

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

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 reverse side.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. SL: NM02447, BHL: NM 02447
2. Name of Operator BOPCO, L. P.		6. If Indian, Allottee or Tribe Name
3a. Address P. O. Box 2760 Midland, TX 79702	3b. Phone No. (include area code) 432-683-2277	7. If Unit or CA/Agreement, Name and/or No. Big Eddy Unit 6829X
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SESE, UL P 660' FSL, 10' FEL, Sec 35, T19S-R31E, Lat:N32.625883, Long: W103.848014		8. Well Name and No. Big Eddy Unit 259H
		9. API Well No. 30-015-41601
		10. Field and Pool, or Exploratory Area Hackberry, Bone Spring, East
		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			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☒ Alter Casing	☐ Fracture Treat	☐ 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 recompleate 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 recompleation 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.)

BOPCO, L.P. respectfully requests permission to amend the casing program for Big Eddy Unit 259H. This will be accomplished by drilling an 18-1/8" surface hole and setting a 16", 84 ppf, J-55, BT&C surface string at approximately 875'. The 16" surface casing will be cemented to surface. The 1st intermediate will be drilled with an 14-3/4" hole drilled to approximately 2,675' and then cased using an 13-3/8", 68 ppf, HCL-80, UFJ intermediate string that will be cemented to surface. The 2nd intermediate will be drilled with a 12-1/4" hole and cased using 9-5/8", 40 ppf, N-80, LT&C and cementing it back to surface. The 3rd intermediate string will be drilled with an 8-3/4" hole and cased using 7" 26 ppf, HCP-110, LT&C to a depth of 9,418' MD/9,125' TVD. The 3rd intermediate string will be cemented in two stages with the 2nd stage to tie back to 50' above the Capitan Reef to 2,685'. A 4-1/2" open hole completion system will be run and tied back 50' into the 7" casing string. Please find attached casing and cement revisions

Accepted for record

NMOCD 109
12/26/2013SEE ATTACHED FOR
CONDITIONS OF APPROVAL

RECEIVED

DEC 26 2013

NMOCD ARTESIA

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

Courtney Lockhart

Title Regulatory Analyst

Signature

Date 12-19-13

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

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.

Title

Office

APPROVED

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD 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)

Revised Casing Program:

Type	Interval (MD)	Hole Size
20" (already set)	0-120'	24"
16", 84 ppf, J-55 per Courtney Lockhart 12/19/13, BTC	0-875'	18-1/8"
13-3/8", 68ppf, HCL-80 UFJ	0-2,675	14-3/4"
9-5/8", 40 ppf, N-80, LTC	0-4,300'	12-1/4"
7", 26 ppf, HCP-110, LTC	0 - 9,418'	8-3/4"
4-1/2", 11.6#, HCP-110, LTC	9,368' - 13,797'	6-1/8"

13,872
per directional plan

Casing Program Safety Factors:

Type	Tension	Collapse	Burst
J-55 16", 84 ppf, J-44, BTC	21.7	2.95	6.02
13-3/8", 68ppf, HCL-80 UFJ	6.72	2.29	3.31
9-5/8", 40 ppf, N-80, LTC	4.95	1.84	2.35
7", 26 ppf, HCP-110, LTC	4.14	1.58	1.92
4-1/2", 11.6#, HCP-110, LTC	2.97	1.59	2.03

Cementing Program: Please see below for updates to cement program

16" Surface (gauge hole + 100% excess or fluid caliper + 30%)

Lead Slurry: Econocem HLC System + 5 pps salt + 0.7% Econolite.

Lead Volume: 250 sacks

Lead Details: 12.9 ppg, 1.88 ft³/sk yield, H₂O 9.99 gal/sk

Top of lead: Surface

Tail Slurry: Halcem 'C'

Tail Volume: 200 sacks

Tail Details: 14.80 ppg, 1.33 ft³/sk yield, H₂O 6.34 gal/sk

Top of tail: 575'

13-3/8" 1st intermediate salt string (gauge hole + 100% or fluid caliper + 50% excess)

Lead Slurry: Econocem HLC System + 5% salt + 0.125 lbm/sk Poly-E-Flake

Lead Volume: 540 sacks

Lead Details: 12.9 ppg, 1.85 ft³/sk yield, H₂O 9.81 gal/sk

Top of Lead: Surface

Tail Slurry: Halcem 'C' cement
Tail Volume: 160 sacks
Tail Details: 14.8 ppg, 1.33 ft³/sk yield, H₂O 6.34 gal/sk
Tail Length: 500'
Top of Tail: 2,175'

