENT Chevron **PROJECT NAME** Cotton Draw Frac Pond

PROJECT NUMBER 212C-MD-01140 **PROJECT LOCATION** Lea County, New Mexico

DATE(S) OF DRILLING: 03/14/2018 **GROUND ELEVATION: NA** **METHOD: Air Rotary**

CONSULTANT: Tetra Tech, Inc. **LATITUDE: 32.149814 N** **LOGGED BY: Jeremy Worrell**

DRILLING CONTRACTOR: TWE **LONGITUDE: 103.673647 W** **DRILLED BY: Keith Barge**

Notes: No groundwater encountered. Blow counts have been corrected for sampler diameter.

DEPTH (ft)	SAMPLE TYPE	RECOVERY %	BLOW COUNTS	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0							
	CA 1	100	3-9-12		SM		Medium Dense to Dense, Brown to Pink, Fine Grained **SILTY SAND**, Dry, with Strongly Cemented Caliche
5	CA 2	100	7-11-14	MC = 6.3% DD = 101.0 pcf LL = NP PL = NP PI = NP Fines = 25.0%			
	CA 3	100	4-7-12				
10	CA 4	78	9-16-16				
15	CA 5	56	8-7-7	MC = 3.6% LL = NP PL = NP PI = NP Fines = 14.8%	SM		15.0
20	CA 6	94	1-1-3				Loose, Pink, Medium Grained **SILTY SAND**, Dry, with Some Gravel size Caliche 20.0
25	CA 7	100	29-50/1"	MC = 4.0% DD = 107.6 pcf LL = NP PL = NP PI = NP Fines = 15.0%	SM		Very Dense, Pink, Fine Grained **SILTY SAND**, Dry, with Some Weakly Cemented Caliche
30	CA 8	0	50/4"				
35							
40							40.0

Borehole terminated at 40.0 ft.

BOREHOLE/TP/WELL - TT CHEVRON COTTON DRAW FRAC POND.GPJ LAB SUMMARY.GDT 7/5/18

APPENDIX B

LABORATORY SUMMARY

TETRA TECH
Tetra Tech Inc.
4000 N. Big Spring, Suite 401
Midland, TX, 79705
Telephone: 432-682-4559
Fax: 432-682-3946

SUMMARY OF LABORATORY RESULTS

CLIENT Chevron

PROJECT NAME Cotton Draw Frac Pond

PROJECT NUMBER 212C-MD-01140

PROJECT LOCATION Lea County, New Mexico

Borehole Identification	Depth	Water Content (%)	Dry Density (pcf)	Atterberg's Limits (LL/PL/PI)	Max Dry Density (pcf)/ OMC(%)	Fines Content (%)	USCS Classi-fication	Swell (%), Swell pressure (psf)	Cc, Cs	Permeability (cm/s)	pH, Resistivity (Ohm-m)	Sulfate, Chloride Content (ppm)	Triaxial Shear Strength c'(psf), phi'	Specific Gravity
B-1	3.5	4.8	90.2	NP		31	SM	-2.1	0.2,0.025					
B-1	18.5	3.1		NP		11	GP-GM							
B-1	28.5	3.0		NP		5	GP-GM							2.66
B-2	3.5	5.0	104.2			21							0,34.5	
B-2	6.0	4.2		NP		13	SM							
B-3	6.5	5.1	101.5	21/17/4		25	SC-SM			3.00E-03				
B-3	18.5	4.2	93.1	NP		15	SM							
B-4	1.5	2.6	93.2	NP		10	SP-SM							
B-4	13.5	3.2		NP		14	SM							
B-5	3.5	6.3	101.0	NP		25	SM	-1.7	0.17,0.021					
B-5	13.5	3.6		NP		15	SM							
B-5	23.5	4.0	107.6	NP		15	SM							
Bulk	5.0			NP	117.8/12.5	19	SM						0,33.7	

LAB SUMMARY-TRIAXIAL CHEVRON COTTON DRAW FRAC POND.GPJ LAB SUMMARY.GDT 7/5/18

Attachments 3 – DOI-BLM-NM-P020-2018-0846-EA, Section 1.6, Scoping, Public Involvement, and Issues (2018)

