

OCD-HOBBS  
HOBBS OCDForm 3160-3  
(April 2004)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

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

JUL 10 2012

RECEIVED

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMLC-031741A
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. HAWK A #37 <24426>
3b. Phone No. (include area code) 432-818-1167		9. API Well No. 30-025-40677
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 1850' FNL & 2290' FEL At proposed prod. zone SAME		10. Field and Pool, or Exploratory WANTZ; ABO <67200> <62700>
14. Distance in miles and direction from nearest town or post office* APPROX 3.5 MILES NORTH OF EUNICE, NM		11. Sec., T. R. M. or Blk. and Survey or Area UL: G SEC: 8 T21S R37E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1850'	16. No. of acres in lease 320 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. ~300'	19. Proposed Depth 7600'	20. BLM/BIA Bond No. on file BLM - CO - 1463 NATIONWIDE
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3536'	22. Approximate date work will start* As soon as approved	23. Estimated duration ~ 10 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 3/21/12
Title SUPV OF DRILLING SERVICES		
Approved by (Signature) <i>James A. Amos</i>	Name (Printed/Typed) James A. Amos	Date JUL 5 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)

Capitan Controlled Water Basin

*KE 07/10/12*Approval Subject to General Requirements  
& Special Stipulations AttachedCONDITIONS OF APPROVAL  
JUL 11 2012

**PRIVATE SURFACE OWNER AGREEMENT**

OPERATOR: APACHE CORPORATION

WELL NAME: HAWK A #37

UL: G SECTION: 8 TOWNSHIP: 21S RANGE: 37E

LOCATION: 1850' FNL & 2290' FEL COUNTY: LEA STATE: NM

LEASE NUMBER: NMLC-0031741A

**STATEMENT OF SURFACE USE**

The surface to the subject land is owned by Millard Deck Estate, c/o Bank of America NA, Trustee of Millard Deck Testamentary Trust under Last Will & Testament of Millard Deck, ATTN: Jeff Petter, Asst VP, US Trust-Farm & Ranch, Bank of America Private Wealth Mgmt, PO Box 270, Midland, TX 79702 (303 W. Wall St, Midland, TX 79701) 432-688-7926

The surface owner has been contacted regarding the drilling of the subject well, and an agreement for surface use has been negotiated.

**CERTIFICATION:** I hereby certify that the statements made in this statement are to the best of my knowledge, true and correct.

NAME: JEREMY WARD

SIGNATURE: 

DATE: 3-21-12

TITLE: DRILLING ENGINEER

To expedite your Application to Drill please fax the completed form to the  
Bureau of Land Management (575) 234-5927 or (575) 885-9264  
Attn: Legal Instruments Examiner  
620 E. Green Street  
Carlsbad, NM 88220

The original document with signature should be mailed as soon as possible.

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

**APACHE CORPORATION (OGRID: 873) Hawk A #37**

Lease #: NMLC-031741A Projected TD: 7600' GL: 3536'  
1850' FNL & 2290' FEL UL: G SEC: 8 T21S R37E 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:**

Quaternary Aeolian	Surf	San Andres	4079' (Oil)
Rustler	1326'	Glorieta	5222'
Salt Top	1396'	Blinberry	5747' (Oil)
Salt Bottom	2561'	Tubb	6227' (Oil)
Yates	2698'	Drinkard	6561' (Oil)
Queen	3494'	ABO	6840' (Oil)
Grayburg	3773' (Oil)	TD	7600'

Depth to Ground Water: ~ 65'

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

See COA

HOLE SIZE	DEPTH	OD CSG	WEIGHT	COLLAR	GRADE	COLLAPSE	BURST	TENSION
12-1/4"	0' - 1375' 1590	8-5/8"	24#	STC	J-55	1.125	1.0	1.8
7-7/8"	0' - 7600'	5-1/2"	17#	LTC	L-80	1.125	1.0	1.8

4. **CEMENT PROGRAM:**

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

Lead: 490 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 (50% excess cmt):**~~

See COA  
Lead: 600 sx (50:50) Poz Cl C w/5% Sodium Chloride + 0.13# CF + 3# LCM1 + 0.5% FL52 + 0.005 gps FP-6L + 6% Bentonite + 0.3% bwoc Sodium Metasilicate  
(12.6ppg, 2.00 yld) Comp Strengths: **12 hr** - 603 psi **24 hr** - 850 psi

Tail: 200 sx (50:50) Poz Cl C w/5% Sodium Chloride + 0.13# CF + 3# LCM1 + 1% FL-52 + 0.005 gps FP-6L + 1% bowc BA58 + 2% Bentonite + 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 total depth is reached. The BOP will be tested at 2000 psi, maximum surface pressure is not expected to exceed 2M psi, BHP is calculated to be approximately 3344 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.

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

INTERVAL	MW (ppg)	VISC (sec/qt)	FLUID LOSS (cc)	MUD TYPE
0' - <del>1375</del> <i>1392</i>	8.3	28 - 32	NC	Fresh Water
<del>1375</del> - 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.**

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

9" x 3000 psi Double BOP/Blind & pipe ram (2M BOP if available)  
4-1/2" x 3000 psi Kelly valve  
9" x 3000 psi mud cross - H2S 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

## 8. LOGGING, CORING & TESTING PROGRAM:

*See COA*

- OH logs: Dual Laterolog, MSFL, CNL, Litho-Density, Spectral Gamma Ray, Caliper & Sonic from TD back to 8-5/8" csg shoe.
- Run CNL, Gamma Ray from 8-5/8" 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:

