HOBBS OCD

SEP 26 2013

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OCD Hobbs

Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Split Estate

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

5. Lease Serial No. NMNM-0557256

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

8. Lease Name and Well No. (40164) ELLIOTT EM 20 FEDERAL #004

2. Name of Operator APACHE CORPORATION (873)

9. API Well No. 30-025- 41444

3a. Address 303 VETERANS AIRPARK LN #3000 MIDLAND, TX 79703

3b. Phone No. (include area code) 432-818-1167

10. Field and Pool, or Exploratory Paddock-49240 Blinebry 06660; Drinkard-19190 Tubb 86970 - 60240; Wantz-ABO-62700

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

At surface 2310' FNL & 2310' FWL

At proposed prod. zone SAME

11. Sec., T. R. M. or Blk. and Survey or Area UL: F SEC 20 T22S R37E

14. Distance in miles and direction from nearest town or post office* APPROX 5.5 MILES SOUTH OF EUNICE, NM

12. County or Parish LEA

13. State NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 2310'

16. No. of acres in lease 200 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. 320'

19. Proposed Depth ~~7600'~~

20. BLM/BIA Bond No. on file ~~BLM-CO-1463 NATIONWIDE/NMB-000736~~

21. Elevations (Show whether DF, KDB, RT, GL, etc.) GL - 3382'

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.
2. A Drilling Plan.
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).
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 authorized officer.

25. Signature Sorina L Flores — Name (Printed/Typed) SORINA L. FLORES — Date 6/6/13

Title SUPV OF DRILLING SERVICES

Approved by (Signature) /S/ STEPHEN J. CAFFEY — Name (Printed/Typed) — Date SEP 23 2013

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)

OIL CONSERVATION DIVISION
CONDITION OF APPROVAL: Approval for drilling/workover ONLY -- CANNOT produce Downhole Commingled until DHC is approved in the OCD Santa Fe office.

Capitan Controlled Water Basin

KZ 10/10/13

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

OCT 15 2013

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

**APACHE CORPORATION (OGRID: 873) ELLIOTT EM 20 FEERAL #4**

Lease #: NMNM-0557256 Projected TD: 7600' GL: 3382'
2310' FNL & 2310' FWL UL: F SEC: 20 T22S 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 | 3997' |
| Rustler | 1133' | Glorieta | 5086' |
| Salt Top | 1250' | Paddock | 5133' (Oil) |
| Salt Bottom | 2469' | Blinebry | 5536' (Oil) |
| Yates | 2649' | Tubb | 6013' (Oil) |
| Seven Rivers | 2881' | Drinkard | 6414' (Oil) |
| Queen | 3342' | ABO | 6652' |
| Grayburg | 3652 | TD | 7600' |

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. Surface fresh water sands will be protected by setting 8-5/8" csg @ ~~1158'~~ 1195' & circ cmt back to surface. Hydrocarbon zones will be protected by setting 5-1/2" csg @ 7600'.

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

| HOLE SIZE | DEPTH | OD CSG | WEIGHT | COLLAR | GRADE | COLLAPSE | BURST | TENSION |
|---|---|---|---|---|---|---|---|---|
| 11" | 0' – ~~1158'~~ 1195' | 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 |

See COA

## 4. CEMENT PROGRAM:

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

Lead: 210 sx Class C w/ 4% Gel + 2% CaCL2 + 0.125#/sx CF + 0.25#/sx Defoamer
*(13.5 ppg, 1.75 yld) Comp Strengths : **12 hr** – 786 psi **24 hr** – 1213 psi*

Tail: 200 sx Class C w/ 1% CaCl2
*(14.8 ppg, 1.34 yld) Comp Strengths : **12 hr** – 1565 psi **24 hr** – 2442 psi*

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

Lead: 540 sx Cl C (50:50) Poz w/ 5% Salt + 10% Gel + 3#/sx Kil-seal + 0.25% Defoamer + 0.125#/sx CF
*(12.6ppg, 2.0 yld) Comp Strengths: **12 hr** – 156 psi **24 hr** – 1081 psi*

Tail: 520 sx PVL + 1.3% Salt + 5% Expanding cmt + 0.5% Gel suppressing agen + 0.1% Antisetting agent + 0.25% defoamer + 0.2% Retarder *(14.2 ppg, 1.31 yld) Comp Strengths: **12 hr** – 642 psi **24 psi** – 1016 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.

*If severe lost circ is encountered, Apache may 2-stage 5-1/2" csg w/DVT. An ECP may also be placed below DVT. TD of 11" hole is @ +/- 1166'. Assuming DVT is set @ +/- 3400', the following cmt will be used:*

See COA

*Cmt 1st stage w/ +/- 150sx Cl C 50/50 Pox lead (12.6#, 2.0yld) and +/- 520 sx PVL tail (14.2#, 1.31yld)*
*Cmt 2nd stage w/ +/- 390sx Cl C 50/50 Pox lead (12.6#, 2.0yld) and +/- 100 sx Cl C tail (14.8#, 1.33yld)*

*If DVT is set at different depth, cmt volumes will be adjusted accordingly.*

## 5. PROPOSED CONTROL EQUIPMENT

*"EXHIBIT 3A"* 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 nippled 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 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 3A"*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 of temperatures are expected in this well. No nearby wells have encountered any problems.

