

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

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.

Carlsbad Field Office
HobbsFile Serial No.
22622

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on reverse side

JUL 19 2016

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

1. Type of Well

☒ Oil Well ☐ Gas Well ☒ Other

8. Well Name and No.

ENDURANCE 36 STATE COM 704H

2. Name of Operator

EOG RESOURCES INCORPORATED

Contact: ROBERT H HUMPHREYS

E-Mail: robert_humphreys@eogresources.com

9. API Well No.

30-025-43015-00-X1

3a. Address

MIDLAND, TX 79702

3b. Phone No. (include area code)

Ph: 432-686-3693

10. Field and Pool, or Exploratory

WC-025 G09 S263327G

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

Sec 36 T26S R33E Lot 4 360FSL 1020FWL

11. County or Parish, and State

LEA 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
	<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 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.)

EOG requests amendments to our approved APD for this well in order to revise the Intermediate Cement design and to batch drill this dual well pad as follows:

1 - Drill the Endurance 36 State Com 704H to intermediate TD, cased and cemented.

2 - Skid rig to the Endurance 36 State Com 701H to drill, case and cement in its entirety.

3 - Skid rig back to the Endurance 36 State Com 704H to complete drilling the production hole.

Design details for the revised Intermediate Cement design are attached. Also attached is a schematic of the capping flange.

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

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

Electronic Submission #344196 verified by the BLM Well Information System
For EOG RESOURCES INCORPORATED, sent to the Hobbs
Committed to AFMSS for processing by MUSTAFA HAQUE on 07/11/2016 (16MH0008SE)

Name (Printed/Typed) ROBERT H HUMPHREYS

Title REP. ROW & LEASE OPNS II

Signature (Electronic Submission)

Date 07/08/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By (BLM Approver Not Specified) MUSTAFA HAQUE

Title PETROLEUM ENGINEER

Date 07/11/2016

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 Hobbs

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.

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

**Endurance 36 State Com 704H
30-025-43015
EOG Resources, Inc
Surface Location: Sec. 36, T. 26S, R. 33E
Conditions of Approval**

See below for the changes in the Conditions of Approval for the Drilling Section.

A. DRILLING

All previous COAs still apply, except for the following :

- The operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well , after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well.
- Pump bradenhead cement squeeze on 704H well. ND BOP and skid rig to the 701H well. 704H wellhead must be secured with a 10k capping flange with pressure gauge.
- Pump bradenhead cement squeeze on 701H well. Drill 6 3/4" hole, cement 5 1/2" casing, install dry hole tree, WOC. ND and skid rig to 704H well. 701H wellhead must be secured with a 10k capping flange with pressure gauge.
- Run GR/Cement Bond Log from at least 100' above 7 5/8" float collar to surface with 500 psi surface pressure.
- Submit Cement Bond Log (CBL) copy to BLM.

MHH07112016



Endurance 36 State Com 701H & 704H
7-5/8" Cement Job Procedure
July 6, 2016

1. Drill 9-7/8" and 8-3/4" intermediate hole section to $\pm 11,200'$ MD. TOH with 4-1/2" DP. LD BHA.
 - a. Note: 10-3/4" surface casing will be set at $\pm 935'$ MD
 - b. 9-7/8" intermediate hole section will be drilled from SCP to $\pm 8000'$ MD
 - c. 8-3/4" intermediate hole section will be drilled from $\pm 8000'$ to TD
 - d. Complete losses are anticipated at $\pm 7300'$ MD
2. Install 7-5/8" casing rams in top section of double BOP. Test door seals to 1500 psi.
3. RIH with 7-5/8" casing as follows.
 - a. From TD to $\pm 7700'$ - 7-5/8" 29.7# HCP110 Flushmax III - No centralizers
 - b. From $\pm 7700'$ to Surface - 7-5/8" 29.7# HCP110 LTC - One centralizer every third joint
4. Land 7-5/8" casing on shoulder with mandrel hanger.
5. Shut 7-5/8" casing rams. Monitor casing pressure. Pump pipe capacity using 9.0 ppg reused water (~600 bbls). Record final rate and pressure. Pump 50 bbls of 9.0 ppg RW down 10-3/4" x 7-5/8" annulus. Shut down and record final pump in rate, pressure and ISIP. Do not exceed 500 psi while pumping down BS.
6. RU cementing equipment. The first stage will be pumped conventionally down the 7-5/8" casing with the 7-5/8" rams CLOSED (no returns to surface). RU to pump second stage down both valves on the 10-3/4" x 7-5/8" annulus.
7. Make certain to check the chlorides, pH and temperature of the mix water as soon as the cementing company arrives on location. Mix water should be similar to water used for field blend test.