Temporary Pit containing non-low chloride fluids

Cotton Draw 4 33 Federal, Temporary Pit

Section 4 of T25S, R32E

United States Department of the Interior
Bureau of Land Management

Environmental Assessment DOI-BLM-NM-P020-2018-0846-EA

CHEVRON U.S.A. INC
CO Grizzly 3 27 FED 0051H
CO Grizzly 3 27 FED 0052H
CO Grizzly 3 27 FED 0055H
CO Grizzly 3 27 FED 0057H
CO Grizzly 3 34 FED 0510H
Lease No. NMLC 061936

U.S. Department of the Interior
Bureau of Land Management
Pecos District
Carlsbad Field Office
620 East Greene Street
Carlsbad, NM 88220
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August 2018

BLM

Carlsbad Field Office

Confidentiality Policy
Any comments, including names and street addresses of respondents, you submit may be made available for public review. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

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- **Clean Water Act of 1977, as amended (30 USC 1251)** - Establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters.
- **Comprehensive Environmental Response, Compensation, and Liability Act of (42 USC 9601 et seq.)** - Sections 101 (14) and (33), exclude petroleum from the definitions of "hazardous substances" and "pollutant or contaminant." Petroleum derivatives to which this exclusion applies include crude oil or any fraction thereof (if the fraction is not specifically listed or designated a hazardous substance by other listed acts), natural gas, natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel.
- **Endangered Species Act of 1973 (16 USC 1531 et seq.)** - Protects critically imperiled species from extinction as a consequence of economic growth and development untempered by adequate concern and conservation.
- **Federal Cave Resources Protection Act of 1988 (16 USC 4301 et seq.)** - Protects significant caves on federal lands by identifying their location, regulating their use, requiring permits for removal of their resources, and prohibiting destructive acts.
- **Migratory Bird Treaty Act of 1918 (16 USC 703-712)** - Implements the convention for the protection of migratory birds.
- **Mining and Mineral Policy Act of 1970, as amended (30 USC 21)** - Fosters and encourages private enterprise in the development of economically sound and stable industries, and in the orderly and economic development of domestic resources to help assure satisfaction of industrial, security, and environmental needs.
- **National American Graves Protection and Repatriation Act of 1990 (25 USC 301)** - Provides a process for museums and Federal agencies to return certain Native American cultural items such as human remains, funerary objects, sacred objects, or objects of cultural patrimony to lineal descendants, and culturally affiliated Indian tribes and Native Hawaiian organizations and includes provisions for unclaimed and culturally unidentifiable Native American cultural items, intentional and inadvertent discovery of Native American cultural items on Federal and tribal lands, and penalties for noncompliance and illegal trafficking.
- **National Historic Preservation Act of 1966, as amended (16 USC 470)** - Preserves historical and archaeological sites.

Air quality standards in New Mexico (with the exception of Bernalillo County) are under the jurisdiction of the New Mexico Environment Department/Air Quality Bureau (NMED/NMAQB). The Environmental Improvement Act, NMSA 1978, and the Air Quality Control Act, NMSA 1978, dictate state air quality standards. Also, 40 CFR § 60 “Standards of Performance for New Stationary Sources” is administered by the NMED/NMAQB.

Additionally, Chevron would comply with all applicable federal, state, and local laws and regulations; obtain the necessary permits for construction and operation; and certify that Surface Use Agreements have been reached with the private landowners or other leaseholders, where required.

1.6 Scoping, Public Involvement, and Issues

The Carlsbad Field Office (CFO) publishes a NEPA log for public inspection. This log contains a list of proposed and approved actions in the field office. The log is located in the lobby of the CFO. The BLM also has an ePlanning website (https://eplanning.blm.gov/epl-front-office/eplanning/lup/lup_register.do) that allows the public to review and comment online for BLM NEPA and planning projects.

The CFO uses Geographic Information Systems (GIS) in order to identify resources that may be affected by the proposed action. A map of the project area is prepared to display the resources in the area and to identify potential issues.

