

30-005-29201
HOBBS OCD
JUL 19 2012

**PECOS DISTRICT
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Mack Energy Corporation	RECEIVED
LEASE NO.:	NM-54296	
WELL NAME & NO.:	Barney Federal Com. No. 1	
SURFACE HOLE FOOTAGE:	1480' FSL & 290' FWL	
BOTTOM HOLE FOOTAGE:	1675' FSL & 990' FEL	
LOCATION:	Section 30, T. 15 S., R. 30 E., NMPM	
COUNTY:	Chaves County, New Mexico	

V. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

1. Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell, NM 88201, 24 hours at (575) 627-0205.
2. The BLM is to be notified a minimum of 24 hours in advance for a representative to witness:
 - a. Spudding well
 - b. Setting and/or Cementing of all casing strings

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

BOPE Tests

3. 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.
4. Include the API Number assigned to well by NMOCD on the subsequent report of setting the first casing string.
5. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.
6. The operator will accurately measure the drilling rate in ft/min to set the base of the usable water protection casing string opposite competent rock. The record of the drilling rate along with the caliper-gamma ray-neutron well log run to surface will be submitted to this office as well as all other logs run on the borehole 30 days from completion.
7. Air, air-mist or fresh water and non toxic drilling mud shall be used to drill to the base of the usable water protection casing string. Any polymers used will be water based and non-toxic.

B. CASING

1. The 9-5/8 inch usable water protection casing string shall be set at +/- 450 ft. in competent bedrock. **The operator will not set casing in the Rustler Halite (salt)**

If at 450 ft. there isn't a competent bed the operator is required to set casing in the next

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thick competent bedding (i.e. 15 to 25 ft or greater) encountered and cemented to the surface.

Setting surface casing should be witnessed by a PET.

a. If cement does not circulate to the surface, the Roswell Field 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 will be a minimum 18 hours for a water basin or 500 pounds compression strength, whichever is greater. (This is to include the lead cement).

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 compression strength, whichever is greater.

d. If cement falls back, remedial action will be done prior to drilling out that string.

2. The minimum required fill of cement behind the 7 inch production casing is **sufficient to circulate to the surface**. If cement does not circulate see B.1.a-d above.

3. There is no required fill of cement behind the 4-1/2 inch production liner since a Peak Systems Completion Liner Assembly will be used for lateral and will not require cementing.

4. 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.

5. All casing shall be new or reconditioned and tested casing and meet API standards for new casing. The use of reconditioned and tested casing shall be subject to approval by the authorized officer. Approval will be contingent upon the wall thickness of any casing being verified to be at least 87-1/2 per cent of the nominal wall thickness of new casing.

C. PRESSURE CONTROL

1. Before drilling below the 9-5/8 inch surface casing shoe, the blowout preventer assembly shall consist of a minimum of One Annular Preventer or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve. Before drilling below the 7 inch intermediate casing shoe, the blowout preventer assembly shall consist of a minimum of One Annular Preventer, Two Ram-Type Preventers, and a Kelly Cock/Stabbing Valve.

2. Before drilling below the 9-5/8 inch surface casing shoe, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **2000** psi. Before drilling below the 7 inch intermediate casing shoe, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **3000** psi.

3. The BOPE shall be installed before drilling below the 9-5/8 inch surface casing and the 7 inch intermediate casing and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

a. The BLM Roswell Field office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

- b. The tests shall be done by an independent service company.
- c. 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.
- d. 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 BLM Roswell Field Office at 2909 West Second Street, Roswell, New Mexico 88201.
- e. Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- f. Testing must be done in a safe workman like manner. Hard line connections shall be required.
- g. The requested variance to test the BOPE prior to **drilling below the 9-5/8 inch surface casing** to the reduced pressure of **2000** psi using the rig pumps is approved.

D. DRILLING MUD

- 1. Fresh water and non toxic drilling mud shall be used to 450 feet to drill the 12-1/4 inch hole for the 9-5/8 inch surface casing to be set at 450 feet.**