SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614]

C-144/ Permit Approval with Conditions

[4323] CHEVRON USA INC

November 18, 2022

Burdine, Jaclyn, EMNRD

From: Burdine, Jaclyn, EMNRD
Sent: Friday, November 18, 2022 4:31 PM
To: Vallejo, Tony; Zemen, Jessica
Cc: Enviro, OCD, EMNRD; Akwukwaegbu, Chinedu Franklyn; Guest Rachel Cruz [Arcadis]
Subject: SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614]
Attachments: SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] Approval.pdf

SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614]
Temporary Pit non-low chloride fluids. Approval with Conditions.

Good Afternoon Mr. Vallejo,

NMOCD has reviewed [4323] CHEVRON USA INC, Application and Form C-144 received on November 16, 2022, for the proposed SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614], Temporary Pit in Unit Letter O & B, Section 11 & 14, Township 26S, Range 32E, Lea County, New Mexico.

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

1. [4323] CHEVRON USA INC proposes a closure timeline based on the date of the first occurrence of Rig Down Move Out (RDMO). RDMO is defined as the activity when the drilling rig is moved off location. Typically, RDMO occurs after the completion of drilling the last well on the pad. On pads where the Operator plans to return to the pad, multiple RDMO dates occur. This variance does not consider subsequent RDMO affecting the closure timeline dates after the first RDMO. The Operator proposes dewatering the pit within 30 days of RDMO and proposes closing the pits within 1 year of RDMO.

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

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

1. The variance from 19.15.17.7.R NMAC, which requires that a pit be closed no later than six (6) months after removal of the drilling or workover rig from the first well using the pit.

2. The variance from 19.15.17.11.F.3 NMAC, which requires the pit to be equipped with a of 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 may use the Pit for seven (7) wells drilled from the SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614].

2. [4323] CHEVRON USA INC shall use the facility identification number [fJMB2232256614] in all communications with OCD regarding SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] Pit.

3. [4323] CHEVRON USA INC shall design, construct, operate, maintain, and close SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] Pit in compliance with 19.15.17 NMAC - Pits, Closed-Loop Systems, Below-Grade-Tanks and Sumps.

4. The design and construction plan, included as Appendix D of the Application, is approved. [4323] CHEVRON USA INC shall design and construct SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] Pit as described in the approved plan. [4323] CHEVRON USA INC shall apply for a permit modification for any change to the plan.

5. The closure plan, included as Appendix F of the Application, is approved. [4323] CHEVRON USA INC shall close the SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] Pit as described in the approved plan. [4323] CHEVRON USA INC shall apply for a permit modification for any change to the plan.

6. Prior to commencing construction of the SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] 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.

7. [4323] CHEVRON USA INC shall inspect SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] 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.

8. If [4323] CHEVRON USA INC encounters a void or collapse during construction, operation, maintenance, or closure of the SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] 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.

9. 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.

10. [4323] CHEVRON USA INC shall inspect SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] 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 SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] 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.

11. [4323] CHEVRON USA INC shall maintain no less than two (2) feet of freeboard at the Pit at all times.

12. [4323] CHEVRON USA INC shall construct and maintain a fence around the perimeter of the SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] Pit at all times after the completion of construction.

13. No later than thirty (30) days after the date of any of the following events, [4323] CHEVRON USA INC shall drain and dewater the SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] 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.

14. No later than six (6) months after the date of any of the following events, [4323] CHEVRON USA INC shall close SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614]:

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.

15. After [4323] CHEVRON USA INC drains and dewaters SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] 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.

16. [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 SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] 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.

17. After [4323] CHEVRON USA INC has drained and dewatered the SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] Pit, Chevron shall not discharge fluid into the Pit for any purpose except for an emergency as provided in 19.15.17.14 NMAC.

18. [4323] CHEVRON USA INC shall comply with 19.15.29 NMAC - Releases for any release related to or associated with the SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614].

19. No later than seventy-two (72) hours prior to installing the top geomembrane cover and cover soil on the SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614], [4323] CHEVRON USA INC shall notify the OCD via OCD Online.

This letter constitutes NMOCD's conditions of approval of the variances. Please reference SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614] in all future communications

Please let me know if you any additional questions or concerns.

Jackie Burdine ● Environmental Specialist-Advanced – Administrative Permitting Program
EMNRD - Oil Conservation Division
1220 S. St. Francis Drive | Santa Fe, NM 87505
505.469.6769 Jaclyn.Burdine1@emnrd.nm.gov
http://www.emnrd.nm.gov/ocd

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: **SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H)**
API Number: **Pending** OCD Permit Number: **[fJMB2232256614]**
U/L or Qtr/Qtr **O, B** Section **11, 14** Township **26S** Range **32E** County: **Lea**
Center of Proposed Design: Latitude **32.05005** Longitude **-103.64420** 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 17,900 bbl, 1 x 10,800 bbl** Dimensions: L **291 ft** x W **196 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: 11/16/2022

e-mail address: jvallejo@chevron.com Telephone: O: 432-687-7524 or C: 325-450-1413

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

OCD Representative Signature: Jaclyn Burdine **Approval Date:** 11/18/2022

Title: Environmental Specialist-A **OCD Permit Number:** [fJMB2232256614]

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: _____

November 16, 2022

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

Via Electronic Submittal

RE: Chevron USA Incorporated Temporary Pit Application
SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H)
Section 11 of T26S, R32E and Section 14 T26S, R32E, Lea County

Ms. Jaclyn Burdine,

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 #NMNM 118722 located in Section 14, T26S R32E. This package includes the following documentation:

- C-144 for Non-Low Chloride Temporary Pit
- Siting Criteria Demonstration
- Siting Criteria Figures 1-11
- Variance Requests
- Appendix A – USGS Groundwater Data
- Appendix B – NMOSE Water Data
- Appendix C – Hydrogeologic Data
- Appendix D – Design Plan
- Appendix E – Operating and Maintenance Plan
- Appendix F – Closure Plan
- Appendix G – Evaluation of Unstable Conditions
- Attachments 1 - 3

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

Sincerely,

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

Chinedu Akwukwaegbu
Wells Engineer
cawq@chevron.com

Rachel Cruz
Project Manager (Arcadis U.S., Inc.)
rachel.cruz@arcadis.com

Chevron USA Incorporated
Chevron USA Inc.
6301 Deauville Blvd
Midland, TX 79706
Tel 432 687 7524

C-144 Permit Package
SD 14 23 FED P305, Temporary Pit
Section 11 of T26S, R32E and Section 14 of T26S, R32E, Lea County

SD 14 23 FED P305 / 305H
SD 14 23 FED P305 / 204H
SD 14 23 FED P305 / 306H
SD 14 23 FED P305 / 205H
SD 14 23 FED P305 / 307H
SD 14 23 FED P305 / 206H
SD 14 23 FED P305 / 308H

Chevron USA Incorporated
6301 Deauville Blvd.
Midland, TX 79706
(432) 687-7524

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: **SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H)**
API Number: **Pending** OCD Permit Number: **[fJMB2232256614]**
U/L or Qtr/Qtr **O, B** Section **11, 14** Township **26S** Range **32E** County: **Lea**
Center of Proposed Design: Latitude **32.05005** Longitude **-103.64420** 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 17,900 bbl, 1 x 10,800 bbl** Dimensions: L **291 ft** x W **196 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: 11/16/2022

e-mail address: jvallejo@chevron.com Telephone: O: 432-687-7524 or C: 325-450-1413

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

OCD Representative Signature: Jaclyn Burdine **Approval Date:** 11/18/2022

Title: Environmental Specialist-A **OCD Permit Number:** **[fJMB2232256614]**

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

SD 14 23 FED P305 Pit

Section 11, T26S, R32E and Section 24, T26S, R32E

Depth to Groundwater, 19.15.17.10.3(a)

Figure 7, **Appendices A & B**, and the discussion presented below demonstrate that the groundwater within the broader area of the proposed site is in excess of 100 feet beneath the temporary pit.

Figure 7 depicts the location of the pit relative to the locations of water wells within 5 miles of the pit for which water level data are available. Depth to water for the most recent, reliable measurement and the well identification number are shown adjacent to each well on **Figure 7**. The approximate boundary of the Pecos River Basin alluvial aquifer is shown and green and is located approximately 2.0 miles to the southwest of the temporary pit. Water well data, including gauging dates, are detailed in **Appendix A** (USGS) and **Appendix B** (NMOSE).

All USGS-gauged water wells located within 5 miles of the temporary pit were gauged at > 100 ft bgs.

- The nearest water well to the pit location is located approximately 2.60 miles to the north-northeast. Water level was measured at 233 ft bgs in 2013 (3,170 ft above NGVD29) within a USGS well. This well is completed in the Ogallala Formation and other underlying aquifer (Triassic Dockum).
- The water level in another USGS-gauged well located approximately 3.84 miles north-northeast of the pit location was 212.2 ft bgs (3,191.23) ft above NGVD29). The well is completed in the Ogallala Formation and other underlying aquifer (Triassic Dockum).
- No other USGS database well is located within 5 miles of the temporary pit.

Water levels in 9 water wells located within 5 miles of the temporary pit were gauged by NMOSE at > 120 ft bgs.

- The nearest NMOSE water well to the pit location, which has reported water level data, is located approximately 3 miles to the southwest and is completed in the Alluvium / Ogallala and / or Triassic Dockum Formations. A water level of 180 ft bgs was reported by the NMOSE for this well.
- Three other NMOSE-gauged water wells are located in close proximity to the above well and are likely completed in the same formations. Water levels ranging from 125 ft to 405 ft bgs are reported in the NMOSE database.
- To the east-southeast, the nearest well is located approximately 4 miles away and appears to be completed in the Ogallala Formation. Water level was reported at 120 ft bgs in the NMOSE database.
- A Triassic Dockum well is located approximately 4.9 miles southwest of the temporary pit with a reported water level of 295 feet in the NMOSE database.
- To the northeast, a NMOSE-gauged well is located approximately 3.2 miles away and appears to be completed in the Triassic Dockum Formation. A water level of 280 ft bgs is reported in the NMOSE database for this well.

- A Triassic Dockum well is located approximately 4.5 miles west-northwest of the pit location. A water level of 155 feet is reported for this well in the NMOSE database.
- Another well (likely Triassic Dockum) is located approximately 4.8 miles to the west-northwest of the pit location. A water level of 350 ft bgs is reported for this well in the NMOSE database.
- Other NMOSE database wells are located within 5 miles of the temporary pit but no water level data are reported for these well.

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. (Arcadis 2016[1]). Alluvium thickness in this area appears to be approximately 100 feet or less. Triassic Dockum strata underlie the alluvium deposits and its thickness appears to be approximately 400 to 500 feet. The Dockum Group has been divided into three formations: lower red shale, siltstone, and very fine-grained sandstone called the Tecovas Formation (or Pierce Canyon redbeds); middle reddish-brown and gray sandstone called the Santa Rosa sandstone; and upper brick-red to maroon and purple shale with thin beds of fine red or gray sandstone and siltstone called the Chinle Formation.

A 2016 Geotechnical report was prepared based on five soil boring logs drilled in Section 13, just south of the proposed temporary pit location (**Attachment 2**). Groundwater was not encountered in these borings.

Proximity to Surface Water, 19.15.17.10.3(b)

Figure 6 visualizes USGS contour lines and the USGS National Hydrography Dataset (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 is a NHD features (ephemeral) approximately 2,000 feet west 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.

[1] Arcadis 2016. Environmental Field Survey. Salado Draw Development Area. June 2016.

- All structures within 1,000 feet of the location are associated with oil & gas activity.

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 location.

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 Jal, approximately 26 miles to the east-northeast.

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.

- The nearest mapped Freshwater Emergent Wetland is located approximately 7,000 feet east of the project location.

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 (**Figure 4**).

Proximity to Unstable Area, 19.15.17.10.3(h)

Figure 8 identifies the location of the proposed temporary pit with respect to BLM Karst areas and regional geology. The proposed Temporary Pit is mapped in a “Medium 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 approximately 1,000 feet below the land surface (Crowl et al.

2011[2]). No evidence of depressions were identified through review of the topographic mapping, Google Earth imagery, or field survey (Arcadis 2016). Therefore, local karst potential is likely to be low. An Evaluation of Unstable Conditions is presented in Appendix G that details several lines of evidence in support of this position.

In summary:

1. There are no dissolution features within 2-miles of the proposed location (**Figure 11**),
2. Karst forming strata are over ~1,000-feet deep beneath the proposed location (**Appendix G - Figure G.1**),
3. An Arcadis field survey of the area indicated no karst features were identified (**Attachment 1**),
4. Tetra Tech geotechnical report and boring log from the proposed two recycled water storage ponds site location did not document any karst potential (**Attachment 2**),
5. The Bureau of Land Management, Carlsbad Field Office prepared the Categorical Exclusion (CX), document number - DOI-BLM-NM-2021-1125-CX, evaluating Chevron's Salado Draw P414 in Section 24. This CX did not identify karst as an issue (**Attachment 3**).

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

Proximity to Floodplains, 19.15.17.10.3(i)

The location is within an area that has not yet been mapped by the Federal Emergency Management Agency (FEMA) with respect to the Flood Insurance Rate 100-Year Floodplain (**Figure 3**). In lieu of FEMA data, **Figure 10** visualizes the USDA – SSURGO Soils data for dominant flooding frequency condition. The Pyote and maljamar fine sands (PU) is not mapped as an area with any indication of flooding.

[2] 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

SD 14 23 FED P305 Pit

Section 11, T26S, R32E and Section 24, T26S, R32E

LEGEND

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

0 3 6

Miles

CHEVRON U.S.A. INC.
LEA COUNTY, NEW MEXICO

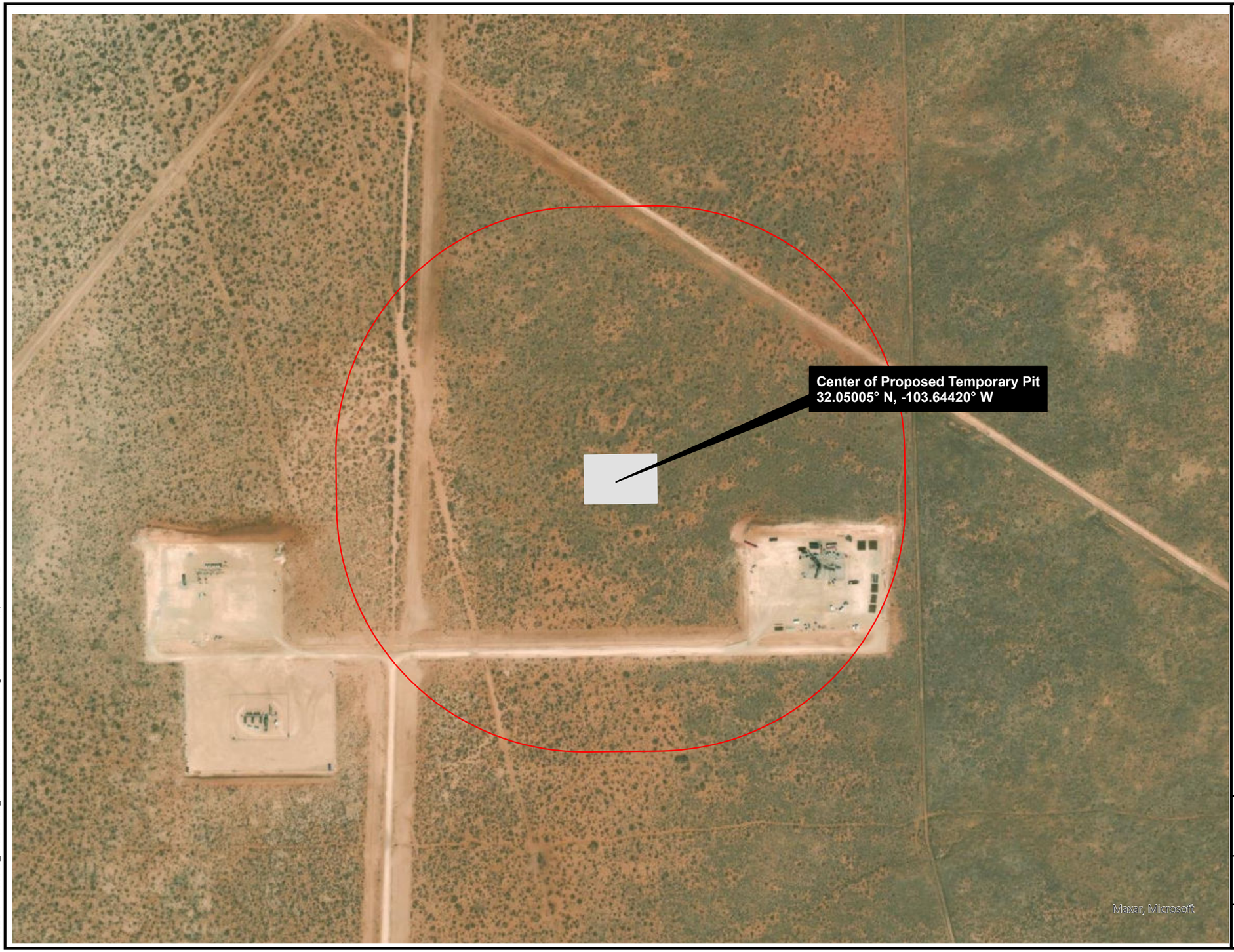
SALADO DRAW P305 -
PROPOSED TEMPORARY RESERVE PIT

VICINITY MAP

ARCADIS

FIGURE
1

DIV/GROUP: ENV/IMDV DB: avl00976 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\ProtSaladoDraw\C144 Figures\P305 C-144.aprx DATE: 10/18/2022 11:27 AM



