Carlsbad Field Office
OCD Hobbs

14-641

HOBBS OCD
APR 27 2015
RECEIVED

Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. NMNM-14812
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	6. If Indian, Allotee or Tribe Name
2. Name of Operator APACHE CORPORATION (873)	7. If Unit or CA Agreement, Name and No.
3a. Address 303 VETERANS AIRPARK LN #1000 MIDLAND, TX 79705	3b. Phone No. (include area code) 432-818-1167
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface 990' FSL & 330' FEL At proposed prod. zone SAME	8. Lease Name and Well No. WERTA FEDERAL #005 <302384>
	9. API Well No. 30-025- 42531
	10. Field and Pool, or Exploratory <33230> House; Blinebry <33220> House; Drinkard House; Tubb, N <33490> House; NBO <33210>
	11. Sec., T. R. M. or Blk. and Survey or Area UL: P SEC: 35 T19S R38E
14. Distance in miles and direction from nearest town or post office* APPROX 8 MILES SOUTH OF HOBBS, 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) 330'	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.	19. Proposed Depth 7900' / 20. BLM/BIA Bond No. on file BLM-CO-1463 NATIONWIDE / NMB000736
21. Elevations (Show whether DF, KDB, RT, GL, etc.) GL: 3584'	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, 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 Sorina L. Flores	Name (Printed/Typed) SORINA L. FLORES	Date 4/1/14
Title SUPV OF DRILLING SERVICES		
Approved by (Signature) Steve Caffey	Name (Printed/Typed)	Date APR 23 2015
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)

KZ
04/27/15

PM

Lea County Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

APR 28 2015

HOBBS OCD

APR 27 2015

RECEIVED

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

APACHE CORPORATION (OGRID: 873) WERTA FEDERAL #5

Lease #: NM-14812 Projected TD: 7900' GL: 3584'
990' FSL & 330' FEL UL: P 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:

Quaternary Aeolian	Surf	San Andres	4345'
Rustler	1614'	Glorieta	5616'
Top of Salt/Tansil	1691'	Paddock	5677'
Base of Salt	2738'	Blinebry	6064' (Oil)
Yates	2877'	Tubb	6594' (Oil)
Seven Rivers	3122'	Drinkard	6932' (Oil)
Queen	3697'	Top of ABO	7188' (Oil)
Grayburg	4056'	TD	7900'
		Base of ABO	7914'

Depth to Ground Water: ~ 55'

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 @ ~~1640'~~ 1660' & circ cmt back to surface. Hydrocarbon zones will be protected by setting 7-7/8" csg @ 7400'.

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

See COA

HOLE SIZE	DEPTH	OD CSG	WEIGHT	COLLAR	GRADE	COLLAPSE	BURST	TENSION
12.25"	0' – ~~1640'~~ 1660'	8-5/8"	24#	STC	J-55	1.125	1.0	1.8
7-7/8"	0'-7900'	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: 525 sx Class C w/ 4% Gel + 2% CaCL2 + 0.125 #/sx CF + 0.25#/sx Defoamer
(13.5 ppg, 1.75 yld, 8.996 gal/sk) *Comp Strengths :* ***12 hr*** *– 786 psi* ***24 hr*** *– 1213 psi*

Tail: 350 sx Class C w/ 1% CaCl2
(14.8 ppg, 1.34 yld, 6.32 gal/sk) *Comp Strengths :* ***12 hr*** *– 1565 psi* ***24 hr*** *– 2442 psi*

B. 5-1/2" Production cmt with (40% excess cmt; cmt to surf):

Lead: 645 sx Cl C 35/65 poz + 5% Salt + 6% Gel + 3#/sx Kol-Seal + 0.25% Defoamer + 0.125#/sx CF
(12.6ppg, 2.05 yld, 11.65 gal/sk) *Comp Strengths:* ***12 hr*** *– 156 psi* ***24 hr*** *– 1081 psi*

Tail: 525 sx PVL + 1.3% Salt + 5% Expanding cmt + 0.5% Gel suppressing agent + 0.1% antisetting agent
(13.0 ppg, 1.48 yld, 7.617 gal/sk) *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.*

5. PROPOSED CONTROL EQUIPMENT

3000 psi test must be done

"EXHIBIT 3A" shows a 900 series 11" 3M psi WP BOP consisting of an annular bag type preventer, middle pipe rams, bottom blind 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 3476 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.

