November 6, 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
Dagger Lake 4 33 Federal Com (Pad 401)
Section 4 of T22S, R33E 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 96244 located in Section 4 of T22S, R33E. This package includes the following documentation:

- C-144 for Non-Low Chloride Temporary Pit
- Siting Criteria Demonstration
- Siting Criteria Figures 1-11
- Variance Requests
- Appendix A – USGS Groundwater Data
- Appendix B – NMOSE Water Data
- Appendix C – Hydrogeologic Data
- Appendix D – Design Plan
- Appendix E – Operating and Maintenance Plan
- Appendix F – Closure Plan
- Appendix G – Evaluation of Unstable Conditions
- Attachments 1 - 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
Dagger Lake 4 33 Federal Com, Temporary Pit
Section 4 of T22S, R33E, Lea County

DL 4 33 Fed Com #401H
DL 4 33 Fed Com #413H
DL 4 33 Fed Com #402H
DL 4 33 Fed Com #414H
DL 4 33 Fed Com #403H
DL 4 33 Fed Com #415H

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

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: **DL 4 33 FED COM (Pad 401) (401H, 402H, 403H, 413H, 414H, 415H)**
API Number: **Pending** OCD Permit Number: **fVV2331141352**
U/L or Qtr/Qtr **F** Section **4** Township **22S** Range **33E** County: **Lea**
Center of Proposed Design: Latitude **32.42178** Longitude **-103.58046** 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: 11/6/2023

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:** 11/07/2023

Title: Environmental Specialist **OCD Permit Number:** fVV2331141352

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

Dagger Lake 4 33 Federal Com Pit

Section 4, T22S, R33E

Depth to Groundwater, 19.15.17.10.3(a)

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

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

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

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

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

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

Proximity to Surface Water, 19.15.17.10.3(b)

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

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

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

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

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

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

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

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

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

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

Proximity to Wetlands, 19.15.17.10.3(f)

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

Proximity to Subsurface Mines, 19.15.17.10.3(g)

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

Proximity to Unstable Area, 19.15.17.10.3(h)

Figure 8 identifies the location of the proposed temporary pit with respect to Bureau of Land Management (BLM) mapped potential karst areas. The proposed Temporary Pit is mapped in a "Low Potential" karst area. The area lies near the northeast margin of the Delaware Basin. Bedrock cropping out beneath the proposed project area is comprised of the Triassic-aged Dockum Group. Underlying the Dockum Group are the Dewey Lake redbeds. Both of these formations are composed chiefly of clastic (insoluble), non-karst-forming rocks. Beneath these formations are Permian-aged rocks of the Rustler and Salado Formations. These rocks contain significant beds of halite (i.e., rock salt) and anhydrite, making them susceptible to karst formation. The top of the Rustler Formation in the proposed project area is over 800 feet below the land surface (Crowl et al. 2011[1]). Therefore, local karst potential is likely to be low. An Evaluation of Unstable Conditions is presented in Appendix G.

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

Proximity to Floodplains, 19.15.17.10.3(i)

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

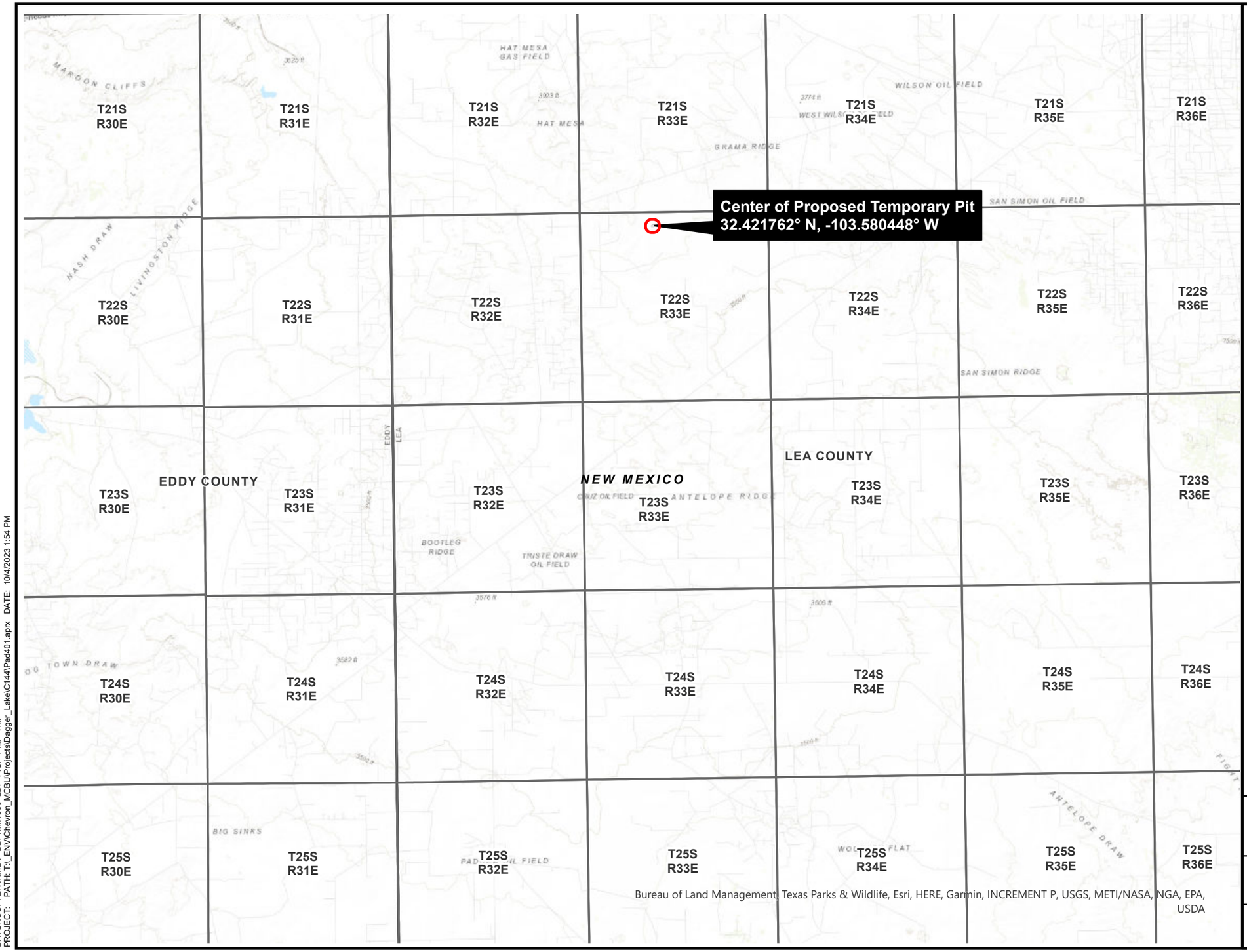
[1] Crowl, W. J., D. E. Hulse, and G. Tucker, P.E., 2011. NI 43-101 Technical Report Prefeasibility Study for the Ochoa Project, Lea County, New Mexico. Prepared for IC Potash Corporation by Gustavsen and Associates, December 30, 2011, 301 p.

Site Specific Information, Figures 1-11

Temporary Pit containing non-low chloride fluids

Dagger Lake 4 33 Federal Com Pit

Section 4, T22S, R33E



LEGEND

- 1,000 ft Buffer
- Townships

0 3 6

Miles

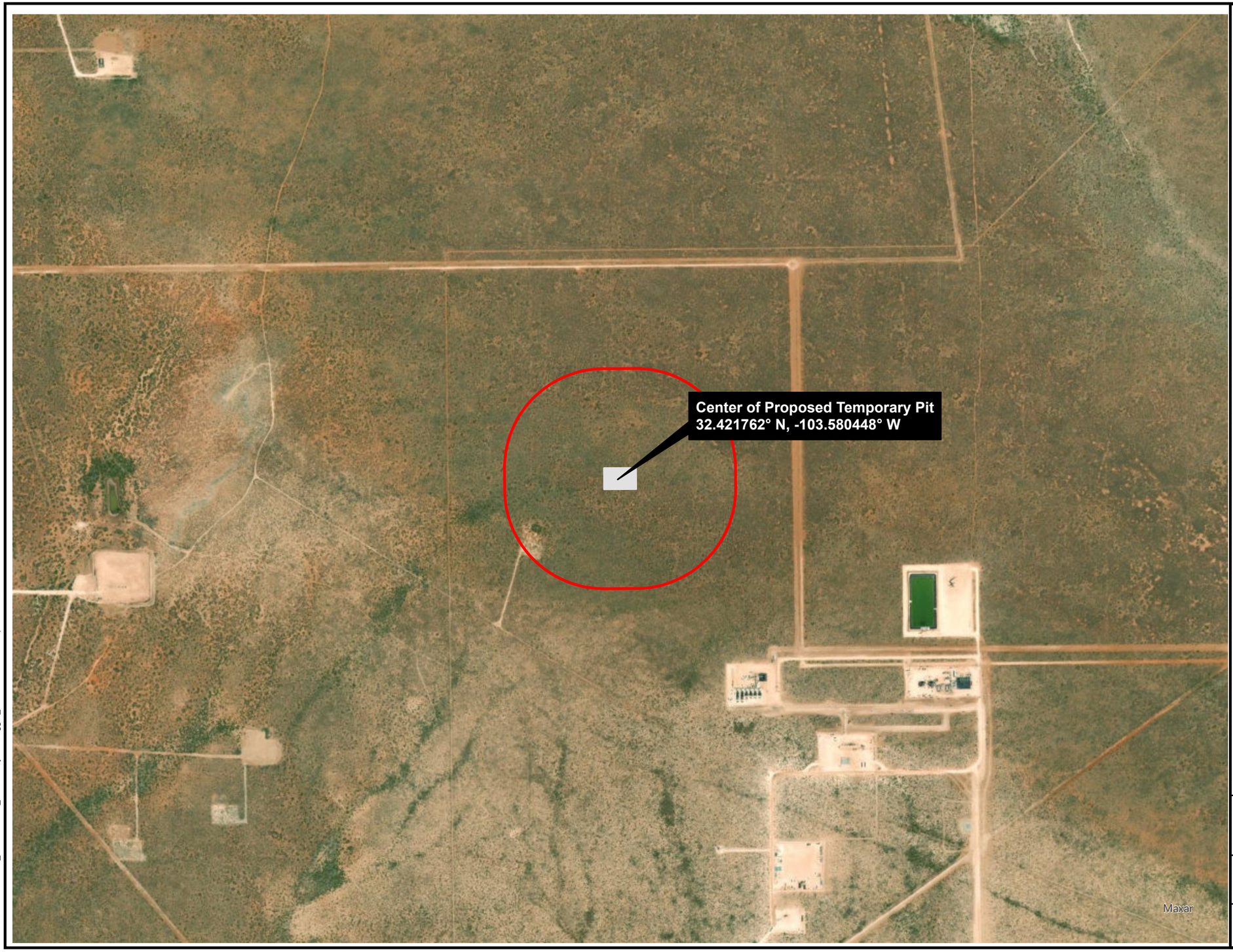
CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 401
PROPOSED TEMPORARY RESERVE PIT

VICINITY MAP

ARCADIS

FIGURE
1

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Projects\Dagger_Lake\C144\Pad401.aprx DATE: 10/4/2023 1:54 PM



LEGEND

1,000 ft Buffer

Proposed Temporary Pit

0 1,000 2,000

Feet

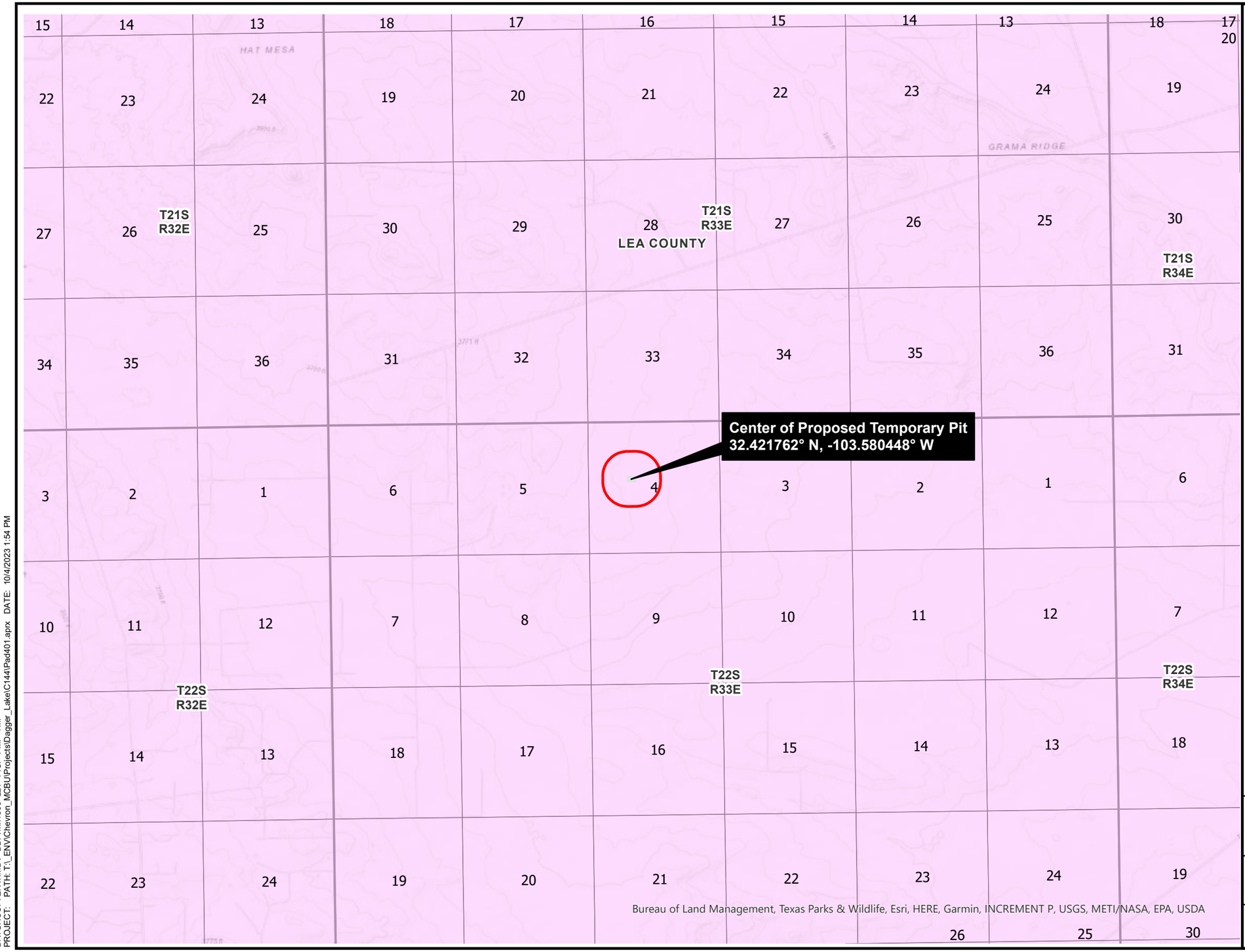
CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 401
PROPOSED TEMPORARY RESERVE PIT

SITE OVERVIEW

ARCADIS

FIGURE
2

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Projects\Dagger_Lake\C144\Pad401.aprx DATE: 10/4/2023 1:54 PM



LEGEND

- 1,000 ft Buffer
- Townships
- Sections

FEMA Floodplain

- Zone D

0 4,000 8,000

Feet

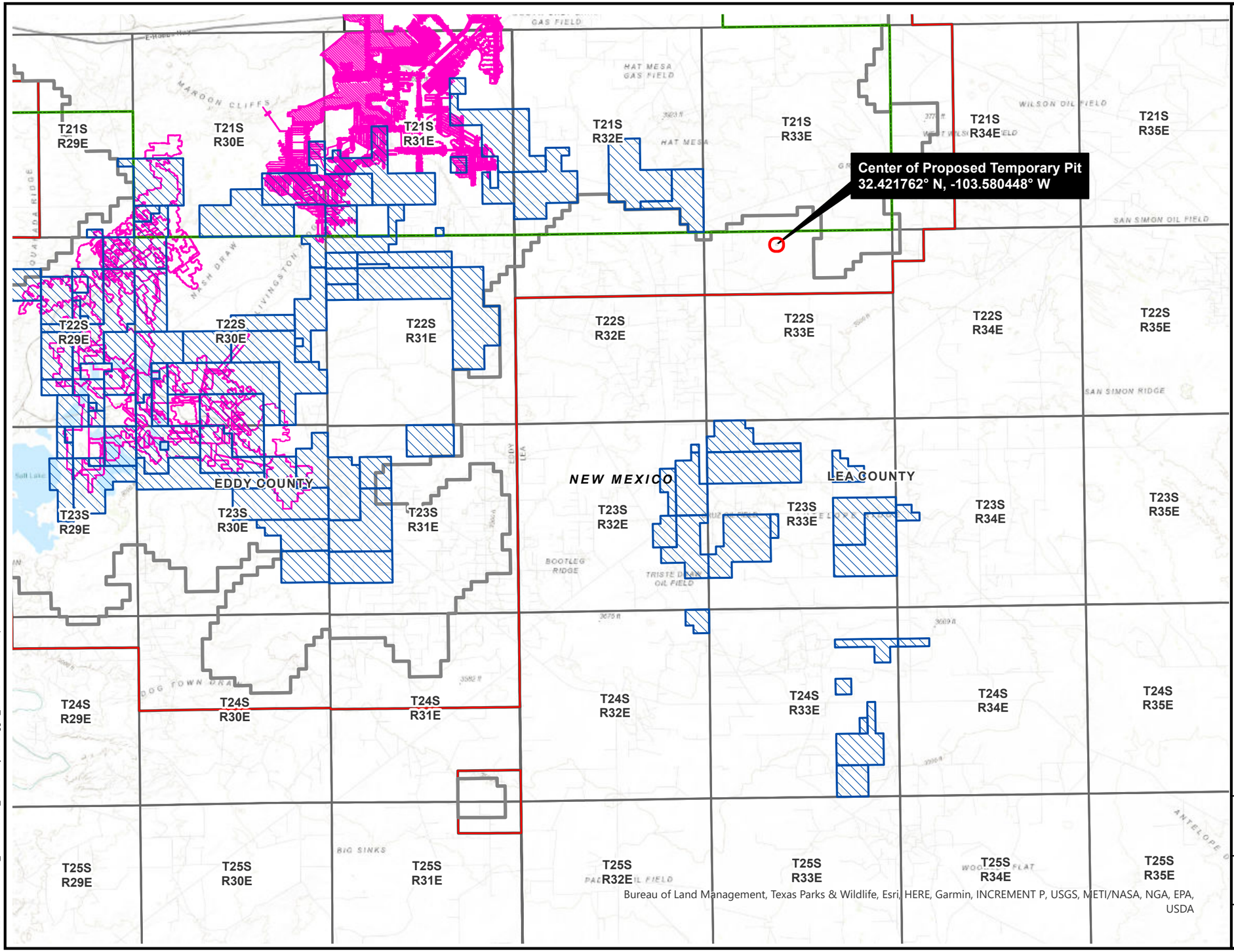
CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 401
PROPOSED TEMPORARY RESERVE PIT

FLOODPLAIN MAP

ARCADIS

FIGURE 3

DIV/GROUP: ENV/IMDV DB: vnn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Projects\Dagger_Lake\C144\Pad401.aprx DATE: 10/4/2023 1:54 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.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 401
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\Projects\Dagger_Lake\C144\Pad401.aprx DATE: 10/4/2023 1:59 PM

LEGEND

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

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

Data Source: BLM CFO. 2018. USFWS NWI.