LEGEND

Proposed Temporary Pit

1,000 ft Buffer

0 300 600

Feet

CHEVRON U.S.A. INC.
LEA COUNTY, NEW MEXICO

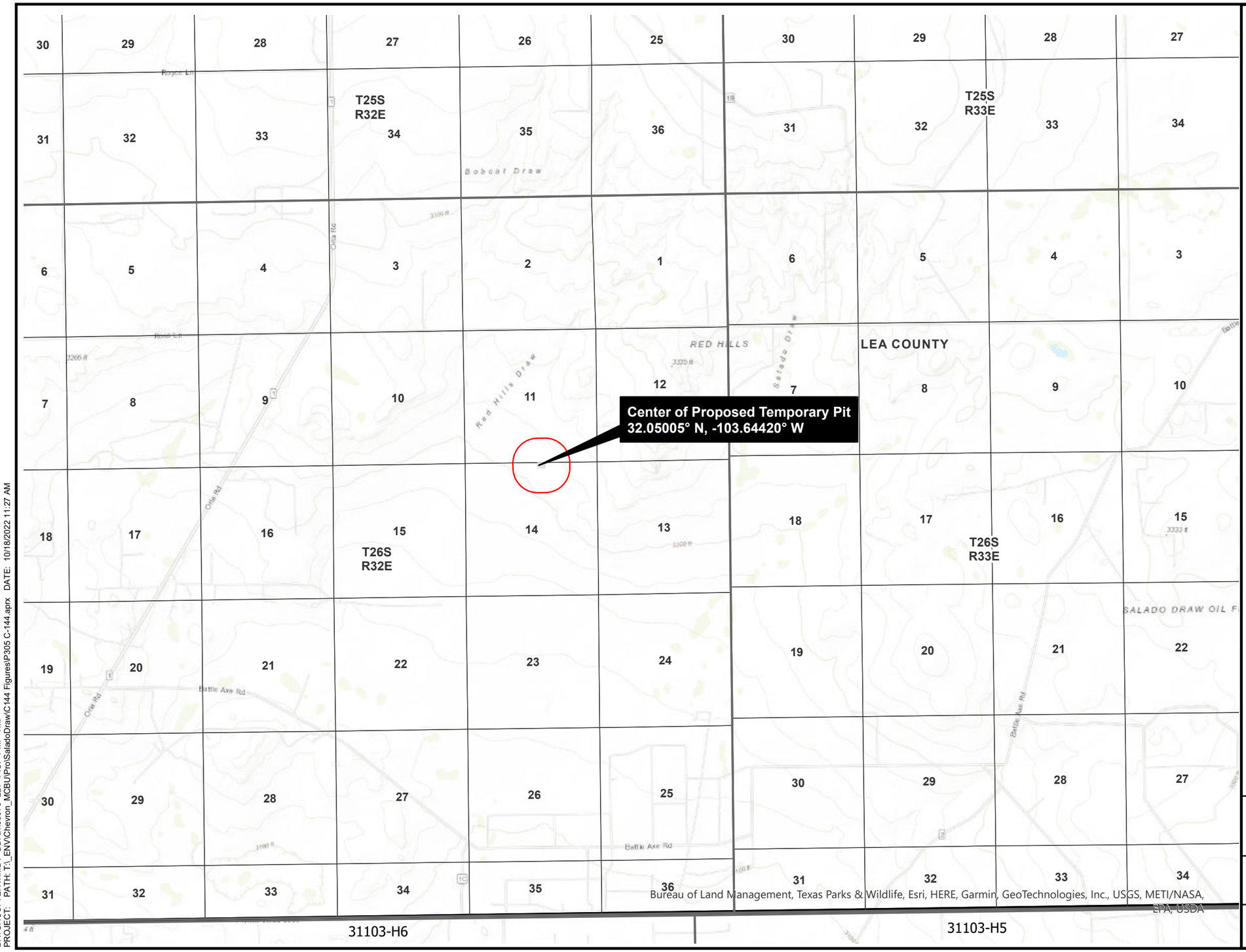
**SALADO DRAW P305 -
PROPOSED TEMPORARY RESERVE PIT**

SITE OVERVIEW

ARCADIS

FIGURE
2

DIV/GROUP: ENV/MDV DB: avi00976 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\SaladoDraw\C144 Figures\P305 C-144.aprx DATE: 10/18/2022 11:27 AM



LEGEND

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

NOTE:
1. FLOODPLAIN DATA IS NOT AVAIABLE IN THIS MAP EXTENT.

0 3,000 6,000

Feet

CHEVRON U.S.A. INC.
LEA COUNTY, NEW MEXICO

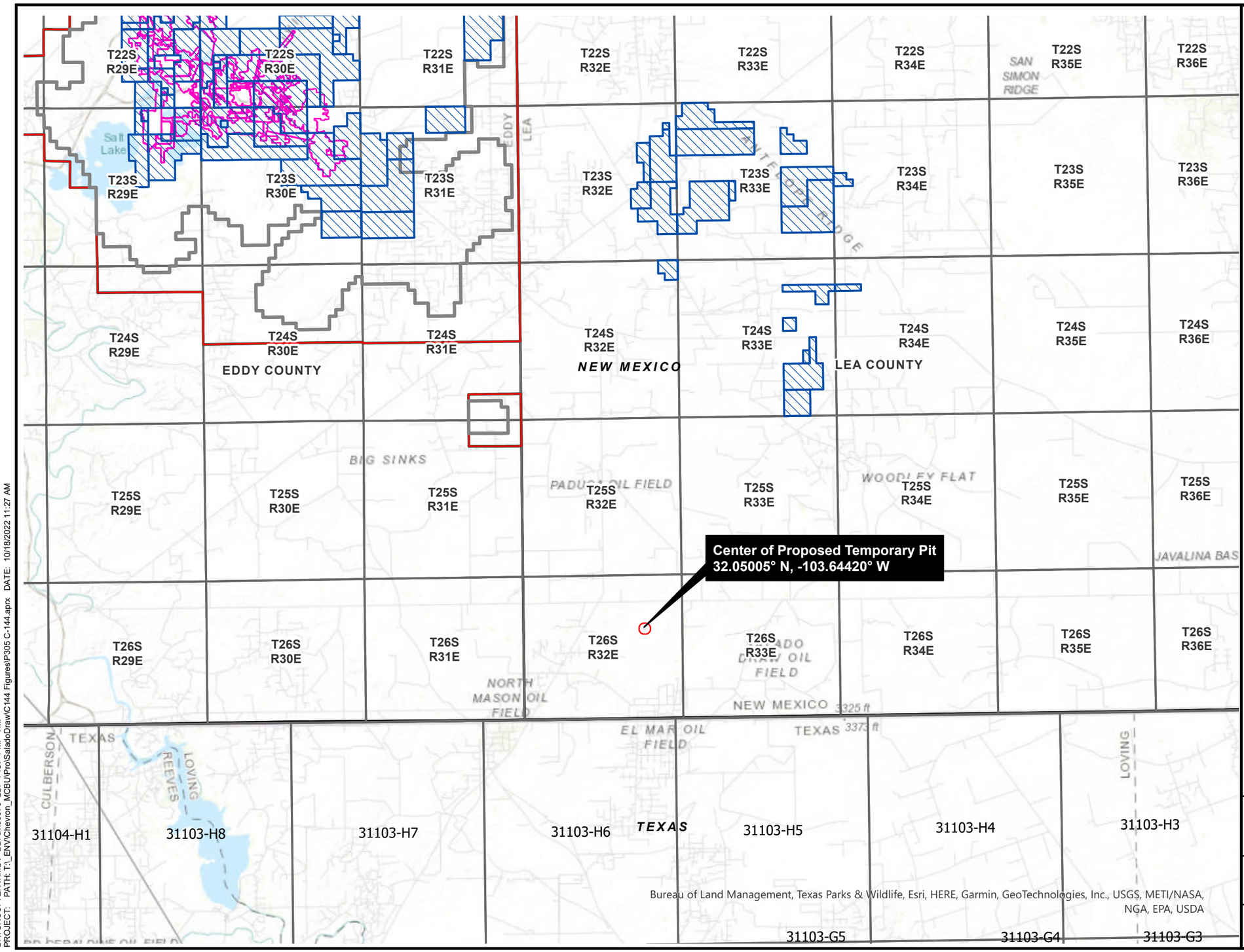
**SALADO DRAW P305 -
PROPOSED TEMPORARY RESERVE PIT**

FLOODPLAIN MAP

ARCADIS

FIGURE
3

DIV/GROUP: ENV/MDV DB: avi00976 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Proj\SaladoDraw\C144 Figures\P305 C-144.aprx DATE: 10/18/2022 11:27 AM



Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, METI/NASA, NGA, EPA, USDA

LEGEND

- Mine Workings
- Proposed Temporary Pit
- 1,000 ft Buffer
- Potash Leases
- Known Potash Leasing Area
- Schedule of Proposed Actions
- Townships

0 20,000 40,000

Feet

CHEVRON U.S.A. INC.
LEA COUNTY, NEW MEXICO

**SALADO DRAW P305 -
PROPOSED TEMPORARY RESERVE PIT**

SUBSURFACE MINES - POTASH

ARCADIS

FIGURE
4

DIV/GROUP: ENV/IMDV DB: avi00976 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\SaladoDraw\C144 Figures\P305 C-144.aprx DATE: 10/18/2022 11:27 AM

LEGEND

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

Notes:
1. No Wetlands Data in Map Extent.
2. USFWS - United States Fish and Wildlife Service
3. NWI - National Wetlands Inventory

Data Source: BLM CFO. 2018. USFWS NWI.

0 2,000 4,000
Feet

CHEVRON U.S.A. INC.
LEA COUNTY, NEW MEXICO

SALADO DRAW P305 -
PROPOSED TEMPORARY RESERVE PIT

WETLANDS MAP

ARCADIS

FIGURE
5

DIV/GROUP: ENV/IMDV DB: avl00976 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\ProjSaladoDraw\C144 Figures\P305 C-144.aprx DATE: 10/18/2022 11:27 AM

LEGEND

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

Notes:
1. USGS - United 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.
LEA COUNTY, NEW MEXICO

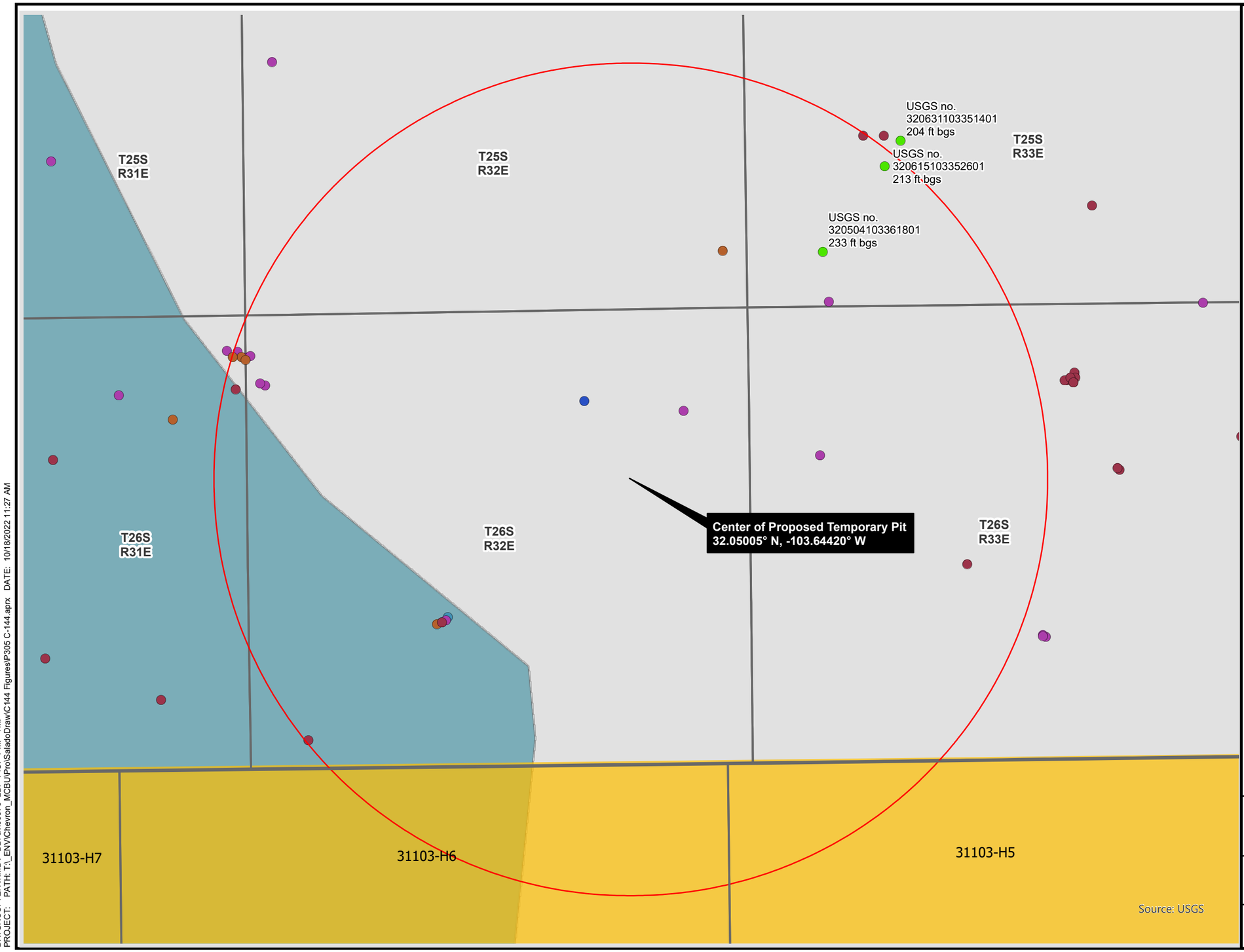
**SALADO DRAW P305 -
PROPOSED TEMPORARY RESERVE PIT**

ELEVATION CONTOUR & NHD MAP

ARCADIS

FIGURE
6

DIV/GROUP: ENV/MDV DR: avl00976 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\SaladoDraw\C144 Figures\P305 C-144.aprx DATE: 10/18/2022 11:27 AM



