

14-643

Carlsbad Field Office OCD Hobbs

Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APR 27 2015

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

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 (873)		7. If Unit or CA Agreement, Name and No.
3a. Address 303 VETERANS AIRPARK LN #1000 MIDLAND, TX 79705		8. Lease Name and Well No. PLOWBOY FEDERAL #2 <303227>
3b. Phone No. (include area code) 432-818-1167		9. API Well No. 30-025- 42530
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1650' FSL & 1990' FEL At proposed prod. zone SAME		10. Field and Pool, or Exploratory House; Blinberry <33250> House; Brinkard House; Tubbs, N <33470> House; ASD 11. Sec., T. R. M. or Blk. and Survey or Area <33210> UL: J 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
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1650'		13. State NM
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: 3586'	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:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

25. Signature <i>Sorina L Flores</i>	Name (Printed/Typed) SORINA L. FLORES	Date 4/1/14
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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)

Lea County Controlled Water Basin

K2
04/27/15

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APR 28 2015

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

APR 27 2015

APACHE CORPORATION (OGRID: 873) PLOWBOY FEDERAL #2**RECEIVED**

Lease #: NM-14812 Projected TD: 7900' GL: 3586'
1650' FSL & 1990' FEL UL: J 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	4333'
Rustler	1600'	Glorieta	5608'
Top of Salt/Tansil	1679'	Paddock	5667'
Base of Salt	2733'	Blinbry	6049' (Oil)
Yates	2871'	Tubb	6580' (Oil)
Seven Rivers	3121'	Drinkard	6916' (Oil)
Queen	3696'	Top of ABO	7169' (Oil)
Grayburg	4047'	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 @ 1625' & circ cmt back to surface. Hydrocarbon zones will be protected by setting 7-7/8" csg @ 7900'. **1655'**

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

See cert

HOLE SIZE	DEPTH	OD CSG	WEIGHT	COLLAR	GRADE	COLLAPSE	BURST	TENSION
12.25"	0' - 1625' 1655'	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 50/50 poz + 5% Salt + 10% Gel + 3#/sx Kol-Seal + 0.25% Defoamer + 0.125#/sx CF
(12.6ppg, 2.0 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 agen + 0.1% antisetting agent + 0.25% defoamer + 0.2% retarder (14.2 ppg, 1.31 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

3,000 psi must test to 3,000 psi

"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 nipped up on the 8-5/8" csg and utilized continuously until TD is reached. The BOP will be tested at ~~2000 psi~~ ^{3000 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 or 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 CERA

INTERVAL	MW (ppg)	VISC (sec/qt)	FLUID LOSS (cc)	MUD TYPE
0' - 1625' ^{1125'}	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:

- 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 H₂S in this area. If H₂S 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;Blinbry, 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 & potentialized as an oil well.

APACHE BOP AND CHOKE MANIFOLD SCHEMATIC
 PLOWBOY FEDERAL #2 3m- must test to 3,000 psi
 11" 3M PSI BOP (to be tested as a 2m)

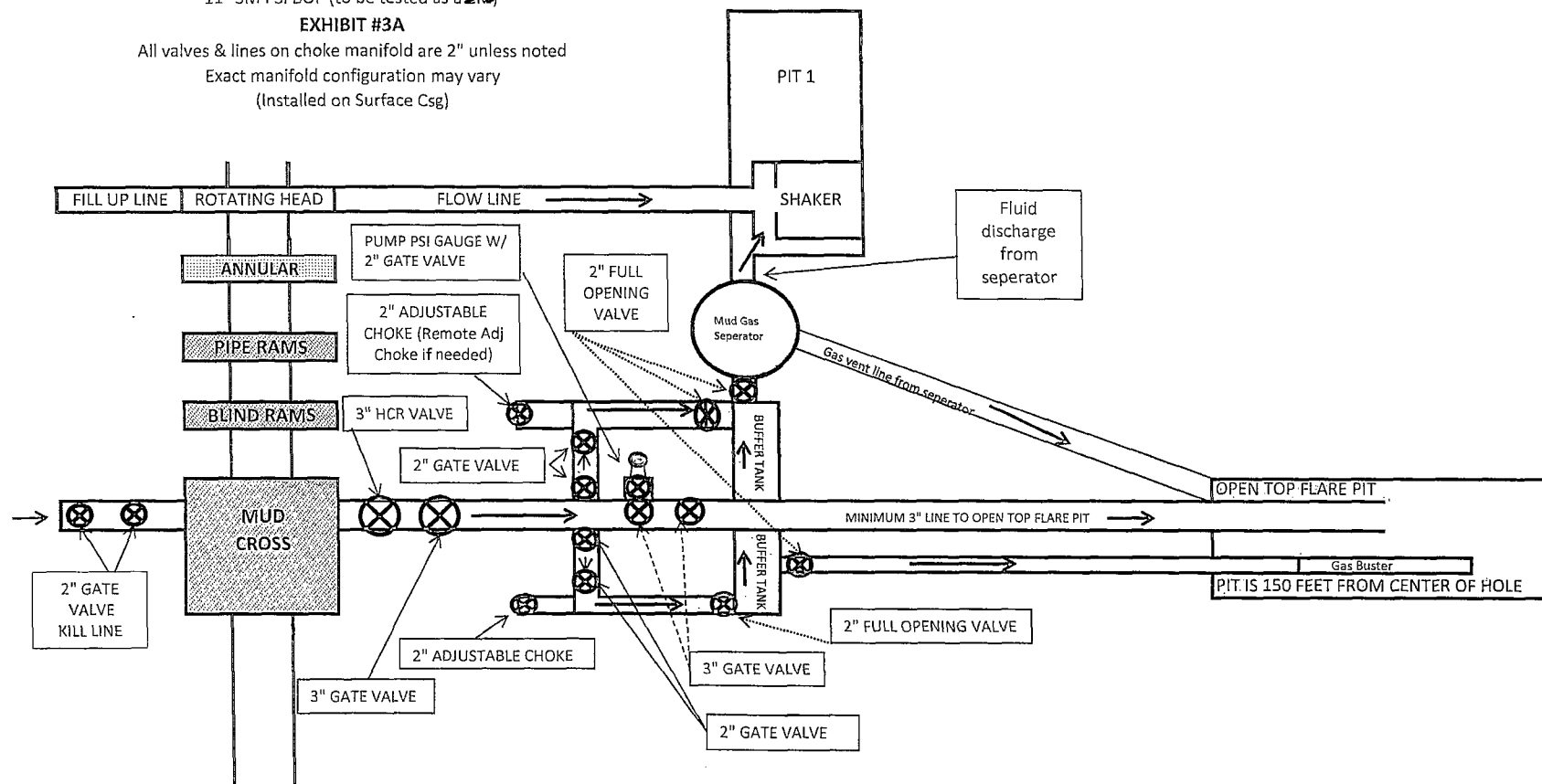
11" 3M PSI BOP (to be tested as a 21")