Information provided within the environmental consequences sections provides the decision maker with the information necessary to compare and contrast the predicted effects of the proposed action and alternatives and make a reasoned and informed decision regarding which alternative or combination of actions should be selected in the Decision Record.

The proposed action was circulated among CFO resource specialists in order to identify any issues associated with the project. The issues that were raised include:

- How would air quality be impacted by the proposed action?
- How would climate change be impacted by the proposed action?
- How would soils be impacted by the proposed action?
- How would watershed resources be impacted by the proposed action?
- How would cave karst be impacted by the proposed action?
- How would wildlife habitat be impacted by the proposed action?
- How would vegetation be impacted by the proposed action?
- Could noxious weeds be introduced to the project area because of the proposed action?
- How would range management be impacted by the proposed action?
- How would visual resources be impacted by the proposed action?
- How would cultural resources be impacted by the proposed action?
- How would paleontological resources be impacted by the proposed action?

Caves and karst, Potash, recreation, potential special designations, and special status species were evaluated, but determined to have no impacts from the proposed action and therefore not evaluated in the environmental analysis.

mitigation measures are required for approval of the ADP's. Residual impacts from the accidental release of hazardous and non-hazardous substances are expected to be less than significant.

3.12 Cumulative Impacts

Cumulative impacts are the combined effect of past projects, specific planned projects, and other reasonably foreseeable future actions within the project study area to which oil and gas exploration and development may add incremental impacts. This includes all actions, not just oil and gas actions that may occur in the area including foreseeable non-federal actions.

The combination of all land use practices across a landscape has the potential to change the visual character, disrupt natural water flow and infiltration, disturb cultural sites, cause minor increases in greenhouse gas emissions, fragment wildlife habitat and contaminate groundwater. However, the likelihood of these impacts occurring is minimized through standard mitigation measures, special Conditions of Approval and ongoing monitoring studies.

All resources are expected to sustain some level of cumulative impacts over time, however these impacts fluctuate with the gradual abandonment and reclamation of wells. As new wells are being drilled, there are others being abandoned and reclaimed. As the oil field plays out, the cumulative impacts will lessen as more areas are reclaimed and less are developed.

4.0 SUPPORTING INFORMATION

4.1 List of Preparers

Prepared by: Adam Davis
Project Planner
Arcadis

Reviewed by: Rachel Cruz
Project Manager
Arcadis

Date: 12/4/2018

The following individuals aided in the preparation of this document:

- Paul Murphy, Natural Resource Specialist BLM-CFO
- Elia Perez, Archaeologist, BLM-CFO
- Wildlife Biologist, BLM-CFO
- Brad Winger, Rangeland Management Specialist, BLM-CFO

4.2 References

Arcadis U.S., Inc. (Arcadis). 2018. Environmental Field Survey – Cotton Draw Development Area. Prepared for Chevron U.S.A., Inc. June 2018.

Applied Enviro Solutions (AES). 2011. Southeast New Mexico Inventory of Air Pollutant Emissions and Cumulative Air Impact Analysis 2007. BLM. Carlsbad Field Office.

Belnap, J. and D.A. Gillette. 1997. Disturbance of Biological Soil Crusts: Impacts on Potential Wind Erodibility of Sandy Desert Soils in Southeastern Utah. Land Degradation & Development. 8: 355-362.

BLM. 1988. Carlsbad Resource Management Plan. Bureau of Land Management, Roswell District, New Mexico. September 1988.

BLM. 1997. Carlsbad Approved Resource Management Plan Amendment and Record of Decision. Carlsbad Resource Area, Roswell District Office, New Mexico. October 1997.

BLM. 2008a. National Environmental Policy Act. Handbook H-1790-1. January 2008. 184 p.

BLM. 2008b. Paleontological Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands. Instructional Memorandum 2008-009. October 15, 2007. 11 p.

BLM. 2009. Assessment and Mitigation of Paleontological Resources. Instructional Memorandum 2009-011. October 10, 2008.

