

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD Hobbs

FORM APPROVED  
OMB NO. 1004-0137  
Expires: January 31, 2018**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 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. NMNM26079
2. Name of Operator EOG RESOURCES INCORPORATED		6. If Indian, Allottee or Tribe Name
3a. Address MIDLAND, TX 79702		7. If Unit or CA/Agreement, Name and/or No.
3b. Phone No. (include area code) Ph: 432-686-3689		8. Well Name and No. STREETCAR 15 FED 702H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 15 T25S R33E SESE 250FSL 610FEL		9. API Well No. 30-025-42866-00-X1
		10. Field and Pool or Exploratory Area WC025G09S253309A-UPR WOLFCAM
		11. County or Parish, State LEA 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 APD
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 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.

EOG Resources requests an amendment to our approved APD for this well to reflect the addition of a DV tool to the intermediate casing string.

Details attached.

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

14. I hereby certify that the foregoing is true and correct. <b>Electronic Submission #386677 verified by the BLM Well Information System For EOG RESOURCES INCORPORATED, sent to the Hobbs Committed to AFMSS for processing by ZOTA STEVENS on 09/05/2017 (17ZS0021SE)</b>	
Name (Printed/Typed) STAN WAGNER	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 08/29/2017

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By <u>ZOTA STEVENS</u>	Title <u>PETROLEUM ENGINEER</u>	Date <u>09/05/2017</u>
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.

(Instructions on page 2)

**\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\***

**EOG RESOURCES, INC.**  
**STREETCAR 15 FED NO. 702H**

**Cementing Program:**

Depth	No. Sacks	Wt. ppg	Yld Ft <sup>3</sup> /ft	Mix Water Gal/sk	Slurry Description
7-5/8" 11,400' DV Tool w/ ECP @ 5.000'	500	10.8	3.48	20.96	Stage 1 Lead: Class C + 0.3% GXT-C + 0.4% CPT-503P + 0.2% CPT-45 + 3 pps Kol Seal + 0.6% CPT-30 + 0.1% CPT-20A + 0.1% Citric Acid + 5% Gypsum + 5% Salt
	540	15.6	1.22	5.38	Stage 2 Tail: Class H + 3% MagOx + 0.5% CPT-30 + 0.3% CPT-20A
	1350	12.7	2.37	13.27	Stage 2 Lead: Class C + 10% Salt + 6% Gel + 3% MagOx + 0.25 pps Celloflake + 0.4% CPT-20A
	75	14.8	1.45	6.90	Stage 2 Tail: Class C + 10% Salt + 3% MagOx + 0.25% CPT-20A

Note: Cement volumes based on bit size plus at least 25% excess in the open hole plus 10% excess in the cased-hole overlap section.

10 3/4	surface csg in a	14 3/4	inch hole.	Design Factors				SURFACE	
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	40.50	J 55	ST&C	8.90	2.97	0.53	1,165	47,183	
"B"							0	0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500				Tail Cmt	does not	circ to sfc.	Totals:	1,165	47,183
<u>Comparison of Proposed to Minimum Required Cement Volumes</u>									
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
14 3/4	0.5563	525	830	674	23	8.80	3414	5M	1.50
Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.									

7 5/8 casing inside the			10 3/4	Design Factors			INTERMEDIATE		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	29.70	HCP 110	LT&C	2.27	13.76	1.05	1,000	29,700	
"B"	29.70	P 110EC	SLIJ II	2.11	5.06	1.05	2,000	59,400	
"C"	29.70	HCP 110	FlushMax III	2.26	0.9	0.84	8,400	249,480	
"D"							0	0	
w/8.4#/g mud, 30min Sfc Csg Test psig:							Totals:	11,400	338,580
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		1165	overlap.	
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
9 7/8 X 8 3/4	0.2148	look v	0	2482		10.00	6302	10M	1.08
Tools for D V Tool(s):			5000				sum of sx	Σ CuFt	Σ%excess
ess cmt by stage % :			73	202			2465	5707	130
Class 'C' tail cmt yld > 1.35							MASP is within 10% of 5000psig, need exrta equip?		
Burst Frac Gradient(s) for Segment(s): A, B, C, D = a, b, 0.66, d < 0.70 a Problem!!									
Collapse = 0.9*1.5 = 1.35 = OK. Alt Burst = 1.2 > 1.0 = OK									

5 1/2	casing inside the	7 5/8	Design Factors				PRODUCTION		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	20.00	P 110 EC	DWC/C-IS MS	2.93	1.53	1.59	10,900	218,000	
"B"	20.00	P 110 EC	VAM SFC	6.49	1.24	1.59	6,330	126,600	
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,398							Totals:	17,230	344,600
B would be:				23.92	1.34	if it were a vertical wellbore.			
No Pilot Hole Planned				MTD	Max VTD	Csg VD	Curve KOP	Dogleg°	Severity°
				17230	12424	12424	11946	90	12
The cement volume(s) are intended to achieve a top of				10900	ft from surface or a	500	overlap.		
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
6 3/4	0.0835	1000	1260	539	134	14.00			0.32
Class 'H' tail cmt yld > 1.20									
Hole-Cplg: This is above the min req TOC section. Min req									



## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	EOG Resources Inc
LEASE NO.:	NM26079
WELL NAME & NO.:	702H-Streetcar 15 Fed
SURFACE HOLE FOOTAGE:	250'/S & 610'/E
BOTTOM HOLE FOOTAGE:	230'/N & 996'/E
LOCATION:	Section 15, T. 25 S., R. 33 E., NMPM
COUNTY:	Lea County, New Mexico

**All previous COAs still apply except the following:**

**A. CASING**

**All previous COAs still apply except the following:**

**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.**

**Risks:**

**Possibility of Water flows in the Castile and Salado.**

**Possibility of lost circulation in the Red Beds, Rustler, and Delaware.**

**Abnormal pressure may be encountered within the 3<sup>rd</sup> Bone Spring Sandstone and all subsequent formations. Operator may need to increase mud weight.**

1. The 10 3/4 inch surface casing shall be set at approximately 1165 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. **Excess calculates to 23% - Additional cement may be required.**
  - 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.

**Formation below the 10 3/4 inch shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.**

**Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.**

2. The minimum required fill of cement behind the 7 5/8 inch intermediate is:

**Operator has proposed DV tool at depth of 5000', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.**

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



b. Second stage above DV tool:

- ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

**Formation below the 7 5/8 inch shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.**

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

- ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

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.

## **B. 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. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 10,000 (10M) psi.**

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.
- e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

**10M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**

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**. 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 (8 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. 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. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

### **C. DRILLING MUD**

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

**Proposed mud weight may not be adequate for drilling through Wolfcamp.**

**ZS 09052017**