9-5/8" 2nd Intermediate (caliper volume + 50% excess)

1st Stage

Primary slurry: Extendacem 'C' System + 0.6% Halad + 3lbm/sk Kol-Seal + 0.125 lbm/sk Poly-E-Flake.
Primary Volume: 450 sacks
Primary Details: 13.5 ppg, 1.74 ft³/sk yield, H₂O 8.91 gal/sk
Top of Primary: DV/ECP Tool (2,735' MD)

2nd Stage

Lead Slurry: Econcem System + 5% Salt
Lead Volume: 600 sacks
Lead Details: 12.9 ppg, 1.85 ft³/sk yield, H₂O 9.83 gal/sk
Top of Lead: Surface

Tail Slurry: Halcem System
Tail Volume: 175 sacks
Tail Details: 14.8 ppg, 1.33 ft³/sk yield, 6.34 gal/sk
Tail Length: 500'
Top of Tail: 2,235'

7" 3rd Intermediate (caliper volume + 50% excess)

1st Stage

Lead Slurry: Tuned Light System + 0.125 lbm/sk Poly-E-Flake
Lead Volume: 330 sacks
Lead Details: 11 ppg, 2.64 ft³/sk yield, H₂O 14.84 gal/sk
Top of Lead: DV Tool

Tail Slurry: Versacem H System + 0.5% Halad-344 + 0.4% CFR-3 + 1 lbm/sk Salt
Tail Volume: 120 sacks
Tail Details: 13.0 ppg, 1.67 ft³/sk yield, H₂O 8.88 gal/sk
Top of Tail: KOP (8,518')

TOC: +/- 5,000' (DV Tool)

2nd Stage

Primary Slurry: Tuned Light System + 0.125 lbm/sk Poly-E-Flake
Primary Volume: 270 sacks
Primary Details: 12.9 ppg, 1.91 ft³/sk yield, H₂O 9.922 gal/sk
Top of Primary: 50' above Capitan Reef (2,685')

CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO, L.P.
LEASE NO.:	NMNM-02447
WELL NAME & NO.:	Big Eddy Unit 259H
SURFACE HOLE FOOTAGE:	0660' FSL & 0010' FEL
BOTTOM HOLE FOOTAGE:	0660' FSL & 0330' FWL
LOCATION:	Section 27, T. 19 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico
API:	30-015-41601

The original COAs still stand with the following drilling modifications:

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Eddy County**

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

- Hydrogen Sulfide (H₂S) monitors shall be installed prior to drilling out the surface shoe. If H₂S is encountered in quantities greater than 10 PPM the well shall be shut in and H₂S equipment shall be installed and flare line must be extended pursuant to Onshore Oil and Gas Order #6. After detection, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items.**
- 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.**
- 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 Salado, Artesia Group, Capitan Reef, Delaware, and Bone Spring.

Possibility of lost circulation in the Rustler, Artesia Group, Capitan Reef, Delaware, and Bone Spring.

1. The **16** inch surface casing shall be set at approximately **875** 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.
 - 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 **13-3/8** inch 1st intermediate casing, which shall be set at approximately **2675** feet, is:
☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing, which shall be set at approximately **4300** feet, is:

Operator has proposed DV tool at depth of 2735'. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth

- a. First stage to DV tool:
☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.
- b. Second stage above DV tool:
☒ Cement 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 Capitan Reef.**

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

Pilot hole is required to have a plug at the bottom of the hole. If two plugs are set, the BLM is to be contacted (575-361-2822) prior to tag of bottom plug, which must be a minimum of 200' in length. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug.

4. The minimum required fill of cement behind the 7 inch production casing is:

Operator has proposed DV tool at depth of 5000'. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

☒ Cement should tie-back at least **50 feet above the Capitan Reef**. Operator shall provide method of verification.

5. Cement not required on the 4-1/2" casing. **Packer system being used.**

6. 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. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. **A variance is granted for the use of a diverter on the 16" surface casing.**
4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** intermediate casing shoe shall be **3000 (3M) psi.**
5. 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.
 - 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 121913