Form C-144
Revised October 11, 2022

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

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

Pit 1

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: Avant Natural Resources, LLC. OGRID #: 330396
Address: 1515 Wynkoop Street, Suite 700, Denver, CO 80202
Facility or well name: Lea Federal Unit #028
API Number: 30-025-38718 OCD Permit Number:
U/L or Qtr/Qtr NENE Section 24 Township 20S Range 34E County: Lea
Center of Proposed Design: Latitude 32.563516 Longitude -103.507309 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 12 mil ☐ LLDPE ☑ HDPE ☐ PVC ☐ Other
☐ String-Reinforced
Liner Seams: ☑ Welded ☐ Factory ☐ Other Volume: 10,000 bbl Dimensions: L 125 x W 150 x D 3

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.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. **Siting criteria does not apply to drying pads or above-grade tanks.**

General siting	
Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank. - ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit . NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
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	☐ 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	☐ 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	☐ Yes ☐ No
Within a 100-year floodplain. **(Does not apply to below grade tanks)** - FEMA map	☐ Yes ☐ No
Below Grade Tanks	
Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, 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	☐ 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	☐ 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	☐ Yes ☐ No
Within 300 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ 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
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ 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
☒ 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

☐ 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
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	☐ 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	☐ 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	☐ 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	☐ 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	☐ 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. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
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	☐ 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	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ 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
- ☐ 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
- ☐ 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 19.15.17.13 NMAC
- ☐ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☐ Soil Cover Design - 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

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): Sarah Ferreyros Title: Director of Regulatory

Signature: Sarah Ferreyros Date: 5/7/2024

e-mail address: Sarah@avantnr.com Telephone: 720-854-9020

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

OCD Representative Signature: [signature] **Approval Date:** 05/07/2024

Title: Environmental Specialist Advanced **OCD Permit Number:** API:30-025-38718 LEA FEDERAL UNIT #028 [335519]

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: _____

From: Kennedy, Joseph, EMNRD
To: Michael Wicker
Cc: sarah@avantnr.com; Barr, Leigh, EMNRD
Subject: RE: OCD Amended Email Notice for C-144 Closure Plan - Avant Natural Resources, LLC, Lea Federal Unit #028, API #30-025-38718
Date: Wednesday, May 1, 2024 9:05:00 AM

Dear Mr. Wicker:

The OCD received a C-144 submittal package consisting of a closure plan for the temporary pits associated with Avant Natural Resources, LLC (Avant) - Lea Federal Unit #028, API# 30-025-38718 on April 18, 2024. The OCD has determined that the submitted C-144 Form needs the below additions/corrections in conjunction with the previously submitted information in the form:

- Section 10: Check the checkbox for Closure Plan.
- Section 17: Fill in and certify/sign this section.
- Section 22: Delete information in this section. Note, this certification is specific to a **closure report** which is different than the closure plan.

In this instance, the OCD will accept the amended C-144 Form via email and will attach the amended form to the electronically submitted application. Please email me the corrected form within 7-days of email receipt of this notice. Once OCD receives the amended C-144 Form, the OCD can proceed with approval of the application with the following conditions of approval:

- Avant must notify the surface owner by certified mail, return receipt requested of the closure operations at least 72 hours, but not more than a week, prior to closure operation. Avant must submit proof of notice in the final closure report submitted to the OCD.
- Avant must notify the OCD via email at least 72 hours, but not more than a week, prior to closure operation. Avant must provide a copy of this email in the final closure report submitted to the OCD.
- Avant must follow the sampling methods provided in Table 1 of 19.15.17 NMAC. Note in the closure plan, there was a discrepancy for the proposed sampling method used for benzene; the text section of the report did not match the method identified in the table.
- Avant must also conduct a paint filter liquids test meeting EPA SW-846, Method 9095 or other test methods approved by the OCD.
- Given the OCD believes there was some type of onsite burial, Avant must meet the requirements of 19.15.17.13(F)(3) NMAC for steel marker placement.
- Avant must provide photos in the final closure report demonstrating that the temporary pit locations have been reclaimed to pre oil and gas conditions.
- In the event, sampling indicates an exceedance of the Table 1 standards for depth to groundwater between 51 and 100 feet, Avant must electronically submit a C-141 notification for the release event. The incident ID from this submittal must be included in the C-144 Closure Report Application submitted to the OCD.

