OCD Artesia

ATS-11-178

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

# APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NMLC-0029395A

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. TONY FEDERAL #034 <308738>

2. Name of Operator APACHE CORPORATION

9. API Well No. 30-015- 39342

3a. Address 303 VETERANS AIRPARK LN #3000 MIDLAND, TX 79705

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

10. Field and Pool, or Exploratory (96831) CEDAR LAKE; GLORIETA-YESO

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface 1120' FSL & 1345' FEL
At proposed prod. zone SAME

11. Sec., T. R. M. or Blk. and Survey or Area UL: O SEC: 18 T17S R31E

14. Distance in miles and direction from nearest town or post office* APPROX 4.5 MILES EAST OF LOCO HILLS, NM

12. County or Parish EDDY

13. State NM

| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any) | 16. No. of acres in lease | 17. Spacing Unit dedicated to this well |
|---|---|---|
| 1120' | 609.33 | 40 ACRES |
| **18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.** | **19. Proposed Depth** | **20. BLM/BIA Bond No. on file** |
| 340' +/- | 6500' | BLM - CO - 1463 |
| **21. Elevations (Show whether DF, KDB, RT, GL, etc.)** | **22. Approximate date work will start*** | **23. Estimated duration** |
| 3708' | As soon as APD approved | 14 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 | Name (Printed/Typed) | Date |
|---|---|---|
| Sorina L Flores | Sorina L. Flores | 7/25/11 |

Title: Spv. Drlg Services

| Approved by (Signature) | Name (Printed/Typed) | Date |
|---|---|---|
| /s/ Don Peterson | | AUG 12 2011 |

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)

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Roswell Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

## DRILLING PLAN: BLM COMPLIANCE

(Supplement to BLM 3160-3)

## APACHE CORPORATION (OGRID: 873) TONY FEDERAL #34

Lease #: NMLC-0029395A Projected TD: 6500' GL: 3704'
890' FSL & 1700' FEL, UL: O SEC: 18 T17S R31E EDDY 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 | Surface | |
| Rustler | 305' | |
| Top of Salt | 518' | |
| Bottom of Salt | 1258' | |
| Yates | 1478' | |
| Seven Rivers | 1759' | Oil |
| Queen | 2370' | Oil |
| Grayburg | 2751' | Oil |
| San Andres | 3104' | Oil |
| Glorieta | 4594' | |
| Yeso | 4666' | Oil |
| Blinebry | 5176' | |
| Tubb | 6149' | |
| TD | 6500' | |
| | | |
| Depth to Ground Water: | 91' | |

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. The surface fresh water sands will be protected by setting 13-3/8" csg @ 330' & circ cmt back to surface. All intervals will be isolated by setting 5-1/2" csg to TD & circ cmt above the base of 8-5/8" csg.

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

| HOLE SIZE | DEPTH | OD CSG | WEIGHT | COLLAR | GRADE | COLLAPSE | BURST | TENSION |
|---|---|---|---|---|---|---|---|---|
| 17-1/2" | 0' – 330' | 13-3/8" | 48# | STC | H-40 | 1.125 | 1.0 | 1.8 |
| 11" | 330'-1500' | 8-5/8" | 24# | STC | J-55 | 1.125 | 1.0 | 1.8 |
| 7-7/8" | 1500'-6500' | 5-1/2" | 17# | LTC | J-55 | 1.125 | 1.0 | 1.8 |

**4. CEMENT PROGRAM:**

**A. 13-3/8" Surface:** Run & set 13-3/8" 48# H-40 STC csg to 330'. Cmt with:

Lead: 370 sx Class C w/ 1% CaCl2, 0.25% R38 *(14.8 wt, 1.34 yld)*
*Compressive Strengths :* ***12 hr*** *– 813 psi* ***24 hr*** *– 1205 psi* ****100% excess cmt; cmt to surf****

**B. 8-5/8" Intermediate:** Run & set 8-5/8" 24# J-55 STC csg to 1500'. Cmt with:

Lead: 180 sx (50:50) Poz C w/ 4% Bentonite, 1% caCl2, 0.25% R38 *(12wt, 2.3 yld)*
*Compressive Strengths:* ***12 hr*** *– 589 psi* ***24 hr*** *– 947 psi*

Tail: 160 sx Class C w/ 1% CaCl2, 0.25% R38 *(14.8 wt, 1.34 yld)*
*Compressive Strengths:* ***12 hr*** *– 813 psi* ***24 hr*** *– 1205 psi* ****100% excess cmt; cmt to surf****

**C. 5-1/2" Production:** Run & set 5-1/2" 17# J-55 LTC csg to 6500' ~~6500'~~ (DV or Post tool w/ be set at @ 3500' if DV or Post is to be moved cement will be adjusted proportionately / TOC: 500') Cmt with:

1st Stage Lead: 530 sx (50:50) Poz C w/ 0.3% C12, 5% Salt, 0.25% R38 *(14.2 wt, 1.26 yld)*
*Compressive Strengths:* ***12 hr*** *– 1379 psi* ***24 hr*** *– 2332 psi*

2nd Stage Lead: 270 sx (50:50) Poz C w/ 5% Salt, 0.25% R38 *(11.8 wt, 2.45 yld)*
*Compressive Strengths:* ***12 hr*** *– 540 psi* ***24 hr*** *– 866 psi*