LEGEND

- USGS Contour Lines
- Townships
- USGS Groundwater Wells

OSE POD Wells

- Active
- Pending
- Capped
- Plugged
- Unknown
- Pecos River Basin Alluvial Aquifer
- Pecos Valley

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.
LEA COUNTY, NEW MEXICO

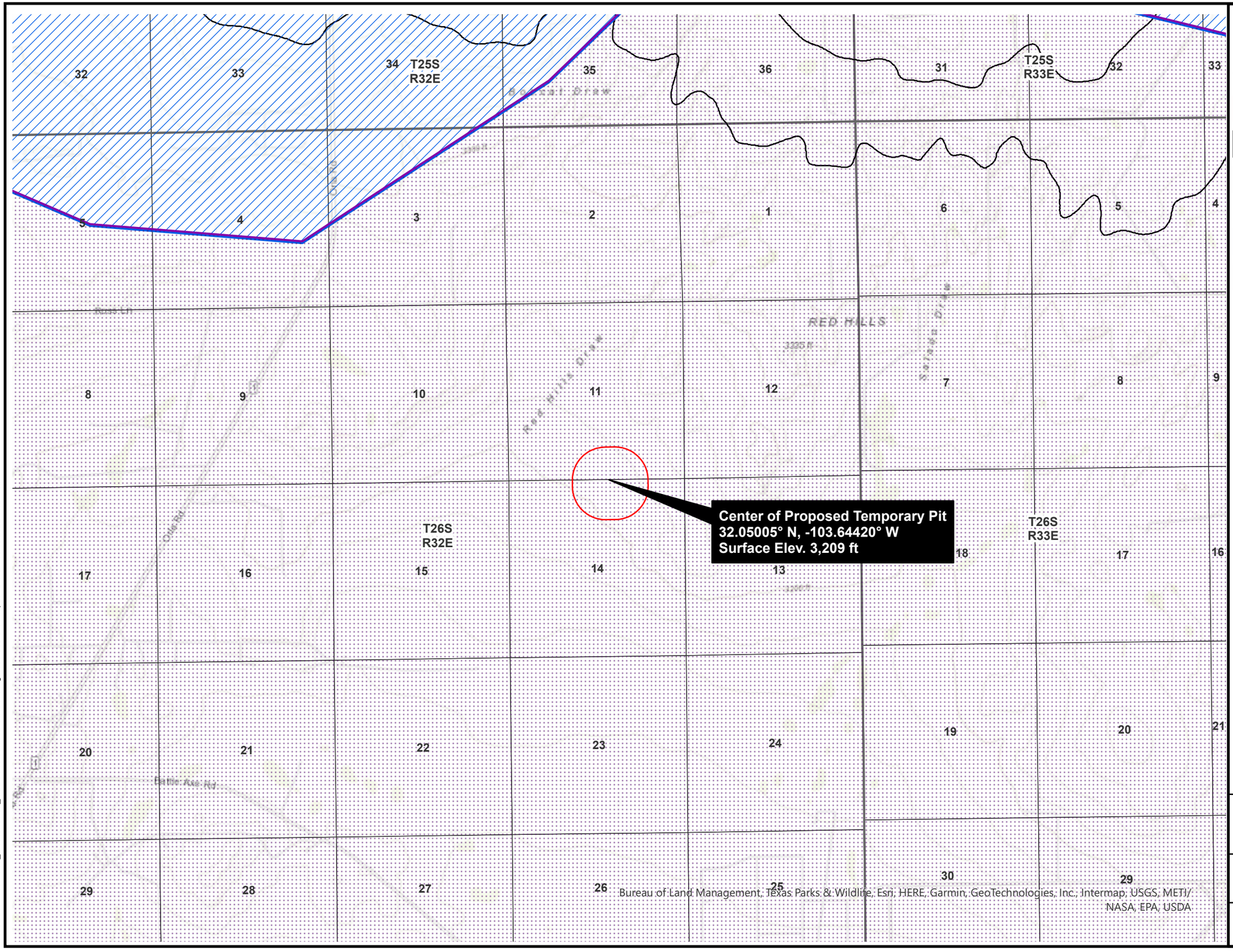
**SALADO DRAW P305 -
PROPOSED TEMPORARY RESERVE PIT**

USGS AND NMOSE GROUNDWATER WELLS

ARCADIS

FIGURE
7

DIV/GROUP: ENV/MDV DB: avi00976 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\ProtSaladoDraw\C144 Figures\P305 C-144.aprx DATE: 10/18/2022 11:27 AM



LEGEND

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

Karst Occurence Potential

- Low
- Medium

0 3,000 6,000

Feet

CHEVRON U.S.A. INC.
LEA COUNTY, NEW MEXICO

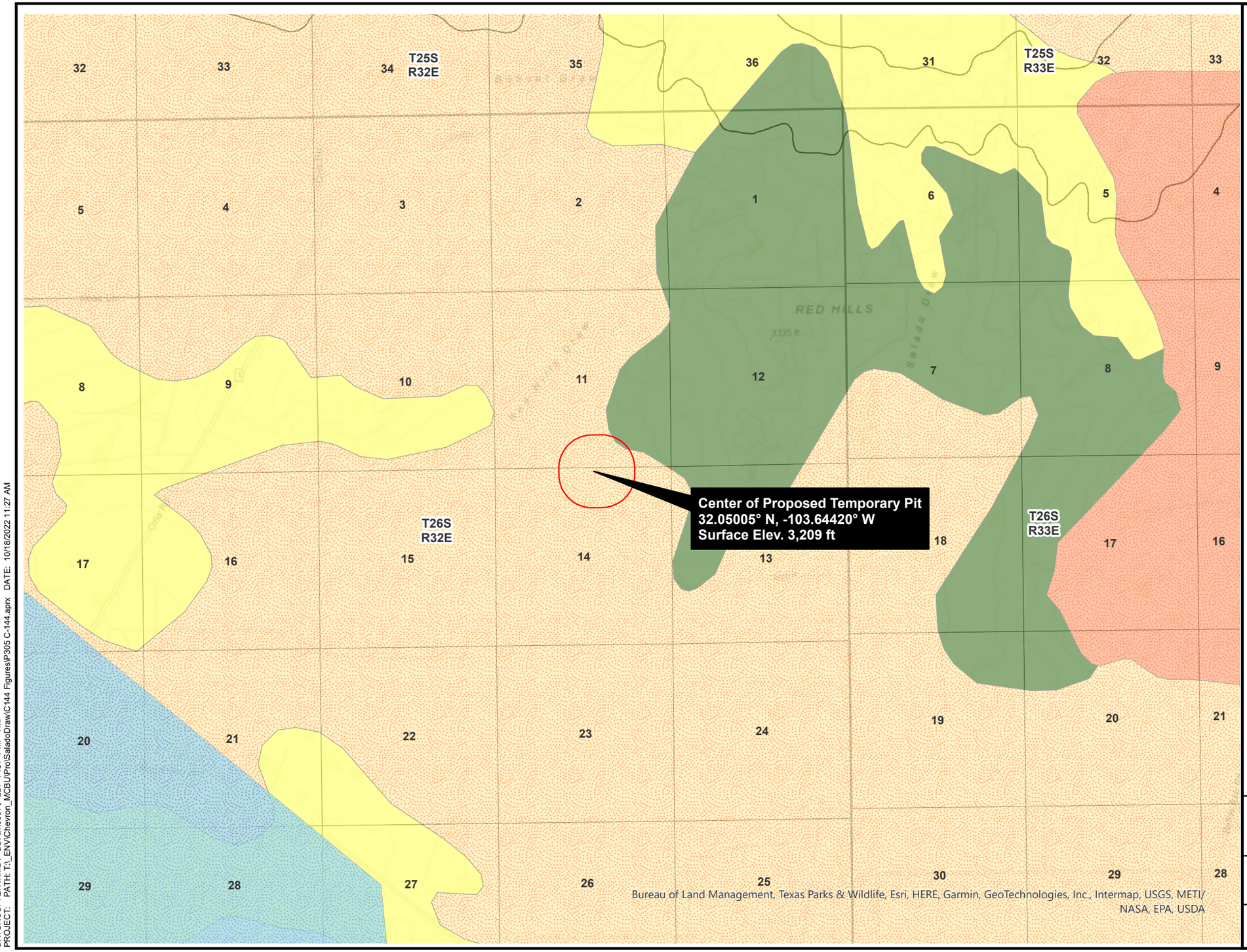
**SALADO DRAW P305 -
PROPOSED TEMPORARY RESERVE PIT**

KARST POTENTIAL

ARCADIS

FIGURE
8

DIV/GROUP: ENV/MDV DR: avl/00976 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\SaladoDraw\C144 Figures\P305 C-144.aprx DATE: 10/18/2022 11:27 AM



LEGEND

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

Aquifer

- Pecos River Basin Alluvial

Geology

- @cu
- Qe
- Qe/Qp
- Qoa
- To

Qe: Quaternary Eolian Deposits
Qp: Quaternary Piedmont Deposits

0 3,000 6,000
Feet

CHEVRON U.S.A. INC.
LEA COUNTY, NEW MEXICO

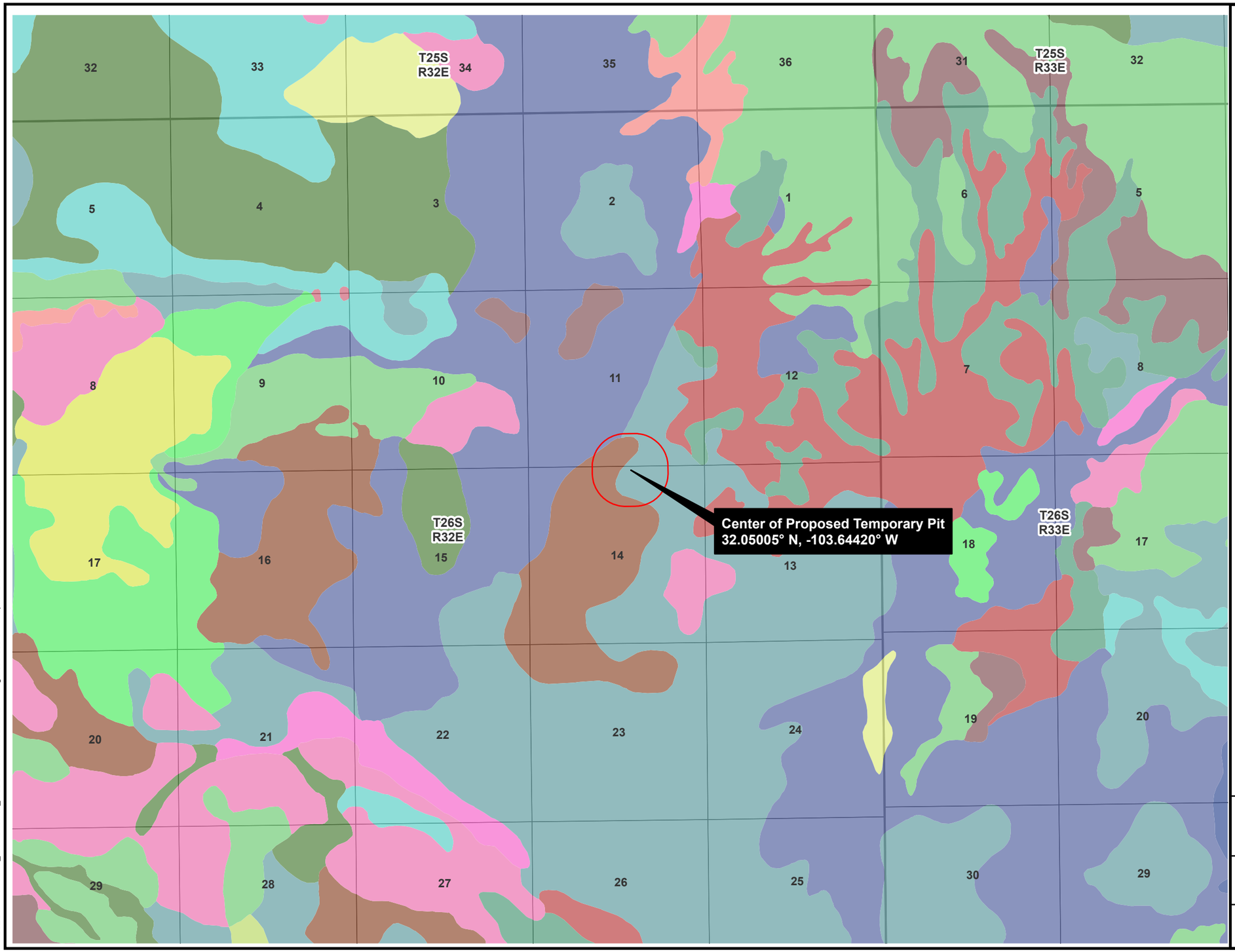
**SALADO DRAW P305 -
PROPOSED TEMPORARY RESERVE PIT**

LOCAL GEOLOGY

ARCADIS

FIGURE
9

DIV/GROUP: ENV/MDV DB: avi00976 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\SaladoDraw\C144 Figures\P305 C-144.aprx DATE: 10/18/2022 11:27 AM



LEGEND

- 1,000 ft Buffer
- Townships
- Sections

Lea County Soil Data

- BE: Berino-Cacique loamy fine sands association
- BH: Berino-Cacique association, hummocky
- CLP: Caliche pit
- KD: Kermit-Palomas fine sands, 0 to 12 percent slopes
- KO: Kimbrough gravelly loam, 0 to 3 percent slopes
- LP: Largo-Pajarito complex
- MN: Midessa and 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
- RT: Reeves-Cottonwood association
- SE: Simona fine sandy loam, 0 to 3 percent slopes
- SR: Simona-Upton association
- SY: Stony rolling land
- TF: Tonuco loamy fine sand
- WF: Wink fine sand
- WK: Wink loamy fine sand