8. Pump FIRST STAGE as follows:

- a. M&P cement at 5-7 bpm
- b. Displace cement at 7 bpm

First Stage Cement Slurry Design Criteria	
Previous Casing:	10-3/4" 40.5# J55 STC set at 1159' MD
Bit Size:	9.875" from SCP to 7838' MD, 8.750" from 7838' to TD
BHST:	177 °F
BHCT:	133 °F
Cement Volumes Based on:	10.47" AHS from SCP to 6500', 10" AHS from 6500' to 8000', 9" AHS from 8000' to TD
Excess added to AHS volumes:	±45%
TOC:	7300' (Note: Complete LC expected at ±7300')
Pump Schedule	
Pressure Test:	Pressure test lines to 4000 psi, Set fluid pumps to kick out at 3000 psi
Spacer:	40 bbls of fresh water
Tail Cement:	50:50 Class H:Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% CPT35 + 0.80% CPT16A + 0.25% CPT503P
Displacement:	Drop plug → 20 bbls fresh water → ±472 bbls reused water → ±20 bbls fresh water

First Stage Cement Slurry Properties			
Estimated Volume:	550 Sacks	300 Reading:	79 Rpm
Density:	14.4 Ppg	200 Reading:	56 Rpm
Yield:	1.20 ft ³ /sack	100 Reading:	37 Rpm
Mix Water:	4.81 gal/sack	6 Reading:	12 Rpm
Total Mixing Water:	63 Bbls	3 Reading:	11 Rpm
Thickening Time:	3:07 hrs:min	8 hr Compressive Strength:	469 Psi
Free Water:	0 %	12 hr Compressive Strength:	1351 Psi
Fluid Loss:	22 ml/ 30 min	24 hr Compressive Strength:	2186 Psi
Top of cement:	7300 Feet	Compressive Strengths @	177 °F

10-3/4" 40.5# J55 Burst = 3130 psi, Collapse = 1580 psi

7-5/8" 29.7# HCP110 LTC Burst = 9470 psi, Collapse = 7150 psi, JS = 769 kips

7-5/8" 29.7# HCP110 Flushmax III Burst = 7574 psi, Collapse = 5350 psi, JS = 563 kips

9. Back-out landing joint. Install and pressure test pack-off bushing.
10. Continue WOC until the first stage cement has had at least 4 hours of time since bumping plug.
11. Close blind rams. Pressure up on the inside of the 7-5/8" casing to 500 psi and maintain throughout cement job.
12. RU to pump down the 10-3/4" x 7-5/8" annulus. Pump at least 50 bbls of RW down annulus. Shut down and record final pump rate, pressure and ISIP.

13. Pump SECOND STAGE as follows:

- a. Do not exceed 500 psi while pumping down backside.
- b. M&P cement at 4-5 bpm

14. The following volumes will be pumped down the 10-3/4" x 7-5/8" annulus.

Second Stage Cement Slurry Design Criteria	
Previous Casing:	10-3/4" 40.5# J55 STC set at 1159'
Bit Size:	9.875" from SCP to 7838' MD, 8.750" from 7838' to TD
BHST:	140 °F
BHCT:	108 °F
Cement Volumes Based on:	10.47" AHS from SCP to 6500', 10" AHS from 6500' to 7300'
Excess added to AHS volumes:	±35%
TOC:	Surface
Pump Schedule	
Pressure Test:	Pressure test lines to 2500 psi, Set fluid pumps to kick out at 2000 psi
Spacer:	40 bbls of fresh water
Cement:	Class C + 5% Gypsum + 3% CaCl ₂

