ATS-16-497

HOBBS OCD

OCD Hobbs

Form 3160-3
(March 2012) APR 21 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. NMNM120908

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. 39889
Azores Federal #12H

2. Name of Operator
COG Production LLC. (217955)

9. API Well No. 30-025-43178

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

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

UNORTHODOX LOCATION

10. Field and Pool, or Exploratory
WC-025 G-06 S253206M;
Bone Spring (97899)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 210' FSL & 1680' FWL Unit Letter N (SESW) Sec 29-T24S-R32E
At proposed prod. Zone 330' FNL & 990' FWL Unit Letter D (NWNW) Sec 29-T24S-R32E

11. Sec., T.R.M. or Blk and Survey or Area
Sec. 29 - T24S - R32E

14. Distance in miles and direction from nearest town or post office*
Approximately 21 miles East of Malaga

12. County or Parish: Lea
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
210'	1891.72	160

18. Distance from location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file
SHL: 100' (Prop. Azores #8H) BHL: 1683'	TVD: 9,175' MD: 13,899'	NMB000860 &NMB000845

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3496.1' GL	6/1/20016	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	3-17-16

Title: Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/George MacDonell		APR 19 2016

Title	Office
FIELD MANAGER	CARLSBAD FIELD OFFICE

Application approval does not warrant or c… ject lease which would entitle the applicant to conduct operations theron.
Conditions of approval, if any, are attache… APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U… ke to any department or agency of the United States any false, fictitious or fraudulent sta…

The NMOCD Gas Capture Plan notice has been posted on the web site under Announcements/Notice to Operators. A copy of the GCP form is included with the notice and is also in the Forms section under Unnumbered forms. Please submit accordingly in a timely manner.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APR 22 2016

COG Production LLC – Azores Federal #12H

1. Geologic Formations

TVD of target	9,175' (EOC)	Pilot hole depth	No
MD at TD:	13,899'	Deepest expected fresh water:	380

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	775	Water	
Top of Salt	1093	Salt	
Base of Salt - Fletcher	4352	Salt	
Delaware - Lamar	4579	Salt Water	
Bell Canyon	4603	Salt Water	Seepage/Loss Cir
Cherry Canyon	5517	Oil/Gas	Seepage/Loss Cir
Brushy Canyon	6751	Oil/Gas	Seepage/Loss Cir
Bone Spring Lime	8494	Barren	
Upper Avalon Shale	8772	Oil/Gas	
Lower Avalon Shale	8992	Oil/Gas – Target Zone	
1st Bone Spring Sand	9627	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0	800'	13.375"	54.5	J55	STC	1.835	1.268	11.789
12.25"	0	4300'	9.625"	40	J55	LTC	1.127	1.152	2.857
12.25"	4300'	4550'	9.625	40	HCL80	LTC	1.753	1.323	3.995
8.75"	0	13,899'	5.5"	17	P110	LTC	1.716	2.448	2.85
				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
Intermediate and Production Burst based on Pore Pressure (9.1 ppge) at Lateral TVD minus Gas Gradient (0.1 psi/ft).
Intermediate casing will always be kept 1/3 full while running as additional collapse protection.

	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.	

COG Production LLC – Azores Federal #12H

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.	400	13.5	1.75	9.2	12	Lead: Class C + 4% Gel + 2% CaCl2
	285	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl2
Intermediate	1250	12.8	1.9	10	18	Lead: Class C + 4% Gel + 2% CaCl2
	200	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl
Production	460	10.3	3.62	21.9	72	Lead: Halliburton Tune Lite + adds
	1200	14.4	1.24	5.6	8	Tail: Versacem H + 2% Gel + 1% Salt

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'	85%
1st Intermediate	0'	100%
Production	4050' (500' Tie-in to Int Casing)	Lead: 45% OH in KOP to ICP. 0% in 5.5" x 9.625" Intermediate Casing x Casing Annulus Tail: 15% OH from KOP to EOL

4. Pressure Control Equipment

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

COG Production LLC – Azores Federal #12H

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"	3M	Annular	x	50% testing pressure
			Blind Ram	x	3M
			Pipe Ram	x	
			Double Ram		
			Other*		

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.

COG Production LLC – Azores Federal #12H

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe (800')	FW Gel	8.6-8.8	28-34	N/C
Surf csg (800')	9-5/8" Int shoe (4550')	Saturated Brine	10.0-10.2	28-34	N/C
9-5/8" Int Shoe (4550')	13,899' MD Lateral TD	Cut Brine	8.6 – 9.4	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

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	4342 psi at 9175' TVD (EOC)
Abnormal Temperature	NO (148 deg F.)

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

Directional Drilling and Anticollision Considerations

The directional plan and anti-collision plan(s) for this well is attached.

This will be a walking operation to drill the proposed Azores Federal 12H and the future Azores Federal 8H (to be proposed). The future Azores Federal 8H surface location is 100' East of the proposed Azores Federal 12H. The nearest existing well at this time is the Corvo Federal 3H, 200' East of the proposed Azores Federal 12H and 100' East of the future Azores Federal 8H. To the north, near the planned lateral track of the Azores Federal 12H, is the Stanolind – Erle Payne #1 (API 30-025-12715), a PXA well drilled to 4811' and is not a collision hazard. The Azores Federal 4H is located 1020' West of the proposed Azores Federal 12H. The anticollision assessment reports for these wells (future Azores Federal 8H and existing Corvo Federal 2H and existing Azores Federal 4H – 1020' West) are included in the directional plan.

Is this a walking operation? YES – Described in Directional Drilling and Anticollision Considerations above.
Will be pre-setting casing? NO If yes, describe.

Attachments

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