

15-175

# Carlsbad Field Office Carlsbad Field Office

Form 3160-3  
(March 2012)

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

UNITED STATES **OCD Hobbs**  
DEPARTMENT OF THE INTERIOR **R-111-POITASH**  
BUREAU OF LAND MANAGEMENT **HOBBS OCD**

## APPLICATION FOR PERMIT TO DRILL OR REENTER FEB 16 2016

5. Lease Serial No.  
NMNM-128833

6. If Indian, Allottee or Tribe Name  
N/A

7. If Unit or CA Agreement, Name and No.  
N/A

8. Lease Name and Well No.  
BIG WYATT 25 **FEDERAL #24**

9. API Well No.  
30-025- **43075**

10. Field and Pool, or Exploratory  
**WC-0256-08 S213304D; BS (97875)**

11. Sec., T. R. M. or Blk. and Survey or Area  
SESW 25-20S-3#E  
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 DIAMONDBACK RESOURCES LLC **(260674)**

3a. Address 303 VETERANS AIRPARK LN., SUITE 1100  
MIDLAND, TX 79705

3b. Phone No. (include area code)  
432 685-6100

4. Location of Well (Report location clearly and in accordance with any State requirements)  
At surface 200' FSL & 2620' FWL 25-20S-33E **(N)**  
At proposed prod. zone 2310' FSL & 1980' FWL 24-20S-33E **(K)**

**UNORTHODOX LOCATION**

14. Distance in miles and direction from nearest town or post office\*  
21 AIR MILES SW OF MONUMENT, NM

15. Distance from proposed\* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)  
SHL: 200'  
BHL: 330'

16. No. of acres in lease  
800

17. Spacing Unit dedicated to this well  
E2SE4 SEC. 24 & E2W2 SEC. 25

18. Distance from proposed location\* to nearest well, drilling, completed, applied for, on this lease, ft.  
SHL: 1250' (Fed. 25 1)  
BHL: 2718' (Treat LI 1)

19. Proposed Depth  
TVD: 11,217' MD: 18,310'

20. BLM/BIA Bond No. on file  
NMB-000540

21. Elevations (Show whether DF, KDB, RT, GL, etc.)  
3,677.5' UNGRADED

22. Approximate date work will start\*  
03/01/2015

23. Estimated duration  
3 MONTHS

### 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 **B. Wood** Name (Printed/Typed) BRIAN WOOD (PHONE: 505 466-8120) Date 11/08/2014

Title CONSULTANT (FAX: 505 466-9682)

Approved by (Signature) **/s/George MacDonell** Name (Printed/Typed) Date **FEB 10 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. **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  
ATTACHED

**KZ** SEE ATTACHED FOR  
**2/16/16** CONDITIONS OF APPROVAL

Diamondback Resources LLC

DRILL PLAN PAGE 1

Big Wyatt 25 2H

SHL 200' FSL & 2620' FWL Sec. 25, T. 20 S., R. 33 E.

BHL 2310' FSL & 1980' FWL Sec. 24, T. 20 S., R. 33 E.

Lea County, NM

**HOBBS OCD**

FEB 16 2016

**RECEIVED**

Drilling Program

1. ESTIMATED TOPS

<u>Name</u>	<u>MD</u>	<u>TVD</u>	<u>Content</u>
Quaternary	0'	0'	fresh water
Rustler	1,490'	1,490'	anhydrite
Top salt	1,540'	1,540'	salt
Base salt/Tansill	3,100'	3,100'	salt
Yates	3,275'	3,274'	oil, gas
Capitan	3,361'	3,360'	brackish water
Seven Rivers*	3,452'	3,450'	brine water
Cherry Canyon	5,710'	5,700'	oil, gas
Brushy Canyon	6,800'	6,900'	---
1 <sup>st</sup> Bone Spring limestone	8,610'	8,600'	---
1 <sup>st</sup> Bone Spring sandstone	9,610'	9,600'	---
2 <sup>nd</sup> Bone Spring limestone	9,910'	9,900'	---
2 <sup>nd</sup> Bone Spring sandstone	10,160'	10,150'	oil, gas
3 <sup>rd</sup> Bone Spring limestone	10,673'	10,660'	---
3 <sup>rd</sup> Bone Spring sandstone	11,085'	11,000'	oil, gas
BHL	18,310'	11,115'	---

\*Seven Rivers inter fingers into the Capitan.