Second Stage Cement Slurry Properties					
Estimated Volume:	2000	Sacks	300 Reading:	62	Rpm
Density:	14.8	Ppg	200 Reading:	54	Rpm
Yield:	1.38	ft ³ /sack	100 Reading:	46	Rpm
Mix Water:	6.48	gal/sack	6 Reading:	24	Rpm
Total Mixing Water:	309	Bbls	3 Reading:	17	Rpm
Thickening Time:	2:08	hrs:min	8 hr Compressive Strength:	1369	Psi
Free Water:	0	%	12 hr Compressive Strength:	1583	Psi
Fluid Loss:	NA	ml/ 30 min	24 hr Compressive Strength:	1910	Psi
Top of cement:	0	Feet	Compressive Strengths @	140	°F

15. Displace the cement with 4 bbls of fresh water.

16. Shut-in the 10-3/4" x 7-5/8" annulus. Do not allow any fluids down annulus.

17. Monitor the shut-in pressure on the 10-3/4" x 7-5/8" annulus for 4 hours. While WOC bleed pressure off of the inside of the 7-5/8" casing. Change out rams and pressure test BOPE.

18. If the pressure remains positive (>0 psi), RDMO cementing equipment.

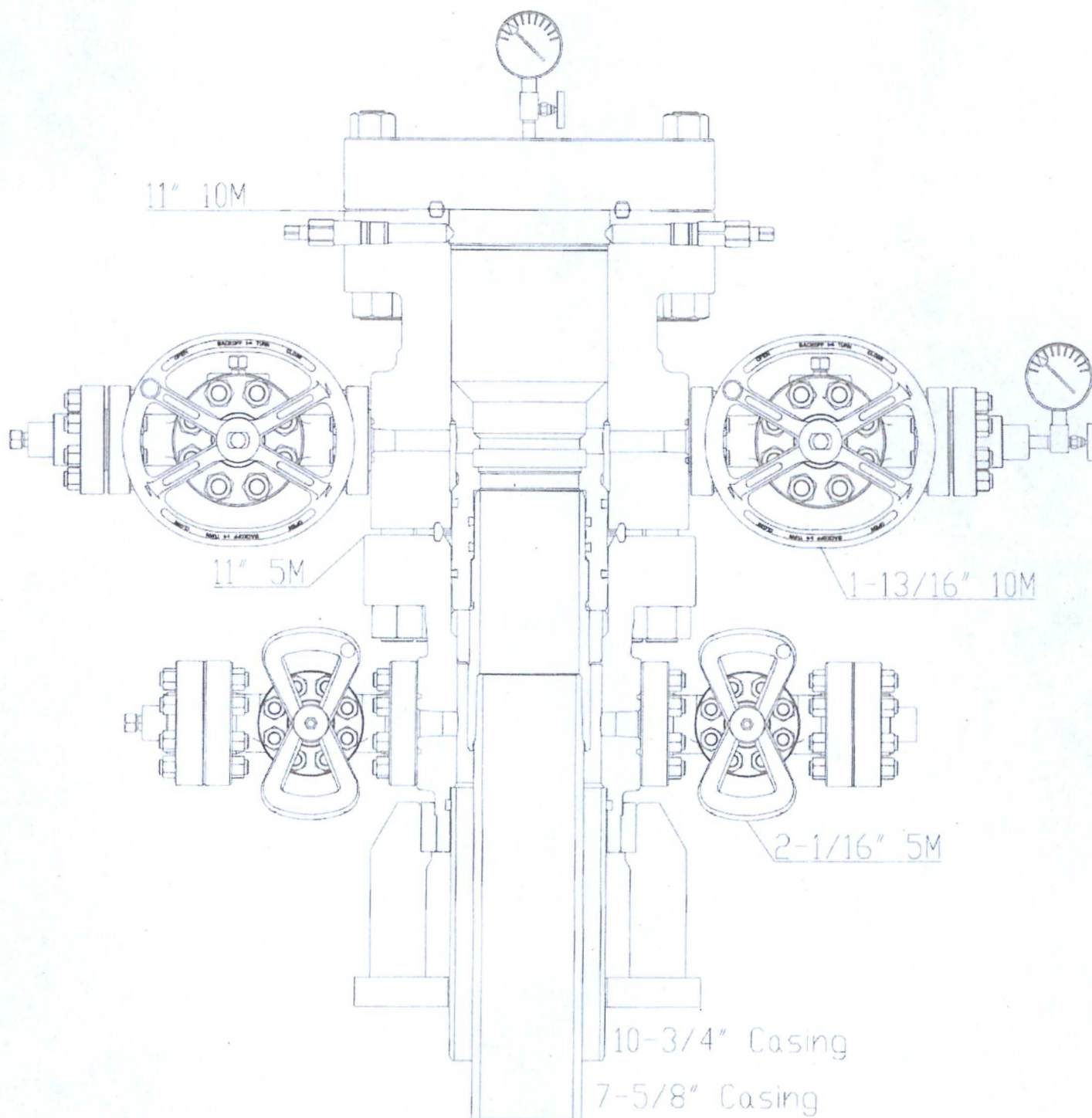
19. If the pressure is not positive and the well is on a vacuum.

