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

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APR 23 2009

HOBBSOCD

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

Form C-144 CLEZ
July 21, 2008

For closed-loop systems that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure submit to the appropriate NMOCD District Office

Closed-Loop System Permit or Closure Plan Application

(that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

Type of action: ☒ Permit ☐ Closure

Instructions: Please submit one application (Form C-144 CLEZ) per individual closed-loop system request. For any application request other than for a closed-loop system that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, please submit a Form C-144.

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 __APACHE CORPORATION_____ OGRID # ___000873_____

Address __6120 S YALE AVE SUITE 1500, TULSA, OK 74136_____

Facility or well name __L. W. WARD #2_____

API Number __30-025-07231_____ OCD Permit Number: __PL-01077_____

U/L or Qtr/Qtr _I_____ Section ___11_____ Township __13S_____ Range __38E____ County. ___LEA____

Center of Proposed Design. Latitude. 33.2042000_____ Longitude. -103.0616800_____ NAD. ☒1927 ☐ 1983

Surface Owner ☐ Federal ☐ State ☒ Private ☐ Tribal Trust or Indian Allotment

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2

☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC

Operation ☐ Drilling a new well ☒ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent) ☐ P&A

☒ Above Ground Steel Tanks or ☐ Haul-off Bins

3

<u>Signs:</u> 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 19.15.3.103 NMAC

4

Closed-loop Systems 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.
   ☒ 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 Box 5) - 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._____
☐ Previously Approved Operating and Maintenance Plan   API Number:_____

5

<u>Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:</u> (19.15.17.13 D NMAC)
Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name.__SUNDANCE_____ Disposal Facility Permit Number ___NM-01-0003_____

Disposal Facility Name __CONTROLLED RECOVERY INC_____ Disposal Facility Permit Number. ___NM-01-0006_____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?
   ☐ Yes (If yes, please provide the information below) ☒ No

Required for impacted areas which will not be used for future service and operations
   ☐ 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 I of 19.15.17.13 NMAC
   ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

6

<u>Operator Application Certification:</u>

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) __AMBER COOKE_____ Title PRODUCTION ENGINEERING TECH____

Signature ___Amber Cooke_____ Date __04/21/2009_____

e-mail address AMBER.COOKE@APACHECORP.COM_____ Telephone. 918-491-4968_____

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

OCD Representative Signature: _~~Larry W. Hill~~_

Title: **DISTRICT 1 SUPERVISOR**

Approval Date: **MAY 13 2009**

OCD Permit Number: **PI-01077**

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Closure Report (required within 60 days of closure completion): Subsection K of 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.

X Closure Completion Date: **6/8/2009**

9

Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name **Sundance**   Disposal Facility Permit Number: **NM-01-0003**

Disposal Facility Name _____   Disposal Facility Permit Number _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please demonstrate compliance to the items below) ☒ No

Required for impacted areas which will not be used for future service and operations:
☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

10

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) **Amber Cooke**   Title: **Production Engineer Tech**

Signature: _~~Amber Cooke~~_   Date **6/15/2009**

e-mail address **Amber.cooke@apachecorp.com**   Telephone **918.491.4968**

˙Closed-Loop System Design, Operation, Maintenance, and Closure Plan for Completion/Workover Operations

This document is intended to provide design requirements as well as operating, maintenance and closure instructions for closed-loop (completion/workover fluid) systems, ensuring compliance with New Mexico Title 19, Chapter 15, Part 17 rules and regulations. Completion/workover units operating for Apache Corporation in New Mexico should be rigged up with a closed-loop system consistent with this design and should be operated, maintained, and closed in a manner consistent with this document.

Design

The closed-loop system shall be designed and construct to ensure the confinement of oil, gas, or water and to prevent uncontrolled releases. We will utilize cuttings bins to contain drilled solids for transport and disposal off site at a New Mexico licensed disposal facility. **Figure 1** is attached for reference when reviewing the following design specifications.

