

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Carlsbad Field Office

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018HOBBBS
JUL 19 2018
RECEIVEDDO 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.
NMNM118727

6. If Indian, Allottee or Tribe Name

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

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other8. Well Name and No.
ORRTANNA 20 FED 708H2. Name of Operator
EOG RESOURCES, INC.Contact: STAN WAGNER
E-Mail: stan_wagner@eogresources.com9. API Well No.
30-025-437483a. Address
ATTN: STAN WAGNER P.O. BOX 2267
MIDLAND, TX 797023b. Phone No. (include area code)
Ph: 432-686-368910. Field and Pool or Exploratory Area
WC-025 S263327G UPPER WC

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

Sec 20 T26S R33E Mer NMP SESE 798FSL 443FEL

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 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 recompleat 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 a change to a 4-string casing design as attached.

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

Electronic Submission #411750 verified by the BLM Well Information System
For EOG RESOURCES, INC., sent to the Hobbs
Committed to AFMSS for processing by DEBORAH MCKINNEY on 04/26/2018 ()

Name (Printed/Typed) STAN WAGNER

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 04/16/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By /s/ Jonathon Shepard

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 Petroleum Engineer
Office Carlsbad Field Office

JUL 12 2018

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 **

Revised Permit Information 4/16/18:

Well Name: Orrtanna 20 Fed No. 708H

Location:

SL: 798' FSL & 433' FEL, Section 20, T-26-S, R-33-E, Lea Co., N.M.

BHL: 230' FNL & 330' FEL, Section 20, T-26-S, R-33-E, Lea Co., N.M.

Casing Program:

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
17.5"	0 - 850'	13.375"	54.5#	J55	STC	1.125	1.25	1.60
12.25"	0-4,000'	9.625"	40#	J55	LTC	1.125	1.25	1.60
12.25"	4,000' - 4,800'	9.625"	40#	HCK55	LTC	1.125	1.25	1.60
8.75"	0 - 11,200'	7.625"	29.7#	HCP110	FXL	1.125	1.25	1.60
6.75"	0 - 10,700'	5.5"	20#	P110EC	DWC CIS MS	1.125	1.25	1.60
6.75"	0'-17,149'	5.5"	20#	P110EC	VAM SFC	1.125	1.25	1.60

Variance is requested for annular clearance of the 5-1/2" x 7-5/8" to the top of cement.

Cement Program:

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /ft	Slurry Description
850'	697	13.5	1.74	Lead: Class 'C' + 4.00% Bentonite + 2.00% CaCl ₂ (TOC @ Surface)
	333	14.8	1.35	Tail: Class 'C' + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate + 2.0% KCl (1.06 lb/sk)
4,800'	692	12.7	2.22	Lead: Class C + 0.15% C-20 + 11.63 pps Salt + 0.1% C-51 + 0.75% C-41P (TOC @ Surface)
	303	14.8	1.32	Tail: Class C + 0.13% C-20
11,200'	375	10.8	3.67	Lead: Class C + 0.40% D013 + 0.20% D046 + 0.10% D065 + 0.20% D167 (TOC @ 4,300')
	400	14.8	2.38	Tail: Class H + 94.0 pps D909 + 0.25% D065 + 0.30% D167 + 0.02% D208 + 0.15% D800
17,149'	1000	14.8	1.31	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,700')

Mud Program:

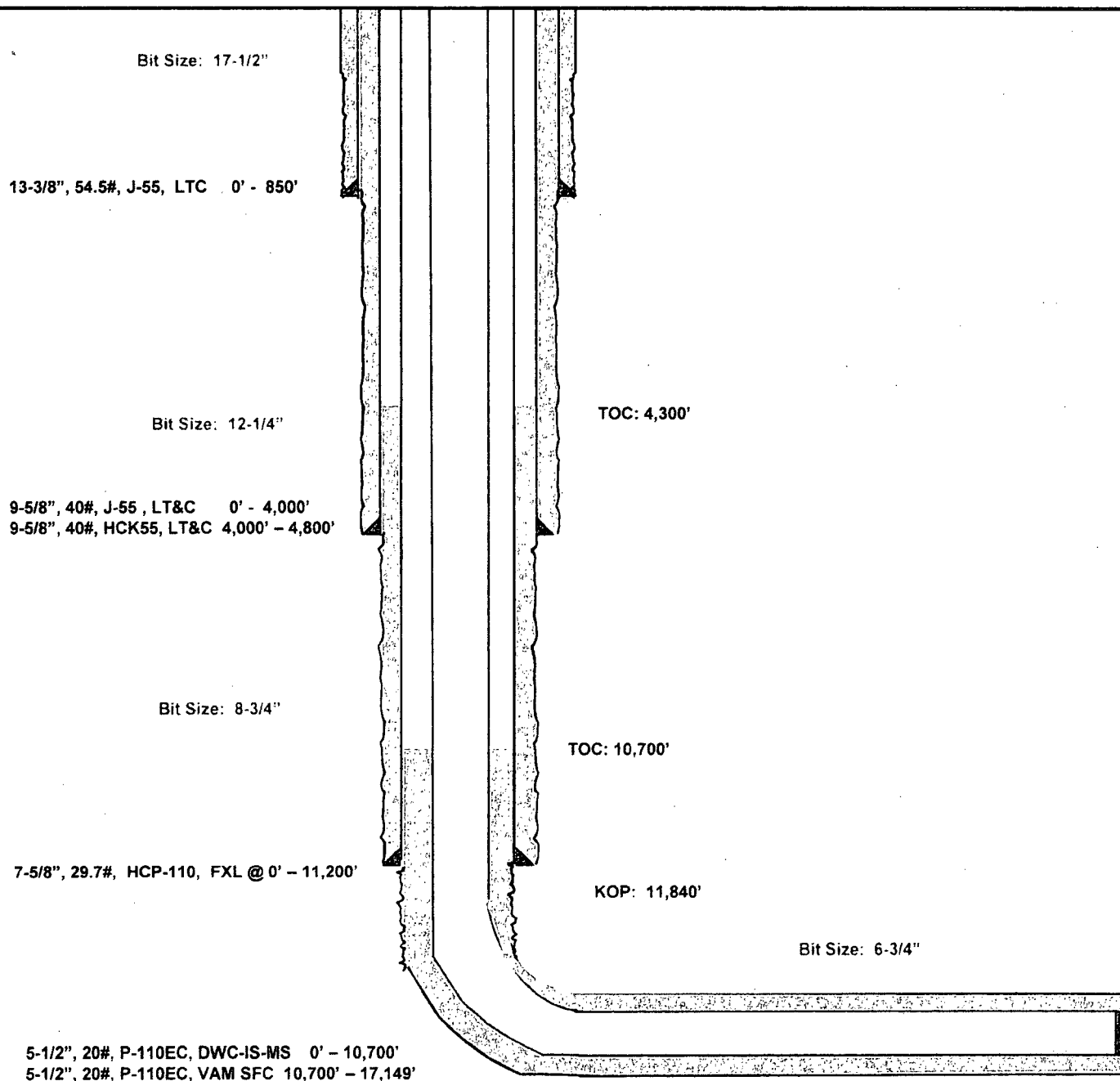
Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 - 850'	Fresh - Gel	8.6-8.8	28-34	N/c
850' - 4,800'	Brine	10.0-10.2	28-34	N/c
4,800' - 11,200'	Oil Base	8.7-9.4	58-68	N/c - 6
11,200' - 17,149' Lateral	Oil Base	10.0-11.5	58-68	3 - 6