6. AUXILIARY WELL CONTROL EQUIPMENT / MONITORING EQUIPMENT:

11" x 3000 psi Double BOP/Blind & pipe ram (3M BOP/BOPE to be used as ~~2M~~ 3M 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' – ~~1640'~~ 1660'	8.4 – 8.8	32 – 35	NC	Fresh Water
0 – 7900'	10.0-10.2	30 – 32	NC	Brine

***** 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: 3476 psi and estimated BHT : 120°.

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 House;Blinebry, House;Tubb, N., House;Drinkard and House;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

WERTA FEDERAL #5 must test to 3,000 psi

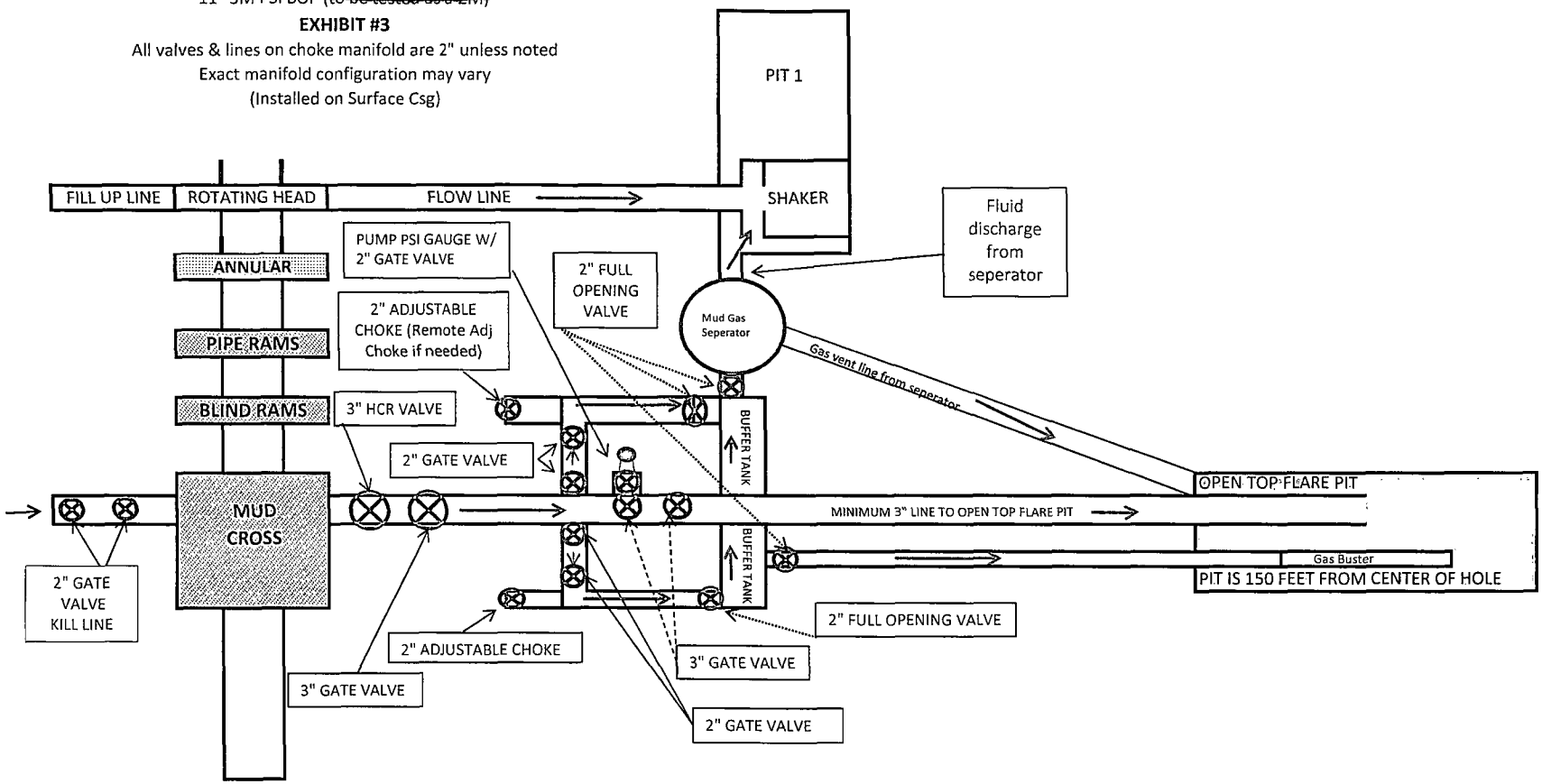
11" 3M PSI BOP (~~to be tested as a 2M~~)

EXHIBIT #3

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

Exact manifold configuration may vary

(Installed on Surface Csg)



*** If H2S is encountered in quantities greater than 100ppm, Apache will shut in well & install a remote operated choke ***

Apache

Closed Loop Equipment Diagram

Exhibit 4

Werta Federal #5

WELLSITE / RIG LAYOUT
WERTA FEDERAL #5
EXHIBIT #5