

**HOBBS OCD**

Form 3160-3  
(April 2004)

OCD Hobbs

**OCT 01 2012**

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**RECEIVED**

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM-14812
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator APACHE CORPORATION		7. If Unit or CA Agreement, Name and No.
3a. Address 303 VETERANS AIRPARK LN #3000 MIDLAND, TX 79705		8. Lease Name and Well No. WERTA FEDERAL #2 <302384>
3b. Phone No. (include area code) 432-818-1167		9. API Well No. 30-025- 40798
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 990' FSL & 1650' FEL Unit 8 At proposed prod. zone SAME		10. Field and Pool, or Exploratory House; Blinberry <33230> House; Tubbs, N <33470> House; Drinkard <33250>
14. Distance in miles and direction from nearest town or post office* APPROX 8 MILES SOUTH OF HOBBS, NM		11. Sec., T. R. M. or Blk. and Survey or Area UL: O SEC: 35 T19S R38E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 990'	16. No. of acres in lease 1109.46 ACRES	17. Spacing Unit dedicated to this well 40 ACRES
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. ~ 800'	19. Proposed Depth 7400'	20. BLM/BIA Bond No. on file NMB000736 BLM - CO - 1463 NATIONWIDE
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3586' GL - operator responsibility	22. Approximate date work will start* As soon as approved	23. Estimated duration ~ 15 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.                                                                                                | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.                                                                                                                             | 5. Operator certification                                                                          |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>Sorina L. Flores</i>	Name (Printed/Typed) SORINA L. FLORES	Date 6/7/12
Title SUPV OF DRILLING SERVICES		
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date SEP 28 2012
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.

\*(Instructions on page 2)

Lea County Controlled Water Basin

Approval Subject to General Requirements  
& Special Stipulations Attached

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

Conditions of Approval Approval to drill & test all new zones separate, but cannot produce Downhole commingle until DHC is approved in Hobbs District office according to R-11363

OCT 02 2012

DRILLING PLAN: BLM COMPLIANCE  
(Supplement to BLM 3160-3)

OCD Hobbs

**APACHE CORPORATION (OGRID: 873) WERTA FEDERAL #2**

Lease #: NM-14812 Projected TD: 7400' GL: 3586'  
990' FSL & 1650' FEL UL: O SEC: 35 T19S R38E LEA COUNTY, NM

1. **GEOLOGIC NAME OF SURFACE FORMATION:** Quaternary Aeolian Deposits
2. **ESTIMATED TOPS OF GEOLOGICAL MARKERS & DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:**

FORMATION	WELL DEPTH	WATER/OIL/GAS
Quaternary Aeolian	Surf	
Rustler	1597'	
Salt Top	1671'	
Salt Bottom	2799'	
Yates	2867'	
Seven Rivers	3119'	
Queen	3685'	
Grayburg	4039'	
San Andres	4329'	
Glorieta	5601'	
Paddock	5663'	
Blinberry	5963'	Oil
Tubb	6454'	Oil
Drinkard	6910'	Oil
ABO	7160'	Oil
TD	7300'	
Depth to Ground Water:	~ 75'	

All fresh water & prospectively valuable minerals, as described by BLM, encountered during drilling, will be recorded by depth and adequately protected. All oil & gas shows within zones of correlative rights will be tested to determine commercial potential.

3. **CASING PROGRAM:** All casing is new & API approved

HOLE SIZE	DEPTH	OD CSG	WEIGHT	COLLAR	GRADE	COLLAPSE	BURST	TENSION
12-1/4"	0' – 1650'	8-5/8"	24#	STC	J-55	1.125	1.0	1.8
7-7/8"	0'-7400'	5-1/2"	17#	LTC	L-80	1.125	1.0	1.8

4. **CEMENT PROGRAM:**

**A. 8-5/8" Surface cmt with (100% excess cmt to Surface):**

Lead: 625 sx Class C w/ 2% CaCl<sub>2</sub>, 0.13# CF, 3# LCM1, 0.005 gps FP-6L, 4% Bentonite  
(13.5 ppg, 1.75 yld) Comp Strengths : **12 hr – 500 psi 24 hr – 782 psi**