- Avant must submit to the OCD within 60-days of closure completion a final C-144 Closure Report with all necessary attachments. Note for temporary pits, Avant must also submit a plat of the pit location on Form C-105 within 60-days of closing the temporary pit.

Please feel free to contact me with any questions.

Thank you,

Joseph Kennedy ● Environmental Scientist Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
1220 S. Saint Francis Drive | Santa Fe, New Mexico 87505
(505) 549-5583 | joseph.kennedy@emnrd.nm.gov
www.emnrd.nm.gov

April 18, 2024

Victoria Venegas
Environmental Specialist
Environmental Bureau
Oil Conservation Division
New Mexico Department of Energy, Minerals, & Natural Resources
506 West Texas Avenue
Artesia, New Mexico 88210

RE: Pit Closure Plan
Avant Natural Resources, LLC
Lea Federal Unit #028
API #30-025-38718
Section 24, Township 20 South, Range 34 East, 810 FNL, 810 FEL
32.5636559, -103.5077896 NAD83

Victoria Venegas,

On behalf of Avant Natural Resources, LLC (Avant), CDH Consulting, LLC (CDH) is submitting this Pit Closure Plan in accordance with 19.15.17.13 New Mexico Administrative Code (NMAC) to the New Mexico Department of Energy, Minerals, and Natural Resources-Oil Conservation Division (NMOCD) detailing protocols and procedures closing the permitted drilling pits formerly utilized at the Lea Federal Unit #028 (API #30-025-38718) production location (Site).

Avant discovered the Lea Federal Unit #028 had an open pit permit during a recent acquisition. The Initial Form C-144 (Pit Registration) was submitted by Samson Resources Company on January 23, 2008, and approved by the NMOCD on January 24, 2008. As the current operator of the Lea Federal Unit #028, and in an effort to be good stewards of the land, Avant's goal is to properly close the open pit permit as soon as possible.

Modification to an Existing Permit/ or Registration

Avant requests the NMOCD change the registration to meet the current pit rule requirements and sampling limits per 19.15.17.13 NMAC.

Siting Criteria

The Initial Form C-144, approved on January 24, 2008, documented the use of drilling pits equipped with 12-mil synthetic liners and a 10,000-barrel (bbl) capacity. The siting criteria specified a depth to groundwater of 80 feet below ground surface (bgs), that the site is not located within 200 feet of a private domestic water source or less than 1,000 feet from other sources, and the distance to surface water is greater than 1,000 feet. The Initial C-144 (Pit Registration) is included as Attachment A.

The site is located approximately 14.8 miles west-southwest of Monument, New Mexico, at an elevation of 3,670 feet above mean sea level. The site is not overlying a subsurface mine, within an unstable area, or within a 100-year floodplain. The nearest continuously flowing waterway is the Pecos River located approximately 35.8 miles southwest of the site.

The following closure criteria will be utilized to compare soil analytical results for temporary drilling pit closure 5-point composite samples per the NMOCD-approved Initial C-144.

