ATS-15-867

Form 3160-3
(March 2012)

OCD Hobbs

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: NMNM077090
BHL: NMNM123527

6. If Indian, Allotee or Tribe Name

1a. Type of Work: [✓] DRILL [ ] REENTER

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

8. Lease Name and Well No. (316278)
Sombrero Federal Com #4H

1b. Type of Well: [✓] Oil Well [ ] Gas Well [ ] Other [ ] Single Zone [ ] Multiple Zone

2. Name of Operator (229137)
COG Operating LLC

9. API Well No. 30-025-43286

HOBBS OCD

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

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

JUN 06 2016

10. Field and Pool, or Exploratory (96434)
Red Hills; Bone Spring, North

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 460' FSL & 380' FWL UL M (SWSW) SHL: Sec 13-24S-T34E
At proposed prod. Zone 2310' FSL & 380' FWL UL L (NWSW) BHL: Sec 12-T24S-R34E

RECEIVED

11. Sec., T.R.M. or Blk and Survey or Area
Sec 13-T24S-R34E

14. Distance in miles and direction from nearest town or post office*
Approximately 13 miles from 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) 380'

16. No. of acres in lease
SHL: 1440.02
BHL: 200

17. Spacing Unit dedicated to this well
240

18. Distance from location* to nearest well, drilling, completed, applied for, on this lease, ft. SHL: 344' BHL: None on lease.

19. Proposed Depth
TVD: 9,451' MD: 16,377'
PH: 12,600'

20. BLM/BIA Bond No. on file
NMB000740 & NMB000215

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3474.8' GL

22. Approximate date work will start*
10/1/2015

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: Mayte Reyes
Name *(Printed/Typed)*: Mayte Reyes
Date: 7-6-15

Title: Regulatory Analyst

Approved by *(Signature)*: James A. Amos
Name *(Printed/Typed)*:
Date: JUN 1 - 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

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 States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

See attached NMOCD Conditions of Approval

(Continued on page 2)

Carlsbad Controlled Water Basin

06/06/16

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

SELF-CERTIFICATION STATEMENT
FROM LESSEE/OPERATOR

SURFACE OWNER IDENTIFICATION

Federal or Indian Lease No. NMNM077090

I hereby certify to the Authorized Officer of the Bureau of Land Management that I have reached one of the following agreements with the Surface Owner; or after failure of my good-faith effort to come to an agreement of any kind with the Surface Owner, have provided a bond and will provide evidence of service of such bond to the Surface Owner:

1) _____ I have a signed access agreement to enter the leased lands;

2) _____ I have a signed waiver from the surface owner;

3) X I have entered into an agreement regarding compensation to the surface owner for damages for loss of crops and tangible improvements.

4) _____ Because I have been unable to reach either 1), 2), or 3) with the surface owner, I have obtained a bond to cover loss of crops and damages to tangible improvements and served the surface owner with a copy of the bond.

Surface owner information: (if available after diligent effort)

Surface Owner Name: Bert Madera

Surface Owner Address: PO Box 2795, Ruidoso, NM 88355

Surface Owner Phone Number: 575-631-4444

Signed this 4th -- day of April -, 2016

Melanie Wilson
(Name of lessee/operator)

I (Surface Owner) accept ✓ do not accept _____ the lessee or operator=s Surface Owner Agreement under 1, 2, or 3 above.