0 3,000 6,000

Feet

CHEVRON U.S.A. INC.
LEA COUNTY, NEW MEXICO

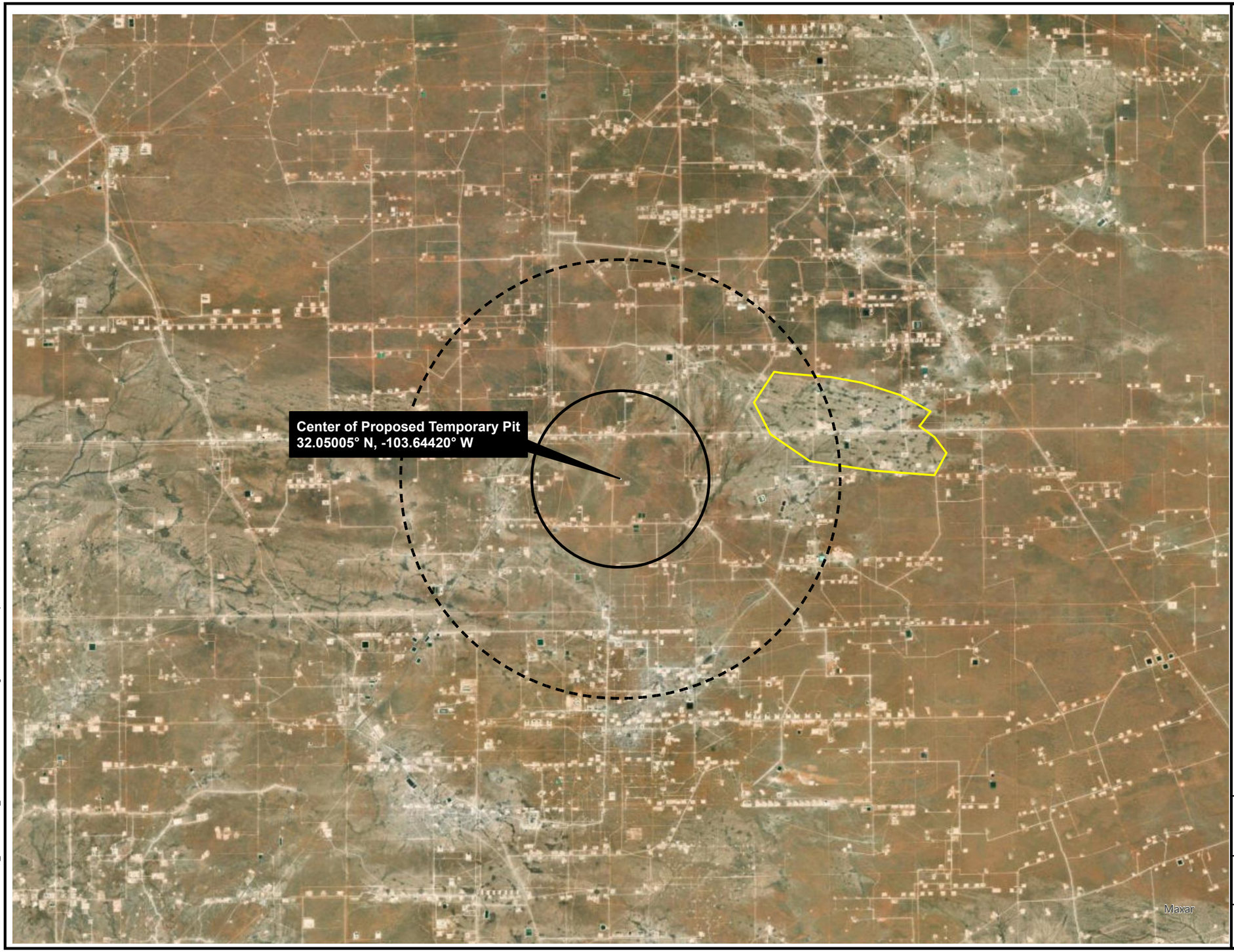
SALADO DRAW P305 - PROPOSED TEMPORARY RESERVE PIT

SOILS

ARCADIS

FIGURE **10**

DIV/GROUP: ENV/IMDV DB: avi00976 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\SaladoDraw\C144 Figures\P305 C-144.aprx DATE: 10/18/2022 11:27 AM



LEGEND

- Proposed Temporary Pit
- Area with Multiple Small Depressions
- 2 Mile Buffer
- 5 Mile Buffer

0 2 4

Miles

CHEVRON U.S.A. INC.
LEA COUNTY, NEW MEXICO

**SALADO DRAW P305 -
PROPOSED TEMPORARY RESERVE PIT**

AERIAL IMAGERY OF DISSOLUTION FEATURES

ARCADIS

FIGURE
11

DIV/GROUP: ENV/MDV DR: avi/00976 LD: PIC: PM: TM:
PROJECT: PATH: T:_ENV\Chevron_MCBU\Pro\SaladoDraw\C144 Figures\P305 C-144.aprx DATE: 10/18/2022 11:27 AM

Variance Requests

Temporary Pit containing non-low chloride fluids

SD 14 23 FED P305 Pit

Section 11, T26S, R32E and Section 24, T26S, R32E

Variance Requests
SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H)
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

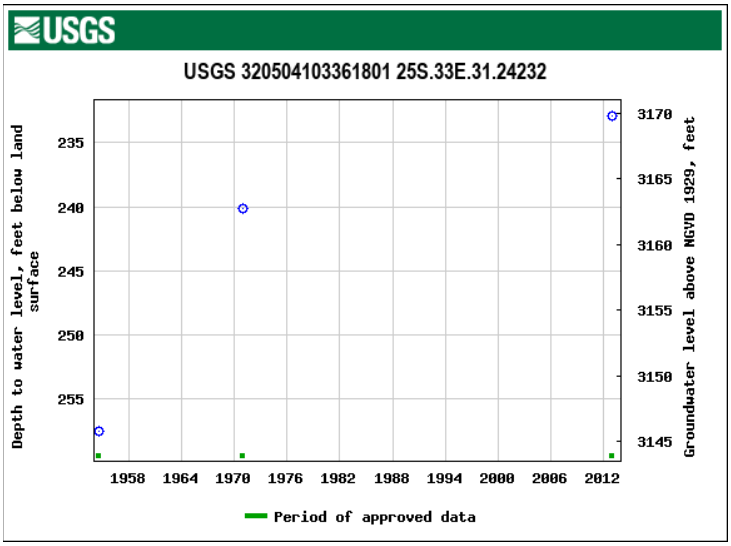
1. Testing frequency based on standard roll dimension and one batch is approximately 180,000 lbs (or one railcar).
2. Machine Direction (MD) and Cross Machine Direction (XMD or TD) average values should be on the basis of 5 specimens each direction.
3. Lowest individual and 8 out of 10 readings as per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

Appendix A

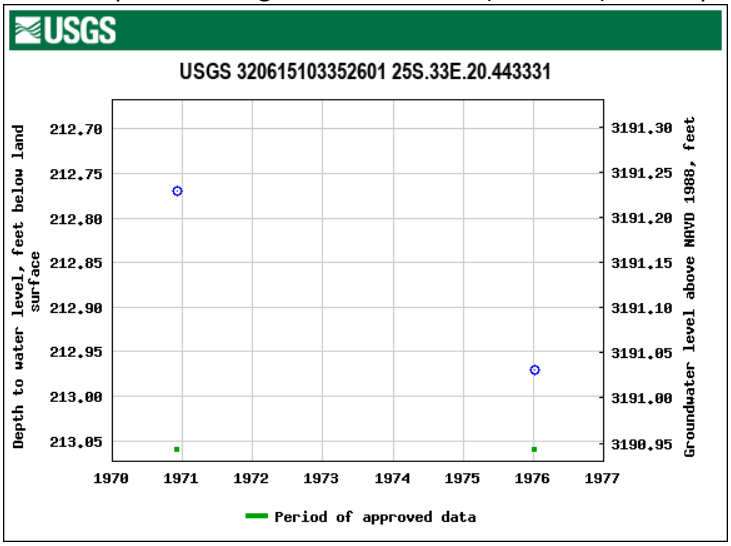
United States Geological Survey

Groundwater Data

USGS 320504103361801 25S.33E.31.24232
Lea County, New Mexico
Hydrologic Unit Code 13070001
Latitude 32°05'21.6", Longitude 103°36'12.7" NAD83
Land-surface elevation 3,403.00 feet above NGVD29
The depth of the well is 320 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Ogallala Formation (121OGLL) local aquifer.



USGS 320615103352601 25S.33E.20.443331
Lea County, New Mexico
Hydrologic Unit 13070007
Latitude 32°06'15", Longitude 103°35'26" NAD27
Well depth: not determined.
Land surface altitude: 3,404 feet above NAVD88.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Ogallala Formation" (121OGLL) local aquifer



Appendix B

New Mexico Office of the State Engineer

Water Column/Average Depth to Water Data

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

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

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

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

POD Number		POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04485 POD1		CUB	LE	4	1	1	12	26S	32E	629039	3548125	1746	55		
C 04549 POD1		CUB	LE	1	1	1	11	26S	32E	627111	3548316	1773	0	0	0
C 04547 POD1		CUB	LE	2	4	4	07	26S	33E	631686	3547262	3766	112		
C 02271	R	CUB	LE		2	3	21	26S	32E	624449	3544111*	4391	150	125	25
C 03595 POD1		CUB	LE	4	2	3	21	26S	32E	624423	3544045	4451	280	180	100
C 02271 POD2		CUB	LE	3	2	3	21	26S	32E	624348	3544010*	4532	270	250	20
C 02323		C	LE	3	2	3	21	26S	32E	624348	3544010*	4532	405	405	0
C 03537 POD1		CUB	LE	3	2	3	21	26S	32E	624250	3543985	4625	850		
C 04537 POD1		C	LE	4	4	4	31	25S	33E	631847	3550243	5225	500	280	220
C 02273		CUB	LE		1	2	21	26S	33E	634549	3545134*	6791	160	120	40
C 04209 POD1		CUB	LE	2	3	3	06	26S	32E	620903	3548619	7293	360	155	205
C 04209 POD2		C	LE	2	3	3	06	26S	32E	620818	3548657	7384	340	155	185
C 03829 POD1		CUB	LE	3	3	1	06	26S	32E	620628	3549186	7717	646	350	296
C 03554 POD1		CUB	ED	2	1	4	01	26S	31E	620547	3549148	7783	630	300	330
C 02090		C	ED		4	4	01	26S	31E	620329	3548533*	7829	350	335	15
C 04256 POD1		C	ED	4	4	2	01	26S	31E	620384	3549257	7972	666	340	326
C 02274		CUB	LE	2	1	2	31	26S	32E	621742	3541730*	7990	300	295	5

Average Depth to Water: **235 feet**

Minimum Depth: **0 feet**

Maximum Depth: **405 feet**

Record Count: 17

UTMNAD83 Radius Search (in meters):

Easting (X): 627953.97 **Northing (Y):** 3546756.49 **Radius:** 8045

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

Appendix C – Hydrogeologic Data

Temporary Pit containing non-low chloride fluids

SD 14 23 FED P305 Pit

Section 11, T26S, R32E and Section 24, T26S, R32E

Appendix C – Hydrogeologic Data
Salado Draw P305
Temporary Pit

Topography and Surface Hydrology

The location of the proposed temporary pit lies at an elevation of 3,209 ft above sea level between the Mescalero Ridge and the Pecos River in the Pecos Valley section of the Great Plains physiographic province. The general area is characterized by relatively flat to gentle southward sloping terrain dissected by two small draws that flow to the south. A low south-facing scarp, locally known as the Paduca Breaks, occurs just north of the area.

Surface water within the 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 temporary pit area, lies within the Lower Pecos River Basin. The major stream in this Basin is the Pecos River, which is located approximately 15 miles to the west of the proposed temporary pit area in southeastern Eddy County. Surface water in the Lower Pecos River Basin comes from three main sources: inflow from the Upper Pecos River Basin, flood inflow from storm events, and groundwater base inflow. The Pecos River bisects Eddy County and runs through the center of the City of Carlsbad. The Pecos River is dammed by Brantley Dam and by Avalon Dam 10 miles northwest and five miles north of Carlsbad, respectively, and by Red Bluff Dam located just across the New Mexico – Texas state line and west-southwest of the proposed temporary pit area.

Soils

The soil complex mapped within the area of the proposed temporary pit is the PU – Pyote and majamar fine sands and PY – Pyote Soils and Dune Land and is described further in the following table. A map depicting the soils mapped within the area is provided in **Figure 10**.

Soil Abbreviation and Name	Slope
PU – Pyote and majamar fine sands	0 to 5 percent
PY – Pyote Soils and Dune Land	0 to 5 percent
BH – Berino-Cacique association, hummocky	0 to 3 percent

Loamy Sand Soil Type Description

All the soils within the area of the proposed temporary pit are classified as loamy sand soils. These loamy sand soils consist of the Pyote soil types. These soils are typically moderately deep or very deep soils that consist of fine sand, fine sandy loam, or loamy fine sand surface textures. The average slope within loamy sand soils is 5 percent, but slopes generally range from 0 to 9 percent. If these soils are unprotected by plant cover, they are easily wind blown into low hummocks. These soils have moderate to moderately rapid permeability and are well drained to somewhat excessively drained. These soils support grassland vegetative communities dominated by species such as black gramma, dropseeds, and bluestems. Dominant shrub species within these soils are sand sage, shinnery oak, and mesquite. 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 2016a).

Geology

The area 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. Typically, sand and gravel occur along dry washes with silt and sand occurring in low areas. Alluvium thickness in this area appears to be approximately 100 feet. Triassic Dockum strata outcrop along Paduca Breaks. Triassic Dockum strata underlie the alluvium deposits, and its thickness appears to be approximately 400 to 500 feet. The Dockum Group has been divided into three formations: lower red shale, siltstone, and very fine-grained sandstone called the Tecovas Formation (or Pierce Canyon redbeds); middle reddish-brown and gray sandstone called the Santa Rosa sandstone; and upper brick red to maroon and purple shale with thin beds of fine red or gray sandstone and siltstone called the Chinle Formation.

- The Tecovas or Pierce Canyon redbeds (considered Permian by some geologists and sometimes correlated with the Dewey Lake redbeds) overlie the Rustler Formation. The Tecovas' thickness is approximately 350 feet and it consists of red sandy shale and fine-grained sandstones with greenish– gray inclusions.
- The Santa Rosa sandstone consists of reddish-brown and gray, medium- to coarse-grained, micaceous, well-cemented sandstone and conglomerate. The

sandstone is typically cross-bedded and is interbedded with red shale and siltstone. The thickness of the Santa Rosa sandstone generally ranges from approximately 200 to 300 feet over most of the area where it occurs.

- The Chinle Formation consists of a series of red shales and thin interbedded sandstones and appears to be about 200 feet thick in this area but can be as much as several hundred feet thick in other parts of southern Lea County.

Dewey Lake redbeds (sometimes correlated with the Tecovas Formation) underlie the Triassic Dockum and overlie the Rustler Formation. Dewey Lake is a series of red beds consisting of micaceous red siltstone, shale, and sandstone with gypsum cementation The Rustler Formation consists largely of anhydrite, gypsum, interbedded sandy clay and shale, and dolomitic limestone near the upper part of the formation. The Rustler overlies the Salado Formation and is approximately 400 feet thick in this area (Nicholson and Clebsch 1961). The Rustler typically consists of a lower clastic unit composed mainly of red and gray shale and some interbedded anhydrite and an upper anhydrite unit containing dolomitic limestone beds of varying thicknesses. Geologic units in the SDDA and nearby that contain potentially usable groundwater are the Alluvium, the Dockum Group, and possibly the Rustler Formation.

Groundwater

The area is located within the Carlsbad Groundwater Basin which encompasses approximately 2,347 square miles located in the southern region of Eddy County. This basin extends east into the southwestern corner of Lea County, south of Carlsbad to the state line and west to the Guadalupe Mountains. The Pecos River enters the basin in the northwest corner and exits the basin near the southcentral part of the basin.

Groundwater uses include agriculture; public supply for Carlsbad, Loving, and other towns; and industrial uses, including mining for potash and salt. Groundwater supplies in the Carlsbad Basin are derived from underlying sedimentary formations, including the Delaware Mountain Group, the Carlsbad and Capitan Limestones, the Castile Formation, the Rustler Formation, and the Dockum Formation, as well as shallower alluvium and terrace deposits. The primary groundwater supplies come from the Capitan and Carlsbad Limestone Reef Aquifer (Capitan Reef) and the shallow groundwater found in alluvium and terrace deposits. Irrigation wells have primarily been developed in the farming areas from Carlsbad south to Malaga, and along the Black and Delaware Rivers. Groundwater quality varies from good to poor.

Depth to Water: An analysis of publicly available data from the NMOSE and USGS and indicate that groundwater beneath the proposed location is well in excess of 100 ft:

All water wells located within 5 miles of the temporary pit were gauged at > 100 ft bgs.

- The nearest water well to the pit location is located approximately 2.60 miles to the north-northeast. Water level was measured at 233 ft bgs in 2013 (3,170 ft above NGVD29) within a USGS well. This well is completed in the Ogallala Formation and other underlying aquifer (Triassic Dockum).
- The water level in another USGS-gauged well located approximately 3.84 miles north-northeast of the pit location was 212.2 ft bgs (3,191.23) ft above NGVD29).

The well is completed in the Ogallala Formation and other underlying aquifer (Triassic Dockum).

- No other USGS database well is located within 5 miles of the temporary pit.

Water levels in 9 water wells located within 5 miles of the temporary pit were gauged by NMOSE at > 120 ft bgs.

