		OCD Hobb	CD	ATS	5-15-	989
Tom 3160-3 March 2012) UNITED STATES		DEC 21	2015	FORM OMB1 Expires (APPROVI No. 1004-013 October 31, 2	D 17 2014
DEPARTMENT OF THE I BUREAU OF LAND MAN	NTERIOR		100	NMNM121490	BHL	
APPLICATION FOR PERMIT TO	DRILL OR	REENTER	VED	6. If Indian, Allotee	or Tribe l	Vame
la. Type of work: DRILL REENTE	ER			7 If Unit or CA Age	eement, Na	me and No.
Ib. Type of Well: Oil Well Gas Well Other	✓ Sin	ngle Zone 🗌 Multip	ple Zone	 Lease Name and Colgrove 35 F 	Well No.	702H
2. Name of Operator EOG Resources, Inc (7377))			9. API Well No. 30-025- 4/2	.98	3
a. Address P.O. Box 2267 Midland, TX 79702	3b. Phone No. 432-686-36	. (include area code) 589		10. Field and Pool, or WC-025 G-09 S26	Explorator	y Jpper WC
4. Location of Well (Report location clearly and in accordance with an	ty State requirem	ents.*)		11. Sec., T. R. M. or H	Blk. and Su	rvey or Area
At surface 360' FSL & 245' FWL, SWNW (E), Sec 35, 26	IS, 33E	INORTH	DOX	Section 35, T26S,	R33E	
At proposed prod. zone 2409' FSL & 660' FEL, NWSW (L), 4. Distance in miles and direction from nearest town or post office* Approximately ±/, 35 miles Southwest from Jal New Me:	, Sec 26	LOCATI	ION	12. County or Parish Lea		13. State NM
 5. Distance from proposed* 230', 330' PP property or lease line, ft. (Also to nearest drig. unit line, if any) 	16. No. of ad 1305.2	cres in lease	17. Spacin 156.	g Unit dedicated to this 62 ac.	well	
 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 330' from 701H 	19. Proposed 17152' MD	i Depth 9, 12500' TVD	20. BLM/ NM 230	BIA Bond No. on file 08		
 Elevations (Show whether DF, KDB, RT, GL, etc.) 3320' GL 	22. Approxim 01/01/201	mate date work will sta 6	rt*	23. Estimated duration 25 days	a	
And the second se	24. Attac	chments				
he following, completed in accordance with the requirements of Onshor	re Oil and Gas	Order No.1, must be a	ttached to th	is form:		
. Well plat certified by a registered surveyor. 2. A Drilling Plan.		4. Bond to cover t Item 20 above).	he operatio	ns unless covered by an	n existing l	ond on file (see
 A Surface Use Plan (if the location is on National Forest System SUPO must be filed with the appropriate Forest Service Office). 	Lands, the	 Operator certifie Such other site BLM. 	specific info	ormation and/or plans a	s may be r	equired by the
25. Signature the Way	Name Stan V	(Printed/Typed) Wagner		1	Date 08/20/2	2015
Regulatory Specialist						
Approved by (Signatus Steve Caffey	Name	(Printed/Typed)			DEC	1 5 2015
Title FIELD MANAGER	Office	CA	RLSBAD	FIELD OFFICE		10 A
Application approval does not warrant or certify that the applicant hold conduct operations thereon.	ls legal or equit	table title to those right	nts in the sub	pject lease which would	entitle the	applicant to
Fitle 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a c States any false, fictitious or fraudulent statements or representations as	rime for any po to any matter w	erson knowingly and vithin its jurisdiction.	AF willfully to n	nake to any department	or agency	of the United
(Continued on page 2)		. /		*(Ins	truction	s on page 2)
Carlsbad Controlled Water Basin		Ka	21/15			
and a state of the		1-1	0.5			

Approval Subject to General Requirements & Special Stipulations Attached SEE ATTACHED FOR CONDITIONS OF APPROVAL

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HOBBS OCD

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1. GEOLOGIC NAME OF SURFACE FORMATION: Permian

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2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	822'
Top of Salt	1,160'
Base of Salt / Top Anhydrite	4,860'
Base Anhydrite	5,095'
Lamar	5,095'
Bell Canyon	5,121'
Cherry Canyon	6,140'
Brushy Canyon	7,850'
Bone Spring Lime	9,310'
1st Bone Spring Sand	10,200'
2 nd Bone Spring Lime	10,460'
2 nd Bone Spring Sand	10,820'
3rd Bone Spring Carb	11,120'
3rd Bone Spring Sand	11,860'
Wolfcamp	12,290'
TD	12,500'

3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Upper Permian Sands	0-400'	Fresh Water
Cherry Canyon	6,140'	Oil
Brushy Canyon	7,850'	Oil
1st Bone Spring Sand	10,200'	Oil
2 nd Bone Spring Lime	10,460'	Oil
2 nd Bone Spring Sand	10,820'	Oil
3rd Bone Spring Carb	11,120'	Oil
3rd Bone Spring Sand	11,860'	Oil
Wolfcamp	12,290'	Oil

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 13.375" casing at 850' and circulating cement back to surface.