0 2,000 4,000
Feet

CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 401
PROPOSED TEMPORARY RESERVE PIT

WETLANDS MAP

ARCADIS

FIGURE
5

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Projects\Dagger_Lake\C144\Pad401.aprx DATE: 10/4/2023 1:59 PM

LEGEND

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

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

Data Source: BLM CFO. 2018. USGS NHD.

0 4,000 8,000
Feet

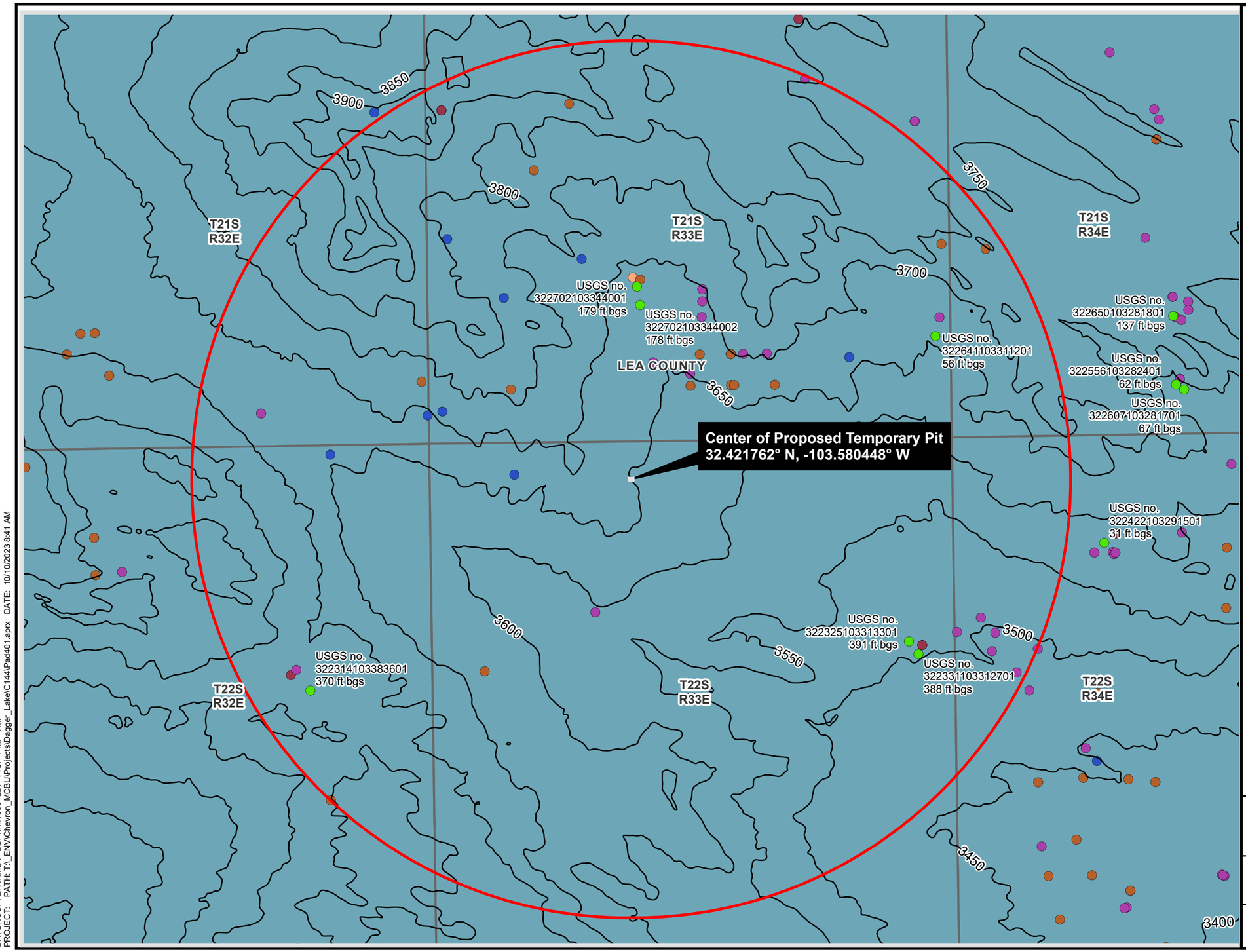
CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 401
PROPOSED TEMPORARY RESERVE PIT

ELEVATION CONTOUR & NHD MAP

ARCADIS

FIGURE
6

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Projects\Dagger_Lake\C144\Pad401.aprx DATE: 10/4/2023 1:59 PM



LEGEND

- 5 Mile Buffer
- Townships
- Pecos River Basin Alluvial Aquifer
- USGS Contour Lines NM
- USGS Groundwater Wells

OSE POD Wells

- Active
- Inactive
- Pending
- Plugged
- Unknown

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

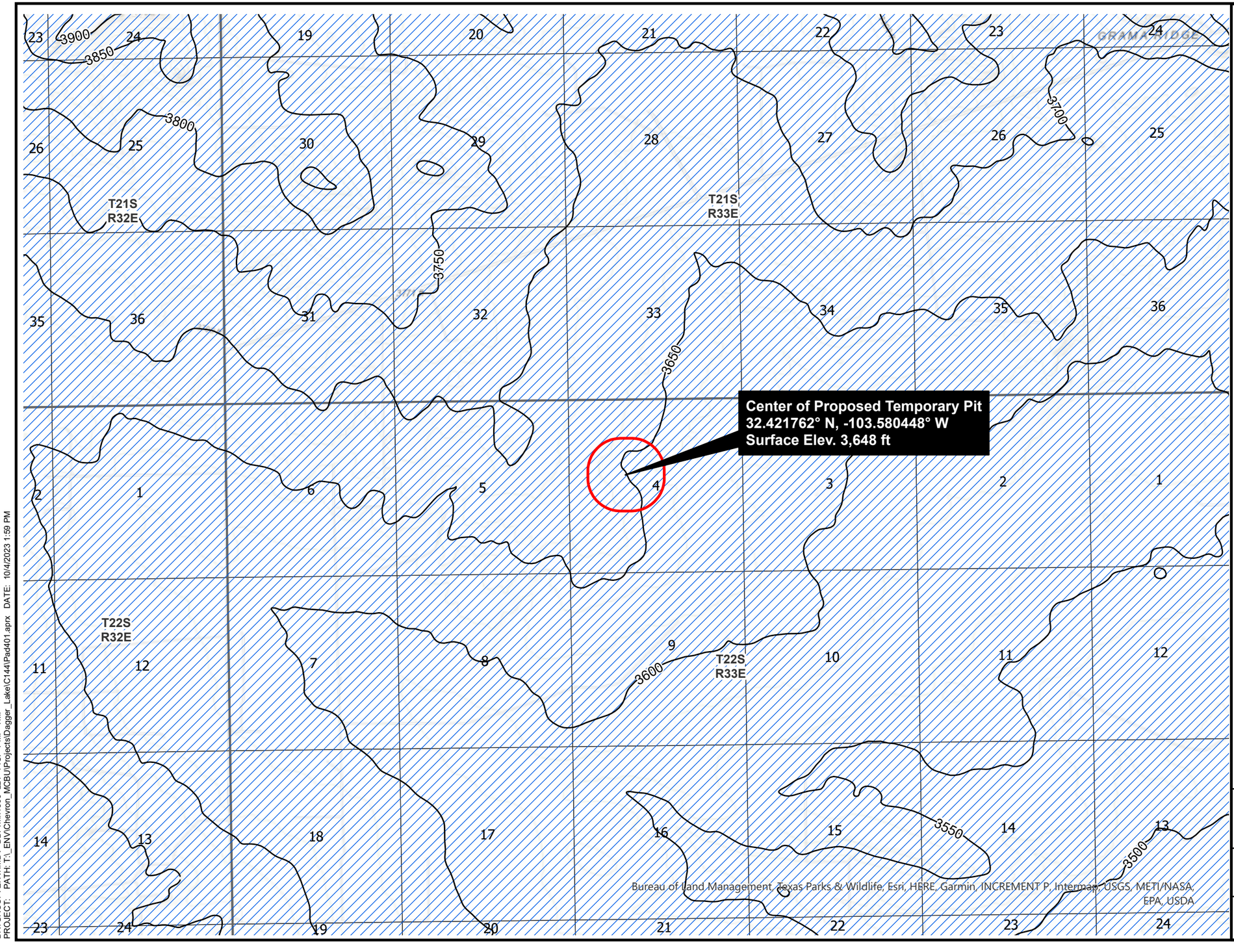
CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 401
PROPOSED TEMPORARY RESERVE PIT

USGS AND NMOSE GROUNDWATER WELLS

ARCADIS

FIGURE 7

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Projects\Dagger_Lake\C1441\Pad401.aprx DATE: 10/10/2023 8:41 AM



LEGEND

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

Karst Occurence Potential

- Low

0 3,000 6,000

Feet

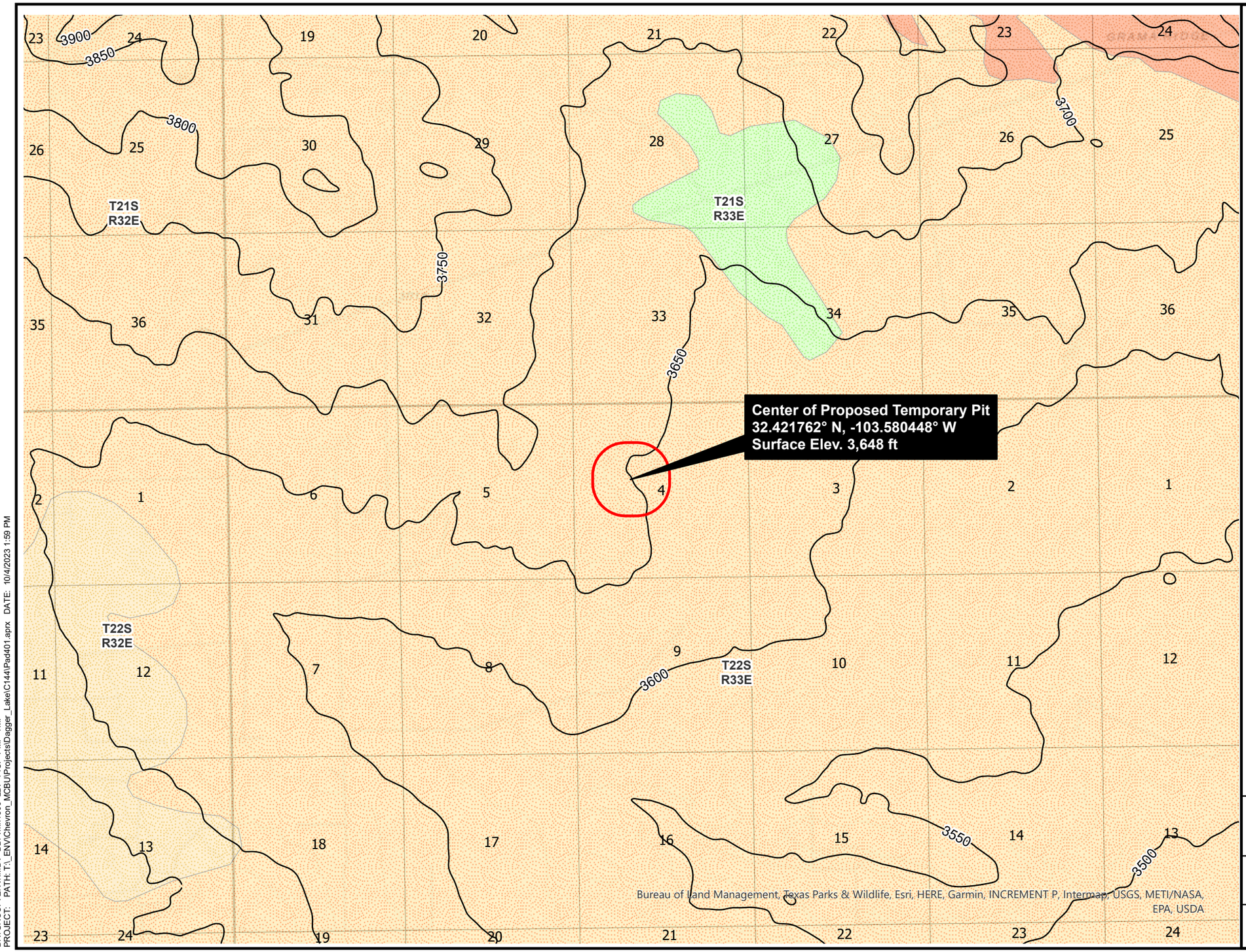
CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 401
PROPOSED TEMPORARY RESERVE PIT

KARST POTENTIAL

ARCADIS

FIGURE
8

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Projects\Dagger_Lake\C1441Pad401.aprx DATE: 10/4/2023 1:59 PM



LEGEND

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

Aquifer

Geology

- Qe/Qp
- Qp
- Qpl
- To

Qe: Quaternary Eolian Deposits
Qp: Quaternary Piedmont Deposits
Qpl: Quaternary Lacustrine and Playa Deposits
To: Ogalala Formation

0 3,000 6,000
Feet

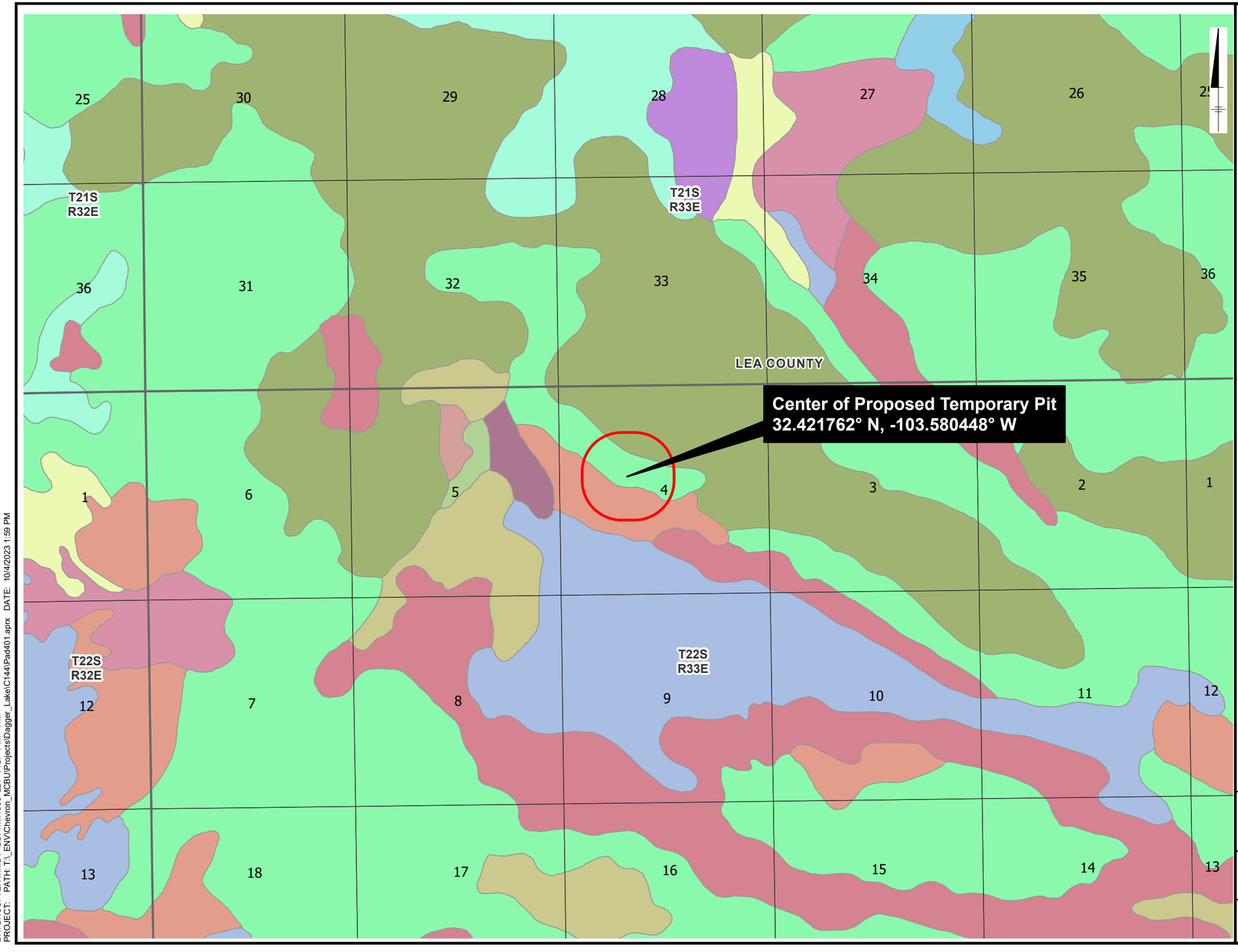
CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 401
PROPOSED TEMPORARY RESERVE PIT

LOCAL GEOLOGY

ARCADIS

FIGURE 9

DIV/GROUP: ENV/MDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Projects\Dagger_Lake\C144\Pad401.aprx DATE: 10/4/2023 1:59 PM



LEGEND

- 1,000 ft Buffer
- Townships
- Sections

LEA COUNTY SOIL DATA

- Aa,Active dune land
- BE,Berino-Cacique loamy fine sands association
- BH,Berino-Cacique association, hummocky
- JA,Jal association
- KM,Kermit soils and Dune land, 0 to 12 percent slopes
- LP,Largo-Pajarito complex, rarely flooded
- MN,Ratliff-Wink fine sandy loams
- MW,Mobeetie-Potter association, 1 to 15 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, 0 to 3 percent slopes