- The nearest NMOSE water well to the pit location, which has reported water level data, is located approximately 3 miles to the southwest and is completed in the Alluvium / Ogallala and / or Triassic Dockum Formations. A water level of 180 ft bgs was reported by the NMOSE for this well.
- Three other NMOSE-gauged water wells are located in close proximity to the above well and are likely completed in the same formations. Water levels ranging from 125 ft to 405 ft bgs are reported in the NMOSE database.
- To the east-southeast, the nearest well is located approximately 4 miles away and appears to be completed in the Ogallala Formation. Water level was reported at 120 ft bgs in the NMOSE database.
- A Triassic Dockum well is located approximately 4.9 miles southwest of the temporary pit with a reported water level of 295 feet in the NMOSE database.
- To the northeast, a NMOSE-gauged well is located approximately 3.24 miles away and appears to be completed in the Triassic Dockum Formation. A water level of 280 ft bgs is reported in the NMOSE database for this well.
- A Triassic Dockum well is located approximately 4.5 miles west-northwest of the pit location. A water level of 155 feet is reported for this well in the NMOSE database.
- Another well (likely Triassic Dockum) is located approximately 4.8 miles to the west-northwest of the pit location. A water level of 350 ft bgs is reported for this well in the NMOSE database.
- Other NMOSE database wells are located within 5 miles of the temporary pit but no water level data are reported for these well.

An analysis of publicly available data from the NMOSE and USGS indicate that the depth to groundwater beneath the proposed location is in excess of 100 feet based on the closest USGS-gauged well which is approximately 2.6 miles from the proposed site. The depths to water within a 5-mile radius of the proposed site range from 120 feet (approximately 4.0 miles east-southeast of the proposed site) to 350 feet in a Triassic Dockum well located approximately 4.8 west of the proposed site.

Groundwater within 5 miles of the proposed location appears to be present in the Alluvial aquifer contained within Quaternary deposits present at surface and underlain by the Triassic Dockum Formation. In this area, the Alluvium appears to be approximately 100 feet in thickness. The Triassic Dockum formations, which underlie the Alluvium, appears to be approximately 400 to 500 feet thick. There are several water wells within 5 miles of the location based on the USGS and NMOSE data and no water wells within 1 mile of the location. Reported well yields in the NM OSE database for the water wells in the area range from 5 gallons per minute (gpm) to 18 gpm for the shallow wells (300 feet or less in depth) and 35 gpm to 58 gpm for the deeper wells.

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 is between 0 and 0.5 inches/year (Hutchison et al., 2011).

References

Arcadis. 2016. Salado Draw Development Area Environmental Field Survey. Prepared for Chevron U.S.A. Inc.

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

New Mexico Office of the State Engineer (NMOSE). 2010. New Mexico Water Rights Reporting System Water Column/Average Depth to Water Report. [Web page]. Located at http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html. Accessed: July 2022.

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

U.S. Department of Agriculture (USDA). 2013. Natural Resources Conservation Service. Soil Surveys by State available at www.nrcs.usda.gov.

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

Appendix D – Design Plan

Temporary Pit containing non-low chloride fluids

SD 14 23 FED P305 Pit

Section 11, T26S, R32E and Section 24, T26S, R32E

Appendix D – Design Plan

SD 14 23 FED P305 Pit

Temporary Pit

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

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

Welds will only be performed by qualified personnel.

- Construction will avoid excessive stress-strain on the liner by screening the subgrade for deleterious materials and rock and using geotextile where needed, utilized experienced personnel for the installation of the liner, taking care when unrolling liner material and limiting the use of any machinery that could damage the liner.

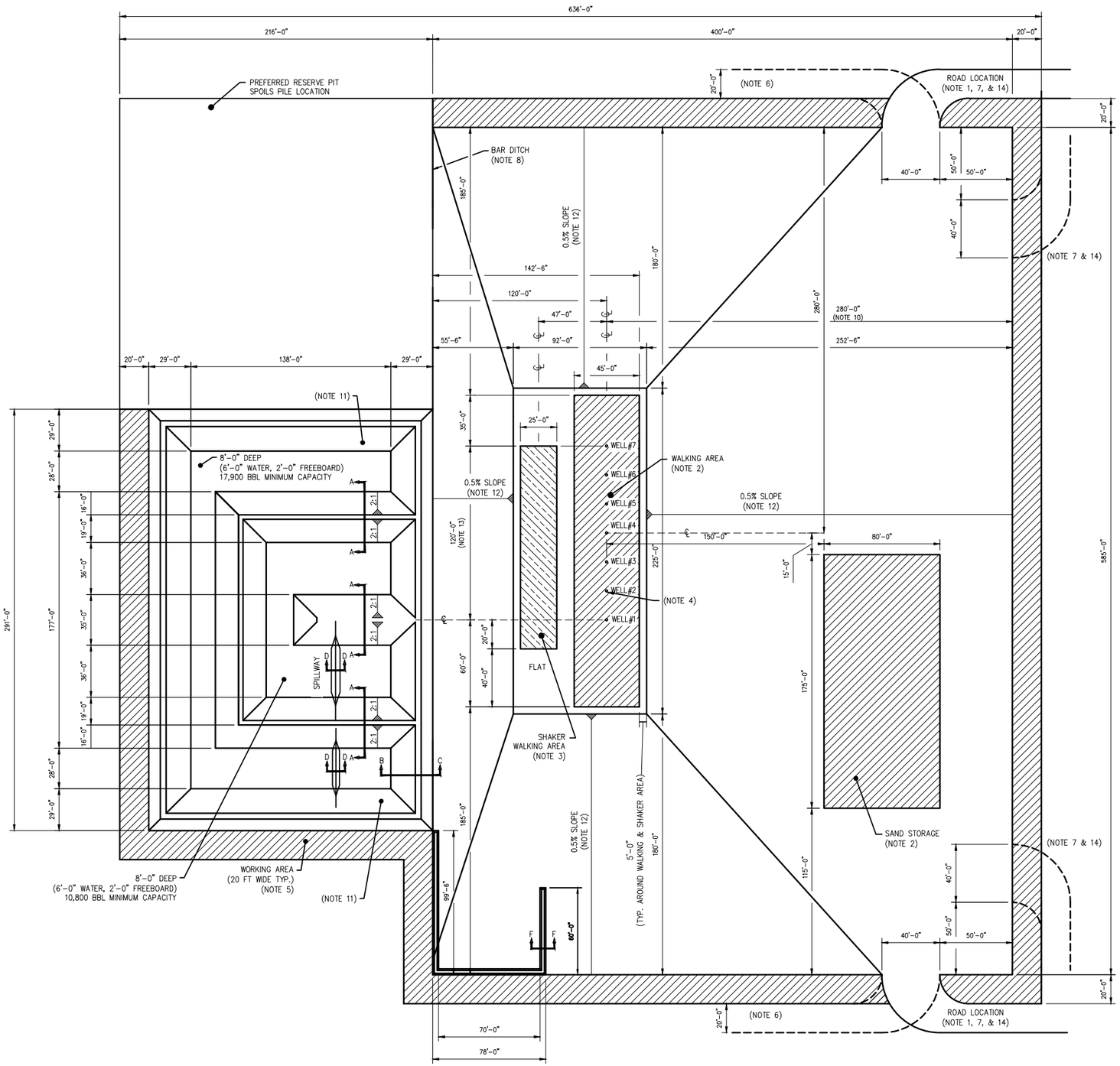
- The edged of the liner will be anchored in the bottom of a compacted earth field trench that is 18 inches deep.

- Impingement of liquids onto the liner will be prevented by use of a loose hose discharge method. The design ensures fluid enters a malleable section of hose laying on the pit berm prior to entering the pit preventing direct impingement.

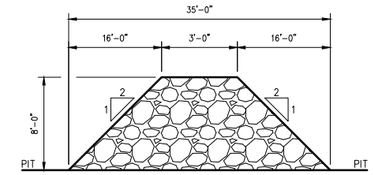
- The design includes a 4 foot berm and bar ditch around the entirety of the pit to prevent run onof surface water. The berm will be maintained from construction to closure.

- The volume of the temporary pit is 6.6 acre-ft including freeboard.

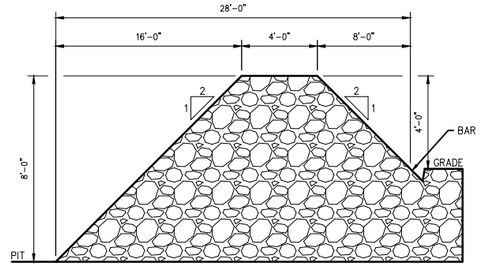
- No venting or flaring of gas will take place during the construction, use, and closure of the pit and, as such, the entirety of the pit will be lined.



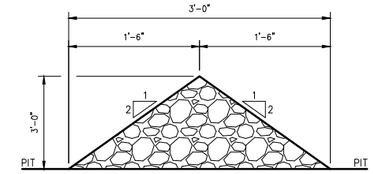
MAGNETIC NORTH



SECTION A–A
NOT TO SCALE

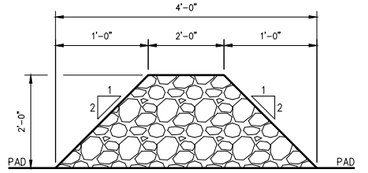


SECTION B–C
NOT TO SCALE



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. SHAKER WALKING AREA IS REQUIRED WHEN USING NABORS M800 SERIES DRILLING RIG.
4. FOR COMPLETIONS GRAVEL LOCATIONS, SEE DWG. FACTSTD–COMGRVL–CIV–PVD–MCB–0001–01.
5. SHADED WORKING AREA IS NOT A PART OF THE PERMITTED PAD. PERMITTED PAD AREA IS 515 FT X 400 FT FOR A 3 WELL PAD.
6. ROAD CAN COME FROM EITHER THE NORTH OR SOUTH DIRECTION DEPENDING ON LEASE ORIENTATION.
7. 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.
8. 1FT. X 1FT. BAR DITCHING TO BE PROVIDED BETWEEN PAD AND RESERVE PIT, DITCH WILL BE FILLED WITH 1" CLEAN ROCK.
9. 6 LOADS OF ROCK FOR DRILLING TRAILERS & DITCH COM ROCK DROPPED IN NEW CORNER.
10. DIMENSION SOUTH OF THE WELLS CAN BE REDUCED TO 260' IF BASIS OF DESIGN IS CONVENTIONAL FRAC OPERATIONS.
11. PAINT 8' LONG PIT LEVEL MARKERS EVERY 2' FROM THE BOTTOM LABEL BY THE LENGTH OF THE INCLINE FROM THE BOTTOM OF THE PIT.
12. PREDOMINANT DRAINING DIRECTION TO BE FIELD–DETERMINED BASED ON LOCAL TOPOGRAPHY.
13. FOR THE 7–WELL PAD, DISTANCE IN BETWEEN WELLS IS 20'–0".
14. CROSS SECTIONAL PLANE OF ROAD ENTRANCES TO PAD TO HAVE MAXIMUM SLOPING OF 0.5% (E.G. NO MORE THAN 2.4" OF ELEVATION DROP ALONG THE WIDTH OF A 40FT ENTRANCE.)



SECTION F–F
NOT TO SCALE

80' 40' 0' 20' 40' 60' 80'

SCALE: 1"=40'

SHEET CIV014

REVISIONS

0	APPROVED FOR CONSTRUCTION BASIN DESIGN, DRF 21103 CSD 04/05/21	EV	CKHT	△			△	
1	APPROVED FOR CONSTRUCTION BASIN DESIGN, DRF 21252 EV 08/31/21	EB	UGOS	△			△	
△				△			△	

AFC
APPROVED FOR CONSTRUCTION

Chevron U.S.A. Inc.

FACTORY STANDARD DRAWINGS
PROJECT DESCRIPTION – COUNTY, STATE

CIVIL – FACTORY STANDARD 7 WELL PAD PLAN – OPEN LOOP

DR. JLH
ENG. KVPY

FACTSTD-7WPADOPN-CIV-PVD-MCB-0001-01

1

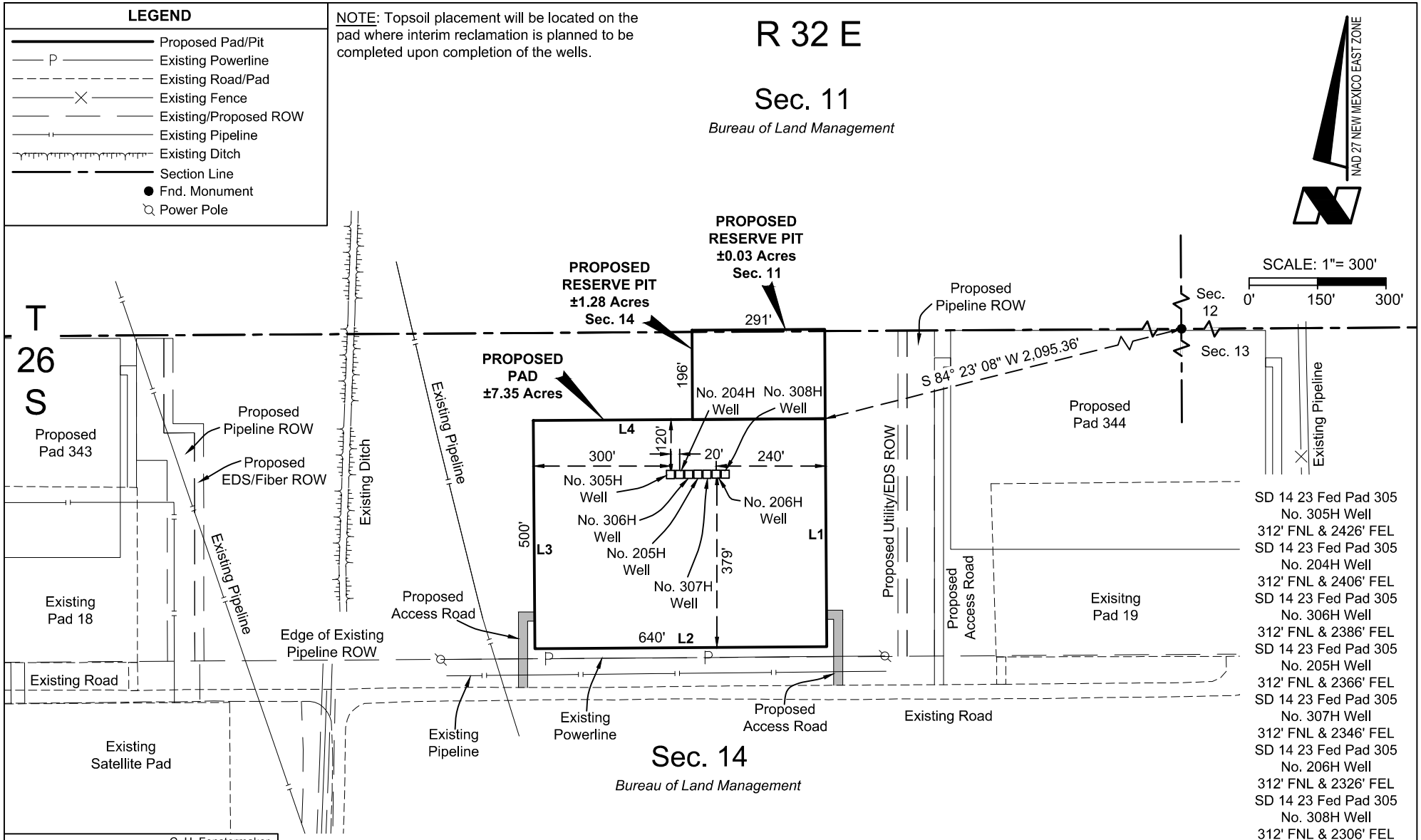
ALTERNATE DWG NUMBER API NUMBER LEASE NUMBER *

PLOT DATE: 08/31/2021, FILE NAME: 2020–PADSWELLS–MECH–CIV–PVD–MCB–0002–14

LEGEND

- Proposed Pad/Pit
- Existing Powerline
- Existing Road/Pad
- Existing Fence
- Existing/Proposed ROW
- Existing Pipeline
- Existing Ditch
- Section Line
- Fnd. Monument
- Power Pole

NOTE: Topsoil placement will be located on the pad where interim reclamation is planned to be completed upon completion of the wells.



