

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2014

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.

5. Lease Serial No.
SHL: NMNM105217, BHL: NMLC069033

6. If Indian, Allottee, or Tribe Name

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

8. Well Name and No.

Blue Thunder Federal Com #5H

9. API Well No.

30-015-42016

10. Field and Pool, or Exploratory Area

Hackberry; Bone Spring, North

11. County or Parish, State

Eddy County NM

SUBMIT IN TRIPLICATE - Other Instructions on page 2.

1. Type of Well

Oil Well Gas Well Other

2. Name of Operator

COG Operating LLC

3a. Address

2208 W. Main Street
Artesia, NM 88210

3b. Phone No. (include area code)

575-748-6940

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1630' FSL & 255' FWL Unit Letter L (NWSW) Sec 4-19S-31E

1980' FSL & 330' FWL Unit Letter L (NWSW) Sec 5-19S-31E

Lat.

Long.

12. CHECK APPROPRIATE BOX(S) 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

Altering Casing

Fracture Treat

Reclamation

Well Integrity

Subsequent Report

Casing Repair

New Construction

Recomplete

Other

Change Plans

Plug and abandon

Temporarily Abandon

Final Abandonment Notice

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 recomple horizontally, give subsurface locations and measured and true vertical depths or pertinent markers and sands. Attach the Bond under which the work will performed or provide the Bond No. on file with the 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 recomple in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notice shall be filed only after all requirements, including reclamantion, have been completed, and the operator has determined that the site is ready for final inspection.)

COG Operating LLC respectfully requests approval for the following changes to the original approved APD.

We will not drill the pilot hole on this well, so we can also drop the plug back procedure since it will not be needed.

We will drill out the 9-5/8" casing with 8-3/4" bit. We will drill 8-3/4" hole from intermediate casing to the EOC (~ 9200' MD).

We will drill from the EOC to TD with 7-7/8" hole size.

The COA's states Capitan Reef stips. This well is not in the Capitan Reef.

Accepted for record
NMOC D 705
3-17-2014

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

RECEIVED
MAR 19 2014
NMOC D ARTESIA

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

Name (Printed/ Typed)

Mayte Reyes

Title:

Regulatory Analyst

Signature:

Mayte Reyes

Date:

2/25/14

APPROVED

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by:

Title:

Date:

MAR 13 2014

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:

/s/ Chris Walls

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 any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

CARLSBAD FIELD OFFICE

CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating LLC
LEASE NO.:	NMLC-069033
WELL NAME & NO.:	Blue Thunder 5 Federal Com 5H
SURFACE HOLE FOOTAGE:	1630' FSL & 0255' FWL
BOTTOM HOLE FOOTAGE	1980' FSL & 0330' FWL Sec. 05, T. 19 S., R 31 E.
LOCATION:	Section 04, T. 19 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

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)

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. Operator has stated that they will have monitoring equipment in place prior to drilling out of the surface shoe. If Hydrogen Sulfide is encountered, please report measurements 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. 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.).

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

Wait on cement (WOC) time prior to drilling out 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. **DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE.** Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. **IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS.** 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.

Capitan Reef

Possibility of water flows in the Artesia Group and Salado.

Possibility of lost circulation in the Artesia Group and Delaware.

Abnormal pressures may be encountered within the 3rd Bone Spring Sandstone and Wolfcamp formation.

1. The 13-3/8 inch surface casing shall be set at approximately 710 feet (in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt) and cemented to the surface. Fresh water mud to be used to setting depth.
 - 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.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing, which shall be set at approximately **2800** feet, is:
- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Excess calculates to 16% - Additional cement may be required.**

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 **5-1/2** inch production casing is:
- Cement should tie-back a minimum of 500 feet into previous casing. Operator shall provide method of verification. **Additional cement may be required – excess cement calculates to 20%.**
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 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.
 - a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.
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 **3000 (3M)** psi.

4. 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**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - 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 with a corresponding chart (i.e. two hour clock-two hour chart, one hour clock-one hour chart).
 - 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.

CRW 031314