

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

FORM APPROVED
OMB No 1004-0135
Expires: January 31, 2004

RM

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.

MAR 19 2009

5. Lease Serial No.

NM-047423

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.

Hackberry Hills 1 Fed #1

9. API Well No.

30-015-36960

10. Field and Pool, or Exploratory Area

Avalon Morrow Gas

11. County or Parish, State

Eddy County, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Clarify csg program</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

3. 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 recompleat 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

MOC has received an approved APD for the above captioned well. Casing program indicates 26" hole w/20" csg to 250'. MOC proposes to drill below 20" csg shoe w/12 1/4" bit and set 9 5/8" csg to 2000' (Est top of Delaware @ 2100'). However if hole integrity cannot be maintained, then the 12 1/4" hole will be reamed out to 17 1/2" and 13 3/8" 48# H40 ST&C csg will be run to cover problem hole interval. Using off set well data, this interval should be above 900'. If 13 3/8" csg is run to 900', we will cmt with 350 sks Lite Class C (35:65:4) w/additives. Mixed @ 14.6 PPG @ 1.96 yd. Tail w/200 sks Class C w/2% CaCl2. Mixed @ 14.8 PPG @ 1.34 yd. If primary cmt does not circulate, we will run 1" pipe & cmt to surface. We will then drill to 2000' w/12 1/4" bit and run 9 5/8" csg as previously stated in APD.

If you have any questions call Frosty Lathan @ 575-393-5905 or 575-390-4103.

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Jackie Lathan

Title Hobbs Regulatory

Signature

Date 03/06/09

APPROVED

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by (Signature)

Name
(Printed/Typed)MAR 11 2009
Title

Office

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.

WESLEY W. INGRAM
PETROLEUM ENGINEER

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.

(Continued on next page)

7/12

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Mewbourne Oil Company
LEASE NO.:	NM047423
WELL NAME & NO.:	Hackberry Hills 1 Federal #1
SURFACE HOLE FOOTAGE:	1650' FNL & 990' FWL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 1, T. 22 S., R 25 E., NMPM
COUNTY:	Eddy County, New Mexico

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

High cave/karst.

Possible lost circulation in the San Andres and Wolfcamp.

High pressures expected in the Wolfcamp and Pennsylvanian Group.

1. The **20 inch** surface casing shall be set **at approximately 250 feet** and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

CONTINGENCY CASING

If hole integrity cannot be maintained, 13-3/8" casing will be run to approximately 900' and cemented to surface. If cement does not circulate see B.1.a, c-d above. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to high cave/karst. Additional cement may be required as excess calculates to 28%.

2. **HIGH CAVE/KARST – THE CEMENTING PROGRAM MAY REQUIRE MODIFICATION FOR THE 9-5/8” CASING IF LOST CIRCULATION OCCURS WHILE DRILLING THE 12-1/4” HOLE AND THE CONTINGENCY CASING HAS NOT BEEN SET. IF LOST CIRCULATION OCCURS, CONTACT THE BLM WITH REGARDS TO USING A DV TOOL ABOVE THE LOST CIRCULATION ZONE TO MEET THE HIGH CAVE/KARST REQUIREMENTS OF A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE. REMEDIAL CEMENTING WITH 1” WILL NOT MEET THE REQUIREMENTS FOR PROTECTION OF THE CAVE/KARST SEGMENT OF TWO CASING AND SOLID CEMENT LAYERS. THE CAVE DEPTH IN THIS AREA IS APPROXIMATELY 500 FEET.**

3. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Casing to be set at the base of the Capitan Reef before encountering the Delaware formation, which could occur shallower than operator has proposed. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to high cave/karst.**

Formation below the 9-5/8” shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

4. The minimum required fill of cement behind the 4-1/2 inch production casing is:

- ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Cement must come to surface due to high cave/karst requirement that two casing strings with cement cover the cave zone. This is not accomplished without bringing this one to surface. Additional cement will be required as excess cement is less than 5%.**

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8"** intermediate casing shoe shall be **5000 (5M)** psi.
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
 - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.
 - e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.
 - f. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

Approved for aerated mud, but not air drilling.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

WWI 031109