Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2

5. Lease Serial No.
NMLC028775B

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well
☐ Oil Well ☐ Gas Well ☒ Other: UNKNOWN OTH

8. Well Name and No.
BARNSDALL FEDERAL SWD 1

2. Name of Operator
APACHE CORPORATION
Contact: EMILY FOLLIS
E-Mail: Emily.Follis@apachecorp.com

9. API Well No.
30-015-42468

3a. Address
303 VETERANS AIRPARK LANE SUITE 1000
MIDLAND, TX 79705

3b. Phone No. (include area code)
Ph: 432-818-1801

10. Field and Pool or Exploratory Area
SWD:WOLFCAMP-CISCO(96136)

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 27 T17S R29E NWNE 330FNL 1880FEL

11. County or Parish, State
EDDY COUNTY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

APACHE WILL COMPLETE AS FOLLOWS:

SEE ATTACHED: OBJECTIVE AND PROCEDURE REQUEST.

NM OIL CONSERVATION
ARTESIA DISTRICT
APR 17 2017
RECEIVED

DC 4-18-17
Accepted for record - NMOCD RI 4/25/17

Well conditions require this nonstandard procedure for data information collection.

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #368855 verified by the BLM Well Information System
For APACHE CORPORATION, sent to the Carlsbad
Committed to AFMSS for processing by DEBORAH HAM on 03/09/2017 ()

Name *(Printed/Typed)* EMILY FOLLIS — Title REGULATORY ANALYST

Signature (Electronic Submission) — Date 03/06/2017

APPROVED
MAR 31 2017
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____ Title _____ Date _____

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Office _____

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

Barnsdall Federal SWD #1 Step Rate Proposal
API 30-015-42468
Sec 27 T17S R29E
Eddy County, New Mexico

Casing Record:

13.375" H-40 (0'-165')
9.625" HCK-55 (0'-4,500')
7" L-80 (0'-8,370')
OH 8,370'-9,556'
TD 9,556' MD

Tubing Record:

4.5" J-55 12.25# 8RD EUE Duoline (186 joints)
4.5" L-80 12.25# 8RD EUE Duoline (79 joints)
Packer set @ 8,334'
End of Tubing @ 8,348'

Completions Record:

126 BBLs acid in OH (8,370'-9,556')

Barnsdall Federal SWD #1 SRT Procedure
Engineer: Aaron Clements, Apache Corporation, direct 432-818-1877, cell 903-570-6215
Written for Approval: 02/23/2017

Well History

This well was drilled in 2014 and was originally planned to be a Cisco disposal. Original drilling plans were to take the well through the Cisco and complete selected intervals for perforation and stimulation based on log analysis. During drilling operations a severe water flow was encountered at 9,490' with H_2S. Due to hazardous well conditions, which required 11 ppg mud to control, the decision was made to stop drilling, set casing above the Cisco, and make an open hole completion. A CIBP was set in the 7" above the casing shoe to isolate the Cisco until completion, when it was attempted to pump acid into the open hole section. High injection pressure required slow job, and very little acid was put away due to surface pressure restrictions.

An injection permit was granted for this well for an anticipated 15,000 BPD with 1,540 PSI maximum surface pressure. Due to problems during drilling and completions, Apache was aware

that no water would be able to be disposed of while adhering to the permitted pressures. Two step rate tests were run in order to raise the permitted injection pressure, but due to various problems with the SRT procedures and reporting processes, no approval was able to be granted to raise the injection pressures. Apache has a fully operational SWD facility onsite, and has attempted to dispose of water under the permitted pressures several times unsuccessfully.

Objective

Prior to conducting a third SRT, Apache seeks prior approval of the test procedure to ensure all State and Federal concerns are addressed. Without an increase in maximum pressure, this well is unable to be placed into service for disposal.

Targeted maximum bbl/day injection rate is 5,000 BPD. BLM standards require that the first two step rate pressures must be below 0.2psig/ft x depth at top of injection (1540 PSI); Apache asks that this requirement be waived for this step rate test since we have significant data that readily shows water injection will not occur in operational quantities until approximately 2,600-2,700 PSI is reached on surface.