SD 14 23 Fed Pad 305
No. 305H Well
312' FNL & 2426' FEL
SD 14 23 Fed Pad 305
No. 204H Well
312' FNL & 2406' FEL
SD 14 23 Fed Pad 305
No. 306H Well
312' FNL & 2386' FEL
SD 14 23 Fed Pad 305
No. 205H Well
312' FNL & 2366' FEL
SD 14 23 Fed Pad 305
No. 307H Well
312' FNL & 2346' FEL
SD 14 23 Fed Pad 305
No. 206H Well
312' FNL & 2326' FEL
SD 14 23 Fed Pad 305
No. 308H Well
312' FNL & 2306' FEL

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

REVISIONS	
05/19/2022 RMB	Switched SHLs order

DRAWN BY: RMB	PROJ. MGR.: VHV
DATE: 02/22/2022	
JOB#: 2224500.00	SHEET 1 OF 2

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

Robert L. Lastrapes
Professional Surveyor
Registration No. 23006

ROBERT L. LASTRAPES NEW MEXICO 23006 PROFESSIONAL SURVEYOR 06/09/2022

PAD PLAT
SALADO DRAW PAD 305
CHEVRON U.S.A. INC.
PROPOSED PAD & PIT
SITUATED IN
SECTIONS 11 & 14, T26S-R32E
LEA COUNTY, NEW MEXICO

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

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

NOTE:
Topsoil placement will be located on the pad where interim reclamation is planned to be completed upon completion of the wells.

NW RESERVE PIT CORNER
X = 713,513' (NAD27 NM E)
Y = 382,666'
LAT. 32.050191° N (NAD27)
LONG. 103.644203° W
X = 754,700' (NAD83/2011 NM E)
Y = 382,724'
LAT. 32.050316° N (NAD83/2011)
LONG. 103.644673° W
ELEV. +3209' (NAVD88)

NE RESERVE PIT CORNER
X = 713,804' (NAD27 NM E)
Y = 382,668'
LAT. 32.050192° N (NAD27)
LONG. 103.643264° W
X = 754,991' (NAD83/2011 NM E)
Y = 382,725'
LAT. 32.050317° N (NAD83/2011)
LONG. 103.643734° W
ELEV. +3212' (NAVD88)

NW PAD CORNER
X = 713,165' (NAD27 NM E)
Y = 382,468'
LAT. 32.049653° N (NAD27)
LONG. 103.645329° W
X = 754,352' (NAD83/2011 NM E)
Y = 382,525'
LAT. 32.049777° N (NAD83/2011)
LONG. 103.645799° W
ELEV. +3205' (NAVD88)

NE PAD CORNER
X = 713,805' (NAD27 NM E)
Y = 382,472'
LAT. 32.049653° N (NAD27)
LONG. 103.643264° W
X = 754,992' (NAD83/2011 NM E)
Y = 382,529'
LAT. 32.049778° N (NAD83/2011)
LONG. 103.643734° W
ELEV. +3210' (NAVD88)

SW RESERVE PIT CORNER
X = 713,514' (NAD27 NM E)
Y = 382,470'
LAT. 32.049653° N (NAD27)
LONG. 103.644203° W
X = 754,701' (NAD83/2011 NM E)
Y = 382,528'
LAT. 32.049778° N (NAD83/2011)
LONG. 103.644673° W
ELEV. +3207' (NAVD88)

SE RESERVE PIT CORNER
X = 713,805' (NAD27 NM E)
Y = 382,472'
LAT. 32.049653° N (NAD27)
LONG. 103.643264° W
X = 754,992' (NAD83/2011 NM E)
Y = 382,529'
LAT. 32.049778° N (NAD83/2011)
LONG. 103.643734° W
ELEV. +3210' (NAVD88)

SW PAD CORNER
X = 713,168' (NAD27 NM E)
Y = 381,968'
LAT. 32.048278° N (NAD27)
LONG. 103.645329° W
X = 754,355' (NAD83/2011 NM E)
Y = 382,025'
LAT. 32.048403° N (NAD83/2011)
LONG. 103.645799° W
ELEV. +3201' (NAVD88)

SE PAD CORNER
X = 713,808' (NAD27 NM E)
Y = 381,972'
LAT. 32.048278° N (NAD27)
LONG. 103.643263° W
X = 754,995' (NAD83/2011 NM E)
Y = 382,029'
LAT. 32.048403° N (NAD83/2011)
LONG. 103.643733° W
ELEV. +3208' (NAVD88)

PROPOSED PAD		
Line	**Bearing**	**Distance**
L1	S 00° 22' 31" E	500.00'
L2	S 89° 37' 29" W	640.00'
L3	N 00° 22' 31" W	500.00'
L4	N 89° 37' 29" E	640.00'

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

REVISIONS	
05/19/2022 RMB	Switched SHLs order

DRAWN BY: RMB	PROJ. MGR.: VHV
DATE: 02/22/2022	
JOB#: 2224500.00	SHEET 2 OF 2

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

Robert L. Lastrapes
Professional Surveyor
Registration No. 23006

ROBERT L. LASTRAPES
NEW MEXICO
23006
06/09/2022
PROFESSIONAL SURVEYOR

PAD PLAT
SALADO DRAW PAD 305
CHEVRON U.S.A. INC.
PROPOSED PAD & PIT
SITUATED IN
SECTIONS 11 & 14, T26S-R32E
LEA COUNTY, NEW MEXICO

Appendix E – Operating and Maintenance Plan

Temporary Pit containing non-low chloride fluids

SD 14 23 FED P305 Pit

Section 11, T26S, R32E and Section 24, T26S, R32E

Appendix E – Operating and Maintenance Plan
SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H)
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

SD 14 23 FED P305 Pit

Section 11, T26S, R32E and Section 24, T26S, R32E

Appendix F – Closure Plan
SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H)
Temporary Pit

Discussion of Onsite Cuttings Disposal

The proposed Temporary Pit will contain drill cuttings from the vertical sections of wells 305H, 204H, 306H, 205H, 307H, 206H, and 308H. 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

SD 14 23 FED P305 Pit

Section 11, T26S, R32E and Section 24, T26S, R32E

Appendix G – Evaluation of Unstable Conditions
Salado Draw P305
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 cave 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 “Medium” karst area.

The proposed Temporary Pit lies near the northeast margin of the Delaware Basin. Bedrock cropping out beneath the proposed temporary pit 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) 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 pit area is approximately 1,000 feet below the land surface (Crowl et al. 2011). 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 approximately 3-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 approximately 1 mile-away did not indicate karst potential and no groundwater was encountered (**Attachment 2**).
4. The Bureau of Land Management, Carlsbad Field Office prepared the Categorical Exclusion (CX), document number - DOI-BLM-NM-2021-1125-CX, evaluating Chevron’s Salado Draw P415 in Section 24. This CX did not identify karst as an issue (**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 145-miles to the east (**USGS 2022)**.

Dissolution Features Evident on Aerial Imagery

The nearest apparent dissolution features to the proposed location are:

- ~13 miles southeast of the proposed pit location is an area with small (<500-feet in diameter) depressions.
- Bell Lake Sink and three other unnamed sinks, each ~2-miles in diameter, are present approximately 8-miles east of the proposed location.
- San Ramon Sink are present ~15-miles northeast of the proposed location.

Depth to Karst-Forming rocks

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

Surface to ~1,000-feet: Based on a review of available literature for the region, no significant intervals of soluble rocks are present in the Quaternary and Triassic deposits that constitute the upper ~1,000-feet of subsurface. Because this material is largely insoluble, the potential for karst features to form within this interval is very low (Lucas and Anderson, 1993). Deeper formations at >1,000-feet: The top of the Rustler Formation is approximately 400 feet thick beneath the surface at the location of the proposed pit (Nicholson and Clebsch 1961. The Rustler Formation overlies the Salado Formation. These formations both contain thick, highly soluble beds of anhydrite and halite. The Bell Lake Sink, San Simon Swale, and San Simon Sink formed by the dissolution of salt from these deep formations. The resulting surface subsidence (as a result of deep dissolution) is a very slow process that has been ongoing for millions of years to form these large depressions (Bachman, 1973 and Berg, 2012).

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

*Figure G.1: Stratigraphic section beneath the location of the proposed temporary pit (*Nicholson and Clebsch 1961 as cited in Arcadis 2016*)*

Arcadis Environmental Field Survey

An environmental field survey was conducted by Arcadis in 2016 in the area surrounding the location of the proposed pit (**Attachment 1**). The on-site survey did not identify any closed depressions, caves, or fissures.

TetraTech Geotechnical Reports and Boring Logs

The geotechnical report from 2016 for two recycle water storage ponds were reviewed (**Attachment 2**). The recycle water storage ponds are located in the section directly to the south of the proposed pit location and in an almost identical geomorphological and geological setting as the proposed pit location. The five borings were drilled from 25 feet to 80 feet below ground surface. Water was not encountered in any of the borings during or immediately after drilling. All borings encountered silty to calyey sand, clayey gravel, and low plasticity clay.

- Salado Draw Recycle Water Storage Ponds Site

  - Section directly east of proposed pit location
  - Borings B1 was drilled to 80 ft
  - Boring B2 – B5 were drilled to 25 ft
  - Loose to very dense sand with varying contents of silt and clay.
  - Groundwater was not encountered at the time of drilling and borings were dry 24 hours after drilling.

Mitigation of Karst Potential

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

<u>General Construction</u>:

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

<u>Pad Construction</u>:

•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

Arcadis 2016. Salado Draw Development Area. Final Environmental Field Survey Report. Prepared for Chevron U.S.A., Inc.

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

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

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

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

U.S. Geological Survey and New Mexico Bureau of Mines and Mineral Resources (2022), Quaternary fault and fold database for the United States, accessed July 5, 2022, at: https://www.usgs.gov/natural-hazards/earthquake-hazards/faults.

Attachments 1 - 3

Temporary Pit containing non-low chloride fluids

SD 14 23 FED P305 Pit

Section 11, T26S, R32E and Section 24, T26S, R32E

Attachment 1
Arcadis Environmental Field Survey, Section 24, Karst Evaluation, Salado Draw (2022)

Attachment 2
Tetra Tech Geotechnical Study Report, Salado Draw, Section 13 Water Recycling Ponds (2016)

Attachment 3
DOI-BLM-NM-P020-2021-1125-CX (2022)

Attachments 1 – Arcadis Environmental Field Survey, Section 24, Karst Evaluation, Salado Draw (2022)

Temporary Pit containing non-low chloride fluids

SD 14 23 FED P305 Pit

Section 11, T26S, R32E and Section 24, T26S, R32E

ARCADIS Design & Consultancy for natural and built assets

Chevron U.S.A. Inc.

ENVIRONMENTAL FIELD SURVEY

Salado Draw Development Area

March 2022

ENVIRONMENTAL FIELD SURVEY

Salado Draw Development Area

Prepared for:
Tony Vallejo
Sr. Workforce Safety and Environmental Specialist - Factory
Chevron MCBU
6301 Deauville Boulevard
Midland, Texas 79706

Prepared by:
Arcadis U.S., Inc.
1004 North Big Spring Street
Suite 300
Midland
Texas 79701
Tel 432 687 5400
Fax 432 687 5401

Our Ref.:

30119683

Date:
March 2022

9.1 Survey Findings and Mitigation

A specific paleontological survey of the proposed project area was not conducted; however, no fossils were incidentally observed during the environmental field survey. If at any time fossils are discovered, all activities must stop and the BLM must be contacted within 24 hours.

10 KARST

The term karst describes distinct terranes that are attributable to the 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 dissolution processes have enhanced its permeability. 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 cropping out 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 1,000 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 area. Bell Lake Sink and three other unnamed sinks, each about two miles in diameter, occur approximately 15 miles north of the project area (Berg 2012). San Simon Swale, an approximately 18-mile long by 6-mile wide closed depression that terminates at San Simon Sink is located approximately 20 miles northeast 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 Swale 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). U.S. Geological Survey (USGS) topographic mapping of the area identifies a region encompassing approximately 10 square miles that is pockmarked with smaller closed depressions, typically 500 feet or less in diameter. This region lies about five miles northeast of the survey area. Arcadis found no information in the available geologic literature regarding the genesis of these depressions. Our review of topographic maps and Google Earth imagery for the survey area itself did not identify any closed depressions.

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 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 1,000 feet of insoluble rocks. 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 “medium” in the survey area (**Figure 10**). This is presumably due to the presence of large depressions in the region as described above. No closed depressions, caves, or fissures were identified during the environmental field survey. Based on our review of available geologic literature for the region, no significant beds of soluble rocks have been mapped in the Dockum Group. In the unlikely event that a void occurs during construction activities, all activities must stop immediately and the BLM should then be contacted within 24 hours to devise the best management plan to protect karst and human safety.

11 HYDROLOGY

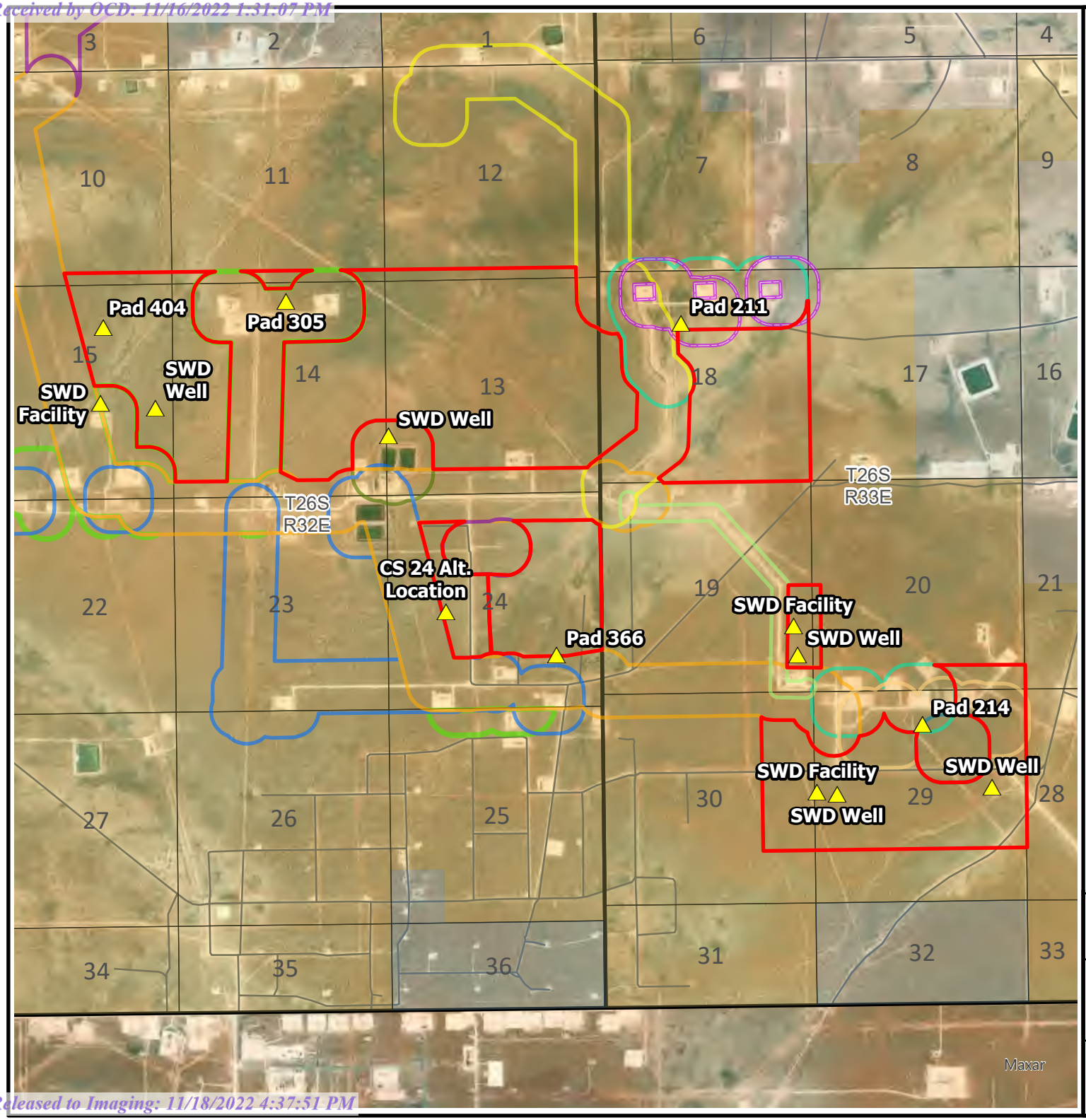
Potential impacts to surface water resources in the survey area due the construction and operation of in the SDDA were evaluated by comparing the location of these features (ponds, streams, wetlands, etc.) identified during the survey to the proposed surface disturbance. The analysis is based on the examination of the 1988 Carlsbad BLM RMP and evaluation of data compared to the environmental field survey.