BLM. 2013. Air Resources Technical Report for Oil and Gas Development in New Mexico, Kansas, Oklahoma, and Texas. New Mexico State Office.

BLM. 2016. Air Resources Technical Report for Oil and Gas Development. New Mexico, Oklahoma, Texas, and Kansas. BLM New Mexico State Office. January 2016. 71 pp.

Coffin, A. 2007. From roadkill to road ecology: A review of the ecological effects of roads. Journal of Transport Geography 15:396-406.

Colborn, Theo, Carol Kwiatkowski, Kim Schultz, and Mary Bachran (Colburn et al.) 2011. Natural Gas Operations from a Public Health Perspective. Human and Ecological Risk Assessment. 17:1039-1056.

DiTomaso, J. 2000. Invasive weeds in rangelands: Species, impacts, and management. Weed Science 48:255-265.

EPA. 2011. National Air Toxics Assessment, 2011 NATA Assessment for Cancer, Neurological and Respiratory Risks for Eddy and Lea Counties in New Mexico. [Web Page]. Located at https://www.epa.gov/national-air-toxics-assessment. Accessed: March 7, 2016.

EPA. 2013a. 2005 National-Scale Air Toxics Assessment. Summary of results by county. [Web page]. Located at https://www.epa.gov/national-air-toxics-assessment/2005-nata-assessment-results. Accessed: March 7, 2016.

EPA. 2013b. Air Trends: Design Values. [Web page]. Located at https://www.epa.gov/air-trends/air-quality-design-values. Accessed: March 7, 2016.

EPA. 2015. Counties Designated “Nonattainment” for Clean Air Act’s National Ambient Air Quality Standards (NAAQS). [Web Page]. Located at https://www3.epa.gov/airquality/greenbook/mapnpoll.html. Accessed: February 12, 2016.

Evangelista, P.H., A.W. Crall, and E. Bergquist. 2011. Invasive Plants and their Response to Energy Development. Pages 115-129 *in* Naugle, D.E. ed. Energy Development and Wildlife Conservation in Western North America. Island Press, Washington, D.C. 344 pages.

Fletcher, S.M. 2012. Risk Assessment of Groundwater Contamination from Hydraulic Fracturing Fluid Spills in Pennsylvania. *Thesis (M.S.)*. Massachusetts Institute of Technology, Engineering Systems Division, Technology and Policy Program. [Web Page]. Located at http://hdl.handle.net/1721.1/72885. Accessed: April 21, 2016.

Groundwater Protection Council (GWPC) and ALL Consulting (ALL). 2009. Modern Shale Gas Development in the United States: A Primer. Prepared for the U.S. Department of Energy, Office of Fossil Energy, and National Energy Technology Laboratory (NETL). DE-FG26-04NT15455. Oklahoma City, OK. [Web Page]. Located at http://energy.gov/sites/prod/files/2013/03/f0/ShaleGasPrimer_Online_4-2009.pdf. Accessed: April 21, 2016.

National Oceanic and Atmospheric Administration (NOAA). 2011. NOAA's 1981-2010 Climate Normals. National Climatic Center. Natural Resource Conservation Service (NRCS). 2006. Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296.

New Mexico Environment Department (NMED). 2014. 2014-2016 State of New Mexico Clean Water Act Section 303(d)/Section 305(b) Integrated Report. November 18, 2014.

New Mexico State University (NMSU). 2011. New Mexico Range Plants, Circular 374. Las Cruces, New Mexico. 48pp.

New Mexico Statutes Annotated (NMSA). 1978. Oil and Gas Act, Sections 70-2-1 et seq. Water Quality Act, Section 74-6-7 et seq.

Railey, J.A. 2016. *Permian Basin Research Design 2016-2026* Volume I: *Archaeology and Native American Cultural Resources*. SWCA Environmental Consultants, Albuquerque, New Mexico.

Texas Commission on Environmental Quality (TCEQ). 2014. Air Monitoring Web Site – Design Concentrations for Various Pollutants. [Web Page]. Located at https://www.tceq.texas.gov/airquality/monops/sites/mon_sites.html. Accessed: February 12, 2016.