SEE COA

4. CASING PROGRAM - NEW SEE COA

	Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
1000	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' - 5,100'	9.625"	40#	HCK55	LTC	1.125	1.25	1.60
	8.75"	0'-17,152'	5.5"	17#	HCP-110	BTC	1.125	1.25	1.60

Cementing Program:

SEE

	Depth	No. Sacks	Wt. ppg	Yld Ft ³ /ft	Mix Water Gal/sk	Slurry Description
nm	13-3/8" 850'	400	13.5	1.73	9.13	Class C + 4.0% Bentonite + 0.6% CD- $32 + 0.5\%$ CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface)
		300	14.8	1.34	6.34	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
	9-5/8" 5,100'	1000	12.7	2.22	12.38	Lead: Class 'C' + 1.50% R-3 + 0.25 lb/sk Cello-Flake + 2.0% Sodium Metasilicate + 10% Salt + 0.005 lb/sk Static Free (TOC @ surface)
1.5		200	14.8	1.32	6.33	Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
	5-1/2" 17,152'	775	9.0	2.79	10.12	Lead: LiteCRETE + 0.10% D-065 + 0.20% D-046 + 0.40% D- 167 + 0.20% D-198 + 0.04% D-208 + 2.0% D-174 (TOC @ 4,600')
525		2100	14.4	1.28	5.69	Tail: Class H + 47.01 pps D-909 + 37.01 pps + 5.0% D-020 + 0.30% D-013 + 0.20% D-046 + 0.10% D-065 + 0.50% D-167 + 2.0% D-174

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.

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line).

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 5000/250 psig and the annular preventer to 5000/250 psig. The surface casing will be tested to 1500 psi for 30 minutes.

Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000/250 psig and the annular preventer to 5000/250 psig. The intermediate casing will be tested to 2000 psi for 30 minutes.

Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.

6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

During this procedure we plan to use a Closed-Loop System and haul contents to the required disposal.

Depth	Туре	Weight (ppg)	Viscosity	Water Loss
0 – 850 '	Fresh - Gel	8.6-8.8	28-34	N/c
85 0' - 5,100'	Oil Base	8.7-9.4	58-68	N/c - 6
5,100' - 11,919'	Oil Base	8.7-9.4	58-68	N/c - 6
11,919' - 17,152' Lateral	Oil Base	10.0-10.5	58-68	N/c - 6

The applicable depths and properties of the drilling fluid systems are as follows.

An electronic pit volume totalizer (PVT) will be utilized on the circulating system, to monitor pit volume, flow rate, pump pressure and stroke rate.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) H₂S monitoring and detection equipment will be utilized from surface casing point to TD.

8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not planned for this well.

GR-CCL Will be run in cased hole during completions phase of operations.

9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND POTENTIAL HAZARDS:

The estimated bottom-hole temperature (BHT) at TD is 181 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 5416 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

The drilling operation should be finished in approximately one month. If the well is productive, an additional 60-90 days will be required for completion and testing before a decision is made to install permanent facilities.

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

Colgrove 35 Fed Com #702H



Opper Most Perr: 330' FSL & 360' FWL Sec. 35 Lower Most Perf: 2309' FSL & 660' FWL Sec. 26 BH Location: 2409' FSL & 660' FWL Section 26 T-26-S, R-33-E





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Exhibit 1a



EOG 5M Choke Manifold Diagram (rev. 3/21/14)

Manufacturer: Midwest Hose & Specialty

Serial Number: SN#90067

Length: 35'

Size: OD = 8" ID = 4"

Ends: Flanges Size: 4-1/16"

WP Rating: 10,000 psi Anchors required by manfacturer: No

MIDWEST

HOSE AND SPECIALTY INC.

I	NTERNAL	HYDROST	TATIC TEST	REPOR	π	
Custome	er:			P.O. Numt	Der:	
CACTUS		RIG #123				
			Asset # M	M10761		
		HOSE SPECI	FICATIONS			
Туре:	CHOKE LIN	E		Length:	35'	
I.D.	4"	INCHES	O.D.	8"	INCHES	
WORKING	PRESSURE	TEST PRESSUR	IE	BURST PRES	SURE	
10,000) PSI	15,000	PSI		PSI	
		COUP	LINGS			
Type of I	End Fitting 4 1/16 10K F Coupling: SWEDGED	LANGE	MANUFACTURED BY MIDWEST HOSE & SPECIALTY			
		PROC	EDURE			
	Hose assembl TIME HELD AT	<u>y pressure tested y</u> TEST PRESSURE	ACTUAL I	nt temperature BURST PRESS	URE:	
COMMEN	179.	HUIN.	1		U P51	
COMMEN	SN#90067 Hose is cov wraped with insulation r	M10761 rered with stain h fire resistant ated for 1500 de	iess steel armo /ermiculite coal	ur cover and led fibergias e with lifting	d IS I eves	
Date:	6/6/2011	Tested By: BOBBY FINK		Approved: MENDI JACKSON		

M

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: CACTUS

SALES ORDER# 90067

Verification

Swage Einal O.D. 6.68" Hose Assembly Serial # 90067 **Coupling Method** Type of Fitting 4 1/16 10K Die Size 6.62" Hose Serial #

Burst Pressure

<u>0.D.</u>

Length

Hose Type

C&K <u>1.D.</u> 4

Hose Specifications

32



Time Held at Test Pressure 11 1/4 Minutes Test Pressure 15000 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Bobby Fink

Actual Burst Pressure

Peak Pressure 15439 PSI

Approved By: Mendi Jackson

Mendi Jackson

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