Signed this 6 - day of April -, 2016

Bert
(Signature of Surface Owner if an agreement has been reached)

Attachment 1

COG Operating LLC, Sombrero Fed Com 4H

1. Geologic Formations

TVD of target	9,451'	Pilot hole depth	12,600'
MD at TD:	16,377'	Deepest expected fresh water:	652'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1045	Water	
Top of Salt	1496	Salt	
Fletcher Anhydrite	5231	Barren	
Lamar	5461	Barren	
Delaware Group	5504	Oil/Gas	
Bone Spring	9254	Oil/Gas	
Upper Avalon Shale	9326	Target Zone	
1st Bone Spring Lime	10397	Oil/Gas	
2nd Bone Spring Lime	10951	Oil/Gas	
3rd Bone Spring Lime	12001	Oil/Gas	
Wolfcamp	12261	Oil/Gas	
Strawn	13521	Oil/Gas	*Over Pressure*

Will not penetrate the Strawn

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	~~1,070'~~ 1100	13.375"	54.5	J55	STC	2.26	1.5	8.81
12.25"	0	4,500'	9.625"	40	J55	LTC	1.1	.8	2.37
12.25"	4,500'	~~5,490'~~ 5300	9.675"	40	L80	LTC	1.08	1.17	3.31
8.75"	0	16,377'	5.5"	17	P110	LTC	1.52	2.17	1.60
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

- 9-5/8" 40# L-80: Pi = 5750; Pi/D = 5750/5490ft = 1.04, above the fracture gradient of 0.7 psi/ft at the shoe.
- 9-5/8" 40# J-55: Pi = 3950; Pi/D = 3950/5490ft = .72, above the fracture gradient of 0.7 psi/ft at the shoe.

Must have table for contingency casing

	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). (Assumption bulleted above)	N
See COA 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 See COA

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	475	13.5	1.75	9.4	10	Lead: Class C + 4% Gel + 2% CaCl2
	250	14.8	1.34	6.4	8	Tail: Class C + 2% CaCl2
Inter.	500	12.7	1.99	10.64	11	Lead: 36:65:6 C Blend + 5% Salt + 3 pps Kol-Seal
	250	14.8	1.34	6.4	10	Tail: Class C + 2% CaCl2
Prod.	375	10.4	3.63	21.95	12	Lead: Halliburton Tuned Light Blend
	2050	14.4	1.25	5.79	10	Tail: 50:50:2 Class H + 1% Salt + 0.5% Halad-9 + 0.05% SA-1015

Extremely low Cement See COA

Casing String	TOC	% Excess
Surface	0'	50%
Intermediate	0'	35%
Production	~~5,290'~~ See COA	35%

Include Pilot Hole Cementing specs: See COA, Need 2000' min distance between plugs + proper Wolfcamp plug.
Pilot hole depth ~~NA~~? 12,600

Plug top	Plug Bottom	% Excess	No. Sacks	Wt. lb/gal	Yld ft3/sack	Water gal/sk	Slurry Description and Cement Type
8,800'	9,400'	10	282	17.2	0.98	3.62	Class-H Blend
12,000'	12,600'	10	282	17.2	0.98	3.62	Class-H Blend

4. Pressure Control Equipment

	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	50% of working pressure
			Blind Ram		2M
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	11"	5M	Annular	x	50% testing pressure
			Blind Ram	x	5M
			Pipe Ram	x	
			Double Ram		
			Other*		

*Specify if additional ram is utilized.

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.

N	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.
Y	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 attached schematic.

See COA

See COA

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. shoe	FW Gel	8.6-8.8	28-34	N/C
Surf shoe	Int shoe	Saturated Brine	9.9-10.2	28-34	N/C
Int shoe	TD	Cut Brine	8.5-9.2	28-34	N/C

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

See COA

6. Logging and Testing Procedures

Logging, Coring and Testing.	
x	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.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
x	Coring? If yes, explain – rotary sidewall coring

Additional logs planned		Interval
x	Resistivity	Int. shoe to PH TD
x	Density	Int. shoe to PH TD
	CBL	Production casing
x	Mud log	Intermediate shoe to PH TD
x	NMR	Intermediate shoe to PH TD

7. Drilling Conditions See COA

Condition	Specify what type and where?
BH Pressure at deepest TVD	6,028 psi
Abnormal Temperature	No

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? If yes, describe.
Will be pre-setting casing? If yes, describe.

Attachments

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