11.1 Surface Hydrology

The survey area is located in the Lower Pecos-Red Bluff Reservoir watershed (hydrologic unit code [HUC] 13070001) (USEPA 2019b). The main hydrologic features within the survey area are Red Hills Draw, Salado Draw, and their tributaries that generally flow to the south and southwest (**Figure 11**) from the Paduca Breaks scarp located north of the survey area (USGS 2017a, USGS 2018). Hydrology in the arid west region is dominated by temporary ponds, salt lakes, and ephemeral streams. Drainage basins are often lacking outlets, and while major streams do flow through the area, their headwaters are often outside the region (Environmental Laboratory 2008).

Surface water within the proposed project 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 survey area, lies within the Lower Pecos River Basin. The major stream in this basin is the Pecos River, which is located approximately 15 miles to the west of the SDDA in southeastern Eddy County. Surface water in the Lower Pecos River Basin comes from three main sources: inflow from the Upper Pecos River Basin, flood inflow from storm events, and groundwater base inflow. The Pecos River bisects Eddy County and runs through the center of the City of Carlsbad. The Pecos River is dammed by Brantley Dam and by Avalon Dam 10 miles northwest and five miles north of Carlsbad, respectively, and by Red Bluff Dam located just across the New Mexico – Texas state line and west-southwest of the SDDA.



LEGEND

- Proposed Pads
- Survey Area: Pads 211, 305, 404, CS24, Sec29, Sec13/14, SWD Well

PREVIOUS SURVEYS

- March 2020: Pads 363-364
- March 2020: Pad 341
- 2020 Scheer's Beehive cactus survey - Pads 345, 346, 18
- August 2019: Salado Draw - Cotton Draw ROW
- March 2019: Madeline SWD
- November 2018: Porter Brown Loop Survey Area
- September 2017: Residue Line ROW
- June 2017: Pads 10-15
- June 2016
- June 2016: Frac Pond
- Survey Area: Pads 16-21
- Sections
- Townships
- Lea County Roads

SURFACE OWNERSHIP

- Bureau of Land Management
- Private
- State

0 3,000 6,000

Feet

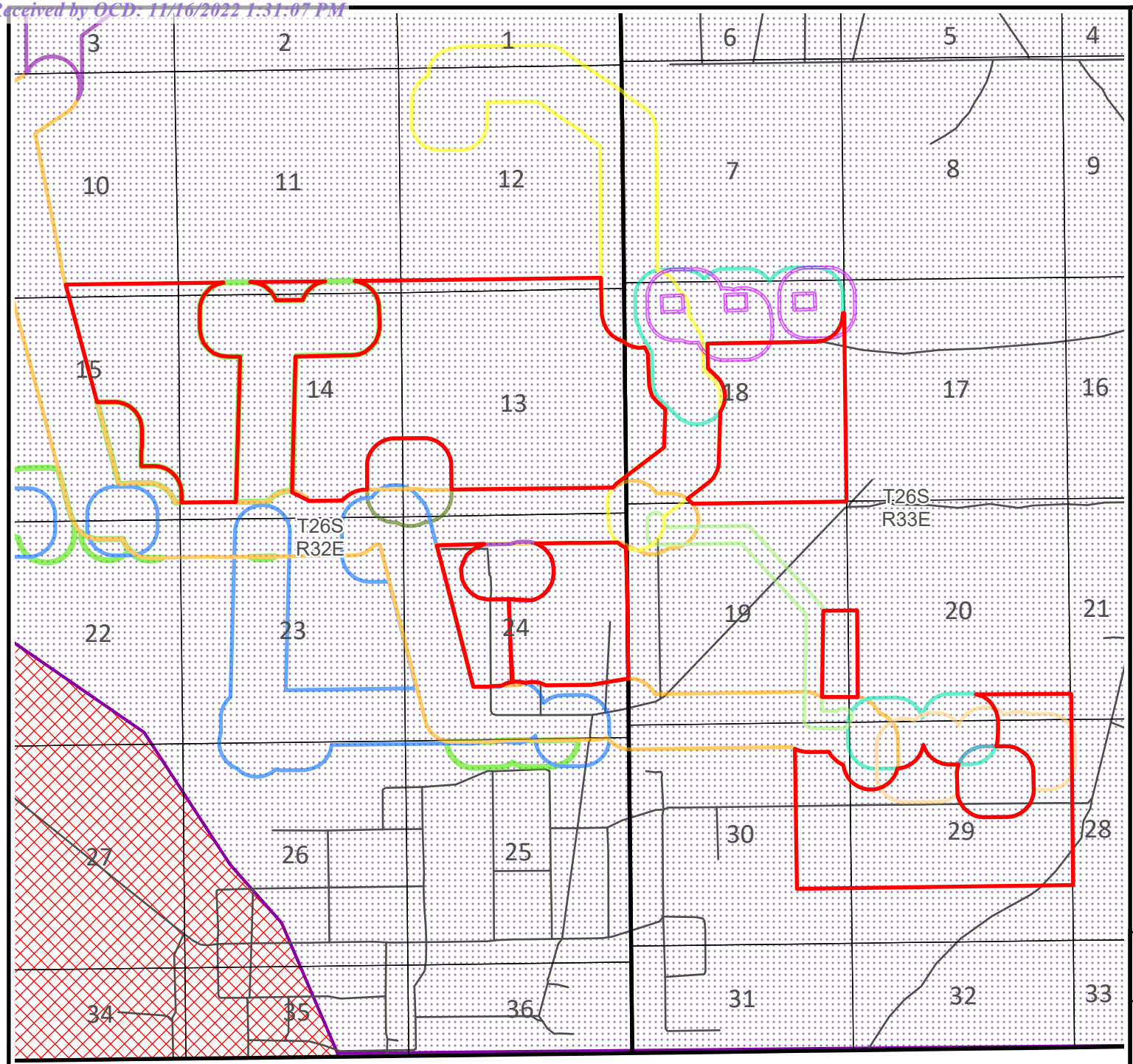
CHEVRON U.S.A. INC.
ENVIRONMENTAL FIELD SURVEYS
SALADO DRAW DEVELOPMENT AREA
LEA COUNTY, NEW MEXICO

ENVIRONMENTAL FIELD SURVEY AREA

ARCADIS

FIGURE 2

Path: T:_ENV\Chevron_MCBU\Pro\SaladoDraw\APRX\Salado_Draw_EFS_figures2022.aprx, Date Saved: 2/18/2022 3:59 PM



LEGEND

- Survey Area: Pads 211, 305, 404, CS24, Sec29, Sec13/14, SWD Well

PREVIOUS SURVEYS

- March 2020: Pads 363-364
- March 2020: Pad 341
- 2020 Scheer's Beehive cactus survey - Pads 345, 346, 18
- March 2019: Madeline SWD
- August 2019: Salado Draw - Cotton Draw ROW
- November 2018: Porter Brown Loop Survey Area
- September 2017: Residue Line ROW
- June 2017: Pads 10-15
- June 2016
- June 2016: Frac Pond
- Survey Area: Pads 16-21
- Townships
- Sections
- Lea County Roads
- High Potential Karst
- Medium Potential Karst

Data Source Citation:
BLM CFO. 2018. Karst Potential Unsurveyed GIS Data.

0 3,000 6,000
Feet

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

KARST POTENTIAL ZONES

ARCADIS

FIGURE
10

Path: T:_ENV\Chevron_MCBU\Pro\SaladoDraw\APRX\Salado_Draw_EFS_figures2022.aprx, Date Saved: 2/18/2022 4:39 PM

PERSONNEL RESUME

CHARLES G. HOLDER
BIOLOGIST

EDUCATION
BS Wildlife & Fisheries Science 2014
Texas A&M University

YEARS OF EXPERIENCE
Total – 6
With Arcadis – 3

CERTIFICATIONS
40-Hour HAZWOPER
OSHA 10 Hour Construction
eRail Safety Training
Roadway Worker Protection
H2S Safe Awareness
ACOE 38 Hour Wetland Delineation
Optical Gas Imaging
DOT/IATA Hazardous Materials and Shipping Training
Chevron 101

Mr Holder is a wildlife biologist with prior experience in university research, wind energy, and nuisance wildlife removal. As a university researcher, he has experience with trapping, banding, and radio collaring birds, as well as using radio telemetry to track birds. He has experience in pre-construction projects, surveying potential turbine sites for nests and raptor activity, and mortality monitoring on post construction wind farms, as well as acting as the bias corrections coordinator on the project. He also has experience trapping wildlife in residential settings.

Project Experience

Environmental Compliance During Wildfire Cleanup
CalRecycle, Southern Branch, California

Acted as Environmental Unit Lead for the field biologists during private property debris clean up and hazard tree removal in five California counties. Coordinated joint work between archaeologists, arborists and biologist assessing watercourses, identifying active nests, surveying for sensitive terrestrial, aquatic, and plant species during both debris removal and hazard tree removal stages of the clean-up. Worked with and reported to State and Federal regulatory agencies.

Desert Tortoise Biomonitoring
Confidential Client, Clark and Lincoln County Nevada

Performed biomonitoring for Desert Tortoise during construction on a natural gas pipeline project. Conducted daily fence sweeps and tortoise surveys and ensured construction crews adhered to safe working practices. Approximately 450 hours between fence checks and surveys. Four different tortoises found multiple times during surveys.

Desktop Due Diligence
Confidential Client, California

Performed desktop due diligence and identified potential wetlands and Waters of the United States that would need to surveyed for the client's upcoming construction work.

Field Surveys for Railroad Construction and Development
Confidential Client, Yuba County, California

Project Experience Continued

Conducted multiple biological field surveys identifying any potential birds nests, including raptors, protected wildlife species, and any large locally protected trees along proposed access routes and construction areas along the railroad right of way.

Wetland Delineation

Confidential Client, Yuba County, California

Performed wetland delineations along potential railroad bridge replacement sites following Army Corps of Engineers protocol and the Arid West regional supplement. Wetlands were found adjacent to streams, as well as isolated along proposed access routes

Field Surveys for Oil and Gas Development Production Expansion

Confidential Client, Lea and Eddy County, New Mexico

Conducted multiple field surveys for proposed oil and gas development projects in Lea and Eddy County New Mexico. Documented wildlife, vegetation, hydrology, and multiple other applicable resources to assist in identification of potential design constraints and to support the National Environmental Policy Act documentation.

Barn Owl Nest Monitoring

Confidential Client, Eddy County, New Mexico

Monitored an active barn owl nest during construction. Worked with the construction crew to modify working practices in an effort to prevent the female from abandoning the nest. Construction occurred extremely close to the nest, but the project was ultimately successful.

Scheer's Beehive Cactus Survey

Confidential Client, Eddy County, New Mexico

Assisted with 9 surveys for the Bureau of Land Management special status plant, Scheer's Beehive Cactus. During the survey on October 24-25, 2018, Four Scheer's Beehive Cactus were documented, and one Nipple Beehive Cactus was found. The survey conducted March 11-12, 2020 had one Scheer's Beehive Cactus documented. Additional surveys have observed multiple look alike species, but no Scheer's Beehive Cactus.

Gypsum Milkvetch Survey

Confidential Client, Eddy County, New Mexico

Assisted with 4 surveys for the Bureau of Land Management special status plant, Gypsum Milkvetch. No Gypsum Milkvetch were found during the surveys.

Wright's Waterwillow Survey

Confidential Client, Eddy County, New Mexico

Assisted with two surveys for the Bureau of Land Management special status plant, Wright's waterwillow. No Wright's waterwillow were found during the surveys.

Delineations, Determinations, Habitat Surveys

Texas and New Mexico

Project Experience Continued

Performed Arid West waters of the United States (WOTUS) and Arid West ordinary high-water mark delineations and preliminary jurisdictional determinations in support of siting oil and gas infrastructure for oil and gas developments in the Permian Basin. Additional responsibilities included permitting coordination, and GIS mapping.

Pre-construction Nest Clearance

Confidential Client 2019-2020.

Conducted pre-construction nest clearing surveys for oil and gas development in Eddy and Lea counties NM. Nests were found systematically walking transects, the nests were identified as active or inactive, and all inactive nests were removed to discourage nesting activity prior to construction. Active nests and all raptor's nests were monitored on a weekly basis until construction was complete.

Hayhurst Geophysical Investigation

Confidential Client 2019.

Assisted in geophysical surveys by helping set up Electrical Resistivity Imaging (ERI) lines in order to determine the location of bedrock fracture zones and/or delineating tunnels and cavernous zones.

Attwater's Prairie Chicken Nutrition Study

Texas A&M University.

Conducted a study on radioactive isotopes in the Attwater's Prairie Chicken diet. Gathered plan and insect samples in the field, and processed samples for isotope analysis using a ball-and-cup grinder.

Pre-construction Pad Surveys

Tetra Tech Inc. 2017.

Conducted pre-construction transmission line and turbine pad surveys for a windfarm project. Assisted biologist in identifying bird nests in the path of construction equipment, as well as monitor raptor nests when construction equipment is in vicinity.

Post-construction Mortality Surveys

Tetra Tech Inc. 2016-2017.

As Field Crew leader, conducted post construction bird and bat mortality monitoring surveys on a newly constructed wind farm in Texas. Also acted as "Bias-corrections Coordinator" and conducted searcher efficiency trials as well as carcass persistence trials.
Multiple Studies on the Decline of Quail Populations

Multiple Studies

Texas Tech University, Wildlife Toxicology Laboratory. 2015.

Conducted field research for multiple studies on the decline of quail populations. Responsible for animal-friendly trapping, handling, and tracking of birds. Performed sage and accurate dissections both in the field and lab.

Project Experience Continued

Multiple Studies

Texas Tech University, Wildlife Toxicology Laboratory. 2015.