The minimum solids removal equipment includes an above ground steel tank. The steel tank(s) shall be a minimum of 90 barrels and constructed and in a condition such that no leaks or uncontrolled releases would be expected. The tank(s) shall be placed to receive all of the fluid and cuttings as they return from the well bore and entry from the flow line shall be such that splash is minimized. The tank is divided into two sections such that the drilled solids will be separated from the liquid by gravity and the solids will be removed from the steel tank using a vacuum truck and disposed of at a licensed and approved disposal facility. The first section is used to collect the drilled solids and the clean drilling fluids are then carried over to the second section of the steel tank which is used as a suction tank for the pump.

The steel tanks(s) shall comply with any applicable requirements specified in 19.15.17 NMAC. Additionally, the appropriate well signs shall be in place to comply with 19.15.17 NMAC.

Operation and Maintenance

The closed-loop system shall be operated and maintained at all times in such a manner as to prevent contamination of fresh water and protect the public health and the environment. While Apache Corporation relies on various third party vendors to provide, operate and maintain the closed-loop system, in the end it is the Apache Corp on-site representative who must take responsibility for the effective operation of the system. At the end of the well, all drilling fluids and drilled solids should be disposed of in a licensed disposal facility in New Mexico.

Know which licensed and approved disposal facility is closest to your location and verify that they are capable and prepared to receive the cuttings and fluids from your well. Track all loads sent during the drilling of the well and up to the time the rig is moved off of the location.

Current approved facilities are;
- Controlled Recovery Inc.   (877) 505-4274
- Sundance Incorporated   (575) 394-2511

Ensure that the closed-loop system meets the design criteria listed above and is properly installed and fully functional prior to commencing any operations which require circulation.

Inspect the active system tanks at least every tour to ensure no drilling fluid is leaking onto the location. Check any dump valves and interconnecting pipes for leaks. Correct any leaks as soon as possible upon detection.

Monitor and know/plan the fluid level in the steel fluid containment pits. Call for vacuum trucks with enough lead time to allow for possible delays.

Make every effort to operate and maintain the closed-loop system in a manner that puts no drilling fluid or well bore discharge/cuttings in contact with the location or surrounding area.

In the event of an oil spill that reaches water, or an oil spill to land over five (5) barrels take immediate action to contain the spill and make to following notifications;
- EHS Apache Hotline   (800) 874-3262
- NMOCD

In the event of oil reaching water include the following notification;
- Environmental Protection Agency (EPA) National Response Center

Closure
The "closure" of the closed-loop system must be completed within six months of the date the completion/workover is released from the location. A Closure Report must be filed with the New Mexico Oil Conservation Division within 60 days of completing the closure. "Closure" of a closed-loop system begins with the proper disposal of all liquid mud and cuttings that are on location upon rig release. The cuttings and liquid should be transported to an approved disposal facility. See operating instructions above. Next all of the equipment associated with the closed-loop system must be removed. Ensure that equipment being removed and transported to the next location or other facility is clean and in such a state that no waste will be discharged during transportation.

If there is evidence of a release of mud or cuttings to the surface collect individual grab samples from the potentially contaminated area and analyze for benzene, total BTEX,
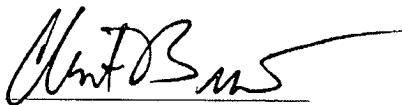
THP, the GRO and DRO combined fraction and chlorides to demonstrate that benzene, as determined by EPA SW-846 method 8021B or 8260B or other EPA method that the division approves, does not exceed 0.2 mg/kg; total BTEX, as determined by EPA SW-846 method 8021B or 8260B or other EPA methods that the division approves, does not exceed 50 mg/kg; TPH, as determined by EPA SW-846 method 418.1 or other EPA method that the division approves does not exceed 2500 mg/kg; the GRO and DRO combined fraction determined by EPA SW-846 method 8015M, does not exceed 500 mg/kg; and chlorides as determined by EPA method 300.1 do not exceed 500 mg/kg or the background concentration, whichever is greater.

When closure is completed a closure report must be filed with the NMOCD within 60 days. The filing consists of printing a copy of the C-144 that was approved previously, completing the Closure Report on page 4 and submitting it to the NMOCD.