Because our requested disposal rate is much lower than originally anticipated, Apache requests that the following procedure be approved to in lieu of the EPA standard step rate tests increments:

Procedure

Notify BLM in Carlsbad by phone at 575-200-7902, if there is no response, 575-361-2822 at least 24 hours before beginning the test. If no answer, leave a voice mail or email with the API#, workover purpose, and a call back phone number. Note the contact, time, & date in your subsequent report.

Notify OCD in Atresia (Richard Inge) by phone at 575-748-1283 ext 107 at least 24 hours before beginning test. If no answer leave a voice mail or email with the API#, workover purpose, and a call back phone number. Note the contact, time, & date in your subsequent report.

1. MIRU wireline and lubricator. NU lubricator and wellhead. MIRU Cardinal for SRT.
2. NU chart recorder and turbine flow meter on surface pipe and prepare downhole pressure gauge for verification with surface pressure recorder.
    a. Turbine meter must be recently calibrated and calibration data retained. The turbine meter should be accurate to within 0.1 bbl/min
3. Pick up downhole pressure transmitter and RIH through lubricator to 50' MD
4. Begin water injection until pressure reaches 1000 psi and sustain rate until pressure is stabilized. Once pressure is stabilized record surface pressure reading and downhole

pressure transmitter reading and confirm that each tool is reading within 10 psig of each other. If tools are synchronized correctly, continue with procedure, if not, shut down and begin step 4 again until corresponding pressures are achieved. Note tool synchronization in the record.

5. RIH with downhole pressure transmitter to 8,335' which is approximately one-half joint above end-of-tubing.

   Note: Apache recognizes that guidelines request that the downhole pressure monitor be run in to the depth of the first completed interval, but given that this is an open hole system we request that the pressure transmitter not be required to be run out the end of the open ended tubing section to reduce the risk of sticking and losing the transmitter downhole upon retrieval. This was discussed with Phillip Goetze and Mr. Goetze agreed with this modification.

6. Begin water injection per the following steps.

   Step 1 – 0.5 bpm for 30 minutes
   Step 2 – 1.0 bpm for 30 minutes
   Step 3 – 1.5 bpm for 30 minutes
   Step 4 – 2.0 bpm for 30 minutes
   Step 5 – 2.5 bpm for 30 minutes
   Step 6 – 3.0 bpm for 30 minutes
   Step 7 – 3.5 bpm for 30 minutes (equivalent to approximately 5,000 BPD)

   Conditions applicable to each step above:

   - All steps should be conducted for 30 minute intervals
   - Record rate, surface pressure, and downhole pressure every 5 minutes during each step. If the last two five minute readings (25 min and 30 min into the step) are not within 15 psig of each other, continue injection at current rate until two consecutive 5 minute time periods are achieved within 15 psig of each other.

   An Apache rep should fill out the provided spreadsheet to ensure that all data is accurately recorded, along with the recordings from Cardinal and the wireline company.

   Note: Apache recognizes that recommendations are to have the first two step pressures be below .2 psig/ft x depth at top injection (1,674 psig in our case), but Apache has significant data that suggests this is not possible due to the high pressure required to inject water in this well. This was the case in the initial two SRTs already conducted. Apache requests that in order to obtain a valid SRT, we "pre-inject" into the well until

our first injection step rate is reached. This was discussed with Mr. Goetze and he understood the reasons for this request.

7. Record Instant Shut In Pressure ("ISIP or hard shut-in") when pumping is discontinued, and continue to record surface and downhole pressures at shut-in and at five minute intervals (5, 10, 15 minutes, etc.) for sufficient time that the well's pressures are declining at a roughly steady rate.
8. POOH with pressure transmitter
9. RDMO lubricator, wireline, surface equipment, and Cardinal
10. Secure well
11. Provide all SRT data to Midland engineer

Administratum

This procedure will be filed accompanying a sundry notice to the BLM, copied to OCD Artesia and Santa Fe.

Upon approval, SRT will be run with notice as provided above.

After conclusion of test, full documentation of test including interpretative analysis will be filed with the BLM and OCD. At this time, Apache will formally request increase in injection pressure from the OCD.

Upon approval of increased injection pressure, disposal operations will commence.