

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTMAY 29 2018
NMOC
ArtesiaFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018SUNDRY NOTICES AND REPORTS ON WELLS DISTRICT II-ARTESIA O.C.D.
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

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMNM59038
2. Name of Operator MACK ENERGY CORPORATION		6. If Indian, Allottee or Tribe Name
Contact: DEANA WEAVER E-Mail: DWEAVER@MEC.COM		7. If Unit or CA/Agreement, Name and/or No.
3a. Address P.O. BOX 960 ARTESIA, NM 88210	3b. Phone No. (include area code) Ph: 575-748-1288	8. Well Name and No. THUNDER BAY FEDERAL COM 1H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 22 T15S R29E NENW 10FNL 1650FWL		9. API Well No. 30-005-64308
		10. Field and Pool or Exploratory Area ROUND TANK; SAN ANDRES
		11. County or Parish, State CHAVES COUNTY, NM

12. CHECK THE 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"/> Hydraulic Fracturing	<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
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original A
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	PD

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 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 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.

MACK ENERGY CORPORATION IS PROPOSING THE FOLLOWING CASING/CEMENT CHANGES TO THE THUNDER BAY FEDERAL COM 1H:

SURFACE - DRILL 17 1/2" HOLE TO 250', RUN 13 3/8" J-55 48# CSG TO 0-250', CEMENT W/ 100SX RFC+12% PF53+2%PF1+5PPS PF42+.125PPS PF29, TAIL W/ 250SX CLASS C 1% PF 1

**OPTIONAL INTERMEDIATE CASING (IF WATER FLOW IS ENCOUNTERED)- DRILL 12 1/4" HOLE TO 1200', RUN 9 5/8" J-55 36# CSG TO 0-1200', CEMENT W/ 560SX CLASS C +1% PF1
WILL NOTIFY BLM-ROSWELL IS WATER FLOW IS ENCOUNTERED

PRODUCTION- DRILL 8 3/4" HOLE TO 8179', RUN 7" HCP-110 26# CSG TO 0-3300', 5 1/2" HCP-110 17# CSG 3300-8179', CEMENT W/ 250SX CLASS C 4% PF20+4PPS PF45+125PPS PF29, TAIL W/ 1450SX PVL+13/BWOW

578C
GC 5-30-18
Accepted for record - NMOC
SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct. Electronic Submission #421050 verified by the BLM Well Information System For MACK ENERGY CORPORATION, sent to the Roswell Committed to AFMSS for processing by JENNIFER SANCHEZ on 05/23/2018 ()	
Name (Printed/Typed) DEANA WEAVER	Title PRODUCTION CLERK
Signature (Electronic Submission)	Date 05/22/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____	Title _____	Date MAY 24 2018
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 **

Additional data for EC transaction #421050 that would not fit on the form

32. Additional remarks, continued

PF44+5%PF174+.5%PF606+.1% PF153+.4PPSPF44

**PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Mack Energy Corporation
LEASE NO.:	NMNM-59038
WELL NAME & NO.:	Thunder Bay Federal Com 1H
SURFACE HOLE FOOTAGE:	0010' FNL & 1650' FWL
BOTTOM HOLE FOOTAGE:	0270' FSL & 1675' FWL
LOCATION:	Section 22, T. 15 S., R 29 E., NMPM
COUNTY:	Chaves County, New Mexico

The original COAs still stand with the following drilling modifications:

Communitization Agreement

The operator will submit a Communitization Agreement to the Roswell Field Office, 2909 West 2nd Street Roswell, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.

In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

Provide NMOCD Gas Capture Plan (GCP) Form:

Well(s)/Facility information:

1. Name of facility
2. Wells that will be located (new and future) at this facility
 - a. Well name and number
 - b. Well API number
 - c. Well location, Sect, T, R, Footages, county, state
 - d. Expected IP gas rate, Mcfpd of each well
 - e. First planned production date for well(s) that are developed from this facility

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ **Chaves and Roosevelt Counties**

Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.

During office hours call (575) 627-0272.

After office hours call (575) 627-0205.

1. **A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated prior to drilling out the surface shoe. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
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 is located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

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

Wait on cement (WOC) for Water Basin:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

Medium Cave/Karst

Possibility of lost circulation in the Queen and San Andres formations.

1. The 9-5/8 inch surface casing shall be set at approximately 250 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
 - 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 surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - 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.

Optional 9-5/8" Casing: If water flow is encountered operator will set 9-5/8" intermediate casing.

- 2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is (ensure casing is set in the anhydrite or dolomite):

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

- 3. The minimum required fill of cement behind the 7 X 5-1/2 inch production casing is:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

- 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.

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 53.
- 2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi. (Operator installing 3M, testing to 2,000 psi).

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. 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.**
 - f. 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. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

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

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

JAM 052418