0 3,000 6,000

Feet

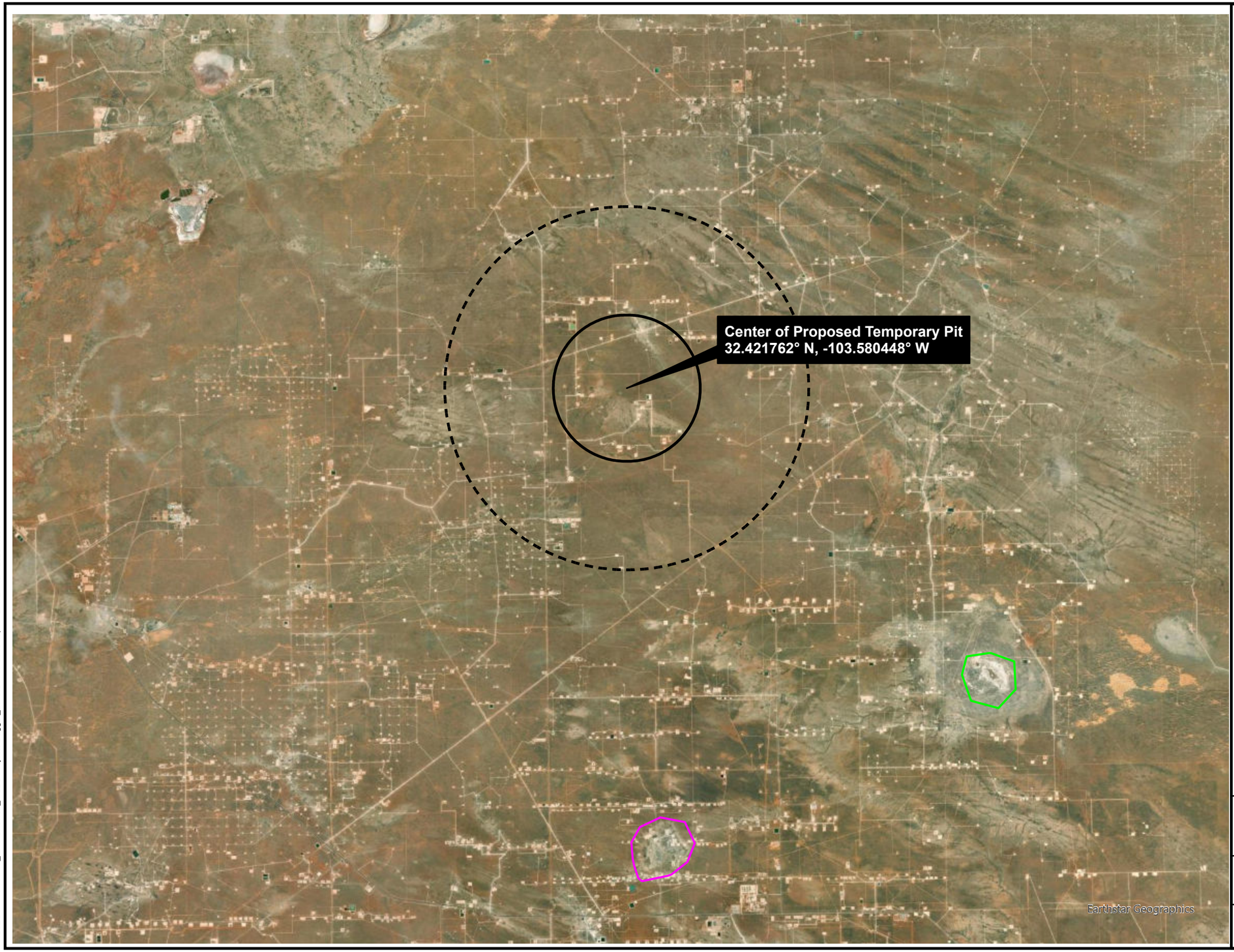
CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 401
PROPOSED TEMPORARY RESERVE PIT

SOILS

ARCADIS

FIGURE
10

DIV/GROUP: ENV/IMDV DB: vmn1306 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Projects\Dagger_Lake\C144\Pad401.aprx DATE: 10/4/2023 1:59 PM



LEGEND

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

0 3 6

Miles

CHEVRON U.S.A. INC.
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO
PAD 401
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\Projects\Dagger_Lake\C144\Pad401.aprx DATE: 10/4/2023 1:59 PM

Variance Requests

Temporary Pit containing non-low chloride fluids

Dagger Lake 4 33 Federal Com Pit

Section 4, T22S, R33E

Variance Requests
Dagger Lake 4 33 Federal Com 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

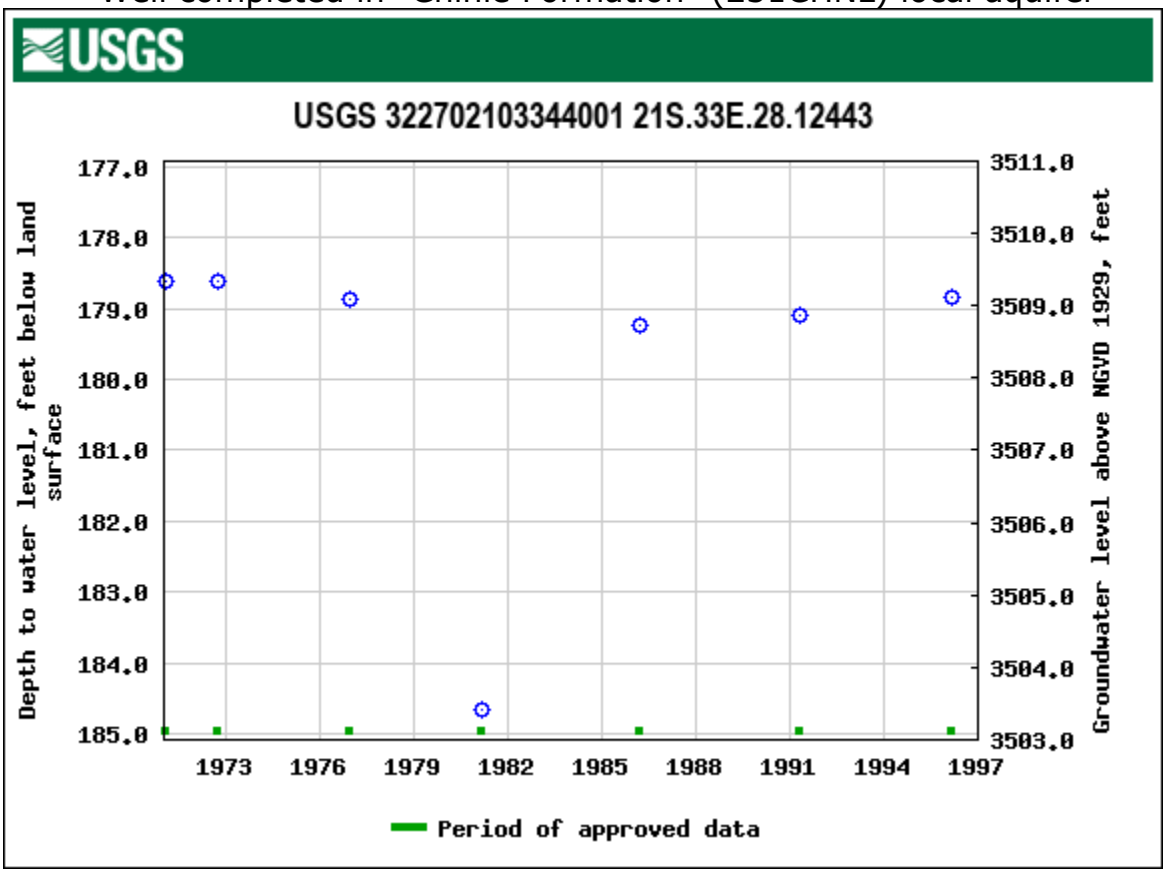
United States Geological Survey

Groundwater Data

USGS 322702103344001 21S.33E.28.12443

DESCRIPTION:

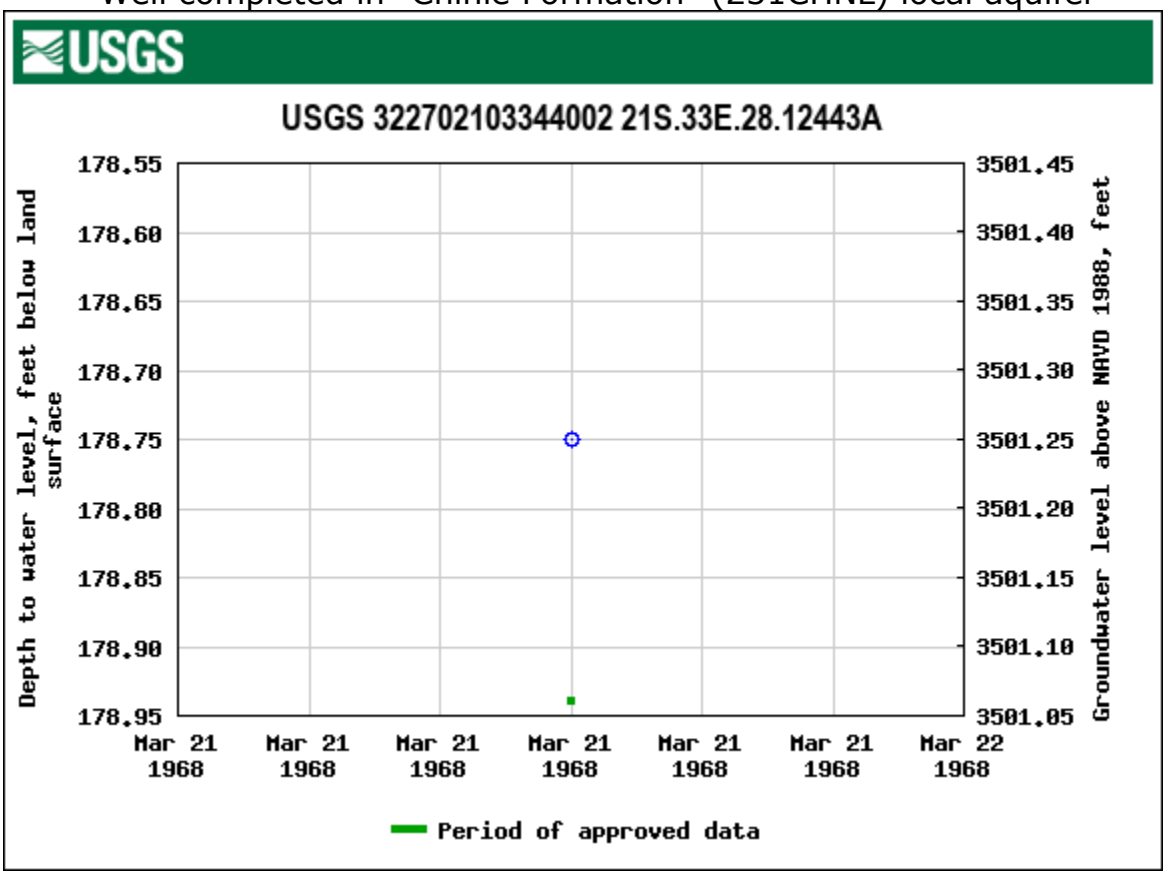
Latitude 32°27'13", Longitude 103°34'42" NAD27
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: 224 feet
Land surface altitude: 3,688.00 feet above NGVD29.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Chinle Formation" (231CHNL) local aquifer



USGS 322702103344002 21S.33E.28.12443A

DESCRIPTION:

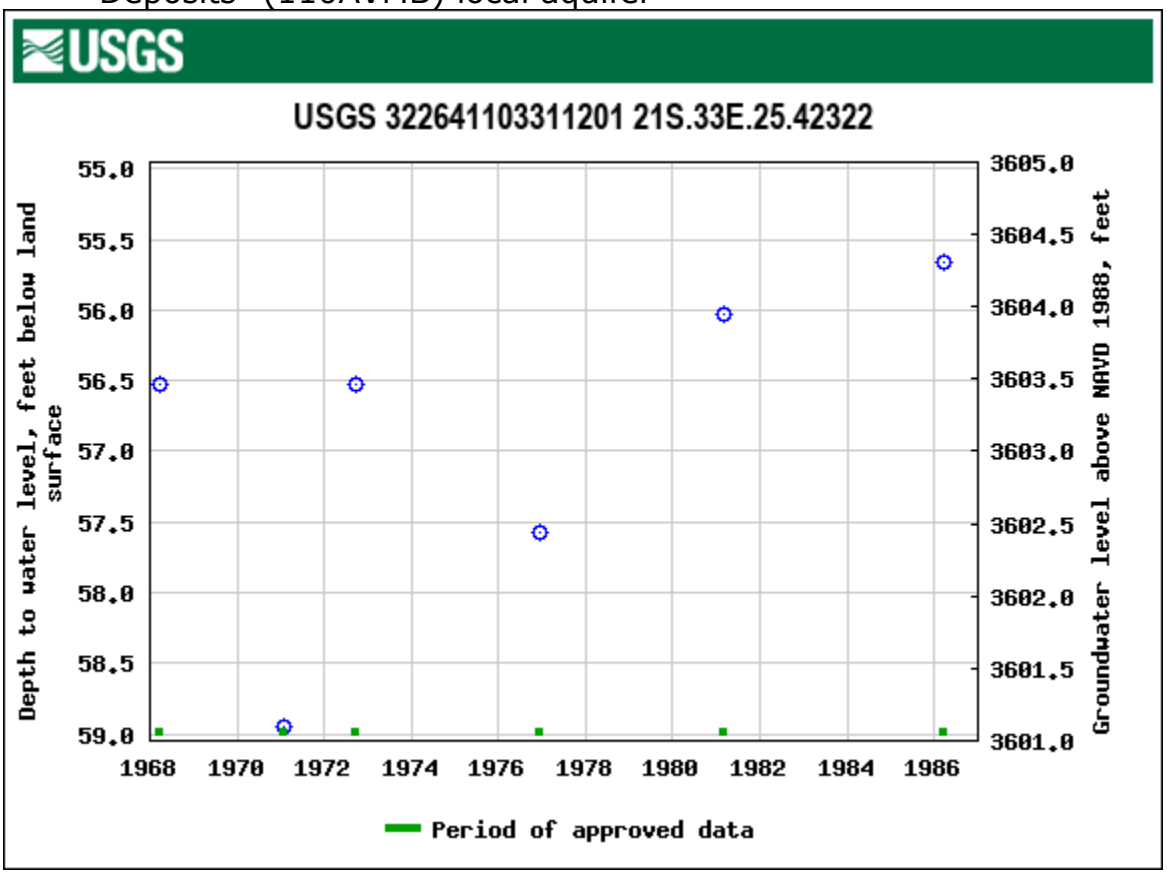
Latitude 32°27'02", Longitude 103°34'40" NAD27
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: not determined.
Land surface altitude: 3,680 feet above NAVD88.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Chinle Formation" (231CHNL) local aquifer



USGS 322641103311201 21S.33E.25.42322

DESCRIPTION:

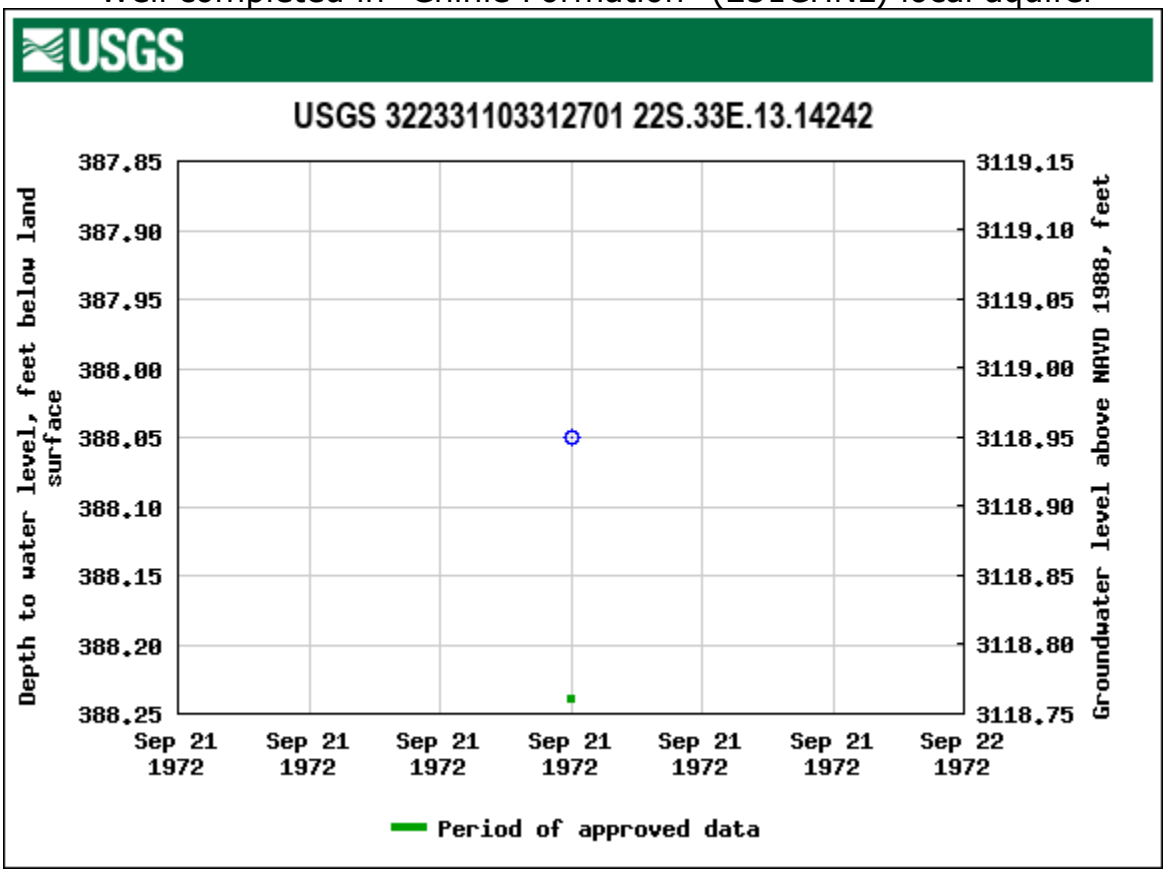
Latitude 32°26'41", Longitude 103°31'12" NAD27
Lea County, New Mexico , Hydrologic Unit 13060011
Well depth: 68 feet
Land surface altitude: 3,660 feet above NAVD88.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits"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



USGS 322331103312701 22S.33E.13.14242

DESCRIPTION:

