

HOBBS OGD

MAY 16 2016

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

ATS-15-69

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

BHL

5. Lease Serial No.
NMNM 149957/NMNM 67995/NMNM

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.
Rusty Anchor 7 Federal Com #2H

9. API Well No.

10. Field and Pool, or Exploratory
Gem; Bone Spring

11. Sec., T. R. M. or Blk. and Survey or Area
Section 7, T-20S, R-33E
Section 6, T-20S, R-33E

12. County or Parish
Lea

13. State
NM

1a. Type of work: ☒ DRILL ☐ REENTER

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

2. Name of Operator BC Operating, Inc.

3a. Address P.O. Box 50820
Midland, Texas 79710

3b. Phone No. (include area code)
432-684-9696

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

At surface 236' FSL & 1613' FWL of Unit Letter 'N', Section 7, T-20S, R-33E

At proposed prod. zone 240' FNL & 1680' FWL of Unit Letter 'C', Section 6, T-20S, R-33E

14. Distance in miles and direction from nearest town or post office*
30 miles Southwest of Carlsbad

15. Distance from proposed* 236'
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any)

16. No. of acres in lease
1281.41

17. Spacing Unit dedicated to this well
320.38

18. Distance from proposed location* 527'
to nearest well, drilling, completed,
applied for, on this lease, ft.

19. Proposed Depth
11,500' TVD
19,900' MD

20. BLM/BIA Bond No. on file
NM2572

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3532' GL

22. Approximate date work will start*
02/01/2015

23. 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 Stevens

Date

08/15/2014

Title

Regulatory Analyst

Approved by (Signature)

/s/George MacDonell

Name (Printed/Typed)

Date

MAY 11 2016

Title

FIELD MANAGER

Office

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.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 121.
States any false, fictitious or fraudulent statements or repr

(Continued on page 2)

See attached NMOCD
Conditions of Approval

APPROVAL FOR TWO YEARS

ke to any department or agency of the United

pm *(Instructions on page 2)

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

DRILLING PROGRAM

Devon Energy Production Company, L.P.

Rusty Anchor 7 Fed Com 2H**1. Geologic Name of Surface Formation: Quaternary Alluvium****2. Estimated Tops of Geological Markers & Depths of Anticipated FW, Oil, or Gas:**

a. Fresh Water	185'	Fresh Water
b. Rustler	1110'	Barren
c. Top of Salt	1250'	Barren
d. Base of Salt/Castille	2600'	Barren
e. Yates	2780'	Oil / Gas
f. Capitan Reef	3260'	Barren
g. Cherry Canyon Sand	4820'	Oil / Gas
h. Manzanita Marker	5060'	Barren
i. Brushy Canyon	5310'	Barren
j. Bone Spring Lime	8050'	Barren
k. 1 st Bone Spring SS	9120'	Oil / Gas
l. 2 nd Bone Spring SS	9730'	Oil / Gas
m. 3 rd Bone Spring SS	10,570'	Oil / Gas
Total Depths	11,500' TVD	19,900' MD

3.

Pressure Control Equipment:

A 3M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the *surface* casing shoe. The BOP system used to drill the intermediate hole will be tested per BLM Onshore Oil and Gas Order 2.

A 3M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the *intermediate* casing shoe. The BOP system used to drill the production hole will be tested per BLM Onshore Oil and Gas Order 2.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a 2elly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.

BC Operating

SEE COA
~~Devon~~ requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line); **if an H&P rig drills this well. Otherwise no flex line is needed.** The line will be kept as straight as possible with minimal turns.

Auxiliary Well Control and Monitoring Equipment:

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.

Casing Program: SEE COA

Hole Size	Hole Interval	Casing OD	Casing Interval	Weight (lb/ft)	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
1190 26"	0 – 1150'	20"	0 – 1150'	106#	BTC	J55	1.43	3.32	2.50
2750 17-1/2"	1150' – 2700'	13-3/8"	0 – 2700'	68#	BTC	J55	1.36	2.10	2.47
5100 12-1/4"	2700' – 5200'	9-5/8"	0 – 5200'	40#	LTC	L80	1.27	1.39	1.67
8-3/4"	5200' – 19,900'	5-1/2"	0 – 19,900'	17#	BTC	P110	1.59	1.51	1.71

106.5

Casing Notes:

- All casing is new and API approved

Maximum Lateral TVD: 10,448'