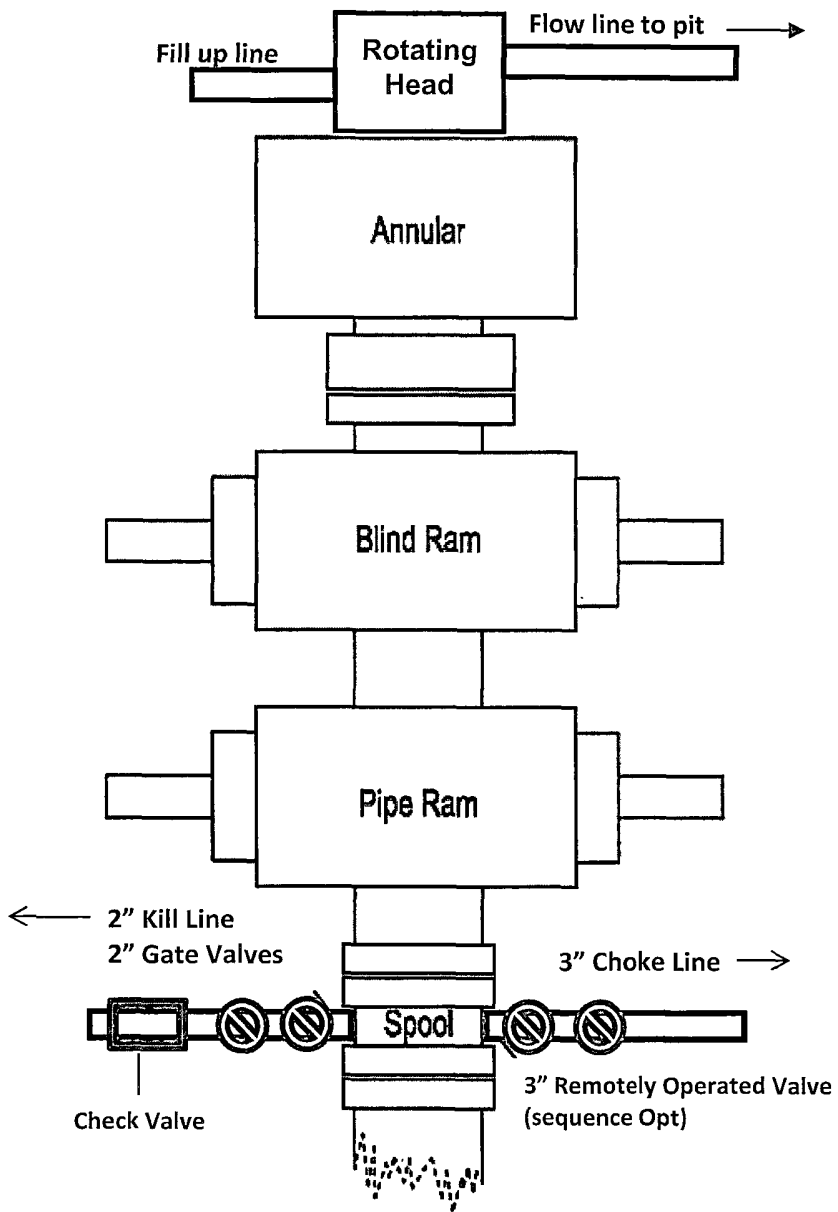
No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered, however, the proposed mud program will be modified to increase the mud-weight. There is known presence of H<sub>2</sub>S in this area. If H<sub>2</sub>S is encountered the operator will comply with 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: 3344 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 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:

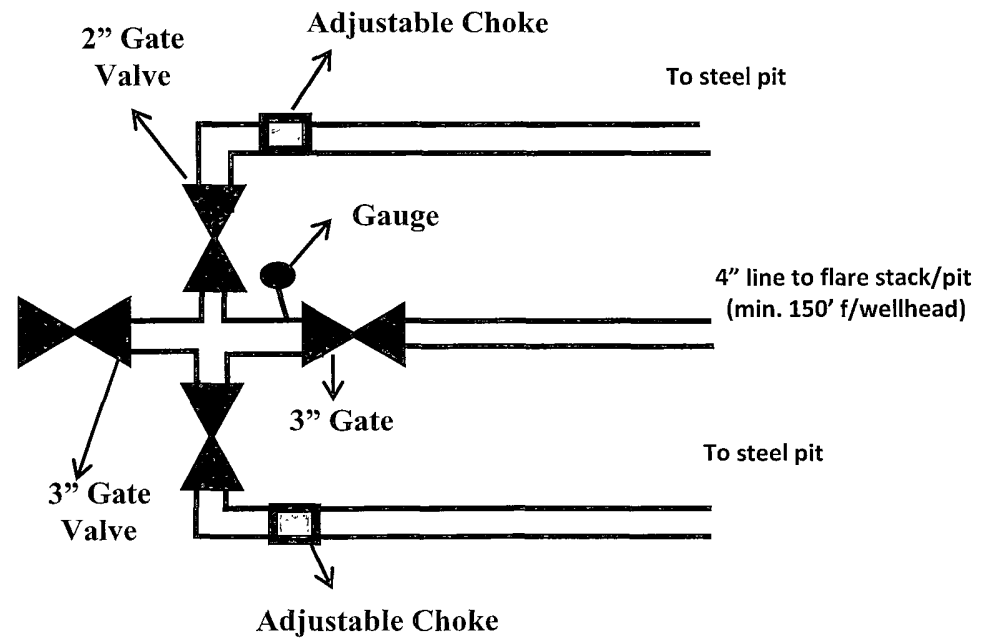
After running csg, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The Wantz/ABO formations will be perforated and stimulated in order to establish production. The well will be swab tested & potentialized as an oil well.



### 3M psi BOPE & Choke Manifold

#### Exhibit 3

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



# Apache

Drilling Location  
H2S Safety Equipment Diagram  
Exhibit 3A