Table
Closure Criteria for Soils Beneath Below-Grade Tanks, Drying Pads Associated with Closed-Loop Systems and Pits where Contents are Removed

Depth below bottom of pit to groundwater less than 10,000 mg/L TDS	Constituent	Method	Limit
51 feet-100 feet	Chloride	EPA 300.0	10,000 mg/kg
	TPH	EPA SW-846	2,500 mg/kg
		Method 418.1	
	GRO+DRO	EPA SW-846	1,000 mg/kg
		Method 8015M	
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg

Notes: mg/L – milligrams per liter; mg/kg – milligrams per kilogram

CLOSURE PLAN

The Initial Form C-144 documented the use of lined, temporary drilling pits equipped with 12-mil synthetic liners, a 10,000 bbl capacity, and included a site diagram specifying the proposed locations of the two temporary drilling pits. One temporary drilling pit was proposed to be placed north of the eastern portion of the production pad with an aerial extent of 150 feet by 125 feet to a depth of 3 feet bgs. The second temporary drilling pit was proposed to be located west of the northern portion of the production pad with a dimension of 30 feet by 30 feet to an unknown depth. A review of historical aerial photographs utilizing Google Earth indicated the larger temporary drilling pit was placed north of the eastern portion of the production pad and the smaller temporary drilling pit was placed as proposed, west of the northern portion of the production pad. On October 2, 2023, the former temporary drilling pits were confirmed to have been backfilled and returned to pre oil and gas conditions during a visual inspection.

Upon NMOCD approval of this Pit Closure Plan, Avant will notify the surface owner by certified mail (return receipt requested) that Avant plans closure activities at least 72 hours, but not more than one week, prior to any closure operation. Avant will notify the NMOD Artesia district office verbally and in writing at least 72 hours, but not more than one week, prior to any closure activities.

CDH personnel will mobilize to the well location to assess soil beneath the two former temporary drilling pit locations. Utilizing a hand auger, a 5-point composite sample will be collected from below each of the former temporary drilling pit locations. Soil samples to be collected beneath the former temporary drilling pits are anticipated to be collected from a depth of 3.5 feet bgs (0.5 feet below former pit bottom); however, actual collection depth may vary if field observation indicates a pit depth other than 3 feet bgs.

The soil will be visually inspected for signs of petroleum hydrocarbons such as odor and soil staining. The portion of the soil sample that will be submitted for laboratory analysis will be placed in a laboratory-provided 4-ounce glass jar, labeled, and placed immediately on ice and stored in a cooler. Another portion of the soil sample (that will not be submitted for laboratory analysis) will be placed in resealable plastic bag, agitated, and allowed approximately 10 minutes of volatilization time. A photoionization detector (PID) will be utilized to measure the volatile organic compounds (VOCs) desorbing from soil following 10 minutes of volatilization time. The location, depth, and VOCs concentration will be documented by CDH field staff.

Each soil sample will be analyzed for chloride per the United States Environmental Protection Agency (EPA) Method 300.0, total petroleum hydrocarbons (TPH) per EPA Method 418.1, TPH-gasoline range organics (GRO) and TPH-diesel range organics (DRO) per EPA Method 8015M, benzene per EPA Method 8206B, and benzene, toluene, ethylbenzene, and total xylenes (BTEX) per EPA Method 8260B.

As the temporary drilling pits have been returned to pre oil and gas conditions, contaminated soil is not anticipated during confirmation closure sampling; however, if analytical results indicate an exceedance of Table I (19.15.29.12), Avant would notify the NMOCD of the exceedance(s) of Table 1 per 19.15.29.10 NMAC, assess/characterize the exceedances per 19.15.29.11 NMAC, remediate/close the exceedances per 19.15.29.12, and restore the impacted surface to pre oil and gas conditions per 19.15.29.13 NMAC.

Within 60 days of receiving laboratory analytical results indicating compliance with Table I of 19.15.17.13 NMAC, Avant will submit a Pit Closure Report via Form C-144, with necessary attachments to document all closure activities including sampling results and information required by 19.15.17 NMAC.

Please do not hesitate to contact me at (303) 501-3415 or KTrantowLim@CDHConsult.com if you have any questions or require additional information.