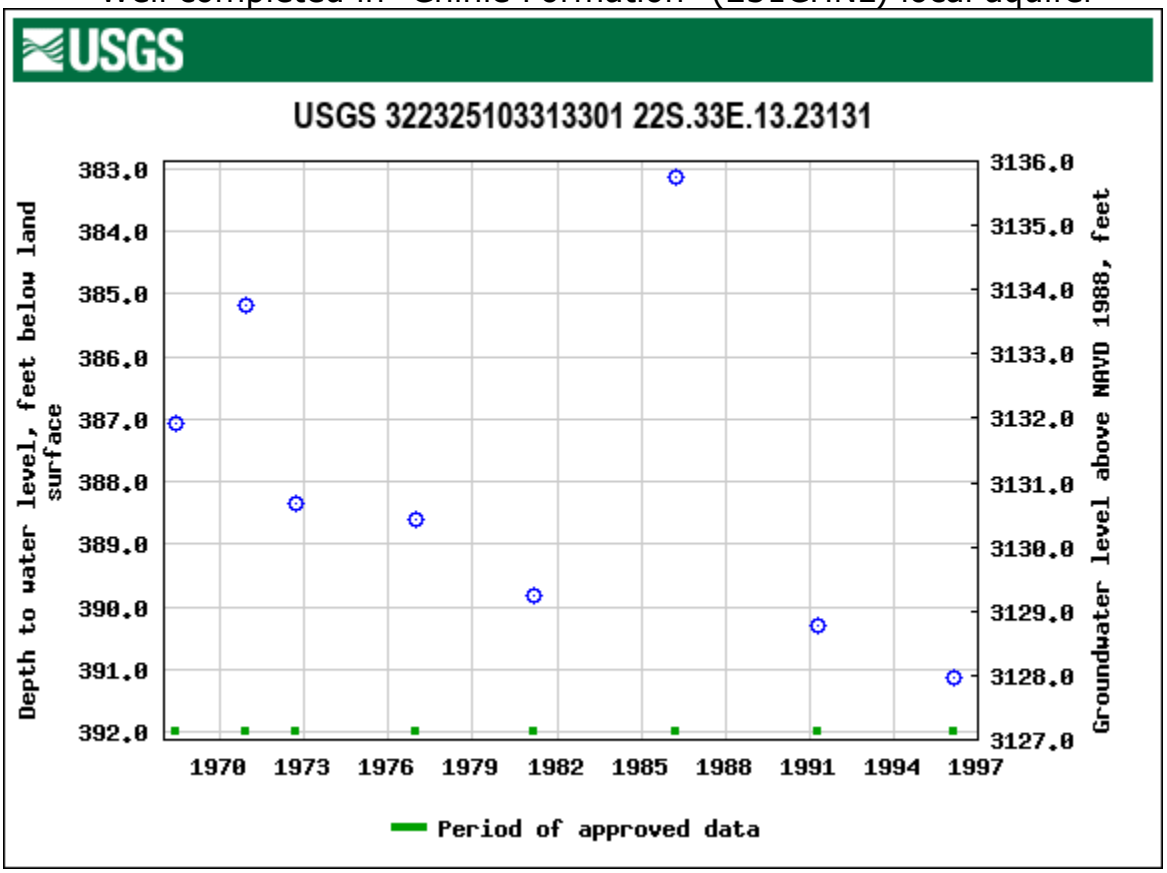
Latitude 32°23'31", Longitude 103°31'27" NAD27
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: 490 feet
Land surface altitude: 3,507 feet above NAVD88.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Chinle Formation" (231CHNL) local aquifer



USGS 322325103313301 22S.33E.13.23131

DESCRIPTION:

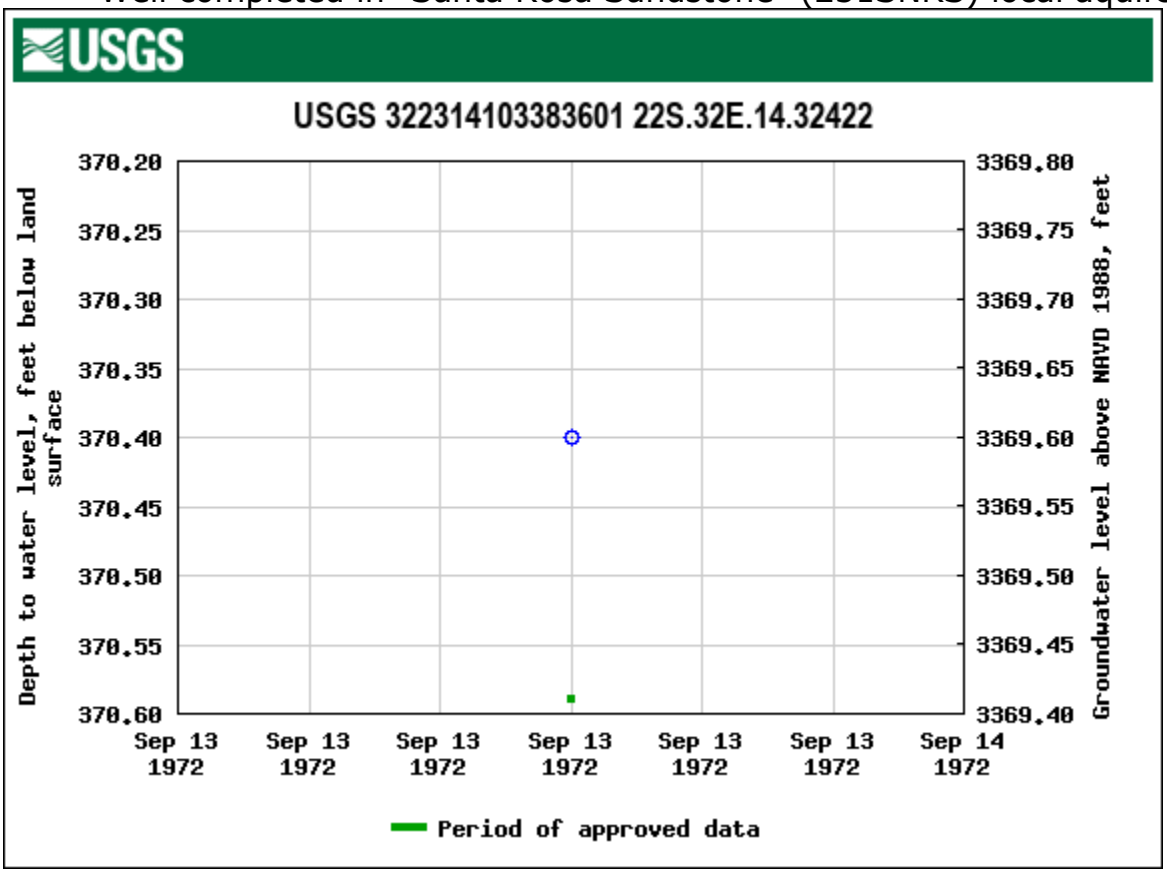
Latitude 32°23'38.6", Longitude 103°31'33.6" NAD83
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: 508 feet
Land surface altitude: 3,519 feet above NAVD88.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Chinle Formation" (231CHNL) local aquifer



USGS 322314103383601 22S.32E.14.32422

DESCRIPTION:

Latitude 32°23'14", Longitude 103°38'36" NAD27
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: 380 feet
Land surface altitude: 3,740 feet above NAVD88.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Santa Rosa Sandstone" (231SNRS) local aquifer



Appendix B

New Mexico Office of the State Engineer

Water Column/Average Depth to Water Data

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

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

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 01881 POD1		CP	LE	2	4	2	06	22S	33E	631319	3588157	2103			
CP 00854 POD1		CP	LE	1	1	2	33	21S	33E	633879	3590223	2166	950	600	350
CP 01356 POD1		CP	LE	4	2	2	33	21S	33E	634560	3590014	2221	1098	555	543
CP 01899 POD1		CP	LE	4	4	4	08	22S	33E	632811	3585622	2557			
CP 01411 POD2		CP	LE		1	2	34	21S	33E	635534	3590380	3103	1125		
CP 01355 POD1		CP	LE	2	1	3	27	21S	33E	634773	3591061	3249	1192	582	610
CP 01411 POD1		CP	LE		2	2	34	21S	33E	635968	3590386	3417	1149		
CP 01357 POD1		CP	LE	4	3	1	27	21S	33E	634782	3591347	3515	1286	578	708
CP 01888 POD1		CP	LE	4	1	3	31	21S	33E	629996	3589316	3634			
CP 00601 POD1	R	CP	LE		2	1	28	21S	33E	633502	3591791*	3685	223		
CP 01349 POD1		CP	LE	2	3	1	27	21S	33E	634782	3591569	3721	1188	572	616
CP 01878 POD1		CP	LE	4	2	4	36	21S	32E	629723	3589247	3872			
CP 01882 POD1		CP	LE	2	4	2	30	21S	33E	631128	3591410	4023			
CP 01880 POD1		CP	LE	3	4	4	20	21S	33E	632562	3592129	4114			
CP 01887 POD1		CP	LE	2	2	2	35	21S	33E	637492	3590319	4633			
C 04566 POD1		CUB	LE	1	2	2	02	22S	32E	627930	3588524	5508			
CP 01883 POD1		CP	LE	3	2	3	19	21S	33E	630084	3592493	5512			
CP 00592 POD1		CP	ED		3	2	13	22S	33E	638834	3585015*	6231	427		
CP 00600 POD1		CP	LE		2	4	25	21S	33E	639152	3591054*	6443	65		
CP 01724 POD1		CP	LE	3	1	1	18	22S	34E	639475	3585260	6688	1172	800	372
CP 01701 POD1		CP	LE		1	3	35	21S	32E	626652	3589283	6871	840	560	280
CP 01725 POD1		CP	LE	1	2	1	18	22S	34E	639914	3585521	6986	1137	800	337
C 02821		C	LE	2	2	3	14	22S	32E	627303	3584563*	7071	540	340	200
C 02096		CUB	ED		2	3	14	22S	32E	627204	3584464*	7206	435	360	75
CP 01721 POD1		CP	LE	4	2	1	18	22S	34E	640181	3585244	7339	1108	820	288
CP 01723 POD1		CP	LE	4	4	1	18	22S	34E	640117	3584905	7420	1140	785	355

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

(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
CP 00794 POD1	CP	LE	4	1	1	18	21S	33E	629976	3594865*	7587	160		
CP 00795 POD1	CP	LE	4	1	1	18	21S	33E	629976	3594865*	7587	170		
CP 01455 POD1	CP	LE	4	1	4	18	22S	34E	640574	3584515	8002	1033	615	418
CP 00578	CP	LE		4	3	11	21S	33E	636674	3595445*	8027	165	150	15

Average Depth to Water: **579 feet**

Minimum Depth: **150 feet**

Maximum Depth: **820 feet**

Record Count: 30

UTMNAD83 Radius Search (in meters):

Easting (X): 633422.61 **Northing (Y):** 3588105.9 **Radius:** 8045

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

Appendix C – Hydrogeologic Data

Temporary Pit containing non-low chloride fluids

Dagger Lake 4 33 Federal Com Pit

Section 4, T22S, R33E

Appendix C – Hydrogeologic Data
Dagger Lake Pad 401
Temporary Pit

TOPOGRAPHY AND SURFACE HYDROLOGY

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

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

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

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

Soils

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

Table 1 Soils Within the Survey Area

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

Loamy Sand Soil Type Description

All the soils within the survey area are classified as loamy sand soils. These loamy sand soils consist of the Berino and Kermit. These soils are typically moderately deep or very deep soils that consist of loamy sand underlain by fine sands. Slopes range from 0 to 12 percent within these loamy sand soils. If these soils are unprotected by plant cover, they are easily wind blown into low hummocks. These soils have rapid permeability and are well drained. These soils support grassland vegetative communities dominated by species such as sand bluestem, yellow 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 200 feet. Triassic Dockum strata underlie the alluvium / Ogallala deposits and its thickness appears to be over 1,000 feet in some places. The Dockum Group has been divided into three formations: lower red shale, siltstone, and very fine-grained sandstone called the Tecovas Formation (or Pierce Canyon redbeds); middle reddish-brown and gray sandstone called the Santa Rosa sandstone; and upper brick-red to maroon and purple shale with thin beds of fine red or gray sandstone and siltstone called the Chinle Formation.

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

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

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

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

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

Groundwater

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

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

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

Recharge:

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

REFERENCES

Hutchison, W.R., I.C. Jones and R. Anaya. 2011. Update of the groundwater availability model for the Edwards-Trinity (plateau) and Pecos Valley aquifers of Texas.

New Mexico Office of the State Engineer (NMOSE). 2010. New Mexico Water Rights Reporting System Water Column/Average Depth to Water Report. Available at http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html. Accessed: October 2023.

Nicholson, Alexander, Jr. and Clebsch, Alfred, Jr. 1961. Ground-Water Report 6 – Geology and Ground-Water Conditions in Southern Lea County, New Mexico. United States Geological Survey in cooperation with the New Mexico Institute of Mining and Technology, State Bureau of Mines and Mineral Resources Division and the New Mexico State Engineer.

U.S. Department of Agriculture (USDA). 2013. Natural Resources Conservation Service. Soil Surveys by State. Available at www.nrcs.usda.gov. Accessed: October 9, 2023.

USDA. 2016. Sandy Ecological Site Characteristics. Available at https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&repType=regular&id=R042XA051NM. Accessed: September 2022.

Appendix D – Design Plan

Temporary Pit containing non-low chloride fluids

Dagger Lake 4 33 Federal Com Pit

Section 4, T22S, R33E

Appendix D – Design Plan

Dagger Lake 4 33 Federal Com 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.

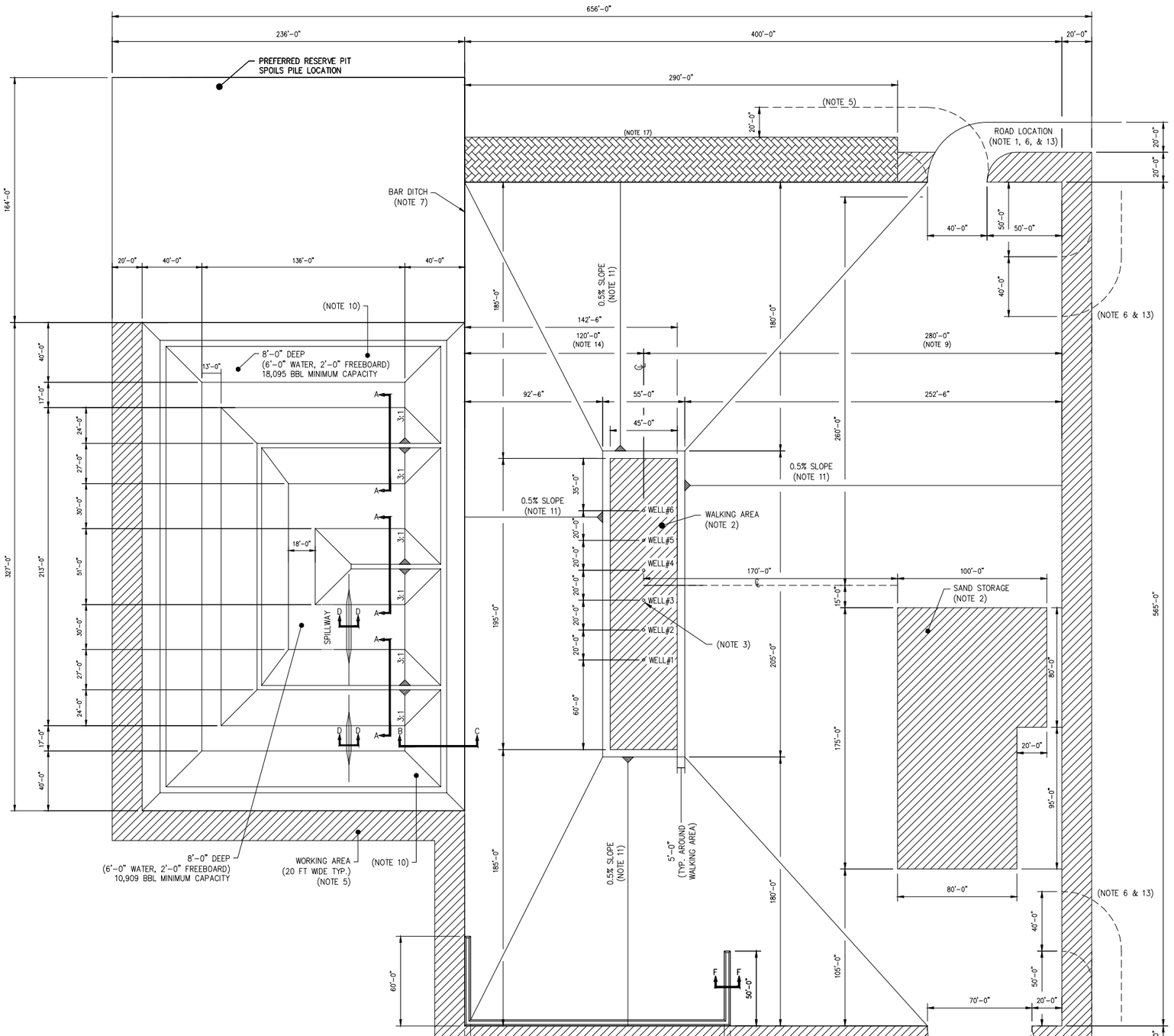
- The edged of the liner will be anchored in the bottom of a compacted earth field trench that is 18 inches deep.

- 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.

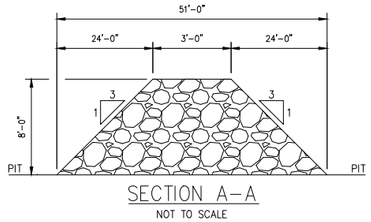
- The design includes a 4-foot berm and bar ditch around the entirety of the pit to prevent run onof surface water. The berm will be maintained from construction to closure.

- The volume of the temporary pit does not exceed 10 acre-ft, including freeboard.

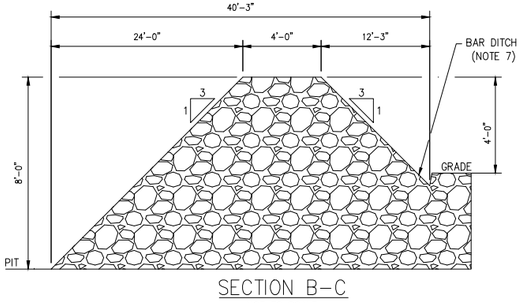
- No venting or flaring of gas will take place during the construction, use, and closure of the pit and, as such, the entirety of the pit will be lined.