Tail: 200 sx Class C w/ 1% CaCl<sub>2</sub>, 0.13 # CF, 0.005 gps FP-6L  
(14.8 ppg, 1.34 yld) Comp Strengths : **12 hr – 755 psi 24 hr – 1347 psi**

**B. 5-1/2" Production cmt with (30% excess cmt; cmt to surf):**

Lead: 600 sx (35:65) Poz Cl C w/ 5% CaCl<sub>2</sub>, 0.125 # CF, 3# LCM1, 0.5% FL52, 0.005gps FP6L, 6% Bentonite, 0.3% Sodium Metasilicate  
(12.6ppg, 2.0 yld) Comp Strengths: **12 hr – 603 psi 24 hr – 850 psi**

Tail: 350 sx (50:50) Poz Cl C w/ 5% CaCl<sub>2</sub> + 0.13% CF, 3# LCM1 + 0.005gps FP6L + 2% Bentonite + 1% FL25 + 1% BA58 + 0.1% Sodium Metasilicate (14.2 ppg, 1.31 yld) Comp Strengths: **12 hr – 850 psi 24 psi – 1979 psi**

**\*\* The above cmt volumes could be revised pending caliper measurement from open hole logs. TOC is designed to reach surface on Surface and Production. The above slurry design may change, but will meet BLM specifications. All slurries will be tested prior to loading to confirm thickening times & a lab report furnished to Apache. Fluid loss will be tested & reported on slurries with fluid loss additives. Lab test report will be furnished prior to pumping cement.**

## 5. PROPOSED CONTROL EQUIPMENT

"EXHIBIT 5" shows a 900 series 11" 3M psi WP BOP consisting of an annular bag type preventer, middle blind rams, bottom pipe rams. The BOP will be nipped up on the 8-5/8" csg and utilized continuously until TD is reached. The BOP will be tested at 2000 psi, maximum surface pressure is not expected to exceed 3M psi, BHP is calculated to be approximately 3212 psi. \*All BOP's and associated equipment will be tested as per BLM *Drilling Operations Order #2*. The BOP will be operated and checked each 24 hr period & the blind rams will be operated & checked when the drill pipe is out of the hole. Functional tests will be documented on the daily driller's log. "EXHIBIT 5" also shows a 3M psi choke manifold with a 4" panic line. Full opening stabbing valve & Kelly cock will be on derrick floor in case of need. No abnormal pressures or temperatures are expected in this well. No nearby wells have encountered any problems.

*See COA* (\*Contingency: Apache respectfully requests a variance for using a flexhose contingent on type of rig used due to rig scheduling)

## 6. AUXILIARY WELL CONTROL EQUIPMENT / MONITORING EQUIPMENT:

11" x 3000 psi Double BOP/Blind & pipe ram (3M BOP/BOPE to be used as 2M system)  
4-1/2" x 3000 psi Kelly valve  
11" x 3000 psi mud cross – H<sub>2</sub>S detector on production hole  
Gate-type safety valve 3" choke line from BOP to manifold  
2" adjustable chokes – 4" blow down line  
Fill up line as per Onshore Order #2

## 7. PROPOSED MUD CIRCULATION SYSTEM: (Closed Loop System)

INTERVAL	MW (ppg)	VISC (sec/qt)	FLUID LOSS (cc)	MUD TYPE
0' – 1650'	8.3	28 – 32	NC	Fresh Water
1650 – 7100'	10	28 – 32	NC	Brine
7100' – TD	10.1 – 10.2	32 – 33	10 - 12	Cut Brine

**\*\* The necessary mud products for weight addition and fluid loss control will be on location at all times. In order to run open hole logs & casing, the above mud properties may have to be altered to meet these needs.**

## 8. LOGGING, CORING & TESTING PROGRAM:

- OH logs: Dual Laterolog, MSFL, CNL, Litho-Density, Spectral Gamma Ray, Caliper & Sonic from TD back to last csg shoe.
- Run CNL, Gamma Ray from last csg shoe back to surface.
- No cores or DST's are planned at this time. Mud log will be included on this well.
- Additional testing will be initiated subsequent to setting the 5-1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows & drill stem tests.