Kind Regards,

CDH CONSULTING, LLC

Michael A. Wicker, P.G.
Project Manager

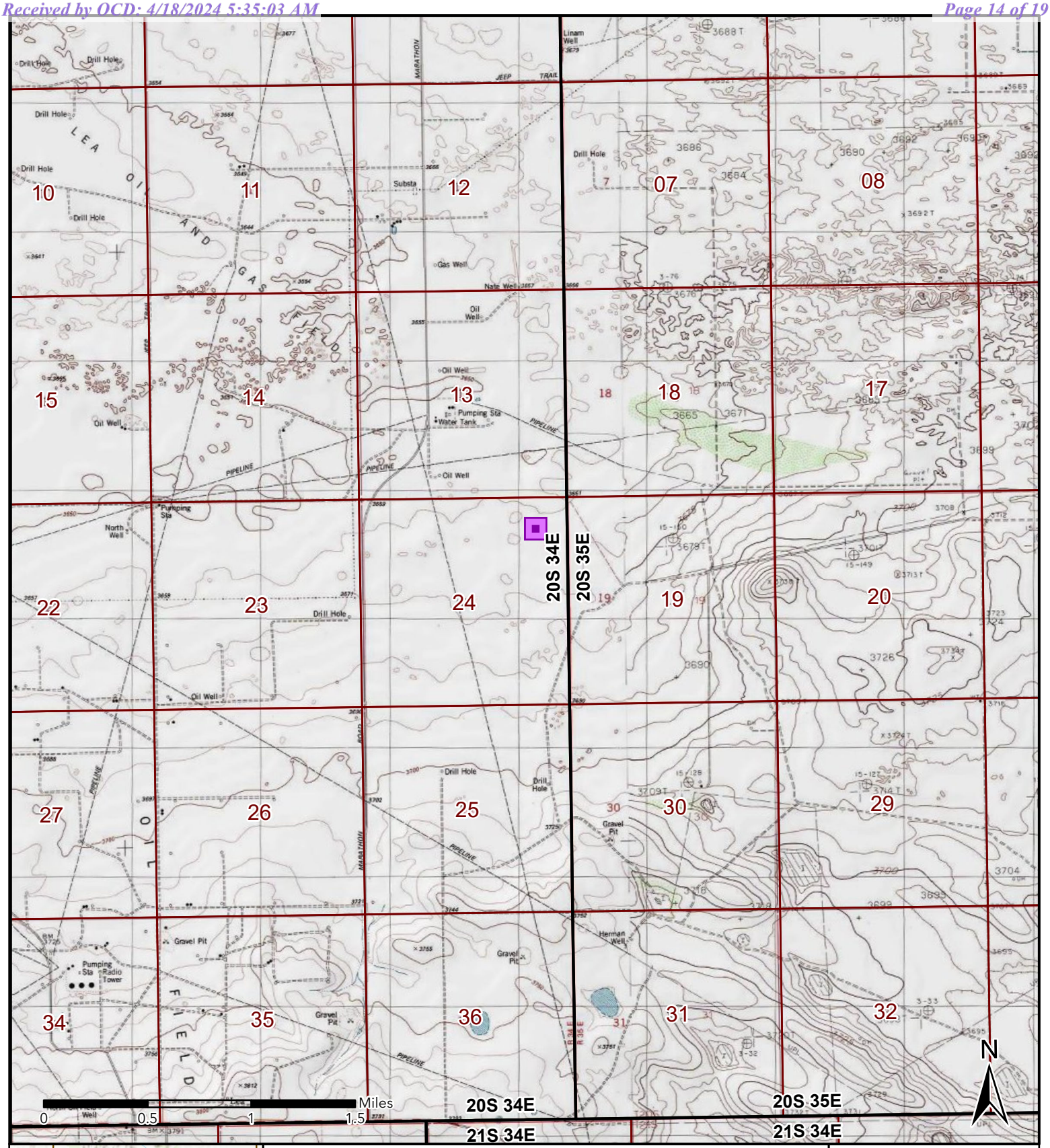
Karen Trantow Lim, P.G.
Program Manager, Environmental Compliance

cc: Sarah Ferreyros — Avant Natural Resources, LLC (electronic file)