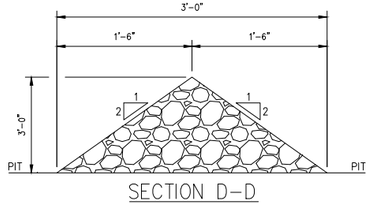
MAGNETIC NORTH



SECTION A–A
NOT TO SCALE

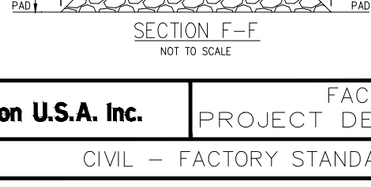


SECTION B–C
NOT TO SCALE



SECTION D–D
NOT TO SCALE

NOTES:
1. PRIMARY PAD ENTRANCE MUST BE ON WEST OR EAST SIDE OF PAD FOR DRILLING LAYOUT.
2. SEE GEO–TECHNICAL INVESTIGATION REPORT FOR COMPACTION RECOMMENDATION. SEE DRILLING MAT LAYOUT FOR DETAILS.
3. FOR COMPLETIONS GRAVEL LOCATIONS, SEE DWG. FACTSTD–COMGRVL–CIV–PVD–MCB–0001–01.
4. 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

80' 40' 0' 20' 40' 60' 80'
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
ALTERNATE DWG NUMBER

DL 4 33 Federal Com
No. 401H Well
2538' FNL & 1673' FWL
DL 4 9 Federal
No. 413H Well
2538' FNL & 1693' FWL
DL 4 33 Federal Com
No. 402H Well
2538' FNL & 1713' FWL
DL 4 9 Federal
No. 414H Well
2538' FNL & 1733' FWL
DL 4 33 Federal Com
No. 403H Well
2538' FNL & 1753' FWL
DL 4 9 Federal
No. 415H Well
2537' FNL & 1773' FWL

R 33 E

T 22 S

NAD 27 NEW MEXICO EAST ZONE

SCALE: 1"= 300'
0' 150' 300'

PROPOSED PIT ±1.62 Acres

PROPOSED CLEAR LIMITS ±8.72 Acres

PROPOSED TEMPORARY ACCESS ROAD 20' x ±1,171.02' ±70.97 Rods ±0.60 Acres

PROPOSED PAD ±5.19 Acres

No. 401H Well
No. 413H Well
No. 402H Well
No. 415H Well
No. 403H Well
No. 414H Well

PROPOSED SAND STORAGE AREA ±0.36 Acres

PROPOSED PERMANENT ACCESS ROAD 20' x ±3,018.70' ±182.95 Rods ±1.39 Acres

L1 L2 565' L3 L4 L5 L6 327' L7 216' L8 L9 L10 L11 L12 L13 L14 400' L18 L19 L20 L21 L22 L23 L24 L25 20'

N 29° 40' 07" E 2,855.94'

N 40° 37' 42" E 3,146.48'

Sec. 4
Bureau of Land Management

MATCH LINE PAGE 2 OF 3

Sec. 5
Sec. 8 Sec. 9

Fnd. 2-1/2" Iron Rod with Cap @ the SW Corner of Section 4
X= 730,772.50
Y= 514,937.15

Future Electrical Compressor Station

LEGEND

- CL Proposed Access Road
- Proposed Pad/Pit
- Proposed Clear Limits
- Proposed Access
- Future ROW
- Future Road/Facility
- Fnd. Monument

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

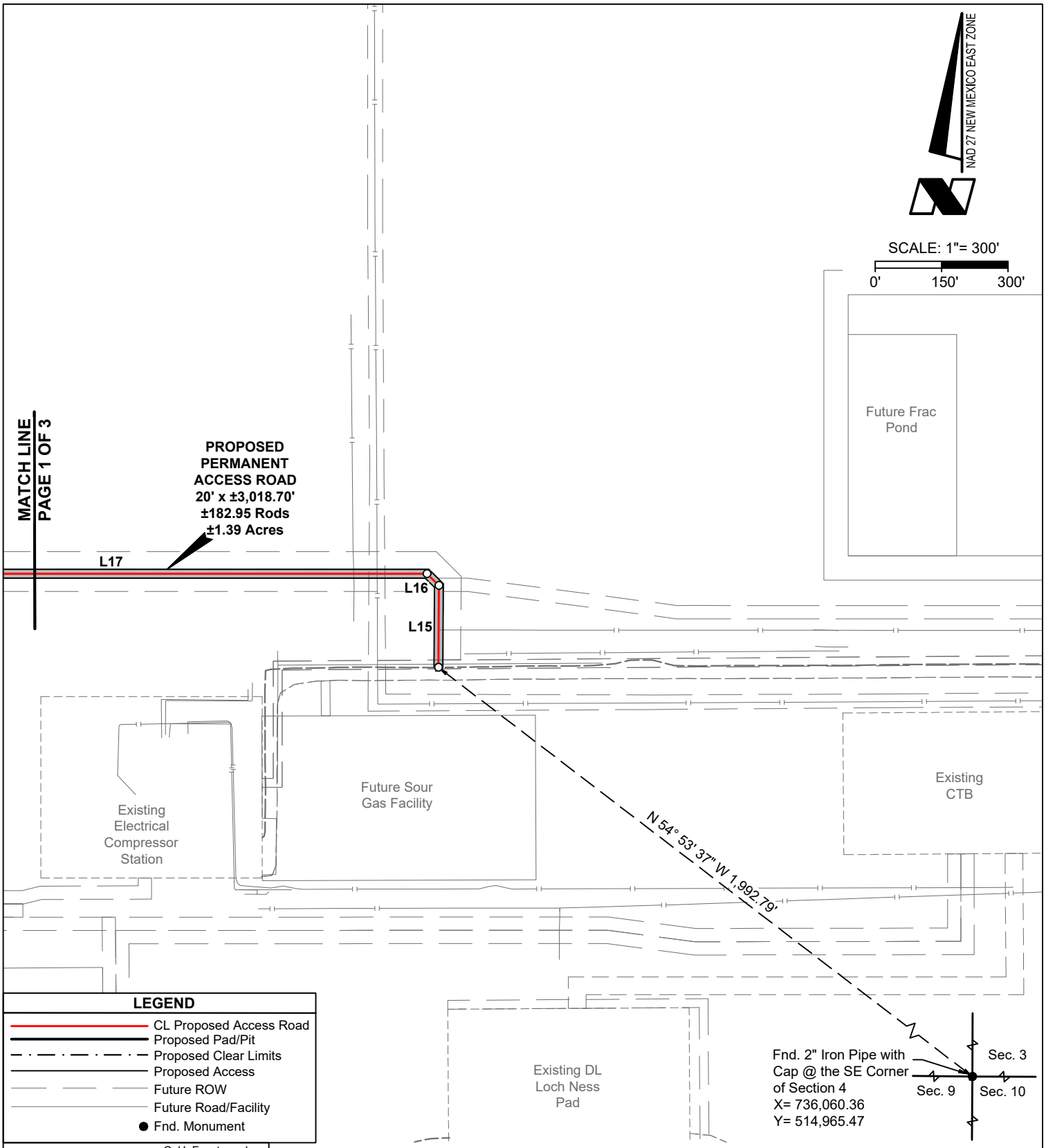
REVISIONS	
05/12/2023 BPT	Revised Temporary Access
06/08/2023 BPT	Revised to new Pad Standards
06/15/2023 BPT	Revised Permanent Access

DRAWN BY: BPT	PROJ. MGR.: VHV
DATE: 04/18/2023	
JOB#: 2236221.00	SHEET 1 OF 3

Referenece Sheet 3 for Notes and Certification.

PAD PLAT
DAGGER LAKE PAD 401
CHEVRON U.S.A. INC.
SITUATED IN
SECTION 4, T22S-R33E
LEA COUNTY, NEW MEXICO

T:\2023\2236221\DWG\DL Pad 401_Pad Plat_R1.dwg



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PAD PLAT
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CHEVRON U.S.A. INC.
SITUATED IN
SECTION 4, T22S-R33E
LEA COUNTY, NEW MEXICO

T:\2023\2236221\DWG\DL Pad 401_Pad Plat_R1.dwg

NW PAD CORNER
X = 732,186.14' (NAD27 NM E)
Y = 517,818.69'
LAT. 32.421350° N (NAD27)
LONG. 103.580881° W
X = 773,368.41' (NAD83/2011 NM E)
Y = 517,878.84'
LAT. 32.421471° N (NAD83/2011)
LONG. 103.581367° W
ELEV. +3,652' (NAVD88)

NE PAD CORNER
X = 732,751.14' (NAD27 NM E)
Y = 517,818.69'
LAT. 32.421339° N (NAD27)
LONG. 103.579050° W
X = 773,933.42' (NAD83/2011 NM E)
Y = 517,878.64'
LAT. 32.421460° N (NAD83/2011)
LONG. 103.579536° W
ELEV. +3,646' (NAVD88)

NW PIT CORNER
X = 732,305.14' (NAD27 NM E)
Y = 518,034.69'
LAT. 32.421941° N (NAD27)
LONG. 103.580490° W
X = 773,487.40' (NAD83/2011 NM E)
Y = 518,094.85'
LAT. 32.422063° N (NAD83/2011)
LONG. 103.580976° W
ELEV. +3,649' (NAVD88)

NE PIT CORNER
X = 732,632.14' (NAD27 NM E)
Y = 518,034.69'
LAT. 32.421935° N (NAD27)
LONG. 103.579431° W
X = 773,814.41' (NAD83/2011 NM E)
Y = 518,094.84'
LAT. 32.422056° N (NAD83/2011)
LONG. 103.579917° W
ELEV. +3,646' (NAVD88)

SW PAD CORNER
X = 732,186.14' (NAD27 NM E)
Y = 517,418.69'
LAT. 32.420251° N (NAD27)
LONG. 103.580890° W
X = 773,368.42' (NAD83/2011 NM E)
Y = 517,478.83'
LAT. 32.420372° N (NAD83/2011)
LONG. 103.581376° W
ELEV. +3,655' (NAVD88)

SE PAD CORNER
X = 732,751.14' (NAD27 NM E)
Y = 517,418.69'
LAT. 32.420240° N (NAD27)
LONG. 103.579059° W
X = 773,933.43' (NAD83/2011 NM E)
Y = 517,478.83'
LAT. 32.420361° N (NAD83/2011)
LONG. 103.579545° W
ELEV. +3,649' (NAVD88)

SW PIT CORNER
X = 732,305.14' (NAD27 NM E)
Y = 517,818.69'
LAT. 32.421348° N (NAD27)
LONG. 103.580495° W
X = 773,487.41' (NAD83/2011 NM E)
Y = 517,878.84'
LAT. 32.421469° N (NAD83/2011)
LONG. 103.580981° W
ELEV. +3,652' (NAVD88)

SE PIT CORNER
X = 732,632.14' (NAD27 NM E)
Y = 517,818.69'
LAT. 32.421341° N (NAD27)
LONG. 103.579436° W
X = 773,814.41' (NAD83/2011 NM E)
Y = 517,878.84'
LAT. 32.421463° N (NAD83/2011)
LONG. 103.579921° W
ELEV. +3,648' (NAVD88)

CLEAR LIMITS CORNER 1
X = 732,285.14' (NAD27 NM E)
Y = 518,054.69'
LAT. 32.421997° N (NAD27)
LONG. 103.580555° W
X = 773,467.40' (NAD83/2011 NM E)
Y = 518,114.85'
LAT. 32.422118° N (NAD83/2011)
LONG. 103.581041° W
ELEV. +3,649' (NAVD88)

CLEAR LIMITS CORNER 2
X = 732,796.14' (NAD27 NM E)
Y = 518,054.69'
LAT. 32.421987° N (NAD27)
LONG. 103.578899° W
X = 773,978.41' (NAD83/2011 NM E)
Y = 518,114.84'
LAT. 32.422108° N (NAD83/2011)
LONG. 103.579385° W
ELEV. +3,644' (NAVD88)

CLEAR LIMITS CORNER 3
X = 732,796.14' (NAD27 NM E)
Y = 517,818.69'
LAT. 32.421338° N (NAD27)
LONG. 103.578904° W
X = 773,978.42' (NAD83/2011 NM E)
Y = 517,878.84'
LAT. 32.421460° N (NAD83/2011)
LONG. 103.579390° W
ELEV. +3,646' (NAVD88)

CLEAR LIMITS CORNER 4
X = 732,781.14' (NAD27 NM E)
Y = 517,818.69'
LAT. 32.421339° N (NAD27)
LONG. 103.578953° W
X = 773,963.42' (NAD83/2011 NM E)
Y = 517,878.84'
LAT. 32.421460° N (NAD83/2011)
LONG. 103.579439° W
ELEV. +3,646' (NAVD88)

CLEAR LIMITS CORNER 5
X = 732,781.14' (NAD27 NM E)
Y = 517,528.69'
LAT. 32.420541° N (NAD27)
LONG. 103.578960° W
X = 773,963.42' (NAD83/2011 NM E)
Y = 517,588.83'
LAT. 32.420663° N (NAD83/2011)
LONG. 103.579445° W
ELEV. +3,648' (NAVD88)

CLEAR LIMITS CORNER 6
X = 732,771.14' (NAD27 NM E)
Y = 517,528.69'
LAT. 32.420542° N (NAD27)
LONG. 103.578992° W
X = 773,953.42' (NAD83/2011 NM E)
Y = 517,588.83'
LAT. 32.420663° N (NAD83/2011)
LONG. 103.579478° W
ELEV. +3,648' (NAVD88)

CLEAR LIMITS CORNER 7
X = 732,771.14' (NAD27 NM E)
Y = 517,398.69'
LAT. 32.420184° N (NAD27)
LONG. 103.578995° W
X = 773,953.43' (NAD83/2011 NM E)
Y = 517,458.83'
LAT. 32.420306° N (NAD83/2011)
LONG. 103.579481° W
ELEV. +3,650' (NAVD88)

CLEAR LIMITS CORNER 8
X = 732,166.14' (NAD27 NM E)
Y = 517,398.69'
LAT. 32.420196° N (NAD27)
LONG. 103.580955° W
X = 773,348.42' (NAD83/2011 NM E)
Y = 517,458.83'
LAT. 32.420317° N (NAD83/2011)
LONG. 103.581441° W
ELEV. +3,655' (NAVD88)

CLEAR LIMITS CORNER 9
X = 732,166.14' (NAD27 NM E)
Y = 517,838.69'
LAT. 32.421405° N (NAD27)
LONG. 103.580945° W
X = 773,348.40' (NAD83/2011 NM E)
Y = 517,898.84'
LAT. 32.421527° N (NAD83/2011)
LONG. 103.581431° W
ELEV. +3,653' (NAVD88)

CLEAR LIMITS CORNER 10
X = 732,285.14' (NAD27 NM E)
Y = 517,838.69'
LAT. 32.421403° N (NAD27)
LONG. 103.580560° W
X = 773,467.41' (NAD83/2011 NM E)
Y = 517,898.84'
LAT. 32.421524° N (NAD83/2011)
LONG. 103.581046° W
ELEV. +3,652' (NAVD88)

DISCLAIMER: At this time, C. H. Fenstermaker & Associates, L.L.C. has not performed nor was asked to perform any type of engineering, hydrological modeling, flood plain, or "No Rise" certification analyses, including but not limited to determining whether the project will impact flood hazards in connection with federal/FEMA, state, and/or local laws, ordinances and regulations. Accordingly, Fenstermaker makes no warranty or representation of any kind as to the foregoing issues, and persons or entities using this information shall do so at their own risk.

NOTE:
This plat represents a limited survey made on the ground on June 7, 2023 for construction purposes and is for the exclusive use of Chevron U.S.A. Inc. This plat does not represent a boundary survey or an easement survey. Boundary lines and monuments depicted hereon are for reference purposes only. The basis of bearings of this survey is the New Mexico Coordinate System of 1927, East Zone. All bearings, distances, areas and coordinates shown hereon are grid.

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

PROPOSED PAD

Line	Bearing	Distance
L1	NORTH	400.00'
L2	EAST	565.00'
L3	SOUTH	400.00'
L4	WEST	565.00'

PROPOSED PIT

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

CENTERLINE PROPOSED ACCESS

Line	Bearing	Distance
L9	S 89° 41' 36" W	807.52'
L10	N 43° 08' 07" W	78.77'
L11	N 00° 00' 00" W	45.13'
L12	N 53° 30' 21" E	60.14'
L13	N 77° 14' 31" E	65.46'
L14	EAST	114.00'

CENTERLINE PROPOSED ACCESS

Line	Bearing	Distance
L15	N 00° 19' 45" E	185.10'
L16	N 45° 11' 21" W	37.92'
L17	WEST	1570.49'
L18	NORTH	10.00'
L19	N 00° 08' 27" W	1085.08'
L20	N 00° 24' 11" W	23.06'
L21	N 17° 10' 39" W	17.21'
L22	N 22° 18' 01" W	17.75'
L23	N 52° 39' 43" W	18.84'
L24	N 79° 57' 12" W	16.74'
L25	WEST	36.51'

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DRAWN BY: BPT	PROJ. MGR.: VHV
DATE: 04/18/2023	
JOB#: 2236221.00	SHEET 3 OF 3

FOR THE EXCLUSIVE USE OF CHEVRON U.S.A. INC.
I, Steven M. Coleman, Professional Surveyor, do hereby state the above plat to be true and correct to the best of my knowledge.
06/30/2023

STEVEN M. COLEMAN NEW MEXICO 22921 PROFESSIONAL SURVEYOR

Steven M. Coleman
Professional Surveyor
Registration No. 22921

PAD PLAT
DAGGER LAKE PAD 401
CHEVRON U.S.A. INC.
SITUATED IN
SECTION 4, T22S-R33E
LEA COUNTY, NEW MEXICO

T:\2023\236221\DWG\DL Pad 401_Pad Plat_R1.dwg

Appendix E – Operating and Maintenance Plan

Temporary Pit containing non-low chloride fluids

Dagger Lake 4 33 Federal Com Pit

Section 4, T22S, R33E

Appendix E – Operating and Maintenance Plan

Dagger Lake 4 33 Federal Com 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

Dagger Lake 4 33 Federal Com Pit

Section 4, T22S, R33E

Appendix F – Closure Plan
Dagger Lake 4 33 Federal Com Temporary Pit

Discussion of Onsite Cuttings Disposal

The proposed Temporary Pit will contain drill cuttings from the vertical sections of wells 401H, 413H, 402H, 414H, 403H, 415H. 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

Dagger Lake 4 33 Federal Com Pit

Section 4, T22S, R33E

APPENDIX G – EVALUATION OF UNSTABLE CONDITIONS
Dagger Lake 4 33 Federal Com
Temporary Pit

SUMMARY

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

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

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

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

DISSOLUTION FEATURES EVIDENT ON AERIAL IMAGERY

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

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

Depth to Karst-Forming rocks

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

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

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 sandstone*
Permian	*Rustler*	*400*		*Anhydrite, halite, dolomite, sandy siltstone, and polyhalite*

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

Mitigation of Karst Potential

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

General Construction:

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

Pad Construction:

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

REFERENCES

Bachman. 1973. Surficial features and late Cenozoic history in southeastern New Mexico: US Geological Survey, Open-File Report USGS-4339-8, Denver CO.

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

Lucas, S.G., and O.J. Anderson. 1993. Stratigraphy of the Permian-Triassic boundary in southeastern New Mexico and west Texas. *Carlsbad Region (New Mexico and West Texas)*.

Nicholson, Alexander, Jr. and Alfred Clebsch Jr. 1961. Ground-Water Report 6 - Geology and Ground-Water Conditions in Southern Lea County, New Mexico, United States Geological Survey in cooperation with the New Mexico Institute of Mining and Technology, State Bureau of Mines and Mineral Resources Division and the New Mexico State Engineer.

U.S. Geological Survey and New Mexico Bureau of Mines and Mineral Resources. 2023. Quaternary fault and fold database for the United States. Available at https://www.usgs.gov/natural-hazards/earthquake-hazards/faults. Accessed: February 25, 2023.