2. NOTABLE ZONES

Water zones will be protected with casing, cement, and weighted mud. Fresh water found while drilling will be recorded. Water was reported at a depth of 780' in a P & A well (30-025-01766) that is 3,773' northeast. Closest water well (CP 00793) is 9,013' southwest. No water depth for the 1,000' deep well has been recorded to date with the Office of the State Engineer.

Diamondback Resources LLC

DRILL PLAN PAGE 2

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Lea County, NM

3. PRESSURE CONTROL

Variance Denied, See ~~COA~~ COA

~~Before drilling out the 20" surface casing, a 2000 psi diverter system with rotating head will be installed. It will be tested to 250 psi low and 500 psi high by rig equipment. Diamondback requests a variance from Onshore Order 2 to use a diverter system on the 20" surface casing. Diverter and the BOPE will be connected to the closed loop system through the flow line. There will be no buffer tank.~~

Before drilling out of the 13-3/8" salt protection casing, a 13-5/8" 5000 psi working pressure BOP consisting of one set of blind rams and one set of pipe rams in a double ram housing and a 5000 psi annular type preventer will be installed. The rams will operate independent of one another. A choke manifold will be functionally equivalent to that shown in the choke manifold diagram. The BOPE system accumulator will have sufficient capacity to open the hydraulically controlled gate valve (if so equipped) and close all rams plus the annular preventer and retain a minimum pressure of 200 psi above pre-charge on the closing manifold without use of the closing pumps. The fluid reservoir capacity shall be double the usable fluid volume of the accumulator system capacity and the fluid level of the reservoir shall be maintained at the manufacturer's recommendations. Two independent sources of power will be available for powering the closing unit pumps. Sufficient nitrogen bottles are suitable as a backup power source only, and will be recharged when the pressure falls below the manufacturer's specifications. Power for the closing unit pumps will be available to the unit at all times so that the pumps will automatically start when the closing valve manifold pressure has decreased to the pre-set level. Will test to 5000 psi.

The drilling spool or the BOP will have 2 side outlets with a minimum diameter of 3 inch for the choke side and 2 inch for the kill side. Choke line will be a minimum of 3 inches with 2 choke line valves of a minimum of 3 inch diameter. Kill line will be a minimum diameter of 2 inches. Two chokes will be installed on the manifold, with one being remotely controlled from the rig floor. Portions of the equipment may be 4 inch.

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A Kelly cock valve will be installed and maintained in operable condition. A drill string safety valve in the open position will be available on the rig floor. A mud gas separator will be available in H<sub>2</sub>S zones. An independent service company will test the BOP and related equipment per Onshore Order 2. Test results of will be submitted to BLM. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole.

4. CASING & CEMENT     SEE COA

Hole O. D.	Interval (ft MD)	Casing O. D.	Age	Weight (lb/ft)	Grade	Connection	Collapse Min SF	Burst Min SF	Tension Min SF
26"	0' - 900'	20"	New	94	K-55	BTC	1.125	1.125	1.65
26"	900' - <del>1515'</del>	20"	New	133	K-55	BTC	1.125	1.125	1.65
17.5"	0' - <del>3400'</del>	13.375"	New	72	L-80	BTC	1.125	1.125	1.65
12.25"	0' - <del>5725'</del>	9.625"	New	53.5	N-80	BTC	1.125	1.125	1.65
8.5"	0' - 18310'	5.5"	New	20	P-110	TCPC	1.125	1.4	1.65

565  
3600  
5300

After drilling out from under the salt protection string, inclination will be built to 7° and held on an azimuth of 320° to 4510' MD, then allowed to drop to vertical to the KOP of 10,476' MD. An 8°/100' curve will then be built, turning from 320° to 360°, and landed at 11,986' MD (11,217' TVD). The horizontal lateral will be drilled at a 90° inclination to 18,310' MD at an azimuth of 360°.

Fresh water intervals down to the top of the Rustler will be protected by running 20" surface casing at least 25' into the top of the Rustler and cementing back to surface. If cement does not circulate, then a temperature survey will be run, BLM notified, and a remedial cement job performed.