See COA

## 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 – 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

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

See COA

| INTERVAL | MW (ppg) | VISC (sec/qt) | FLUID LOSS (cc) | MUD TYPE |
|---|---|---|---|---|
| 0' –~~1158'~~ 1145' | 8.4 – 8.6 | 32 – 35 | NC | FW |
| 1158' – 7600' | ~~8.8 – 9.0~~ | 30 – 32 | NC | ~~FW-/-Brine~~ See COA |

*** Visual mud monitoring equipment shall be in place to detect volume changes. A mud test shall be performed every 24 hrs after mudding up to determine, as applicable: density, visc, gel strength, filtration, and pH. The necessary mud products for weight addition & 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:

**A.** OH logs: Dual Laterolog, MSFL, CNL, Litho-Density, Spectral Gamma Ray, Caliper & Sonic from TD back to last csg shoe.
**B.** Run CNL, Gamma Ray from last csg shoe back to surface.
**C.** No cores or DST's are planned at this time. Mud log will be included on this well.
**D.** 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 $H_2S$ in this area. If $H_2S$ 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 BLM approval and as soon as rig is 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 Paddock, Blinebry, Tubb, Drinkard & Wantz;ABO formations will be perforated and stimulated in order to establish production. The well will be swab tested & potentialed as an oil well.

# APACHE BOP AND CHOKE MANIFOLD SCHEMATIC

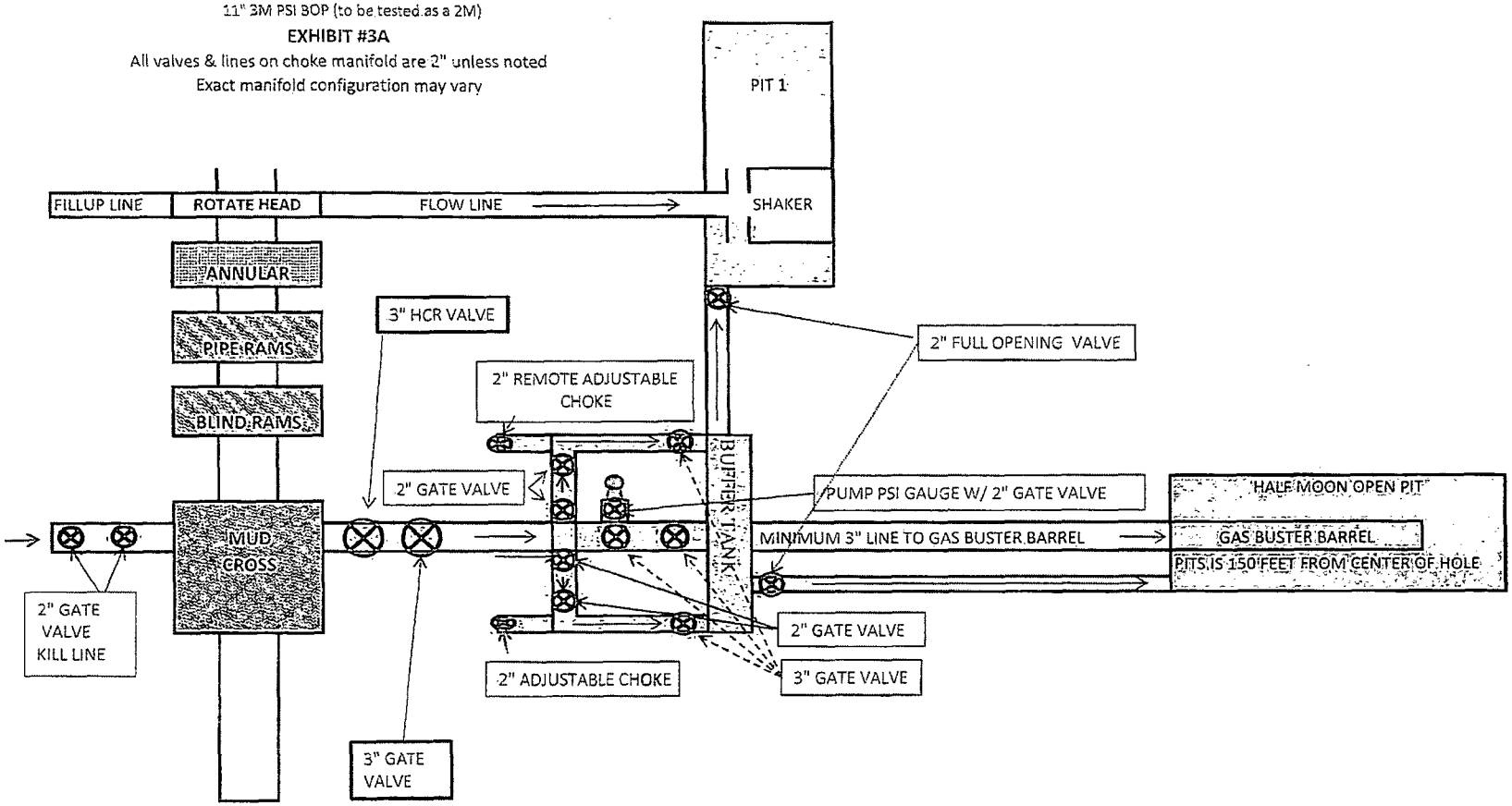
## ELLIOTT EM 20 FEDERAL #4

11" 3M PSI BOP (to be tested as a 2M)

**EXHIBIT #3A**

All valves & lines on choke manifold are 2" unless noted

Exact manifold configuration may vary



Apache

# Closed Loop Equipment Diagram
## Exhibit 4

Elliott EM 20 Federal #4