5. Proposed mud Circulations System:

Depth	Mud Weight	Viscosity	Fluid Loss	Type System
190 0 – 1150'	8.4-9.0	30-34	N/C	FW
2750 1150' – 2700'	10-10.2	28-32	N/C	Brine
5100 2700' – 5200'	8.6-9.0	28-32	N/C	FW
5200' – 19,900'	8.6-9.0	28-32	N/C	FW

The necessary mud products for weight addition and fluid loss control will be on location at all times. Visual mud monitoring equipment will be in place to detect volume changes indicating loss or gain of circulating fluid volume. If abnormal pressures are encountered, electronic/mechanical mud monitoring equipment will be installed.

6.

Cementing Table: SEE COA

String	Number of sx	Weight lbs/gal	Water Volume g/sx	Yield cf/sx	Stage; Lead/Tail	Slurry Description
20" Surface Casing	1140	13.5	9.08	1.72	Lead	Class C Cement + 0.125 lbs/sack Pol-E-Flake + 4% bwoc Bentonite + 70.1% Fresh Water
	1200	14.8	6.34	1.34	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water
13-3/8" 1 st Intermediate Casing	1000	12.9	9.82	1.85	Lead	(65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.9 % Fresh Water
	950	14.8	6.34	1.33	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water
9-5/8" 2 nd Intermediate Casing	930	12.9	9.82	1.85	Lead	(65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.9 % Fresh Water
	370	14.4	5.75	1.24	Tail	50% Premium H / 50% PozMix + 0.2% BWOC Halad-9 + 0.2% BWOC HR-800 + 64.7% Fresh Water
9-5/8" 2nd Intermediate Casing Two-Stage Option	390	12.9	9.82	1.85	Lead	(65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.9 % Fresh Water
	190	14.8	6.34	1.33	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water
	DV Tool at 3200ft					
	<u>550</u>	12.9	9.82	<u>1.85</u>	Lead	(65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.9 % Fresh Water
	<u>180</u>	14.8	6.34	<u>1.33</u>	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water
5-1/2" Production Casing	<u>640</u>	11.9	12.89	<u>2.26</u>	Lead	(50:50) Class H Cement: Poz (Fly Ash) + 10% BWOC Bentonite + 1 lb/sk of Kol-Seal + 0.3% BWOC HR-601 + 0.5lb/sk D-Air 5000 + 76.4% Fresh Water
	<u>2720</u>	14.5	5.32	<u>1.21</u>	Tail	(50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.25% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water

SEE
COA
LOW CEMENT

SEE
COA
LOW CEMENT

SEE
COA
LOW
CEMENT

5-1/2" Production Two-Stage Option	<u>550</u>	12.5	10.86	<u>1.96</u>	Lead	(65:35) Class H Cement: Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake + 74.1 % Fresh Water
	<u>2720</u>	14.5	5.32	<u>1.21</u>	Tail	(50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.25% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water
	DV Tool at 6000ft					
	<u>100</u>	11.9	12.89	<u>2.26</u>	Lead	(50:50) Class H Cement: Poz (Fly Ash) + 10% BWOC Bentonite + 1 lb/sk of Kol-Seal + 0.3% BWOC HR-601 + 0.5lb/sk D-Air 5000 + 76.4% Fresh Water
	<u>120</u>	14.8	6.34	<u>1.33</u>	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water

TOC for all Strings:

20" Surface Casing	0ft
13-3/8" 1 st Intermediate Casing	0ft
9-5/8" 2 nd Intermediate Casing	0ft
9-5/8" 2nd Intermediate Casing Two Stage Option	1 st Stage = 3200ft 2 nd Stage = 0ft
5-1/2" Production Casing	4700ft

Notes:

- Cement volumes Surface 100%, Intermediate #1 75%, Intermediate #2 50% and Production based on at least 25% excess.
- Actual cement volumes will be adjusted based on fluid caliper and caliper log data.

6. Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from KOP to surface (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? No. If yes, explain
N	Coring? No. If yes, explain

Additional logs planned (none)		Interval
N	Resistivity	None
N	Density	none
Y	CBL (Optional)	Production casing
Y	Mud log	Intermediate shoe to TD

7. Drilling Conditions SEE CoA

Condition	Specify what type and where?
BH Pressure at deepest TVD	4380 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.

	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

 X Directional Plan