- Study of Survival Rates and Female Nest Success using Radio Telemetry
- Study of Eye Worms and Caecal Worms in Hunter-harvested Quail
- Study of Eye Worms and Caecal Worms in Grasshoppers

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, Salado Draw, Section 13 Water Recycling Ponds (2016)

Temporary Pit containing non-low chloride fluids

SD 14 23 FED P305 Pit

Section 11, T26S, R32E and Section 24, T26S, R32E

TETRA TECH

Report of Geotechnical Study
Salado Draw, Section 13 - Water Recycling Ponds

Lea County, New Mexico

November 29, 2016

complex world CLEAR SOLUTIONS™

Report of Geotechnical Study Proposed Salado Draw, Section 13 – Water Recycling Ponds

Lea County
Near Jal, New Mexico

Prepared for:
Mr. Russell Dotson
Chevron North America Exploration and Production Company
15 Smith Road, Midland, Texas
Phone: (432) 687-7796

Prepared by:

Tetra Tech

4000 North Big Spring Street, Suite 401
Midland, Texas 79705
Phone (432) 682-4559; Fax (432) 682-3946
Texas Registered Engineering Firm 3924

Tetra Tech Project No. 212C-DS-00649

Rajendra Meruva, P.E.
Senior Geotechnical Engineer

November 29, 2016

Legend: Exploratory Boring Location	CHEVRON	DWG BY: DH
TETRA TECH Texas Registered Engineering Firm F-3924	SITE LOCATION MAP SALADO DRAW SECTION 13-FRAC PONDS LEE COUNTY, NEW MEXICO	CK BY: RM APP BY: DATE: 11/03/16
PROJECT NO: 212C-MD-00649	FIGURE 2	REV. 0

APPENDIX A
EXPLORATORY BORING LOGS

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

BOREHOLE ID: B-1

CLIENT Chevron **PROJECT NAME** Salado Draw Section 13 Frac Pond

PROJECT NUMBER 212C-MD-00649 **PROJECT LOCATION** Lea County, New Mexico

DATE(S) OF EXCAVATION: 10/26/2016 **GROUND ELEVATION: N/A** **METHOD: HSA/Air Rotary**

CONSULTANT: Tetra Tech, Inc. **LATITUDE: 32.038060N** **LOGGED BY: James Kennedy**

DRILLING CONTRACTOR: Yellow Jacket **LONGITUDE: 103.636220W** **DRILLED BY: Jason**

Notes: No groundwater encountered

DEPTH (ft)	SAMPLE TYPE	N Value	GRAPHIC LOG	MATERIAL DESCRIPTION
0	SS	1		Very Loose, Brown, Fine to Medium Grained **SAND** with Silt, Dry, with some roots
	SS	8		
3.5				
5	SS	41		Dense to Very Dense, Reddish Brown to Pink, Silty Fine to Medium Grained **SAND**, Calcareous, with Limestone Fragments, Dry
	SS	50/5"		
10	SS	50/1"		
15	SS	50/2"		
20	SS	50/2"		
25	SS	50/2"		
30	SS	50/3"		
35	SS	50/1"		
40	SS	50/1"		

BOREHOLE/TP/WELL - VECTOR SALADO - FRAC POND.GPJ LAB SUMMARY.GDT 11/28/16

(Continued Next Page)

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

BOREHOLE ID: B-1

CLIENT Chevron **PROJECT NAME** Salado Draw Section 13 Frac Pond

PROJECT NUMBER 212C-MD-00649 **PROJECT LOCATION** Lea County, New Mexico

DEPTH (ft)	SAMPLE TYPE	N Value	GRAPHIC LOG	MATERIAL DESCRIPTION
40				Dense to Very Dense, Reddish Brown to Pink, Silty Fine to Medium Grained **SAND**, Calcareous, with Limestone Fragments, Dry *(continued)*
45				
50	SS	50/0"		
55				
60				
65				
70				
75				
80				80.0 Borehole terminated at 80.0 feet.

BOREHOLE/TP/WELL - VECTOR SALADO - FRAC POND.GPJ LAB SUMMARY.GDT 11/28/16

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

BOREHOLE ID: B-2

CLIENT Chevron **PROJECT NAME** Salado Draw Section 13 Frac Pond

PROJECT NUMBER 212C-MD-00649 **PROJECT LOCATION** Lea County, New Mexico

DATE(S) OF EXCAVATION: 10/26/2016 **GROUND ELEVATION: N/A** **METHOD: HSA/Air Rotary**

CONSULTANT: Tetra Tech, Inc. **LATITUDE: 32.038880N** **LOGGED BY: James Kennedy**

DRILLING CONTRACTOR: Yellow Jacket **LONGITUDE: 103.637220W** **DRILLED BY: Jason**

Notes: No groundwater encountered

DEPTH (ft)	SAMPLE TYPE	N Value	GRAPHIC LOG	MATERIAL DESCRIPTION
0				
	SS	8		Very Loose, Brown, Fine to Medium Grained **SAND** with Silt, Dry, with some roots
	SS	52		1.5 Dense to Very Dense, Reddish Brown to Pink, Silty Fine to Medium Grained **SAND**, Calcareous, with Limestone Fragments, Dry
5	SS	36		
	SS	48		
10	SS	50/1"		
15	SS	50/2"		
20	SS	50/1"		
25	SS	50/2"		25.0 Borehole terminated at 25.0 feet due to refusal.

BOREHOLE/TP/WELL - VECTOR SALADO - FRAC POND.GPJ LAB SUMMARY.GDT 11/28/16

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

BOREHOLE ID: B-3

CLIENT Chevron **PROJECT NAME** Salado Draw Section 13 Frac Pond

PROJECT NUMBER 212C-MD-00649 **PROJECT LOCATION** Lea County, New Mexico

DATE(S) OF EXCAVATION: 10/26/2016 **GROUND ELEVATION: N/A** **METHOD: HSA/Air Rotary**

CONSULTANT: Tetra Tech, Inc. **LATITUDE: 32.038840N** **LOGGED BY: James Kennedy**

DRILLING CONTRACTOR: Yellow Jacket **LONGITUDE: 103.634830W** **DRILLED BY: Jason**

Notes: No groundwater encountered

DEPTH (ft)	SAMPLE TYPE	N Value	GRAPHIC LOG	MATERIAL DESCRIPTION
0	SS	9		Very Loose, Brown, Fine to Medium Grained **SAND** with Silt, Dry, with some roots
	SS	14		1.5 Medium Dense to Very Dense, Reddish Brown to Pink, Silty Fine to Medium Grained **SAND**, Calcareous, with Limestone Fragments, Dry
5	SS	44		
	SS	34		
10	SS	50/5"		
15	SS	50/1"		
20	SS	50/3"		
25	SS	50/1"		25.0 Borehole terminated at 25.0 feet due to refusal.

BOREHOLE/TP/WELL - VECTOR SALADO - FRAC POND.GPJ LAB SUMMARY.GDT 11/28/16

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

BOREHOLE ID: B-4

CLIENT Chevron **PROJECT NAME** Salado Draw Section 13 Frac Pond

PROJECT NUMBER 212C-MD-00649 **PROJECT LOCATION** Lea County, New Mexico

DATE(S) OF EXCAVATION: 10/26/2016 **GROUND ELEVATION: N/A** **METHOD: HSA/Air Rotary**

CONSULTANT: Tetra Tech, Inc. **LATITUDE: 31.037490N** **LOGGED BY: James Kennedy**

DRILLING CONTRACTOR: Yellow Jacket **LONGITUDE: 103.639800W** **DRILLED BY: Jason**

Notes: No groundwater encountered

DEPTH (ft)	SAMPLE TYPE	N Value	GRAPHIC LOG	MATERIAL DESCRIPTION
0	SS	9		Very Loose, Brown, Fine to Medium Grained **SAND** with Silt, Dry, with some roots
	SS	44		1.5 Dense to Very Dense, Reddish Brown to Pink, Silty Fine to Medium Grained **SAND**, Calcareous, with Limestone Fragments, Dry
5	SS	40		
	SS			
10	SS	50/2"		
15	SS	50/4"		
20	SS	50/1"		
25	SS	50/1"		25.0 Borehole terminated at 25.0 feet due to refusal.

BOREHOLE/TP/WELL - VECTOR SALADO - FRAC POND.GPJ LAB SUMMARY.GDT 11/28/16

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

BOREHOLE ID: B-5

CLIENT Chevron **PROJECT NAME** Salado Draw Section 13 Frac Pond

PROJECT NUMBER 212C-MD-00649 **PROJECT LOCATION** Lea County, New Mexico

DATE(S) OF EXCAVATION: 10/26/2016 **GROUND ELEVATION: N/A** **METHOD: HSA/Air Rotary**

CONSULTANT: Tetra Tech, Inc. **LATITUDE: 32.037410N** **LOGGED BY: James Kennedy**

DRILLING CONTRACTOR: Yellow Jacket **LONGITUDE: 103.637030W** **DRILLED BY: Jason**

Notes: No groundwater encountered

DEPTH (ft)	SAMPLE TYPE	N Value	GRAPHIC LOG	MATERIAL DESCRIPTION
0	SS	4		Very Loose, Brown, Fine to Medium Grained **SAND** with Silt, Dry, with some roots
	SS	50		1.5 Dense to Very Dense, Reddish Brown to Pink, Silty Fine to Medium Grained **SAND**, Calcareous, with Limestone Fragments, Dry
5	SS	32		
	SS	37		
10	SS	40		
15	SS	78		
20	SS	50/0"		
25	SS	50/2"		25.0 Borehole terminated at 25.0 feet due to refusal.

BOREHOLE/TP/WELL - VECTOR SALADO - FRAC POND.GPJ LAB SUMMARY.GDT 11/28/16

Attachments 3 – DOI-BLM-NM-P020-2021-1125-CX (2022)

Temporary Pit containing non-low chloride fluids

SD 14 23 FED P305 Pit

Section 11, T26S, R32E and Section 24, T26S, R32E

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Pecos District
Carlsbad Field Office
620 E Greene Street
Carlsbad, NM 88220

Energy Policy Act of 2005 Section 390 CX Review and Documentation Form
Categorical Exclusion Review and Approval
For Activities Associated with Oil and Gas Development
Under Section 390 of the Energy Policy Act of 2005

NEPA No. DOI-BLM-NM-P020-2021-1125-CX

Project Name: Salado Draw 24 13 Fed P415 421H, 422H, and 423H
NEPA No. DOI-BLM-NM-P020-2021-1125-CX
Lease Serial Number: NMNM118722
Preparer: Paul C. Murphy

A. Background

Proposed Action:
Chevron USA Inc. (Chevron) has applied for a permit to drill Three (3) horizontal oil wells on an existing well pad on Federal surface approximately 50 miles west of Jal, NM. In the applications, Chevron is applying to construct buried pipelines, and electric lines.

Location of Proposed Action:

Well Pad 415, Lea County, N.M.

SD 24 13 Fed P415 421H
Surface Hole Location: 261' FSL & 1751' FWL, Section 24, T. 26 S., R. 32 E.
Bottom Hole Location: 25' FNL & 550' FWL, Section 13, T. 26 S., R. 33 E.

SD 24 13 Fed P415 422H
Surface Hole Location: 261' FSL & 1776' FWL, Section 24, T. 26 S., R. 32 E.
Bottom Hole Location: 25' FNL & 1430' FWL, Section 13, T. 26 S., R. 33 E.

SD 24 13 Fed P415 423H
Surface Hole Location: 261' FSL & 1801' FWL, Section 24, T. 26 S., R. 32 E.
Bottom Hole Location: 25' FNL & 2310' FWL, Section 13, T. 26 S., R. 33 E.

The proposed project was analyzed under approved
Environmental Assessment DOI-BLM-NM-P020-2020-0630-EA, dated 02/27/2020

Description of Proposed Action:
The BLM Carlsbad Field Office is proposing to allow Chevron to construct, drill, operate, and maintain, Three (3) horizontal oil wells on an existing 480 X 690 pad (SD Pad 416). Plat is attached

Proposed Buried Pipeline (Pad 415):
Chevron plans to install four additional primary facility lines within the existing 60' easement extending from the well pad. This proposed 60' easement will extend from the well pad to the East along the South side of an existing easement, over to Central Tank Battery (CTB) #24, located in Section #24, T26S-R32E and be 2,666.07' in length. This easement corridor will cross lease lines and an SF-299 ROW will need to be acquired. The proposed easement will contain:

1. 1-6" buried gas-lift pipeline extending 2,135.46' in length
2. 3-4" buried production flowlines extending 1,389.47' in length

Proposed Overhead Electric Line (EDS) and Fiber Lines Pad 415):
Chevron plans to install 1-30' EDS easement running to the North from the proposed pad, up to the proposed 60' easement corridor. This 30' easement is 511.31' in length. All construction activity will be confined to the approved ROW.

Proposed Temporary 12" expanding pipe water transfer line (Pad 415):
Chevron plans to install two temporary 12" expanding pipe water transfer lines will run west from the existing Frac Ponds in Sections #23 & #13 over to the well pad. This temporary expanding pipe water transfer line will be set within the existing 60' easement corridor and will run approximately 4,619.18' in total length. This proposed corridor will cross lease lines and an SF-299 ROW will need to be acquired.

Plats are attached

B. Land Use Plan Conformance

Name of Plan: 1988 Carlsbad Resource Management Plan
Date Approved: September 1988
Decision:[Page 10] "In general, public lands are available for utility and transportation facility development…" [Page 13] "BLM will encourage and facilitate the development by private industry of public land mineral resources so that national and local needs are met, and environmentally sound exploration, extraction, and reclamation practices are used."

Name of Plan: 1997 Carlsbad Approved Resource Management Plan Amendment
Date Approved: October 1997
Goal: [Page 4] "Provide for leasing, exploration and development of oil and gas resources within the Carlsbad Resources Area." The proposed action aids in the development of oil and gas resources and complies with the Surface Use and Occupancy Requirements.

Name of Plan: 2008 Special Status Species Approved Resource Management Plan Amendment
Date Approved: April 2008
Decision: [Page 5] "For all other projects in the Planning Area, public land will be open to the consideration of granting ROWs under the guidelines in Appendix 2 of the 1997 Roswell RMP and 1997 Carlsbad RMPA." [Page 6] "…ROWs will be granted only after site-specific analysis." The proposed action will utilize best management practices when developing oil and gas resources in Lesser Prairie-Chicken and Sand Dune Lizard Habitat. Special mitigation measures will be included into the Pecos District Conditions of Approval, Relationship to Statutes, Regulations or Other Plans

C. Compliance with NEPA:

The Proposed Action is categorically excluded from further documentation under the National Environmental Policy Act (NEPA) in accordance with the two Categorical Exclusion reference in Section 390 of the Energy Policy Act of 2005 (P.L. 109-58),

Categorical Exclusion number 2, states: "Drilling an oil and gas well at a location or well pad site at which drilling has occurred within five (5) years prior to the date of spudding the well."

Categorical Exclusion number 4, states: "Placement of a pipeline in an approved right-of-way corridor, so long as the corridor was approved within five years prior to the date of the placement of the pipeline."

To ensure that all resources are adequately addressed for the specific locations, this action was reviewed by the interdisciplinary team, as documented in the resource checklist,

D. Decision and Rationale

Based on the review documented above, I conclude that this proposal conforms to the applicable land use planning document(s) and that this NEPA documentation fully covers the proposed action and constitutes BLM's compliance with the requirements of NEPA and that no further environmental analysis is required. It is my decision to implement the proposed action, as described, with the following stipulations/mitigation measures to be applied.

Authority of this action is Mineral Leasing Act of February 25, 1920, (30 U.S.C. 185), as amended.

For Conditions of Approval (COAs): COAS for the APDs, Roads, Electric lines, and Buried Pipelines are attached.

E. Signature

Authorizing Official: _____ Date: 02/14/2022

Name: Cody Layton

Title: Carlsbad Field Manager

Contact Person

For additional information concerning this CX review, contact NRS Paul Murphy at 575-234-5975 or pcmurphy@blm.gov

Attachment 1 – Interdisciplinary Team Checklist

Attachment 2 – Applicable Conditions of Approval

Attachment 3 – Project Map

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 159418
	Action Type: [C-144] Temporary Pit Plan (C-144T)

CONDITIONS

Created By	Condition	Condition Date
jburdine	NMOCD has reviewed and approved the [C-144] Temporary Pit Plan permit, Application ID 159418, and related documents submitted by [4323] CHEVRON USA INC, on November 16, 2022, for SD 14 23 FED P305 (305H, 204H, 306H, 205H, 307H, 206H, 308H) [fJMB2232256614], Temporary Pit in Unit Letter O & B, Section 11 & 14, Township 26S, Range 32E, Lea County, New Mexico. The application is approved with conditions.	11/18/2022