For our closed-loop systems in the Closure Report area of the form we will provide the closure completion date and check the "Closure Completion Date" box found approx. 2/3 of the way down the page. In the Closure Method area, check the "Waste Excavation and Removal" box. In the Closure Report Attachment Checklist put a check mark in the "Disposal Facilities Name and Permit Number". In the space to the right of the checklist write in the name(s) of the disposal facility or facilities used during both the drilling and the closure phase of the closed-loop operation.

If there was evidence of leakage requiring samples and analysis, in addition to the instructions for completing Form C-144 listed above, check the "Confirmation Sampling Analytical Results" box in the Closure Report Attachment Checklist and attach a copy of the soil analysis report.

Prepared by

Clint Brian, P.E.
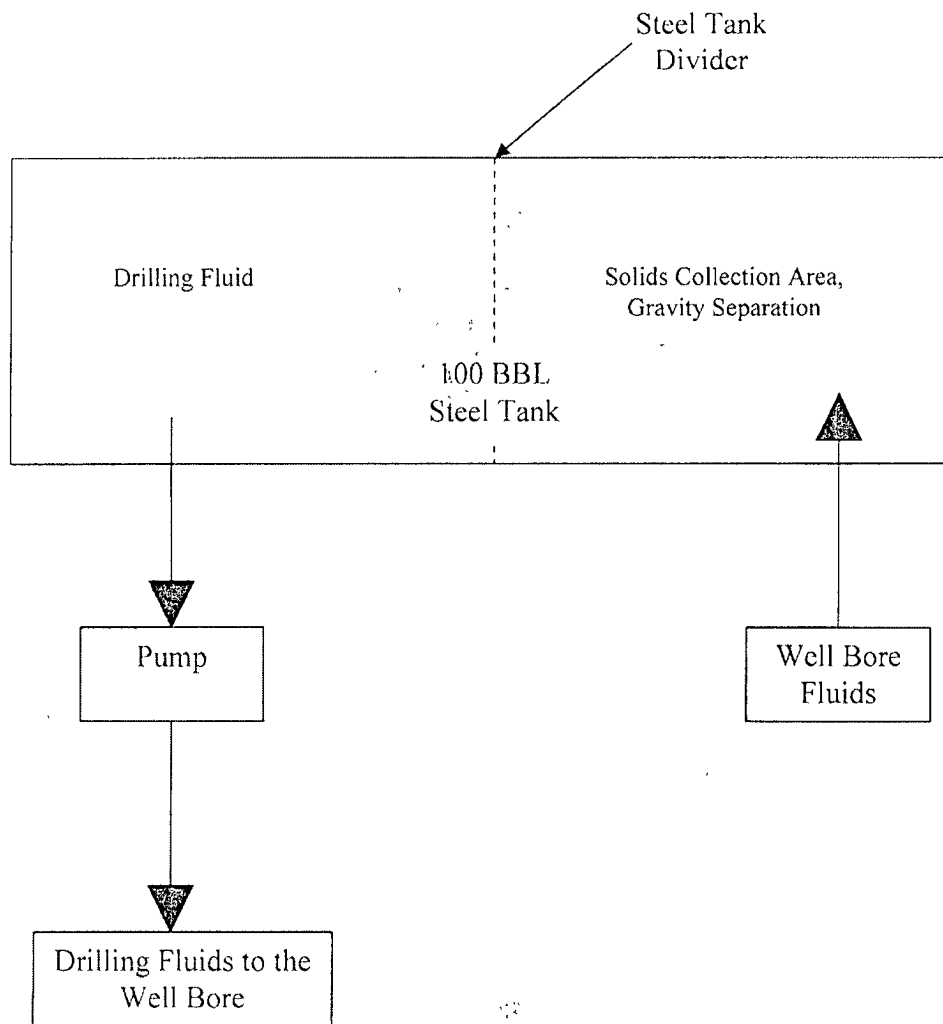SR. Production Engineer

April 21, 2009

Attachment: Figure 1 – New Mexico Typical Closed-Loop System for Completion/Workover Operations

Steel Tank
Divider

Drilling Fluid

Solids Collection Area,
Gravity Separation

100 BBL
Steel Tank

Pump

Well Bore
Fluids

Drilling Fluids to the
Well Bore

Figure 1 – New Mexico Typical Closed-Loop System for Completion/Workover
Operations