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*SEE COA*

casing	depth set	sacks cement	TOC	pounds per gallon	ft <sup>3</sup> per sack	gallons per sack	total cubic feet	% excess	blend	
1565 surface lead	0' - 1515'	2645	GL	13.5	1.73	9.08	2032	150	1	
		900		14.8	1.33	6.31	897		2	
3600 salt lead	1515'	1460	GL	12.6	2.11	11.44	3080	100	3	
salt tail	<del>3200'</del>	550		14.8	1.33	6.31	731		4	
5300 intermediate 1st stage lead	1515' - 5725'	460	GL	12.6	2.1	11.44	966	100	5	
		intermediate 1st stage tail		225	14.8	1.33	6.31		299	6
		intermediate 2nd stage lead		450	12.6	2.11	6.31	949	75	7
		intermediate 2nd stage tail		210	14.8	1.33	6.31	279		8
5300 production	5725' - 18310'	4500	GL	14.2	1.26	5.7	5670	35	9	

Surface Casing:

Centralizers will be installed on each of the first 3 joints.

Blend 1 (lead) will consist of Class C + 0.25% R-38 + 4% bentonite + 0.1% C-35 + 0.25% R-38 + ¼ pound per sack cello flakes.

Blend 2 (tail) will consist of Class C + 0.15 C-20 + 0.25% R-38.

Salt Protection Casing:

Centralizers will be installed on each of the first 3 joints.

Blend 3 (lead) will be Class C 35/65 + 10% salt + 0.25% R-38 + 6% bentonite + 0.1% C-20 + 0.1% C-35 + 0.5% C-45 + ¼ pound per sack cello flakes.

Blend 4 (tail) will consist of Class C + 0.1% C-20 + 0.25% R-38.

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Intermediate Casing:

Centralizers will be installed on each of the first 3 joints.

A DV tool will be set at 3,880' if lost circulation is encountered or the potential to encounter exists.

Blend 5 (1<sup>st</sup> stage lead) will consist of Class C 35/65 + 0.25% R-38 + 6% bentonite + 0.1% C-20 + 0.1% C-35 + ¼ pound per sack cello flake + 10% salt.

Blend 6 (1<sup>st</sup> stage tail) will consist of Class C + 0.1% C-20 + 0.25% R-38.

Blend 7 (2<sup>nd</sup> stage lead) will consist of Class C 35/65 + 6% bentonite + ¼ pound per sack cello flake + 0.25% R-38 + 0.1% C-20 + 0.5% C-45 + 0.1% C-35 + 10% salt.

Blend 8 (2<sup>nd</sup> stage tail) will consist of Class C + 0.25% R-38

Production Casing:

Minimum of 1 centralizer will be set on every other joint through the pay zone. Centralizers will be of a type for horizontal service.

Caliper from open hole logs will be used before applying excess.

Blend 9 will consist of Class H 50/50 + 0.25% R-38 + 2% bentonite + 0.1% C-20 + 0.1% C-35 + 0.4% C-16A.

Will circulate to surface.

5. MUD PROGRAM

An electronic/mechanical mud monitor with a minimum pit volume totalizer, stroke counter, and flow sensor will be used.

1565  
3600  
5300

Interval (feet)	Weight (ppg)	Viscosity (sec)	Flud Loss (cc)	Mud Type
0 - 1515	8.9 - 9.2	28 - 30	NC	fresh water native
1515 - 3200	10.0 - 10.1	28 - 30	NC	brine - saltwater gel
3200 - 5725	8.91 - 9.1	28 - 29	NC	cut brine
5725 - 10600	8.9 - 9.1	28 - 29	NC	cut brine
10600 - TD	9.0 - 9.4	38 - 42	10	cut brine - gel - starch

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DRILL PLAN PAGE 6

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or abnormal pressures. In the event of poor hole conditions, mud properties may have to be adjusted in order to run open hole logs or casing.

6. CORES, TESTS, & LOGS

SEE COA

No core or drill stem test is planned.

*Vertical section*  
Need GR/N well log run  
from TD to surface

A 2 person mud logging unit will be used from 5,725' to TD.

(horizontal well -

No wireline electric logs are planned. MWD gamma will be captured in the curve and lateral.

vertical  
portion)

7. DOWN HOLE CONDITIONS

SEE COA

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is  $\approx 4,856$  psi and expected bottom hole temperature is  $\approx 155^\circ$  F.

Yes ~~No~~ H<sub>2</sub>S is expected during the drilling phase. Nevertheless, H<sub>2</sub>S safety package will be on location before drilling out of the surface casing.

Adequate flare lines will be installed to vent gas from the mud gas separator away from the rig safely to a point at least 150' from the wellhead.

8. OTHER INFORMATION

The anticipated spud date is upon approval. It is expected it will take 3 months to drill and complete the well.

This will be a third Bone Spring sand completion.