Trombulak, S.C. and C.A. Frissell. 2000. Review of ecological effects of roads on terrestrial and aquatic communities. Conservation Biology 14(1):18-30.

URS. 2013. Air Resources Technical Support Document, Carlsbad Field Office, Oil and Gas Resource Management Plan Revision. April. 308 pp.

U.S. Department of Agriculture (USDA). 1974. Soil Survey for Lea County, New Mexico available at: http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/new_mexico/leaNM1974/leaNM1974.pdf. Accessed September 2017.

USDA. 2016. Sandy Ecological Site Characteristics. [Web page]. Located at https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&repType=regular&id=R042XA051NM. Accessed: July 2018.

USDA. 2018. Natural Resources Conservation Service. Soil Surveys by State available at www.nrcs.usda.gov. Accessed April 2018.

WeatherSpark. 2016. Average Weather for Carlsbad, NM, USA. [Web Page]. Located at https://weatherspark.com/averages/29937/Carlsbad-New-Mexico-United-States. Accessed: February 12, 2016

Wenzel, C. 2012. A Case Study—Hydraulic Fracturing Geography: The Case of the Eagle Ford Shale, TX, USA. *Thesis (M.S.).* Texas State University-San Marcos, Department of Geography. [Web Page]. Located at https://digital.library.txstate.edu/handle/10877/4247. Accessed: April 21, 2016.

Venegas, Victoria, EMNRD

From: Venegas, Victoria, EMNRD
Sent: Monday, November 6, 2023 2:12 PM
To: Vallejo, Tony
Subject: CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187]
Attachments: C-144 CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187].pdf

CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187]
TEMPORARY PIT NON-LOW CHLORIDE FLUIDS.

NMOCD has reviewed [4323] CHEVRON USA INC's, Application and Form C-144 received on 10/18/2023, for the proposed CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Temporary Pit with non-low chloride drilling fluid located in Unit Letter J Section 04, Township 25S Range 32E, Lea County, New Mexico.

[4323] CHEVRON USA INC in the Application requested the following two variances from the requirements of 19.15.17 NMAC – Pits, Closed-Loop Systems, Below-Grade Tanks and Sumps:

1. [4323] CHEVRON USA INC proposes a closure 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.
2. [4323] CHEVRON USA INC proposes the use of 40-mil High-Density Polyethylene (HDPE) Liner for Temporary Pit in lieu of 20 mil string reinforced Linear Low-Density Polyethylene (LLDPE) Liner.

Subject to the conditions specified below, NMOCD approves the following variances:

1. The variance from 19.15.17.7.R NMAC, which requires that a pit be closed no later than six (6) months after removal of the drilling or workover rig from the first well using the pit.
2. The variance from 19.15.17.11.F.3 NMAC, which requires the pit to be equipped with a 20- mil string reinforced LLDPE or equivalent liner material that the appropriate division district office approves.

[4323] CHEVRON USA INC shall comply with the following conditions of approval:

1. [4323] CHEVRON USA INC shall design, construct, operate, maintain, and close CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Pit in compliance with 19.15.17 NMAC - Pits, Closed-Loop Systems, Below-Grade-Tanks and Sumps.
2. The design and construction plan, included in the Application, is approved. [4323] CHEVRON USA INC shall design and construct CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Pit as described in the approved plan. [4323] CHEVRON USA INC shall apply for a permit modification for any change to the plan.
3. The closure plan, included as Appendix F of the Application, is approved. [4323] CHEVRON USA INC shall close the CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Pit as described in the approved plan. [4323] CHEVRON USA INC shall apply for a permit modification for any change to the plan.
4. Prior to commencing construction of the CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Pit, [4323] CHEVRON USA INC shall submit to OCD a Form C-102, including a certified survey, as required by 19.15.17.9(C)(2) NMAC via OCD Online.
5. [4323] CHEVRON USA INC shall inspect CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Pit at least once per month during construction for compliance with the approved design and construction plan. [4323] CHEVRON USA INC shall maintain a log of each inspection and provide a copy of the log through OCD Online for each quarter beginning fifteen days (15) after the end of the quarter during construction.