Stage Tail: 90 sx (50:50) Poz C w/ 5% Salt, 0.25% R38 *(14.2 wt, 1.28 yld)*
*Compressive Strengths:* ***12 hr*** *– 1031 psi* ***24 psi*** *– 1876 psi* ****30% excess cmt****

** ***The above cmt volumes could be revised pending caliper measurement from open hole logs.*** *For Surface csg: If cmt does not circ to surface, the appropriate BLM office shall be notified & a tag with 1" will be performed at four positions 90 degrees apart to verify cmt depth. If depth is greater than 100' or water is standing in the annulus, remedial cementing will be done. If no water & TOC tag is less than 100', when 100% excess cmt of the annulus volume is run on the primary job, ready-mix will be used to bring cmt to surface.*

Se
Co

## 5. PROPOSED CONTROL EQUIPMENT

Exhibit "1" shows an 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 13-3/8" surface csg and tested to 70% of casing burst. After the intermediate casing is set & cemented the 13 3/8" casing head will be removed and a 11" 3M head will be installed on the 8 5/8" casing 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 2662 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 "1" also shows a 3M psi choke manifold with a 3" blow down 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.

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

| INTERVAL | MW (ppg) | VISC (sec/qt) | FLUID LOSS (cc) | MUD TYPE |
|---|---|---|---|---|
| 0' –330' | 8.4 | 29 | NC | Fresh Water |
| 330' to 1500' | 9.8 – 10.0 | 29 | NC | Brine |
| 1500' – 6500' | 8.9 – 9.0 | 29 | NC | 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:

11" x 3000 psi Double BOP/Blind & pipe ram (2M BOP if available)
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 – 3" blow down line

## 8. LOGGING, CORING & TESTING PROGRAM: See cont

**A.** OH logs: Dual Laterolog, MSFL, CNL, Litho-Density, Gamma Ray, Caliper & Sonic from TD back to 8-5/8" csg shoe.
**B.** Run CNL, Gamma Ray from 8-5/8" csg shoe back to surface.
**C.** No cores, DST's or mud logger are planned at this time.
**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.* 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: 2662 psi and estimated BHT : 115°.

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

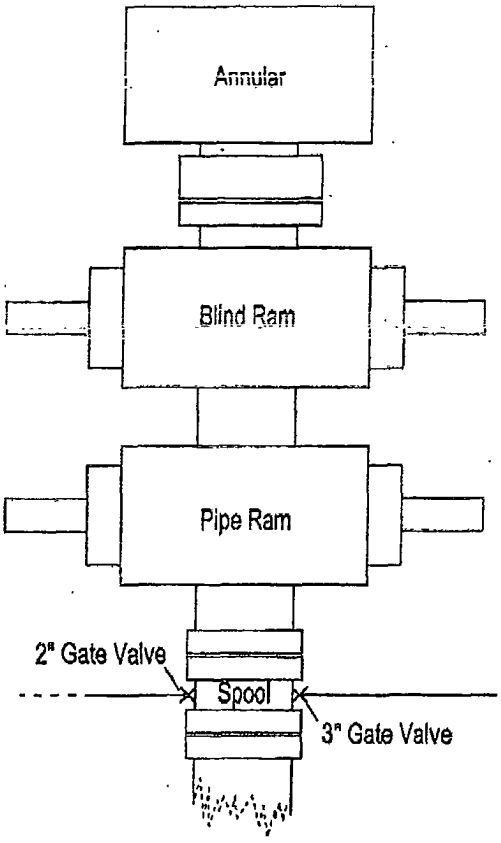
Road and location construction will begin after Santa Fe & BLM has approved APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as rig will be available. Move in operations and drilling is expected to take 14 days. If production casing is run then an additional 90 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

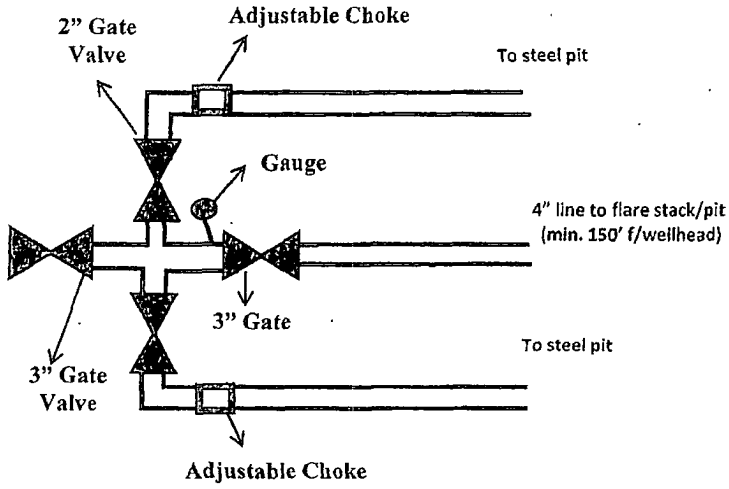
## 11. OTHER FACETS OF OPERATION:

After running csg, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The Cedar Lake; Glorieta-Yeso formation will be perforated and stimulated in order to establish production. The well will be swab tested & potentialed as an oil well.

## 3M psi BOPE & Choke Manifold

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

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