Figure 1 – Site Location
Figure 2 – Site Map

Attachment A – Initial C-144

FIGURES



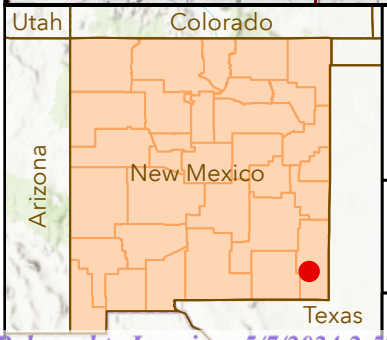


Figure 1 - Site Location

Lea Federal Unit #028

Lea County, NM

Lea Federal unit #028

Avant Natural Resources

Date Created: 2/12/2024

CDH CONSULTING

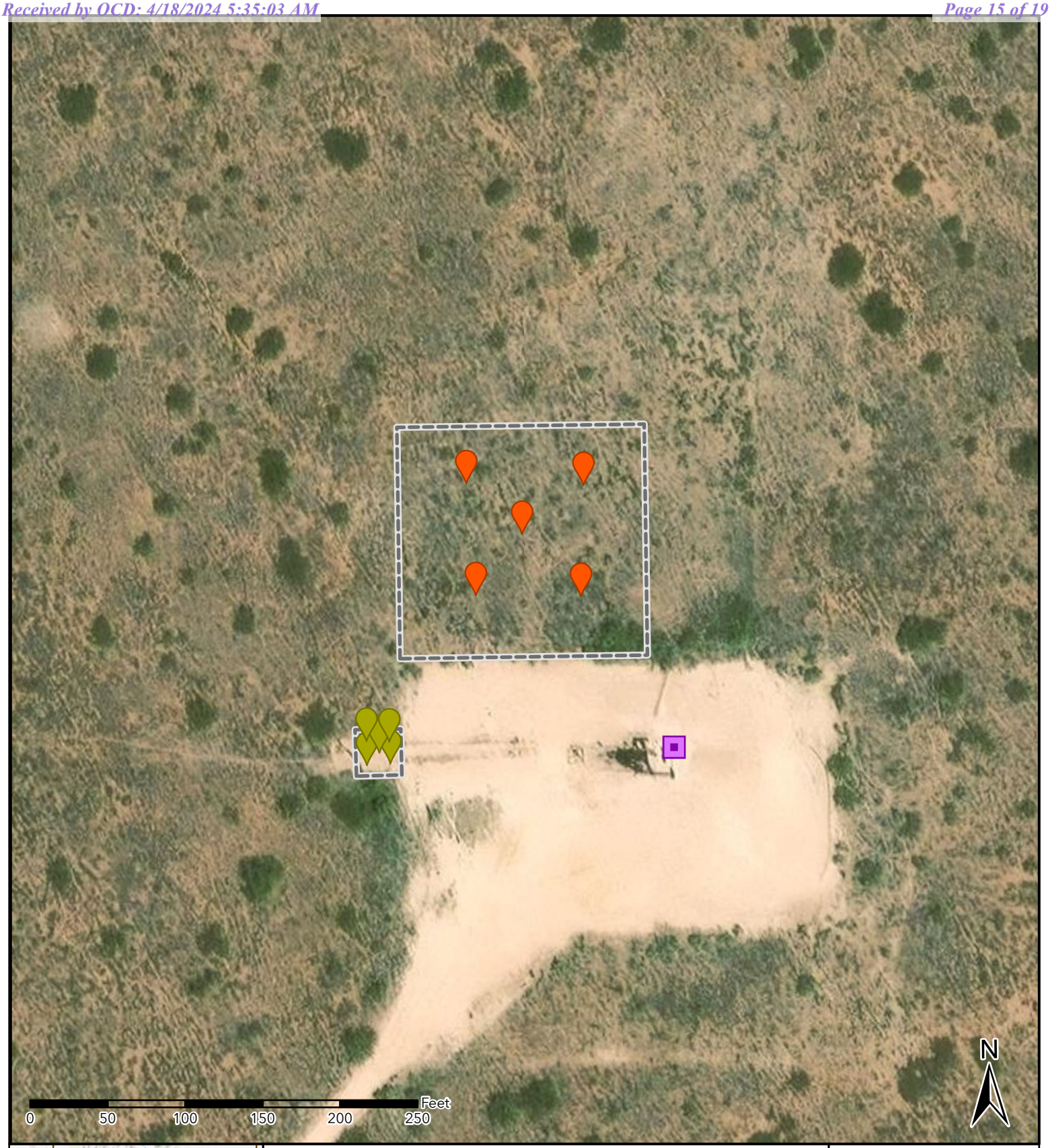


Figure 2 - Site Map

Lea Federal Unit #028

Lea County, NM

PCS-01

PCS-02

Former Drilling Pit

Lea Federal unit #028

Avant Natural Resources

Date Created: 1/17/2024

CDH CONSULTING

ATTACHMENT A

Initial C-144

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
June 1, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☒
Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: **Samson Resources Company** Telephone: **(918) 591-1624** e-mail address: **dstonestreet@samson.com**
Address: **Samson Plaza, Two West Second Street, Tulsa, OK 74103**
Facility or well name: **Lea Federal Unit Well #28** API #: **30-025-38718** U/L or Qtr/Qtr: **NENE, Sec 24, T20S, R34E**
County: **Lea** Latitude: **32.563516° N** Longitude: **103.507309° W**
NAD: 1927 ☒ 1983 ☐
Surface Owner: Federal ☐ State ☐ Private ☒ Indian ☐

Pit	**Below-grade tank**	
Type: Drilling ☒ Production ☐ Disposal ☐	Volume: _____ bbl Type of fluid:	
Workover ☐ Emergency ☐	Construction material:	
Lined ☒ Unlined ☐	Double-walled, with leak detection? Yes ☐ If not, explain why not	
Liner type: Synthetic ☒ Thickness **12 mil** Clay ☐		
Pit Volume **10,000 bbl**		
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.) 80'	Less than 50 feet	(20 points)
	50 feet or more, but less than 100 feet	(10 points) 10
	100 feet or more	(0 points)
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes	(20 points)
	No	(0 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet	(20 points)
	200 feet or more, but less than 1000 feet	(10 points)
	1000 feet or more	(0 points)
	Ranking Score (Total Points)	10

If this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if your are burying in place) onsite ☐ offsite ☐ If offsite, name of facility _____. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface _____ ft and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments:

I hereby certify that the information above is true and complete to the best of my knowledge and belief. **I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.**

Date: **January 23, 2008**
Printed Name/Title: **Kenneth C. Dickeson, Agent** Signature: _____