6. If [4323] CHEVRON USA INC encounters a void or collapse during construction, operation, maintenance, or closure of the CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Pit, [4323] CHEVRON USA INC shall immediately cease the activity, notify OCD through OCD Online, within twenty-four (24) hours, and take corrective action approved by OCD.
7. No later than seventy-two (72) hours prior to installing the 40-mil HDPE liner, [4323] CHEVRON USA INC shall notify the OCD through OCD Online.
8. [4323] CHEVRON USA INC shall inspect CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Pit at least once per day for liner integrity, freeboard height, fluid level, debris, migratory birds and other wildlife, and releases while the drilling or workover rig is on location, and once per week after removal of the rig but prior to dewatering the CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Pit. [4323] CHEVRON USA INC shall maintain a log of each inspection and provide a copy of the log through OCD Online for each quarter beginning fifteen days (15) after the end of the quarter during construction.
9. [4323] CHEVRON USA INC shall maintain no less than two (2) feet of freeboard at the Pit at all times.
10. [4323] CHEVRON USA INC shall construct and maintain a fence around the perimeter of the CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Pit at all times after the completion of construction.
11. No later than thirty (30) days after the date of any of the following events, [4323] CHEVRON USA INC shall drain and dewater the CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Pit:
    a. The release of the drilling or workover rig from the last well as reported to the OCD on Form C-105; or
    b. The removal of the drilling or workover rig from the pad if the well is not completed; or
    c. If the drilling or workover rig is located at the pad, one hundred eight one (181) days after the rig became inactive.
12. No later than six (6) months after the date of any of the following events, [4323] CHEVRON USA INC shall close CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187]:
    a. The release of the drilling or workover rig from the last well as reported to the OCD on Form C-105; or
    b. The removal of the drilling or workover rig from the pad if the well is not completed; or
    c. If the drilling or workover rig is located at the pad, one hundred eight one (181) days after the rig became inactive.
13. After [4323] CHEVRON USA INC drains and dewaters CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Pit, it shall inspect the Pit for liner integrity, fluid level, debris, migratory birds and other wildlife, and releases once per week until the installation of the top geomembrane cover and the placement of the cover soils in accordance with the closure plan. [4323] CHEVRON USA INC shall maintain a log of each inspection and provide a copy of the log to OCD via OCD Online for each quarter beginning fifteen days (15) days after the end of the quarter in which the Pit is dewatered and drained. If [4323] CHEVRON USA INC observes fluid in the CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Pit during an inspection, it shall notify OCD's Environmental Bureau at through OCD Online, remove the fluid immediately, and submit a report characterizing the nature, volume, and source of the fluid via OCD Online.
14. After [4323] CHEVRON USA INC has drained and dewatered CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Pit, [4323] CHEVRON USA INC shall not discharge fluid into the Pit for any purpose except for an emergency as provided in 19.15.17.14 NMAC.
15. [4323] CHEVRON USA INC shall comply with 19.15.29 NMAC - Releases for any release related to or associated with the CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187].
16. No later than seventy-two (72) hours prior to installing the top geomembrane cover and cover soil on the CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187], [4323] CHEVRON USA INC shall notify the OCD via OCD Online.

This letter constitutes NMOCD's conditions of approval of the variances. Please reference CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187], in all future communications.
Please let me know if you have any additional questions or concerns.
Regards

Victoria Venegas ● Environmental Specialist
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Oil Conservation Division
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CONDITIONS

Action 276966

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 276966
	Action Type: [C-144] Temporary Pit Plan (C-144T)

CONDITIONS

Created By	Condition	Condition Date
vvenegas	NMOCD has reviewed and approved [4323] CHEVRON USA INC's, Application and Form C-144 received on 10/18/2023, for the proposed CO 4 33 FEDERAL 303H, 201H, 301H, 202H, 302H, 203H [fVV2331049187] Temporary Pit with non-low chloride drilling fluid located in Unit Letter J Section 04, Township 25S Range 32E, Lea County, New Mexico.	11/6/2023