

HOBBS OCD

MAR 28 2016

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UNITED STATES

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SECRETARY'S POTASH

APPLICATION FOR PERMIT TO DRILL OR REENTER

ATS-15-62

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 20145. Lease Serial No. Fee Lease 5
NMNM077054, State LO66910002, BOI 4820011

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No. (313452)
Gay Nineties Federal Com #3H9. API Well No.
70-025-4313910. Field and Pool, or Exploratory
Gem; Bone Spring (27220)11. Sec., T. R. M. or Blk. and Survey or Area
Section 36, T-19S, R-32E
Section 1, T-20S, R-32E12. County or Parish
Lea13. State
NM3a. Address P.O. Box 50820
Midland, Texas 797103b. Phone No. (include area code)
432-684-9696

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At surface 1910' FSL & 2256' FEL of Unit Letter 'J', Section 36, T-19S R-32E

At proposed prod. zone 240' FSL & 2260' FWL of Unit Letter 'N', Section 1, T-20S R-32E

14. Distance in miles and direction from nearest town or post office*
30 miles East of Carlsbad15. Distance from proposed* 240'
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any)16. No. of acres in lease
Fee: 320
State: 1398.05
Fed: 798.8
Total: 2516.8517. Spacing Unit dedicated to this well
238.8218. Distance from proposed location* 285'
to nearest well, drilling, completed,
applied for, on this lease, ft.19. Proposed Depth
17,046' MD / 9900' TVD20. BLM/BIA Bond No. on file
NM257221. Elevations (Show whether DF, KDB, RT, GL, etc.)
3569' GL22. Approximate date work will start*
02/01/201523. Estimated duration
45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, must 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 must 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 BLM.

25. Signature

Pam Stevens

Name (Printed/Typed)
Pam StevensDate
08/26/2014

Title

Regulatory Analyst

Approved by (Signature)

J/ JEANETTE MARTINEZ

Name (Printed/Typed)

Date

MAR 22 2016

Title

FOR FIELD MANAGER

Office

BLM-CARLSBAD FIELD OFFICE

Application approval 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.

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 to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHEDSEE ATTACHED FOR
CONDITIONS OF APPROVALK2
07/28/16

Capitan Controlled Water Basin

Witness Surface &
Intermediate Casing

MAR 28 2016



1. Geologic Formations

TVD of target	9900	Pilot hole depth	10000
MD at TD:	17046	Deepest expected fresh water:	460

Reef

[illegible]

*H₂S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
26"	0	1195	20"	106.5	J55	STC	1.49	2.62	7.17
16"	0	3325	13.375"	68	J55	STC	1.23	1.35	3.07
12.25"	0	4500	9.625"	40	J55	LTC	1.19	1.14	2.89
8.5"	0	17046	5.5"	17	P110	TTRs1	1.51	1.4	3.24
				BLM Minimum Safety Factor 5.5" Tejas TTRS1 example			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

BC Operating, Inc. Gay Nineties Federal Com #3H

Must have table for contingency casing

*See
COA*

	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
<u>Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?</u>	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	Y
If yes, are the first three strings cemented to surface?	Y
Is 2 nd string set 100' to 600' below the base of salt?	Y
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 Cora

Casing	# Sks	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	1620	13.7	1.66	8.7	10	Lead: Class C + 4.0% Bentonite + 1% CaCl ₂ + 0.5% Cello-Flake
	680	14.8	1.329	6.4	8	Tail: Class C + 0.2% FLO-1 + 1% CaCl ₂ + 0.1% TWR-2
Inter. 1	730	12.8	1.84	9.8	15	Lead: 35:65 C Blend + 6% Bentonite + 0.25% Cello-Flake + 0.2% FLO-1 + 5% sodium Chloride
	560	14.8	1.352	6.4	11	Tail: Class C + 0.1% MTR-150 + 0.1% TWR-2 + 1% CaCl ₂
Inter. 2	1100	12.8	1.84	9.8	15	Lead: 35:65 C Blend + 6% Bentonite + 0.25% Cello-Flake + 0.2% FLO-1 + 5% sodium Chloride
	590	14.8	1.352	8	11	Tail: Class C + 0.1% MTR-150 + 0.1% TWR-2 + 1% CaCl ₂
Prod.	890	11.8	2.31	12.84	24	Lead: 50:50 C Blend + 0.3% Cello-flake + 10% Bentonite + 5% PSE-2 + 0.3% CFR-13 + 0.2% CFL-20 + 0.65% MTR-150 + 0.15% TWR-2
	1275	12.6	1.93	10.46	11	Tail: THS 12.6 + 0.6% CFL-6 + 0.2% MTR-150 + 0.1% TWR-2 + 0.3% CFR-13

Extremely Low Cement See Cora

See Cora Optional DV tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. If used, DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	100%
1 st Intermediate	0'	50%
2 nd Intermediate	0'	100%
Production	2275'	30%

See Cora Include Pilot Hole Cementing specs:Pilot hole depth 10000KOP 9165

Plug top	Plug Bottom	% Excess	No. Sacks	Wt. lb/gal	Yld ft ³ /sack	Water gal/sk	Slurry Description and Cement Type
9165	9665	10	205	16.4	1.06	4.3	Class H
9800	10000	10	85	16.4	1.06	4.3	Class H

4. Pressure Control Equipment *See CoA*

	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
17-1/2"	20"	2M	Annular	x	50% of working pressure
			Blind Ram		2M
			Pipe Ram		
			Double Ram		
			Other*		
12-1/4"	13-5/8"	2M	Annular	x	50% of working pressure
			Blind Ram		2M
			Pipe Ram		
			Double Ram		
			Other*		
<i>8-1/2"</i> <i>8-3/4"</i> <i>Per Casing Program</i>	11"	3M	Annular	x	50% testing pressure
			Blind Ram	x	3M
			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.

Y	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.
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See CoA

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.	
	Y/N	Are anchors required by manufacturer?
N	<p>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.</p> <ul style="list-style-type: none"> Provide description here <p>See attached schematic.</p>	

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. shoe	FW Gel	8.5-8.6	28-32	N/C
Surf csg	Int 1 shoe	Saturated Brine	10.0-10.2	28-29	N/C
Int 1 csg	Int 2 shoe	Cut Brine	8.5-9.3	28-34	N/C
Int 2 csg	9800	FW gel then	8.4-8.5	28-29	N/C
9800	TD Pilot	Xan PX to log	8.4-8.6	34-36	<12
KOP	TD Hz	Cut Brine	8.6-8.9	46-50	<10

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
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6. Logging and Testing Procedures See CoA

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.
	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
Y	Resistivity
Y	Density
Y	CBL
Y	Mud log
	PEX

7. Drilling Conditions

See CoA

Condition	Specify what type and where?
BH Pressure at deepest TVD	3400 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

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.

<u>See CoA</u> Y	H ₂ S is present
Y	H ₂ S 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
- ☐ Specification sheet for TTRS1 connection
- ☐ Other, describe