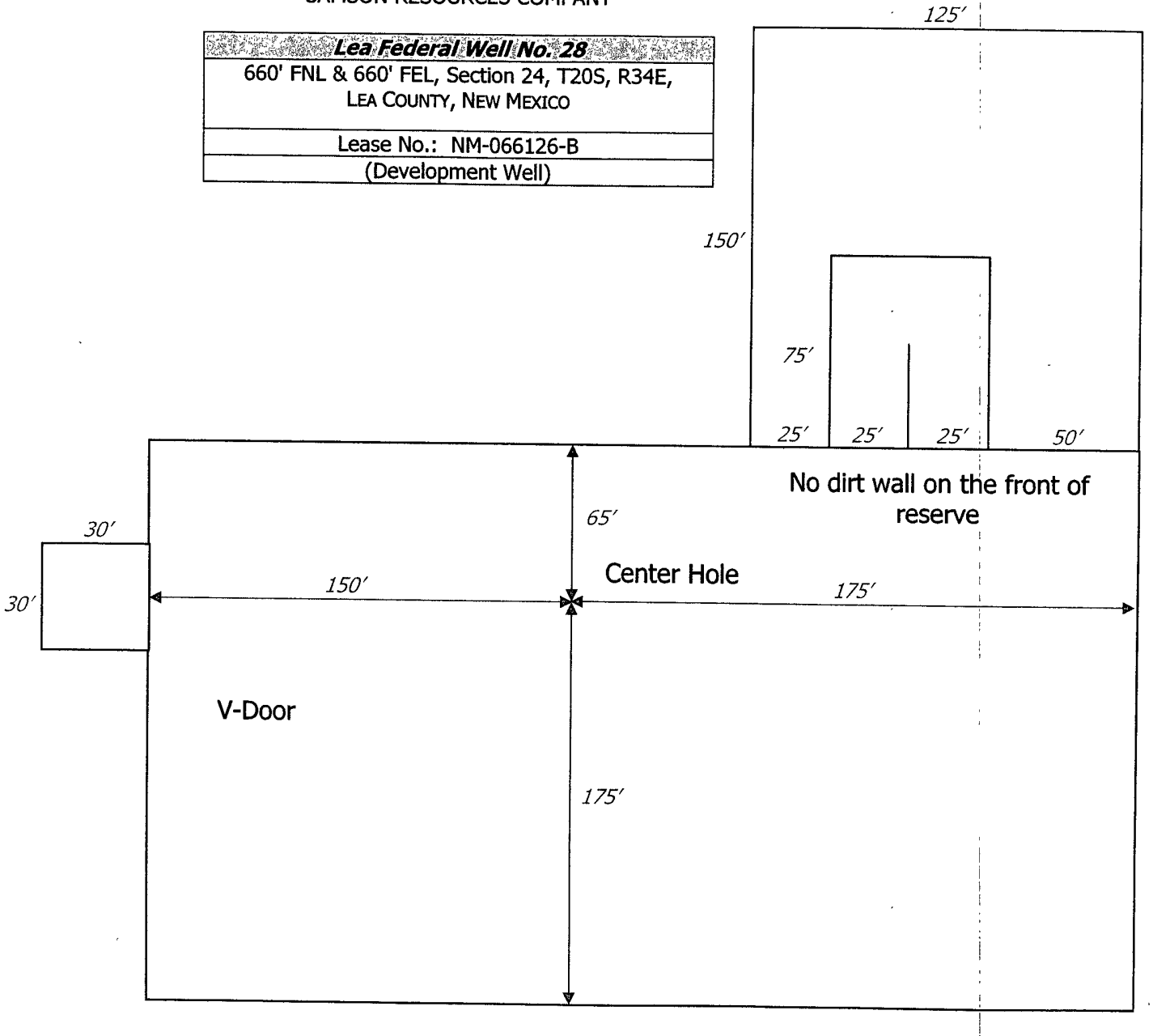
Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:
Printed Name/Title: CHRIS WILLIAMS / DIST. SUPV. Signature: Chris Williams Date: 1/24/08

EXHIBIT "D"

SAMSON RESOURCES COMPANY

Lea Federal Well No. 28
660' FNL & 660' FEL, Section 24, T20S, R34E, LEA COUNTY, NEW MEXICO
Lease No.: NM-066126-B
(Development Well)



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

Action 334811

CONDITIONS

Operator: Avant Operating, LLC 1515 Wynkoop Street Denver, CO 80202	OGRID: 330396
	Action Number: 334811
	Action Type: [C-144] Temporary Pit Plan (C-144T)

CONDITIONS

Created By	Condition	Condition Date
joseph.kennedy	Please see conditions of approval emailed to	4/30/2024
joseph.kennedy	NMOCD has reviewed and approved Avant Natural Resources, LLC, Closure Plan and Amended Form C-144 received on 05/07/2024 for Lea Federal Unit #028, API #30-025-38718, temporary pits in Unit A, Section 24, Township 20S, Range 34E, Lea County, New Mexico. This application is approved with conditions.	5/7/2024