Attachments 1 - 3

Temporary Pit containing non-low chloride fluids

Dagger Lake 4 33 Federal Com Pit

Section 4, T22S, R33E

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

Attachment 2
Tetra Tech Geotechnical Study Report, Section 4, Dagger Lake PW AST (2020)

Attachment 3
DOI-BLM-NM-P020-2020-0095-EA, Section 1.6, Scoping, Public Involvement, and Issues (2019)

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

Temporary Pit containing non-low chloride fluids

Dagger Lake 4 33 Federal Com Pit

Section 4, T22S, R33E

ARCADIS Design & Consultancy for natural and built assets

Chevron U.S.A. Inc.

ENVIRONMENTAL FIELD SURVEY

Dagger Lake Development Area

February 15, 2019

ENVIRONMENTAL FIELD SURVEY

Dagger Lake Development Area

Prepared for:
Lee Higgins
HES Specialist
Chevron U.S.A. Inc.
1400 Smith Street
Houston, TX 77002

Prepared by:
Arcadis U.S., Inc.
630 Plaza Drive
Suite 100
Midland
Texas 79701
Tel 432 687 5400
Fax 432 687 5401

Our Ref.:

B0048872.0000

Date:

February 15, 2019

10 KARST

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

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

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

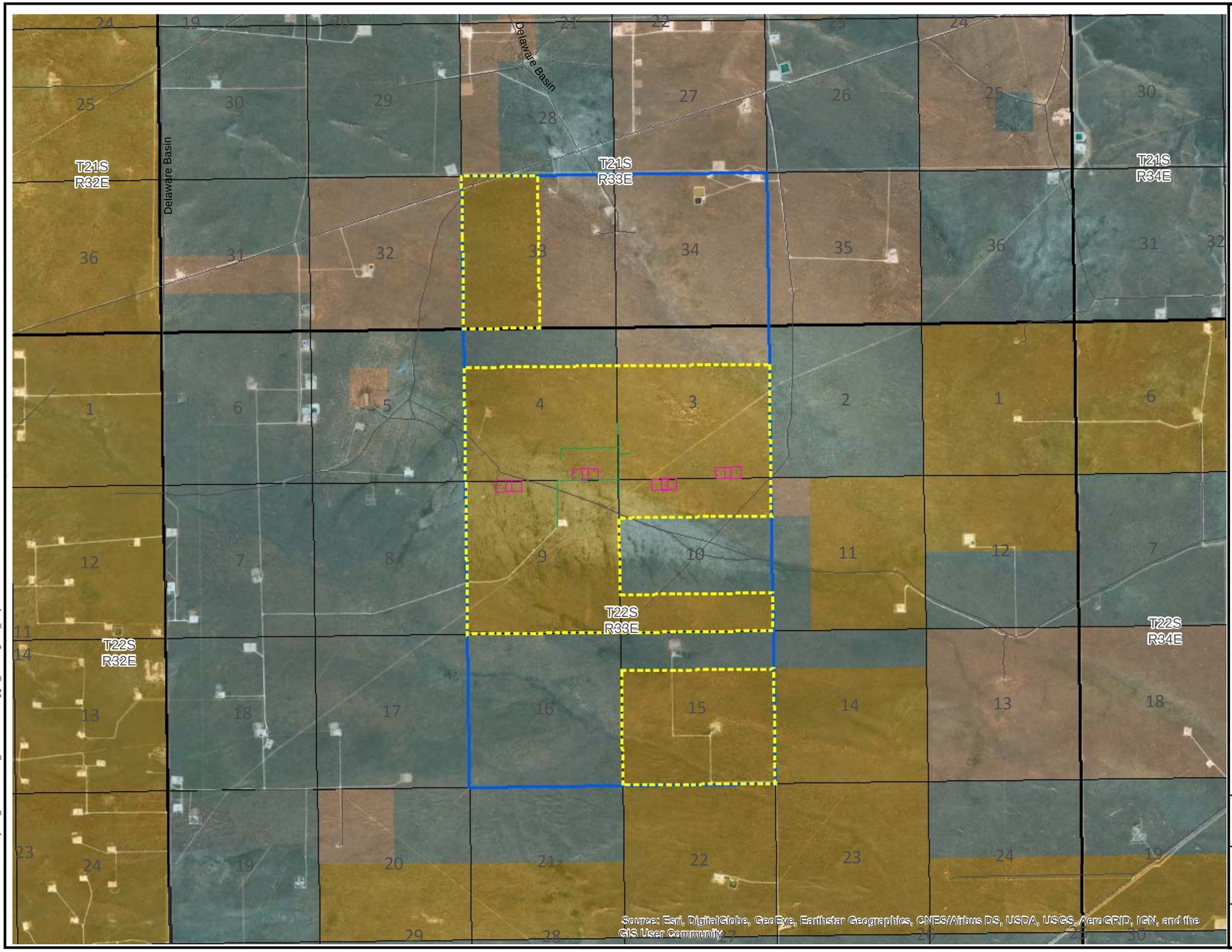
In summary, evidence of karst in the region consists predominantly of large depressions that likely formed over millions of years; although there is evidence that subsidence is ongoing, at least at San Simon Sink. These depressions were most-likely created by the dissolution of salt beds in the upper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

10.1 Survey Findings and Mitigation

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

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

FIGURE



LEGEND

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

SURFACE OWNERSHIP

- Bureau of Land Management
- Private
- State

0 4,000 8,000

Feet

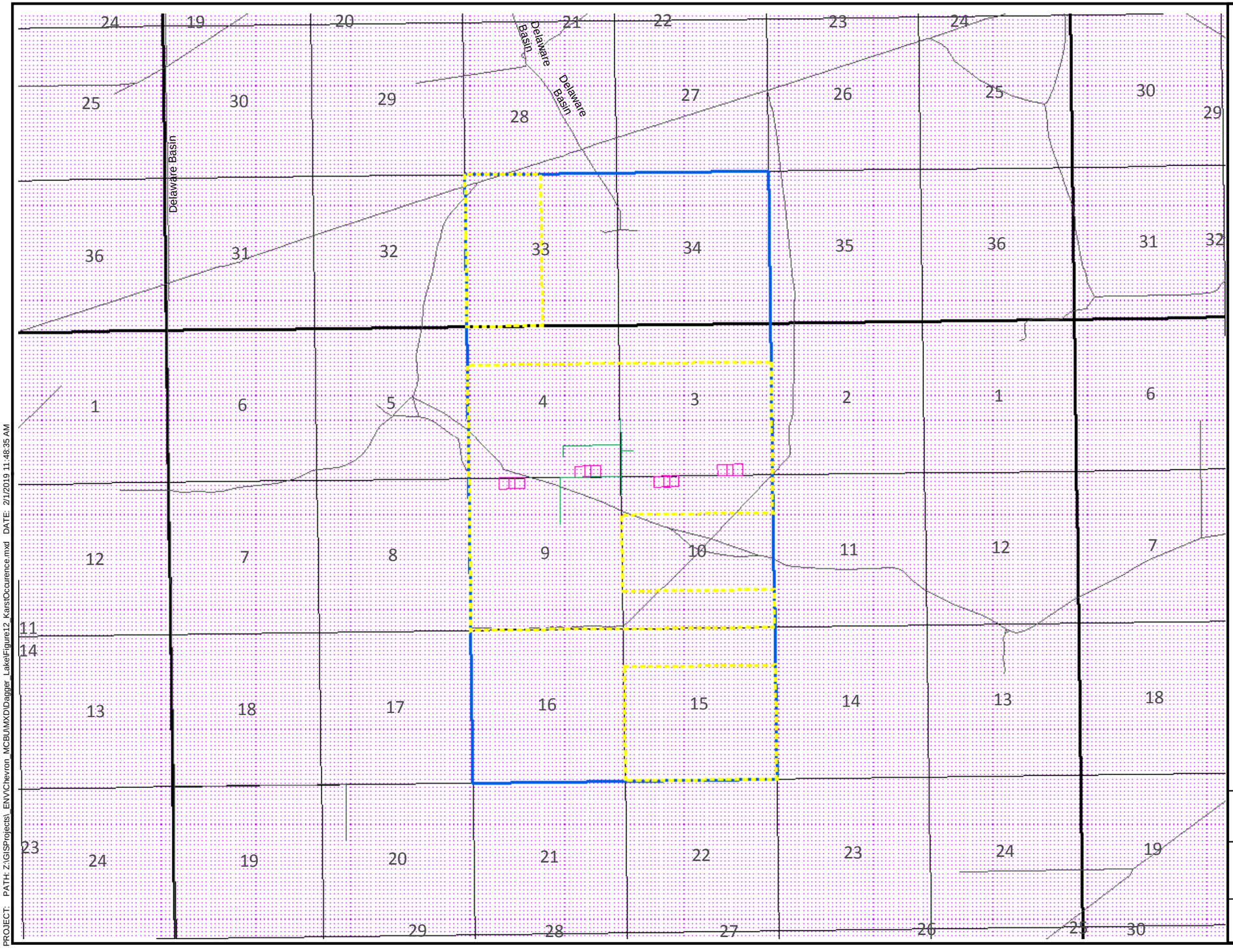
CHEVRON U.S.A. INC.
ENVIRONMENTAL FIELD SURVEYS
DAGGER LAKE DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO

ENVIRONMENTAL FIELD SURVEY AREA

ARCADIS

FIGURE 2

DIV/GROUP: ENV/MDV DB: avl00976 LD: PIC: PM: TM:
PROJECT: PATH: Z:\GISProjects_ENV\Chevron_MCBU\MXD\Dagger_LakeFigure2_ProjectArea.mxd DATE: 1/31/2019 8:52:05 PM



LEGEND

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

0 4,000 8,000

Feet

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

KARST POTENTIAL ZONES

ARCADIS

FIGURE
12

DIV/GROUP: ENV/MDV DB: avl00976 LD: PIC: PM: TM:
PROJECT: PATH: Z:\GISProjects_ENV\Chevron_MCBU\MXD\Dagger_Lake\Figure12_KarstOccurence.mxd DATE: 2/1/2019 11:48:35 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.

PERSONNEL RESUME

BRANSON CONLEY MAUCK

Staff Ecologist

EDUCATION
Bachelors, Biology, Virginia Commonwealth University, 2014

YEARS OF EXPERIENCE
Total – 4 years
With Arcadis – 1 year

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

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

Project Experience

International Boundary Water Commission (IBWC)

ARCADIS, United States; Cameron County, TX

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

Confidential Client

ARCADIS, United States; Questa, NM

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

Oil & Gas Exploration

ARCADIS, United States; TX

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

Exxon Mobile Pipeline Company (EMPCo) – S-232, Forked Creek Mussel Survey

ARCADIS, United States; Wilmington, IL

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

Project Experience Continued

Invenergy Swisher Solar Energy Project

ARCADIS, United States; Kress, TX

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

Johnson Space Center Invasive Species Removal and Maintenance

ARCADIS, United States; Houston, TX

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

FCX/Collinsville – Offsite Tributary Project

ARCADIS, United States; Collinsville, OK

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

Union Pacific Railroad

ARCADIS, United States; multiple locations

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

FCX Altoona Repository Design

ARCADIS, United States; Altoona, KS

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

Escondido Creek Linear Park

ARCADIS, United States; Kenedy, TX

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

Project Experience Continued

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

Magnum Poole Well #2 Pipeline Permit: Ducroz Site

ARCADIS, United States; Brazoria, Texas

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

Hayhurst EFS and EA's

ARCADIS, United States; Loving, NM

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

DOW Seadrift Wetlands Planting

ARCADIS, United States; Seadrift, TX

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

Southwest Gas - Southern Transmission Replacement

ARCADIS, United States; Laughlin and Henderson, NV

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

Citgo – Guadalupe River HDD Project

ARCADIS, United States; Cuero, TX

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

Ecologist

Stantec Consulting Services, Inc., Various Locations

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

Project Experience Continued

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

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

Environmental Specialist

Stantec Consulting Services, Inc., Various Locations, Virginia

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

Aquatics Intern

Maymont Park, Richmond, Virginia

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

Ecologist Intern

Stantec Consulting Services, Inc., Various Locations, Virginia

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

CHARLESTON SHIRLEY

ENVIRONMENTAL SCIENTIST I, BIOLOGIST

EDUCATION

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

YEARS OF EXPERIENCE

Total – 4 years
With Arcadis – <1 year

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

Project Experience

Ongoing Maintenance Activities on Pipeline System in the Southern California Deserts

SoCal Gas Company, Southern California Desert Areas

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

Development Project

Confidential Client, Coyote Springs, Nevada

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

Water Treatment Installation

Tetra Tech, Henderson, Nevada

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

Range-wide Monitoring Program

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

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

Community Solar Project

Valley Electric Association, Pahrump, Nevada

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

Monitoring Avian Productivity and Survivorship (MAPS) Banding

Louisiana Department of Wildlife and Fisheries and Institute for Bird Populations, Louisiana

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

Gopher Tortoise Health Assessment

Louisiana Department of Wildlife and Fisheries, Louisiana

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

Inventory of Recently Purchased Lands

U.S. Department of Defense, Fort Polk, Louisiana

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

Wildlife Mortality Study

Invenergy, Bishop Hill, Illinois

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

Attachments 2 – Tetra Tech Geotechnical Study Report, Section 4, Dagger Lake PW AST (2020)

Temporary Pit containing non-low chloride fluids

Dagger Lake 4 33 Federal Com Pit

Section 4, T22S, R33E

TETRA TECH

September 3, 2020

Ms. Anna Deily
Facilities Infrastructure Engineer
Chevron North America – MCBU
Exploration and Production Company
6301 Deauville Blvd.
Midland, Texas 79706

RE: Baseline Sampling Results and Boring Log for Dagger Lake AST Pad located in Lea County, New Mexico

Dear Ms. Deily:

Tetra Tech Inc. (Tetra Tech) was retained by Chevron to conduct baseline environmental sampling and drill a deep boring for purposes of identifying groundwater at the proposed Dagger Lake produced water above-ground storage tank (AST) pad. The pad is located in Lea County, New Mexico. The GPS coordinates for the proposed tank pad are N 32.417858° and W 103.569555°. The site location is shown on a topographic map, Figure 1, and an aerial map, Figure 2.

Chevron requested that Tetra Tech drill a deep boring at the produced water AST pad and perform baseline environmental sampling. The purpose of the deep boring is for observation of the presence of groundwater at the tank site. The purpose of the environmental baseline sampling is to establish a baseline of existing soil conditions at this site prior to the installation of the produced water tank and start of operations. As part of the baseline sampling program, Chevron requested that Tetra Tech collect soil samples at 8-inches in depth below the surface with a hand-auger and the samples be analyzed by a qualified laboratory for BTEX, TPH, and Chlorides.

Boring

On August 25th and 26th, one (1) boring, B-1, was installed to a depth of 70 feet. Groundwater was not encountered in the boring during drilling. The boring was backfilled with auger cuttings upon completion of the drilling. Standard Penetration Tests SPTs were performed at five to ten foot intervals in the upper 40 feet for understanding the relative density of the soils. A copy of the boring log is included in Appendix A. The boring location for B-1 is shown in Figure 2.

Environmental Baseline Sampling and Laboratory Analyses

Tetra Tech personnel conducted the baseline environmental soil sampling on August 25th, 2020 and a total of five (5) sample points (AH-1 through AH-5) were collected using a hand-auger with sampling bucket. Four (4) of the five sample locations were at the perimeter of the proposed 190'-diameter, produced water tank; and one (1) sample was located in the middle area of the AST. All soil samples were collected at 8-12" below ground surface (bgs). The sample locations are shown in Figure 2.

Each of the five (5) samples (AH-1 through AH-5) were collected and placed into laboratory-provided containers and delivered to the laboratory under chain of custody. The samples from the site were delivered to Xenco Laboratories in Midland, Texas, for chloride analysis by Method SM 4500 Cl B, TPH analysis by method SW8015 (Mod) Extended, and BTEX by method EPA 8021B.

Tetra Tech
901 W. Wall St, Suite 100 Midland, TX 79701
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

The laboratory results are summarized in Table 1. Copies of the laboratory reports and results are included in Appendix B.

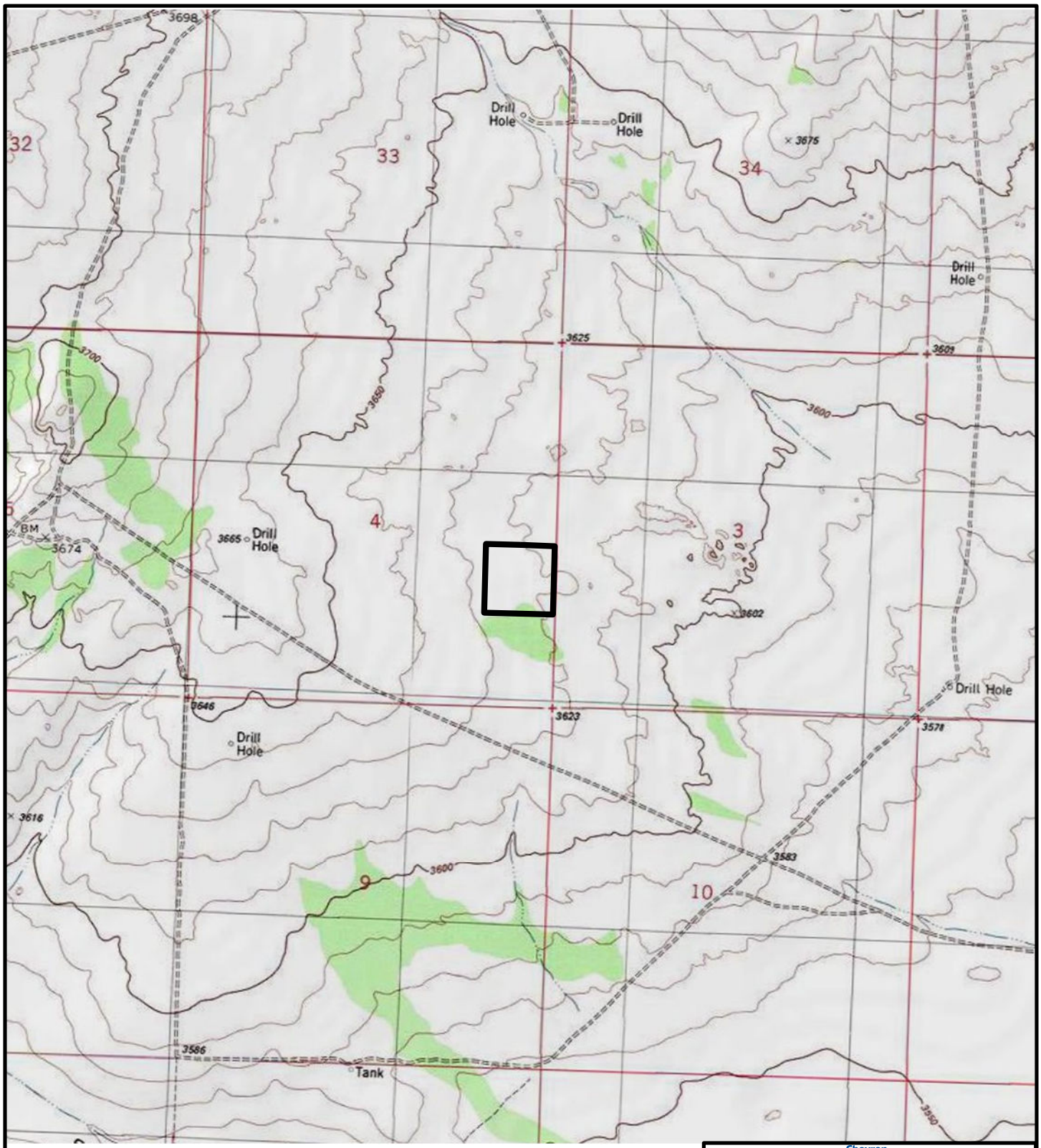
If Chevron should require additional support with this project, please contact Nathan Langford at 432-250-0652 or if we can be of further assistance.