Orrtanna 20 Fed #708H
Lea County, New Mexico

798' FSL
443' FEL
Section 20
T-26-S, R-33-E

Proposed Wellbore
Revised 4/16/18
API: 30-025-43748

KB: 3,265'
GL: 3,240'



Lateral: 17,149' MD, 12,264' TVD
Upper Most Perf:
330' FSL & 330' FEL Sec. 20
Lower Most Perf:
330' FNL & 330' FEL Sec. 20
BH Location: 230' FNL & 330' FEL
Section 20
T-26-S, R-33-E

Operator	EOG
Well Name & No.	Orrtanna 20 Fed 708H
County	Lea
Location (S/T/R)	20/26/33
Lease Number	NMNM118727

Name	Jonathon Shepard
Date	7/11/2018

Type of Casing	Size of Hole (in)	Size of Casing (in)	Weight per Foot (lbs/ft)	Grade	Yield	Thread	Top (ft)	Bottom (ft)	Setting Depth (ft)	Length (ft)	Collapse (psi)	Burst (psi)	Tension (psi)
Surface	17.500	13.375	54.5	J	55	ST&C (46)	0	850	850	850	1130	2730	854000
Intermediate 1	12.250	9.625	40.0	J	55	LT&C (21)	0	4000	4000	4000	2570	3950	630000
Intermediate 2	12.250	9.625	40.0	HCK	55	LT&C (21)	4000	4800	4800	800	4230	3950	630000
Intermediate 3	8.750	7.625	29.7	HCP	110	LT&C (21)	0	11200	11200	11200	7150	9470	940000
Intermediate 4	6.750	5.500	20.0	P	110	BTC (4)	0	10700	10700	10700	11080	12360	642000
Production	6.750	5.500	20.0	P	110	BTC (4)	0	17149	11200	17149	11080	12360	642000

Drilling Mud	Max Mud Weight (ppg)	Cement											
		Surface			Intermediate (1 & 2)			Intermediate (1, 2, 3 & 4)			Production		
		Top of Cement	0	Yield (ft³/sx)	Top of Cement	0	Yield (ft³/sx)	Top of Cement	4300	Yield (ft³/sx)	Top of Cement	10700	Yield (ft³/sx)
Surface	8.8		Sacks			Sacks			Sacks			Sacks	
Intermediate 1	10.2	Lead	697	1.74	Lead	692	2.22	Lead	375	3.67	Lead	1000	1.31
Intermediate 2	10.2	Run 2	333	1.35	Run 2	303	1.32	Run 2	400	2.38	Run 2		
Intermediate 3	9.4	Run 3			Run 3			Run 3			Run 3		
Intermediate 4	9.4	Tail			Tail			Tail			Tail		
Production	11.5	Average Yield	1.61		Average Yield	1.95		Average Yield	3.00		Average Yield	1.31	
		Min. Sacks	466		Min. Sacks	983		Min. Sacks	586		Min. Sacks	523	

Safety Factors				
Collapse	1.125		Tension	1.8
Burst	1.0		Buoyant Tension	1.6
	Collapse	Burst	Tension	Buoyant Tension
Surface	2.995	7.019	19.2	21.5
Intermediate 1	1.817	1.862	3.9	4.7
Intermediate 2	2.492	1.551	2.3	3.9
Intermediate 3	1.859	1.730	2.5	3.3
Intermediate 4	3.173	2.335	3.0	3.5
Production	1.684	1.825	1.9	2.3

BOP Requirements			
	Intermediate		Production
Max. Surf. Pressure	3011 psi	Max. Surf. Pressure	4234 psi
BOP Required	5M System	BOP Required	5M System