- a. Make certain to have at least 1000 sx (237 bbls) of Class C + 2% CaCl₂ "top off" cement on location.
- b. After waiting at least 4 hours from bumping the plug, fill the 10-3/4" x 7-5/8" annulus with 14.8 ppg class C + 2% CaCl₂ cement to surface.
- c. M&P cement at 3-4 bpm.
- d. Flush lines with 4 bbls of fresh water. Do not exceed 500 psi.
- e. Record the amount of cement required to fill annulus.
- f. RDMO cementers.



Endurance 36 State Com 701H & 704H
Batch Drilling Procedure
July 8, 2016

1. MIRU on the 704H.
2. Drill 14 3/4" surface hole to +/-1050' on 704H well
3. Run and cement 10 3/4" surface casing on 704H well
4. NU BOP
5. Drill 9 7/8" and 8 3/4" intermediate holes on 704H well
6. Run 7 5/8" intermediate casing on 704H well
7. Pump stage 1 cement job consisting of 550 sx 14.4 ppg on 704H well
8. WOC minimum 4 hours.
9. Pump bradenhead cement squeeze on 704H well.
10. ND BOP, skid rig to the 701H. (704H wellhead will be secured with a 10k capping flange with pressure gauge)
11. Drill 14 3/4" surface hole to +/-1050' on 701H well
12. Run and cement 10 3/4" casing on 701H well
13. NU BOP
14. Drill 9 7/8" and 8 3/4" intermediate holes on 701H
15. Run 7 5/8" intermediate casing on 701H well
16. Pump stage 1 cement job consisting of 550 sx 14.4 ppg on 701H well
17. WOC minimum 4 hours.
18. Pump bradenhead cement squeeze on 701H well.
19. Drill 6 3/4" production hole on 701H well
20. Run and cement 5 1/2" casing on 701H well, install dry hole tree
21. WOC, ND, skid rig to 704H well
22. NU BOP, drill 6 3/4" production hole on 704H well
23. Run and cement 5 1/2" production casing on 704H well
24. RDMO



*CONCEPT QUOTE DRAWING

EOG RESOURCES

10-3/4" X 7-5/8" X 5-1/2"
FBD-100 WELLHEAD SYSTEM
QUOTE: HDU - 93482

DWN BAY 7/8/16

CHK

APP

BY

DATE



Worldwide Expertise • Global Strength

DRAWING NO

WH-15848

REV-1