ATS-16-985

Form 3160-3
(March 2012)

OCD Hobbs

HOBBS OCD

MAY 27 2016

RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
SHL & Section 5 UL "K": Fee
BHL: NMNM132948

6. If Indian, Allotee or Tribe Name

1a. Type of Work: ☑ DRILL ☐ REENTER

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

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. (316267)
Deerstalker Federal Com #3H

2. Name of Operator
COG Operating LLC. (229137)

9. API Well No.
30-025-43280

3a. Address
2208 West Main Street
Artesia, NM 88210

3b. Phone No. (include area code)
575-748-6940

10. Field and Pool, or Exploratory (98098)
WC-025 G-09 S243532M;WOLFBONE

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface 25' FNL & 1930' FWL (NENW) Section 8-T25S-R35E
At proposed prod. Zone 330' FNL & 1930' FWL (NENW) Section 5-T25S-R35E

UNORTHODOX LOCATION

11. Sec., T.R.M. or Blk and Survey or Area
Section 8 - T25S - R35E

14. Distance in miles and direction from nearest town or post office*
Approximately 12 miles south of Jal

12. County or Parish
Lea County

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. Unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
25'	NMNM132948: 361.40	160.58
18. Distance from location* to nearest well, drilling, completed, applied for, on this lease, ft. SHL: 1500' (Deerstalker #4H) BHL: 4474'	19. Proposed Depth TVD: 12,461' MD: 17,238'	20. BLM/BIA Bond No. on file NMB000740 &NMB000215
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3276.2' GL	22. Approximate date work will start* 7/1/2016	23. Estimated duration 30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature	Name (Printed/Typed)	Date
Mayte Reyes	Mayte Reyes	4-14-16
Title: Regulatory Analyst		
Approved by (Signature): James A. Amos	Name (Printed/Typed)	Date: MAY 25 2016
Title: FIELD MANAGER	Office: CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legan or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations theron.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

See attached NMOCD Conditions of Approval

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make i
States any false, fictitious or fraudulent statements or representatio

any department or agency of the United

(Continued on page 2)

*(Instructions on page 2)

05/27/16

Carlsbad Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

COG Operating, LLC – Deerstalker Federal Com 3H

1. Geologic Formations

TVD of target	12,461' (EOL)	Pilot hole depth	No
MD at TD:	17,238'	Deepest expected fresh water:	350

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	772	Water	
Top of Salt	1164	Salt	
Base of Salt - Fletcher	5174	Salt	
Delaware - Lamar	5357	Salt Water	
Bell Canyon	5389	Salt Water	Seepage/Loss Cir
Cherry Canyon	6329	Oil/Gas	Seepage/Loss Cir
Brushy Canyon	7920	Oil/Gas	Seepage/Loss Cir
Bone Spring Lime	9179	Barren	
1st Bone Spring Sand	10,480	Oil/Gas	
2nd Bone Spring Sand	10,997	Oil/Gas	
3rd Bone Spring Sand	12,111	Oil/Gas	
Wolfcamp	12,479	Not Penetrated	
Wolfcamp Lith	12,596	Not Penetrated	

2. Casing Program

See COA

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0	~~800~~ 870'	13.375"	54.5	J55	STC	1.835	1.082	11.789
12.25"	0	4500	9.625"	40	J55	LTC	1.077	1.059	2.889
12.25"	4500	5360	9.625"	40	N80	LTC	1.093	1.541	13.364
8.75"	0	12,722'	7.0"	29	P110	LTC	1.282	1.281	2.197
6.125"	11,900	17,238'	4.5"	13.5	P110	BTC	1.802	1.415	2.623
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

Intermediate casing(s) will be kept at least ½ full while running casing.to mitigate collapse.
Intermediate casing(s) burst based on 0.8 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface.
Liner Burst SF based on 0.8 frac gradient in Lateral – no back up.
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y

Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	340	13.5	1.75	9.2	12	Lead: Class C + 4% Gel + 2% CaCl2
	300	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl2
Inter 1	1615	13.5	1.75	9.2	12	Lead: Class C + 4% Gel + 2% CaCl2
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl
Inter 2	940	12.7	2	10	18	Lead: HLH 65:35:6
	200	16.4	1.06	4.3	8	Tail: Halcem Class H
4.5 Prod Liner	555	14.4	1.24	5.7	18	Versacem 50:50:2 Class H

Volumes Subject to Observed Hole Conditions and/or Fluid Caliper Results

Lab reports with the 500 psi compressive strength time for the cement will be onsite for review. Casing String	TOC	% Excess
Surface	0'	75%
1st Intermediate	0'	100%
2nd Intermediate	3360'	60% OH Below 9-5/8" Casing (5360') to EOC (12,722'). Then cement to tie in 2000' inside 9-5/8" Casing Shoe @ 5360'

Production Liner	11,900'	40% OH in Lateral (EOC to EOL); 5% in 7" x 4.5" Casing x Casing Annulus

4. **Pressure Control Equipment**

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	13-5/8"	2M	Annular	x	2000 psi
			Blind Ram		2M
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	13-5/8"	5M	Annular	x	50% testing pressure
			Blind Ram	x	5M
			Pipe Ram	x	
			Double Ram		
			Other*		

See COA

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

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. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
N	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	N Are anchors required by manufacturer?
N	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

See COA

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe (800') 870'	FW Gel	8.6-8.8	28-34	N/C
Surf csg (800')	9-5/8" Int shoe (5360')	Saturated Brine	10.0-10.2	28-34	N/C
9-5/8" Int Shoe (5360')	7" 2nd Int shoe (12,722)	Cut Brine	8.6 – 9.4	28-34	N/C
7" 2nd Int shoe (12,722)	17,238' (Lateral TD)	Cut Brine	8.6 – 9.4	28-34	N/C

SEE COA

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

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
N	No Logs are planned based on well control or offset log information.
N	Drill stem test? If yes, explain
N	Coring? If yes, explain

Additional logs planned		Interval
N	Resistivity	Pilot Hole TD to ICP
N	Density	Pilot Hole TD to ICP
Y	CBL	Production casing (If cement not circulated to surface)
Y	Mud log	Intermediate shoe to TD
N	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5897 psi at 12,461' TVD (EOL)
Abnormal Temperature	NO (179 deg F.)

SEE COA

No abnormal pressure or temperature conditions are anticipated. Sufficient mud materials to maintain mud properties and weight increase requirements will be kept on location at all times.

Sufficient supplies of Paper/LCM for periodic sweeps to control seepage and losses will be maintained on location.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other facets of operation

Is this a walking operation? NO If yes, describe.
Will be pre-setting casing? NO If yes, describe.

Attachments

- Directional Plan
- BOP & Choke Schematics
- C102 and supporting maps
- Rig plat
- H2S schematic
- H2S contingency plan
- Interim reclamation plat