## 9. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered, however, the proposed mud program will be modified to increase the mud-weight. There is known presence of H<sub>2</sub>S in this area. If H<sub>2</sub>S is encountered the operator will comply with the provisions of *Onshore Oil & Gas Order No. 6 (SEE EXHIBIT 6)*. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP: 3212 psi and estimated BHT: 115°.

## 10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

Road and location construction will begin after BLM has approved APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as rig will be available. Move in operations and drilling is expected to take 8 - 10 days. If production casing is run then an additional 90 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

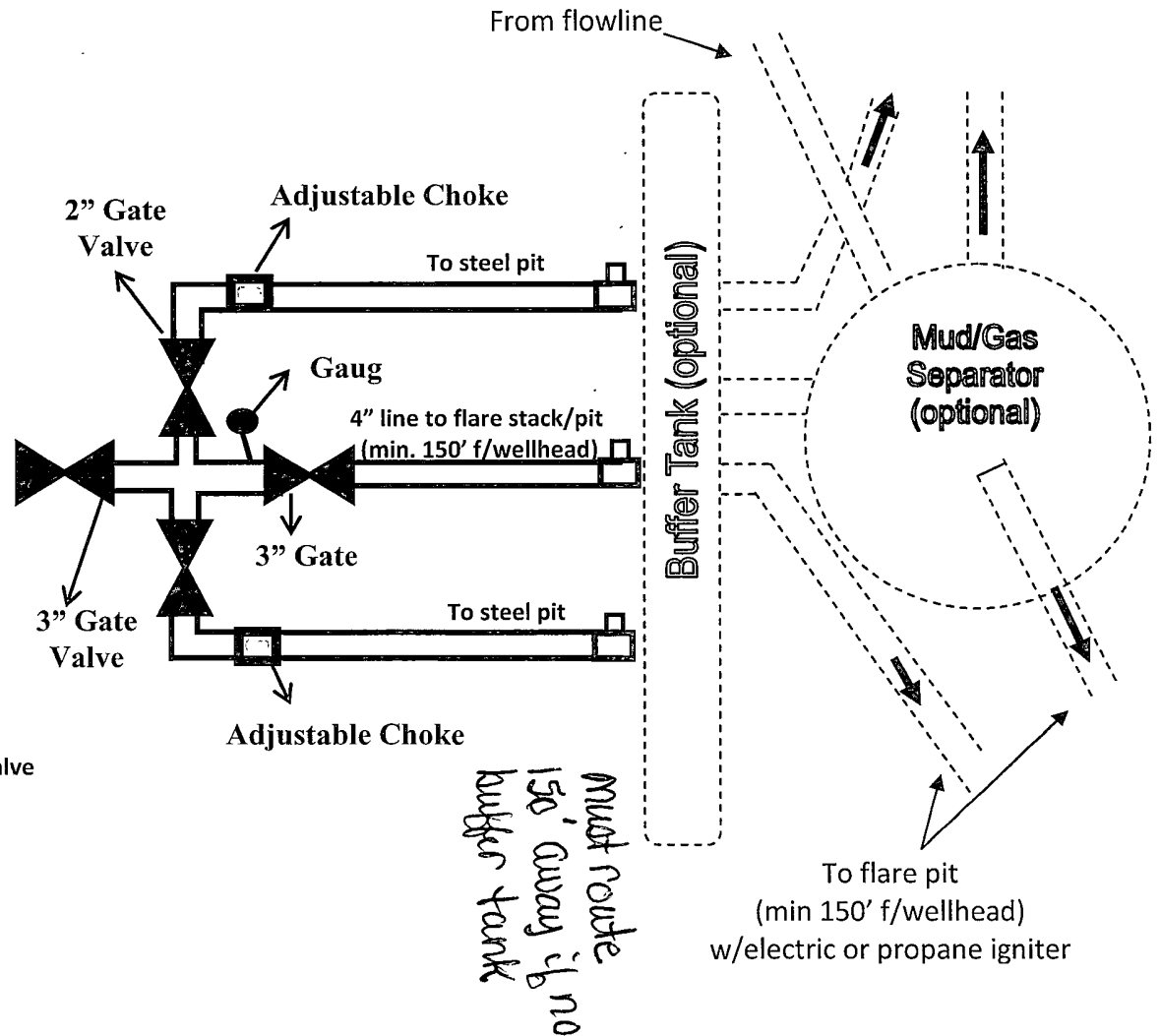
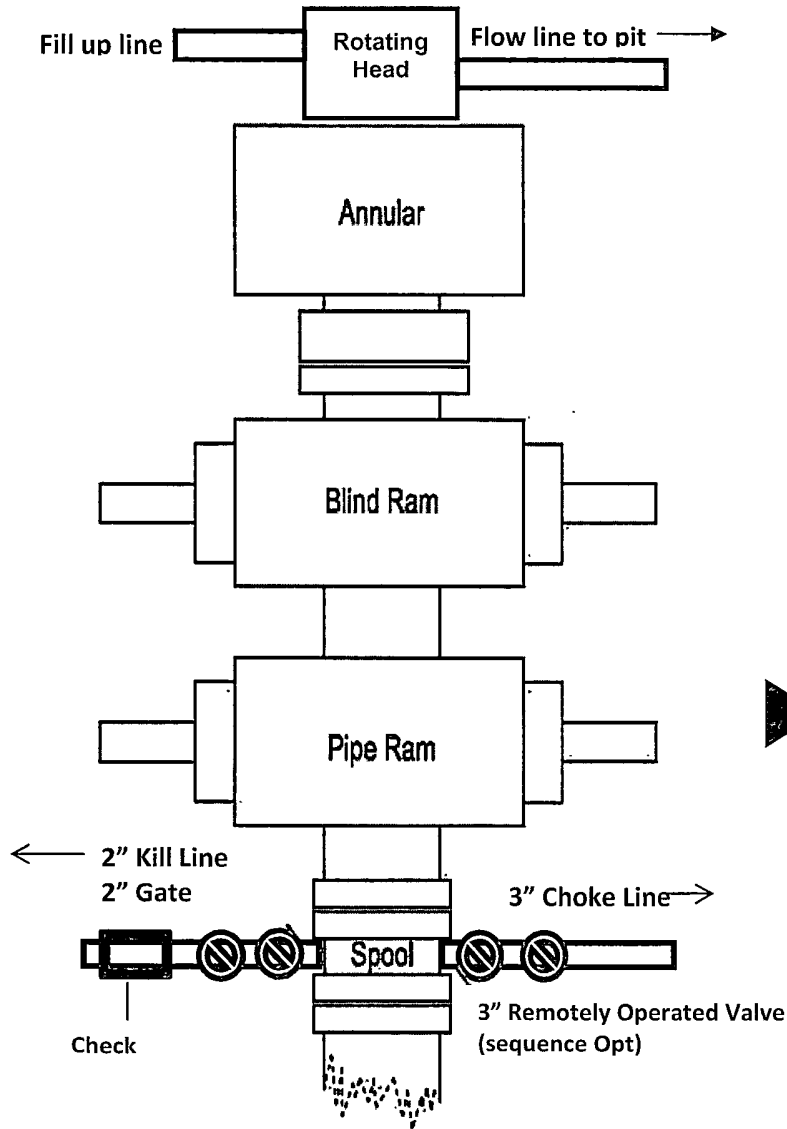
## 11. OTHER FACETS OF OPERATION:

After running csg, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The House; Blinberry, House; Tubb, House; Drinkard formations will be perforated and stimulated in order to establish production. The well will be swab tested & potentialized as an oil well.

# 3M psi BOPE & Choke Manifold

## Exhibit 3

All valve & lines on choke manifold are 2" unless noted.  
Exact manifold configuration may vary



# Apache

## Closed Loop Equipment Diagram

Exhibit 4