Sincerely,

TETRATECH, INC

Nathan Langford, PE
Project Manager

Figures



LEGEND

SITE LOCATION

N
W
E
S

0 1,000 2,000
Feet

SOURCE: MODIFIED FROM USGS, GRAMA RIDGE, NM 1984 QUADRANGLE.

Chevron

Figure 1

Dagger Lake Produced Water AST
(32.4179, -103.56902)

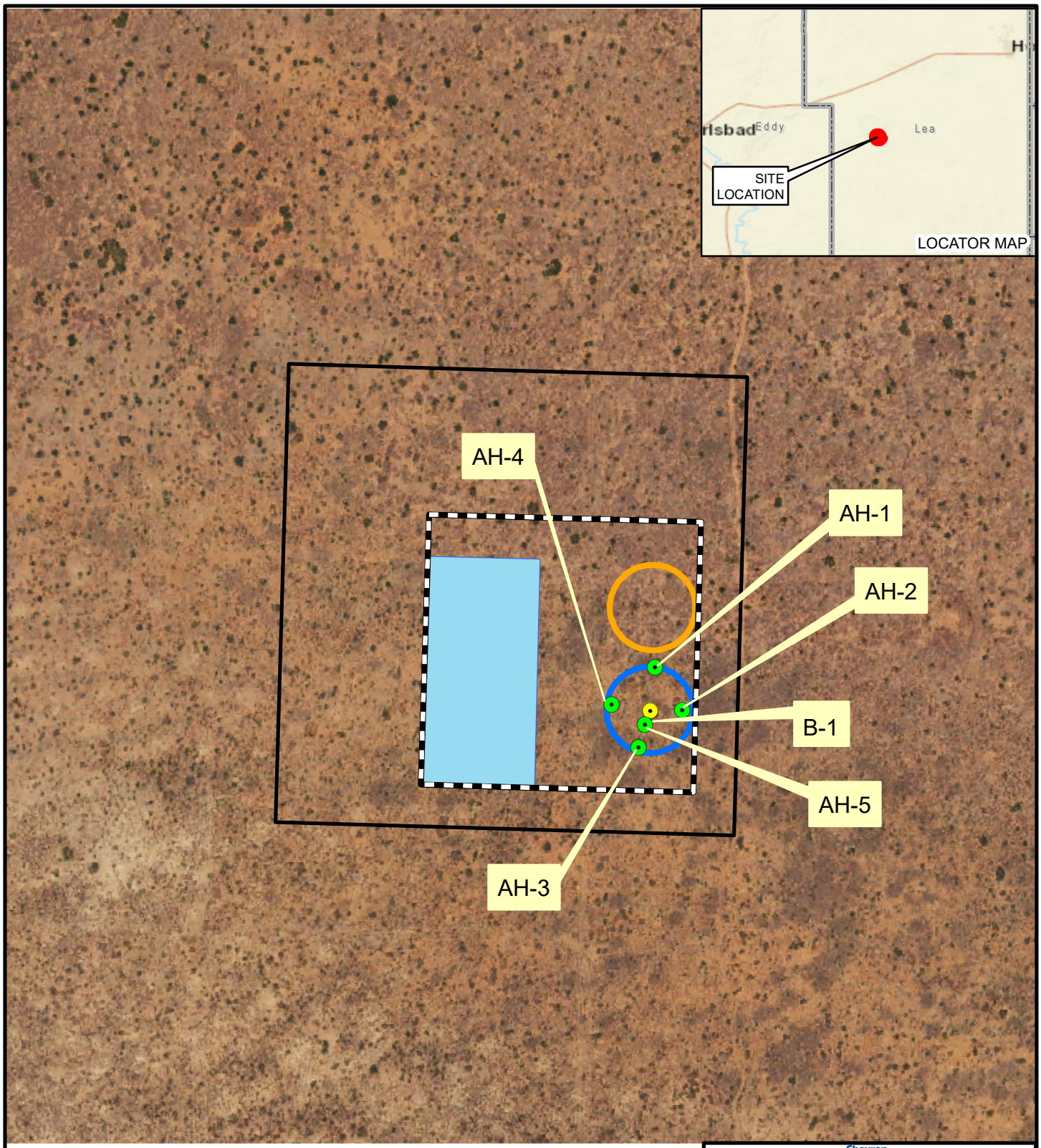
Topographic Map
Lea County, New Mexico

Project : 212C-MD-02292

Date : 9/3/2020

File : H:\GIS\212C-MD-02292

Date Saved: 9/3/2020 User: joel.peters Path: C:\GIS\chevron\212C_MD_02292 Chevron Dagger Lake\212C_MD_02292_Chevron_DaggerLakePWAST_Fig1_Topo.mxd



Chevron

Figure 2

Dagger Lake Produced Water AST
(32.4179, -103.56902)

Aerial Map
Lea County, New Mexico

Project : 212C-MD-02292	
Date : 9/3/2020	
File : H:\GIS\212C-MD-02292	

Date Saved: 9/3/2020 User: joel.peters Path: C:\GIS\chevron\212C_MD_02292 Chevron Dagger Lake\212C_MD_02292_Chevron_DaggerLakePWAST_Fig2_Aerial.mxd

Tables

Table 1
Summary of Analytical Results
Chevron N.A. E1, MCBU
Dagger Lake AST Pad
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth	Chloride[1]	BTEX[2]					TPH[3]		
				Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO C_6 - C_{10}	DRO > C_{10} - C_{28}	Total TPH (GRO+DRO)
		ft. bgs	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
AH-1	8/25/2020	'0.5-1	11.2	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8
AH-2	8/25/2020	'0.5-1	9.36	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0
AH-3	8/25/2020	'0.5-1	8.53	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0
AH-4	8/25/2020	'0.5-1	9.66	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9
AH-5	8/25/2020	'0.5-1	8.67	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0

NOTES:

ft. Feet

bgs Below ground surface

mg/kg Milligrams per kilogram

TPH Total Petroleum Hydrocarbons

GRO Gasoline range organics

DRO Diesel range organics

1 SM4500Cl-B

2 EPA 8021B

3 SW8015 (Mod) Extended

Appendix A

TETRA TECH
Tetra Tech, Inc.
901 West Wall, Suite 100
Midland, Tx. 79701
Phone: 432-682-4559
Fax:

BOREHOLE ID: B-1

CLIENT Chevron **PROJECT NAME** Dagger Lake PW AST Boring

PROJECT NUMBER 212C-MD-02292 **PROJECT LOCATION** Lea County, NM

DATE(S) OF DRILLING: 08/26/2020 **GROUND ELEVATION: NA** **METHOD: Auger/Air Rotary**

CONSULTANT: Tetra Tech, Inc. **LATITUDE: 32.41790 N** **LOGGED BY: Carlos Tomlinson**

DRILLING CONTRACTOR: TSS Drilling, Inc **LONGITUDE: 103.56950 W** **DRILLED BY: Tim Y.**

Notes: No groundwater encountered.

DEPTH (ft)	SAMPLE TYPE	RECOVERY %	BLOW COUNTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0						Loose, Reddish Brown, **SILTY SAND**, Low-Plasticity, Weakly Cemented, Dry
	SS 1	100	8-8-9			
	SS 2	100	9-12-32	SM		Changes to Dense, Pink, Traces Subangular Gravel at 3.5'.
5						Changes to Non-Plastic, Uncemented at 4.5'.
						8.5
	SS 3	100	50/5"			Very Dense, Pink to Reddish, **SAND**, Non-Plastic, Uncemented, Trace Subangular Gravel, Dry
10						Switch Drilling Method to Air Rotary at 10.0'.
	SS 4	100	31-32-37	SM		
15						Loose Sand Layer from 16.0' to 18.5'.
						18.5
	SS 5	100	18-30-46			Very Dense, Reddish Brown, **SILTY SAND**, Low-Plasticity, Weakly Cemented, Trace Subangular Gravel, Dry
20				SM		
25						

BOREHOLE/TP/WELL - TT DRAFT_DAGGER LAKE PW AST.GPJ LAB SUMMARY.GDT 9/3/20

(Continued Next Page)

TETRA TECH
Tetra Tech, Inc.
901 West Wall, Suite 100
Midland, Tx. 79701
Phone: 432-682-4559
Fax:

BOREHOLE ID: B-1

CLIENT Chevron **PROJECT NAME** Dagger Lake PW AST Boring

PROJECT NUMBER 212C-MD-02292 **PROJECT LOCATION** Lea County, NM

DEPTH (ft)	SAMPLE TYPE	RECOVERY %	BLOW COUNTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
25				SM		Very Dense, Reddish Brown, **SILTY SAND**, Low-Plasticity, Weakly Cemented, Trace Subangular Gravel, Dry *(continued)*
30	SS 6	100	*24-40-43*			
35						
40	SS 7	100	*26-45-50/4"*			
45						
50						

BOREHOLE/TP/WELL - TT DRAFT_DAGGER LAKE PW AST.GPJ LAB SUMMARY.GDT 9/3/20

(Continued Next Page)

TETRA TECH
Tetra Tech, Inc.
901 West Wall, Suite 100
Midland, Tx. 79701
Phone: 432-682-4559
Fax:

BOREHOLE ID: B-1

CLIENT Chevron **PROJECT NAME** Dagger Lake PW AST Boring

PROJECT NUMBER 212C-MD-02292 **PROJECT LOCATION** Lea County, NM

DEPTH (ft)	SAMPLE TYPE	RECOVERY %	BLOW COUNTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
55				SM		Very Dense, Reddish Brown, **SILTY SAND**, Low-Plasticity, Weakly Cemented, Trace Subangular Gravel, Dry *(continued)*
60						
						62.0
						LIMESTONE, Slightlly Weathered, Hard, Reddish Yellow, Fine Grained, Broken, Dry
65						
70						70.0
						Borehole terminated at 70.0 ft.

BOREHOLE/TP/WELL - TT DRAFT_DAGGER LAKE PW AST.GPJ LAB SUMMARY.GDT 9/3/20

Water Encountered: (YES) at Depth (ft) _____ **(NO)**

Appendix B

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Certificate of Analysis Summary 671100

Tetra Tech- Midland, Midland, TX

Project Name: DL AST

Project Id: 212C-MD-02292
Contact: Nathan Langford
Project Location: New Mexico

Date Received in Lab: Wed 08.26.2020 16:10
Report Date: 08.31.2020 16:30
Project Manager: Jessica Kramer

Analysis Requested		671100-001		671100-002		671100-003		671100-004		671100-005	
	Field Id:	AH-1		AH-2		AH-3		AH-4		AH-5	
	Depth:	5-1 ft		5-1 ft		5-1 ft		5-1 ft		5-1 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	08.25.2020 00:00		08.25.2020 00:00		08.25.2020 00:00		08.25.2020 00:00		08.25.2020 00:00	
BTEX by EPA 8021B	***Extracted:***	08.28.2020 10:30		08.28.2020 10:30		08.28.2020 10:30		08.28.2020 10:30		08.28.2020 10:30	
	Analyzed:	08.28.2020 18:18		08.28.2020 18:39		08.28.2020 18:59		08.28.2020 19:20		08.28.2020 19:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00399	0.00399	<0.00397	0.00397	<0.00398	0.00398	<0.00398	0.00398	<0.00399	0.00399
o-Xylene		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Inorganic Anions by EPA 300/300.1	***Extracted:***	08.26.2020 18:00		08.26.2020 18:00		08.26.2020 18:00		08.26.2020 18:00		08.26.2020 18:00	
	Analyzed:	08.27.2020 00:34		08.27.2020 00:50		08.27.2020 00:56		08.27.2020 01:01		08.27.2020 01:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		11.2	5.04	9.36	5.03	8.53	5.04	9.66	4.99	8.67	5.05
TPH By SW8015 Mod	***Extracted:***	08.26.2020 17:00		08.26.2020 17:00		08.26.2020 17:00		08.26.2020 17:00		08.26.2020 17:00	
	Analyzed:	08.27.2020 04:01		08.27.2020 04:24		08.27.2020 04:46		08.27.2020 05:09		08.27.2020 05:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0
Diesel Range Organics (DRO)		<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0
Total TPH		<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0

BRL - Below Reporting Limit

Jessica Kramer

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

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Analytical Report 671100

for

Tetra Tech- Midland

Project Manager: Nathan Langford

DL AST

212C-MD-02292

08.31.2020

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-37), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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08.31.2020

Project Manager: **Nathan Langford**
Tetra Tech- Midland
901 West Wall ST
Midland, TX 79701

Reference: Eurofins Xenco, LLC Report No(s): **671100**
DL AST
Project Address: New Mexico

Nathan Langford:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 671100. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 671100 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

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Sample Cross Reference 671100

Tetra Tech- Midland, Midland, TX

DL AST

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-1	S	08.25.2020 00:00	5 - 1 ft	671100-001
AH-2	S	08.25.2020 00:00	5 - 1 ft	671100-002
AH-3	S	08.25.2020 00:00	5 - 1 ft	671100-003
AH-4	S	08.25.2020 00:00	5 - 1 ft	671100-004
AH-5	S	08.25.2020 00:00	5 - 1 ft	671100-005

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CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: DL AST

Project ID: *212C-MD-02292*
Work Order Number(s): *671100*

Report Date: *08.31.2020*
Date Received: *08.26.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3135707 TPH By SW8015 Mod

Surrogate o-Terphenyl recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 671100-002,671100-004.

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Certificate of Analytical Results 671100

Tetra Tech- Midland, Midland, TX

DL AST

Sample Id:	**AH-1**	Matrix:	Soil	Date Received:	08.26.2020 16:10
Lab Sample Id:	671100-001	Date Collected:	08.25.2020 00:00	Sample Depth:	5 - 1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.26.2020 18:00	Basis:	Wet Weight
Seq Number:	3135641				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.2**	5.04	mg/kg	08.27.2020 00:34		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.26.2020 17:00	Basis:	Wet Weight
Seq Number:	3135707				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	08.27.2020 04:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	08.27.2020 04:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	08.27.2020 04:01	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	08.27.2020 04:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-130	08.27.2020 04:01	
o-Terphenyl	84-15-1	72	%	70-130	08.27.2020 04:01	

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Certificate of Analytical Results 671100

Tetra Tech- Midland, Midland, TX

DL AST

Sample Id:	**AH-1**	Matrix:	Soil	Date Received:	08.26.2020 16:10
Lab Sample Id:	671100-001	Date Collected:	08.25.2020 00:00	Sample Depth:	5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	AMF			% Moisture:	
Analyst:	AMF	Date Prep:	08.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3135896				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.28.2020 18:18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.28.2020 18:18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.28.2020 18:18	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.28.2020 18:18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.28.2020 18:18	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.28.2020 18:18	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.28.2020 18:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	08.28.2020 18:18	
4-Bromofluorobenzene	460-00-4	102	%	70-130	08.28.2020 18:18	

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Certificate of Analytical Results 671100

Tetra Tech- Midland, Midland, TX

DL AST

Sample Id:	**AH-2**	Matrix:	Soil	Date Received:	08.26.2020 16:10
Lab Sample Id:	671100-002	Date Collected:	08.25.2020 00:00	Sample Depth:	5 - 1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.26.2020 18:00	Basis:	Wet Weight
Seq Number:	3135641				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.36**	5.03	mg/kg	08.27.2020 00:50		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.26.2020 17:00	Basis:	Wet Weight
Seq Number:	3135707				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.27.2020 04:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.27.2020 04:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.27.2020 04:24	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.27.2020 04:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	71	%	70-130	08.27.2020 04:24	
o-Terphenyl	84-15-1	68	%	70-130	08.27.2020 04:24	**

eurofins | Environment Testing Xenco

Certificate of Analytical Results 671100

Tetra Tech- Midland, Midland, TX

DL AST

Sample Id:	**AH-2**	Matrix:	Soil	Date Received:	08.26.2020 16:10
Lab Sample Id:	671100-002	Date Collected:	08.25.2020 00:00	Sample Depth:	5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	AMF			% Moisture:	
Analyst:	AMF	Date Prep:	08.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3135896				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.28.2020 18:39	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.28.2020 18:39	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.28.2020 18:39	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	08.28.2020 18:39	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.28.2020 18:39	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.28.2020 18:39	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.28.2020 18:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	08.28.2020 18:39	
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.28.2020 18:39	

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Certificate of Analytical Results 671100

Tetra Tech- Midland, Midland, TX

DL AST

Sample Id:	**AH-3**	Matrix:	Soil	Date Received:	08.26.2020 16:10
Lab Sample Id:	671100-003	Date Collected:	08.25.2020 00:00	Sample Depth:	5 - 1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.26.2020 18:00	Basis:	Wet Weight
Seq Number:	3135641				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.53**	5.04	mg/kg	08.27.2020 00:56		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.26.2020 17:00	Basis:	Wet Weight
Seq Number:	3135707				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.27.2020 04:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.27.2020 04:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.27.2020 04:46	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.27.2020 04:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	72	%	70-130	08.27.2020 04:46	
o-Terphenyl	84-15-1	73	%	70-130	08.27.2020 04:46	

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Certificate of Analytical Results 671100

Tetra Tech- Midland, Midland, TX

DL AST

Sample Id:	**AH-3**	Matrix:	Soil	Date Received:	08.26.2020 16:10
Lab Sample Id:	671100-003	Date Collected:	08.25.2020 00:00	Sample Depth:	5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	AMF			% Moisture:	
Analyst:	AMF	Date Prep:	08.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3135896				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.28.2020 18:59	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.28.2020 18:59	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.28.2020 18:59	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.28.2020 18:59	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.28.2020 18:59	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.28.2020 18:59	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.28.2020 18:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	08.28.2020 18:59	
4-Bromofluorobenzene	460-00-4	101	%	70-130	08.28.2020 18:59	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 671100

Tetra Tech- Midland, Midland, TX

DL AST

Sample Id:	**AH-4**	Matrix:	Soil	Date Received:	08.26.2020 16:10
Lab Sample Id:	671100-004	Date Collected:	08.25.2020 00:00	Sample Depth:	5 - 1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.26.2020 18:00	Basis:	Wet Weight
Seq Number:	3135641				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.66**	4.99	mg/kg	08.27.2020 01:01		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	08.26.2020 17:00	Basis:	Wet Weight
Seq Number:	3135707				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	08.27.2020 05:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	08.27.2020 05:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	08.27.2020 05:09	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	08.27.2020 05:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	70	%	70-130	08.27.2020 05:09	
o-Terphenyl	84-15-1	68	%	70-130	08.27.2020 05:09	**

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Certificate of Analytical Results 671100

Tetra Tech- Midland, Midland, TX

DL AST

Sample Id:	**AH-4**	Matrix:	Soil	Date Received:	08.26.2020 16:10
Lab Sample Id:	671100-004	Date Collected:	08.25.2020 00:00	Sample Depth:	5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	AMF			% Moisture:	
Analyst:	AMF	Date Prep:	08.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3135896				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.28.2020 19:20	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.28.2020 19:20	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.28.2020 19:20	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.28.2020 19:20	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.28.2020 19:20	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.28.2020 19:20	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.28.2020 19:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	08.28.2020 19:20	
1,4-Difluorobenzene	540-36-3	102	%	70-130	08.28.2020 19:20	

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Certificate of Analytical Results 671100

Tetra Tech- Midland, Midland, TX

DL AST

Sample Id: **AH-5** Matrix: Soil Date Received:08.26.2020 16:10

Lab Sample Id: 671100-005 Date Collected: 08.25.2020 00:00 Sample Depth: 5 - 1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: SPC % Moisture:

Analyst: SPC Date Prep: 08.26.2020 18:00 Basis: Wet Weight

Seq Number: 3135641

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.67**	5.05	mg/kg	08.27.2020 01:06		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 08.26.2020 17:00 Basis: Wet Weight

Seq Number: 3135707

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.27.2020 05:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.27.2020 05:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.27.2020 05:32	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.27.2020 05:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	130	%	70-130	08.27.2020 05:32	
o-Terphenyl	84-15-1	134	%	70-130	08.27.2020 05:32	**

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Certificate of Analytical Results 671100

Tetra Tech- Midland, Midland, TX

DL AST

Sample Id:	**AH-5**	Matrix:	Soil	Date Received:	08.26.2020 16:10
Lab Sample Id:	671100-005	Date Collected:	08.25.2020 00:00	Sample Depth:	5 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	AMF			% Moisture:	
Analyst:	AMF	Date Prep:	08.28.2020 10:30	Basis:	Wet Weight
Seq Number:	3135896				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.28.2020 19:42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.28.2020 19:42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.28.2020 19:42	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.28.2020 19:42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.28.2020 19:42	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.28.2020 19:42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.28.2020 19:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	08.28.2020 19:42	
1,4-Difluorobenzene	540-36-3	103	%	70-130	08.28.2020 19:42	

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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QC Summary 671100

Tetra Tech- Midland

DL AST

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3135641 — Matrix: Solid — Date Prep: 08.26.2020
MB Sample Id: 7710234-1-BLK — LCS Sample Id: 7710234-1-BKS — LCSD Sample Id: 7710234-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	247	99	247	99	90-110	0	20	mg/kg	08.26.2020 22:49	

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3135641 — Matrix: Soil — Date Prep: 08.26.2020
Parent Sample Id: 671059-009 — MS Sample Id: 671059-009 S — MSD Sample Id: 671059-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	14.0	248	277	106	277	106	90-110	0	20	mg/kg	08.27.2020 00:19	

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3135641 — Matrix: Soil — Date Prep: 08.26.2020
Parent Sample Id: 671079-007 — MS Sample Id: 671079-007 S — MSD Sample Id: 671079-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12.0	249	271	104	270	104	90-110	0	20	mg/kg	08.26.2020 23:05	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3135707 — Matrix: Solid — Date Prep: 08.26.2020
MB Sample Id: 7710243-1-BLK — LCS Sample Id: 7710243-1-BKS — LCSD Sample Id: 7710243-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1050	105	1010	101	70-130	4	20	mg/kg	08.27.2020 08:01	
Diesel Range Organics (DRO)	<50.0	1000	1170	117	1050	105	70-130	11	20	mg/kg	08.27.2020 08:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		106		98		70-130	%	08.27.2020 08:01
o-Terphenyl	122		120		105		70-130	%	08.27.2020 08:01

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3135707 — Matrix: Solid — Date Prep: 08.26.2020
MB Sample Id: 7710243-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	08.27.2020 09:55	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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QC Summary 671100

Tetra Tech- Midland

DL AST

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3135707 Matrix: Soil Date Prep: 08.26.2020
Parent Sample Id: 671100-001 MS Sample Id: 671100-001 S MSD Sample Id: 671100-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	1080	108	1040	104	70-130	4	20	mg/kg	08.27.2020 09:08	
Diesel Range Organics (DRO)	<50.0	999	1150	115	1080	108	70-130	6	20	mg/kg	08.27.2020 09:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		105		70-130	%	08.27.2020 09:08
o-Terphenyl	116		95		70-130	%	08.27.2020 09:08

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3135896 Matrix: Solid Date Prep: 08.28.2020
MB Sample Id: 7710430-1-BLK LCS Sample Id: 7710430-1-BKS LCSD Sample Id: 7710430-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0976	98	0.0929	93	70-130	5	35	mg/kg	08.28.2020 14:10	
Toluene	<0.00200	0.100	0.0862	86	0.0819	82	70-130	5	35	mg/kg	08.28.2020 14:10	
Ethylbenzene	<0.00200	0.100	0.0869	87	0.0824	82	70-130	5	35	mg/kg	08.28.2020 14:10	
m,p-Xylenes	<0.00400	0.200	0.170	85	0.161	81	70-130	5	35	mg/kg	08.28.2020 14:10	
o-Xylene	<0.00200	0.100	0.0847	85	0.0808	81	70-130	5	35	mg/kg	08.28.2020 14:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		101		101		70-130	%	08.28.2020 14:10
4-Bromofluorobenzene	86		96		94		70-130	%	08.28.2020 14:10

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3135896 Matrix: Soil Date Prep: 08.28.2020
Parent Sample Id: 671103-003 MS Sample Id: 671103-003 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0733	73	70-130	mg/kg	08.28.2020 14:52	
Toluene	<0.00200	0.0998	0.0531	53	70-130	mg/kg	08.28.2020 14:52	X
Ethylbenzene	<0.00200	0.0998	0.0405	41	70-130	mg/kg	08.28.2020 14:52	X
m,p-Xylenes	<0.00399	0.200	0.0778	39	70-130	mg/kg	08.28.2020 14:52	X
o-Xylene	<0.00200	0.0998	0.0400	40	70-130	mg/kg	08.28.2020 14:52	X

Surrogate	MS %Rec	MS Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		70-130	%	08.28.2020 14:52
4-Bromofluorobenzene	98		70-130	%	08.28.2020 14:52

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Chain of Custody

Work Order No: 670785 671100

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com Page _____ of _____

Project Manager:	Nathan Langford	Bill to: (if different)	
Company Name:	Tetra Tech	Company Name:	
Address:	9081 W. Wall St #1000	Address:	
City, State ZIP:	Midland TX 79701	City, State ZIP:	
Phone:	432.215-9426	Email:	Nathan.Langford.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	DL AST	Turn Around	
Project Number:	212C-MD-02292	Routine ☒	
Project Location	New Mexico	Rush:	
Sampler's Name:	Carlos Tomlinso	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temperature (°C):	2.7 / 2.3	Temp Blank: Yes (No)	Wet Ice: (Yes) No
Received Intact:	(Yes) No	Thermometer ID	DL-8
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.4
Sample Custody Seals:	Yes No (N/A)	Total Containers:	

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH - 8015	BTEX	Cl	Sample Comments
	AH-1	Soil	8/25		0-1'	1				32.41813, -103.56952
	AH2	Soil	8/25			1				32.41708, -103.56928
	AH-3	Soil	8/25			1				32.41765, -103.56959
	AH-4	Soil	8/25			1				32.4790, -103.56983
	AH-5	Soil	8/25			1				32.47790, -103.56956

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			8/26/20	2		
3				4		
5			1610	6		

Revised Date 022619 Rev. 2019.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 08.26.2020 04.10.00 PM

Work Order #: 671100

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.3	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**Yes**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	BTEX was in bulk container
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**N/A**	
#18 Water VOC samples have zero headspace?	**N/A**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 08.26.2020
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 08.31.2020
Jessica Kramer

Attachments 3 – DOI-BLM-NM-P020-2020-0095-EA, Section 1.6, Scoping, Public Involvement, and Issues (2019)

Temporary Pit containing non-low chloride fluids

Dagger Lake 4 33 Federal Com Pit

Section 4, T22S, R33E

U.S. Department of the Interior
Bureau of Land Management

2019

Carlsbad Field Office
Environmental Assessment

Environmental Assessment DOI-BLM-NM-P020-2020-0095-EA

CHEVRON U.S.A. INC

Lease No. NMNM 96244

DL 09 16 LOCH NESS FED COM P1 16H
DL 09 16 LOCH NESS FED COM P1 17H
DL 09 16 LOCH NESS FED COM P1 18H
DL 04 33 LOCH NESS FED COM P1 4H
DL 04 33 LOCH NESS FED COM P1 5H
DL 04 33 LOCH NESS FED COM P1 6H

Department of the Interior
Bureau of Land Management
Pecos District
Carlsbad Field Office
620 E Greene Street
Carlsbad, NM 88220
Phone: (575) 234-5972

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.

TABLE OF CONTENTS

- **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.
- **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
- **Lechuguilla Cave Protection Act of 1993** - Protects Lechuguilla Cave and other resources and values in and adjacent to Carlsbad Caverns National Park
- **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.
- **Wild and Scenic Rivers Act of 1968, as amended (16 USC 1271 et seq.)** - Preserves certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations
- **Wilderness Act of 1964 (16 USC 1131 et seq.)** - Secures for the American people of present and future generations the benefits of an enduring resource of wilderness

Air quality standards in New Mexico 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 drilling, construction, completion, and operation; and certify that Surface Use Agreements have been reached with the private landowners, where required.

1.6. Scoping, Public Involvement, and Issues

The Carlsbad Field Office (CFO) publishes Land Use Planning (LUP) and National Environmental Policy Act (NEPA) documents to the national register known as ePlanning. The register allows you to review and comment online on BLM NEPA and planning projects. A hard copy of this NEPA project has been made available in the Carlsbad Field Office as well as in electronic format on ePlanning at https://eplanning.blm.gov

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. 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, including GHG emissions, be impacted by the proposed action?

- How would climate change be impacted by the proposed action?
- How would water resources be impacted by the propose action?
- How would watershed resources be impacted by the proposed action?
- How would soils be impacted by the proposed action?
- How would potash resources be impacted by the proposed action?
- How would wildlife/habitat be impacted by the proposed action?
- How would special status species be impacted by the proposed action?
- How would vegetation be impacted by the proposed action?
- Could noxious weeds be introduced to the project area as a result 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?

2. PROPOSED ACTION AND ALTERNATIVE(S)

2.1. Proposed Action

The BLM Carlsbad Field Office is proposing to allow Chevron to drill six horizontal oil wells and associated infrastructure. Chevron would strip the available topsoil from the well pad area and stockpile on where interim reclamation is planned be completed upon completion of the wells. The well sites would then be leveled and surfaced with mineral material. Chevron would take approximately 30 days to drill each proposed well. After the proposed well is drilled and completed, the proposed well location would be downsized to approximately a 2.95 acre surfaced pad. All areas not needed for production would be reclaimed by removing the caliche, recontouring the area, spreading the stockpiled topsoil over the area, and seeding the area. It is likely that the proposed wells would be drilled within four years from approval.

3.12.1. *Affected Environment*

Paleontological resources are any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth. Fossil remains may include bones, teeth, tracks, shells, leaves, imprints, and wood. Paleontological resources include not only the actual fossils but also the geological deposits that contain them and are recognized as nonrenewable scientific resources protected by federal statutes and policies.

The primary federal legislation for the protection and conservation of paleontological resources occurring on federally administered lands are the Paleontological Resources Preservation Act of 2009 (PRPA), the Federal Land Policy and Management Act of 1976 (FLPMA), and the National Environmental Policy Act of 1970 (NEPA). BLM has also developed policy guidelines for addressing potential impacts to paleontological resources (BLM, 1998a, b; 2008, 2009). In addition, paleontological resources on state trust lands are protected by state policy from unauthorized appropriation, damage, removal, or use.

The Potential Fossil Yield Classification (PFYC) is a tool that allows the BLM to predict the likelihood of a geologic unit to contain paleontological resources. The PFYC is based on a numeric system of 1-5, with PFYC 1 having little likelihood of containing paleontological resources, whereas a PFYC 5 value is a geologic unit that is known to contain abundant scientifically significant paleontological resources. The fossil resources of concern in this area are the remains of vertebrates, which include species of fish, amphibians, and mammals.

3.12.2. *Impacts from the Proposed Action*

Direct and Indirect Impacts

Direct impacts would result in the immediate physical loss of scientifically significant fossils and their contextual data. Impacts indirectly associated with ground disturbance could subject fossils to damage or destruction from erosion, as well as creating improved access to the public and increased visibility, potentially resulting in unauthorized collection or vandalism. However, not all impacts of construction are detrimental to paleontology. Ground disturbance can reveal significant fossils that would otherwise remain buried and unavailable for scientific study. In this manner, ground disturbance can result in beneficial impacts. Such fossils can be collected properly and curated into the museum collection of a qualified repository making them available for scientific study and education.

The location of the proposed project is within a PFYC 2, where management concern in negligible. A pedestrian survey for paleontological resources was not necessary and there should be no impacts to paleontological resources.

Mitigation Measures

There are no mitigation measures for this project, as currently proposed.

3.13. Impacts from the No Action Alternative

The No Action Alternative is used as the baseline for comparison of environmental effects of the analyzed alternatives. Under the No Action Alternative, the proposed project would not be drilled, built or constructed and there would be no new direct or indirect impacts to natural or cultural resources from oil and gas production. The natural and cultural resources in the project area would continue to be managed under the current land and resource uses.

3.14. 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 increases in greenhouse gas emissions, fragment wildlife habitat and contaminate groundwater. Cumulative impacts analysis to air quality, GHG emissions, water use and quality is included in Chapter 3, under sections 3.1 and 3.2. 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. SUPPORTING INFORMATION

4.1. List of Preparers

Prepared by: Project Lead Paul Murphy, Natural Resource Specialist, BLM-CFO

Date: 10/23/2019

The following individuals aided in the preparation of this document:
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4.2. References

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Appendices

Appendix A. Emissions Estimates for Oil and Gas Wells

Emissions for a one-well horizontal and oil gas well on federal lands are included in Tables 4-1 and 4-2. Emissions for vertical wells were omitted from this analysis due to current predominant technological drilling methods being horizontal. Additionally, presenting horizontal oil and gas wells emissions estimates represent a more conservative summary of emissions when compared to emissions from a vertical well with the exception SO_2 which could be 4-5x greater in a vertical well scenario however sulfur dioxide emissions are still estimated to be within the same magnitude and less <1 ton per year of SO_2 emissions per well.

Table A-1 Emission Estimates for One Horizontal Oil Well

Activity/ Phase	Annual Emissions (Tons)*							
	PM_{10}†	$PM_{2.5}$	NO_x	SO_2	CO	VOC**	HAPs	CO_2e
Construction	2.41	0.49	5.21	0.11	1.44	0.42	0.42	578.89
Operations	2.90	0.33	0.80	0.00	1.11	0.75	0.75	126.81
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.089
Reclamation**	0.00	0.00	0.18	0.00	0.08	0.00	0.00	0.00
Total	**5.31**	**0.81**	**6.19**	**0.11**	**2.63**	**1.17**	**1.17**	**705.79**

* Values where a “0.00” appear may be too small and not appear due to rounding.

† Reclamation PM_{10} emissions were estimated to be twice the value of Maintenance PM_{10} values.

**VOC emissions at the operational phase represent a 95% control efficiency and estimates potential emissions representing the contribution for “one oil well” from the emissions at storage tanks, gathering facilities, etc.

Table A-2 Emission Estimates for One Horizontal Gas Well

Activity/Phase	Annual Emissions (Tons)*							
	PM_{10}†	$PM_{2.5}$	NO_x	SO_2	CO	VOC	HAPs	CO_2e
Construction	0.64	0.31	5.18	0.11	1.41	0.61	0.41	1125.79
Operations	0.28	0.18	0.34	0.00	0.46	0.16	0.18	126.81
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.089
Reclamation†	0.00	0.00	0.18	0.00	0.08	0.00	0.00	0.00
Total	**0.92**	**0.49**	**5.71**	**0.11**	**1.95**	**0.77**	**0.59**	**1252.69**

* Values where a “0.00” appear may be too small and not appear due to rounding.

† Reclamation PM_{10} emissions were estimated to be twice the value of Maintenance PM_{10} values.

Emission estimates for a construction, operations, maintenance and reclamation are included. Construction emissions for both an oil and gas well include well pad construction (fugitive dust), heavy equipment combustive emissions, commuting vehicles and wind erosion. Operations emissions for an oil well include well workover operations (exhaust and fugitive dust), well site visits for inspection and repair, recompletion traffic, water and oil tank traffic, venting, compression and well pumps, dehydrators and compression station fugitives. Operations emissions for a gas well include well workover operations (exhaust and fugitive dust), wellhead and compressor station fugitives, well site visits for inspection and repair, recompletions, compression, dehydrators and compression station fugitives. Maintenance emissions for both oil and gas wells are for road travel and reclamation emission activities are for interim and final activities and include truck traffic, a dozer, blade and track hoe equipment.

Venegas, Victoria, EMNRD

From: Venegas, Victoria, EMNRD
Sent: Tuesday, November 7, 2023 1:25 PM
To: Vallejo, Tony
Subject: DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352]
Attachments: C-144 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352].pdf

DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352].
TEMPORARY PIT NON-LOW CHLORIDE FLUIDS.

NMOCD has reviewed [4323] CHEVRON USA INC's, Application and Form C-144 received on 11/06/2023, for the proposed DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] Temporary Pit with non-low chloride drilling fluid located in Unit Letter F Section 04, Township 22S Range 33E, 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352]:
    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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] 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 DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352].
16. No later than seventy-two (72) hours prior to installing the top geomembrane cover and cover soil on the DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352], [4323] CHEVRON USA INC shall notify the OCD via OCD Online.
17. Once the NMOCD has issued the corresponding API numbers, [4323] CHEVRON USA INC shall provide the NMOCD with the API numbers for all wells associated with the Pit, Facility ID [fVV2331141352].

This letter constitutes NMOCD's conditions of approval of the variances. Please reference DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352], 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 282977

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 282977
	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 11/06/2023, for the proposed DL 4 33 FED COM (PAD 401) 401H, 402H, 403H, 413H, [fVV2331141352] Temporary Pit with non-low chloride drilling fluid located in Unit Letter F Section 04, Township 22S Range 33E, Lea County, New Mexico.	11/7/2023