EXHIBIT #3A

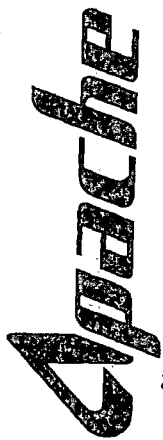
All valves & lines on choke manifold are 2" unless noted

Exact manifold configuration may vary

(Installed on Surface Csg)



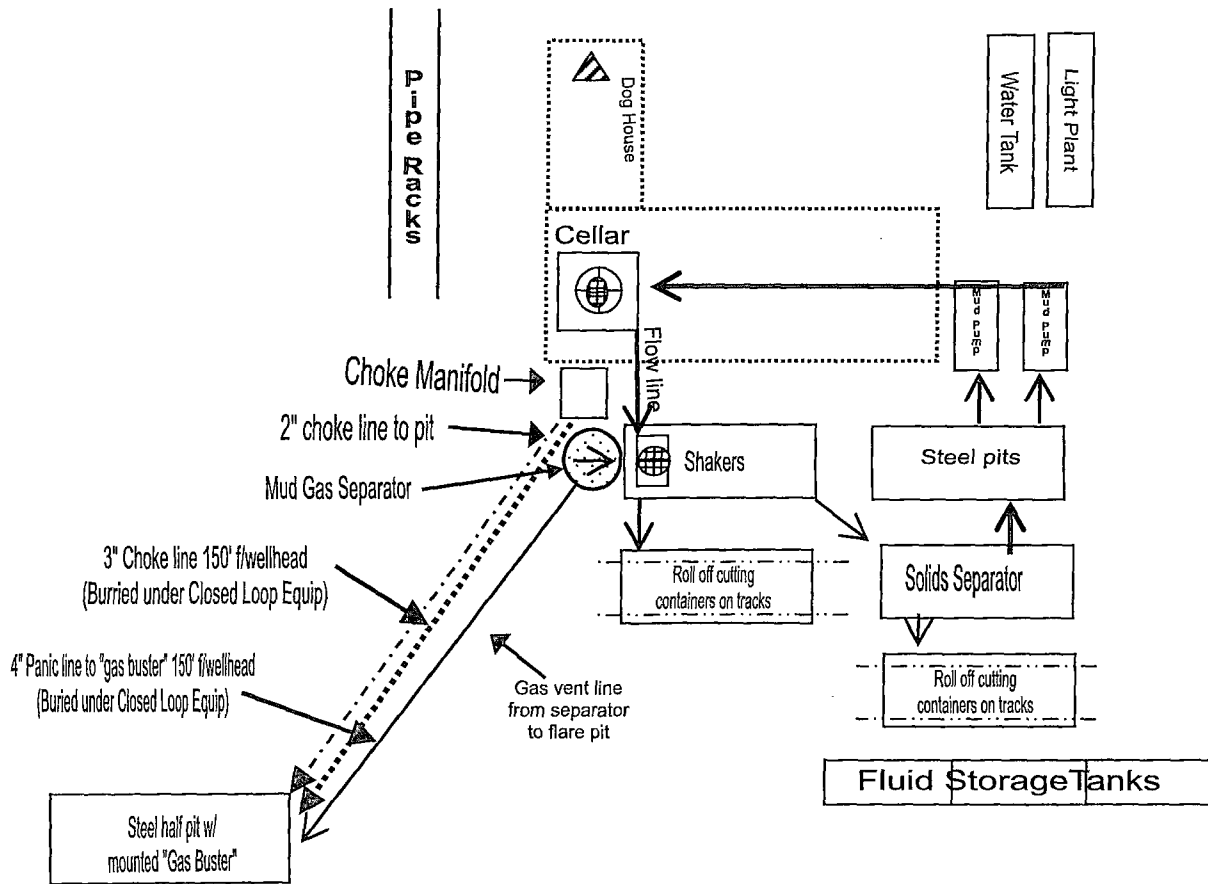
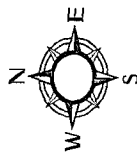
*** If H2S is encountered in quantities greater than 100ppm, Apache will shut in well & install a remote operated choke ***



Closed Loop Equipment Diagram

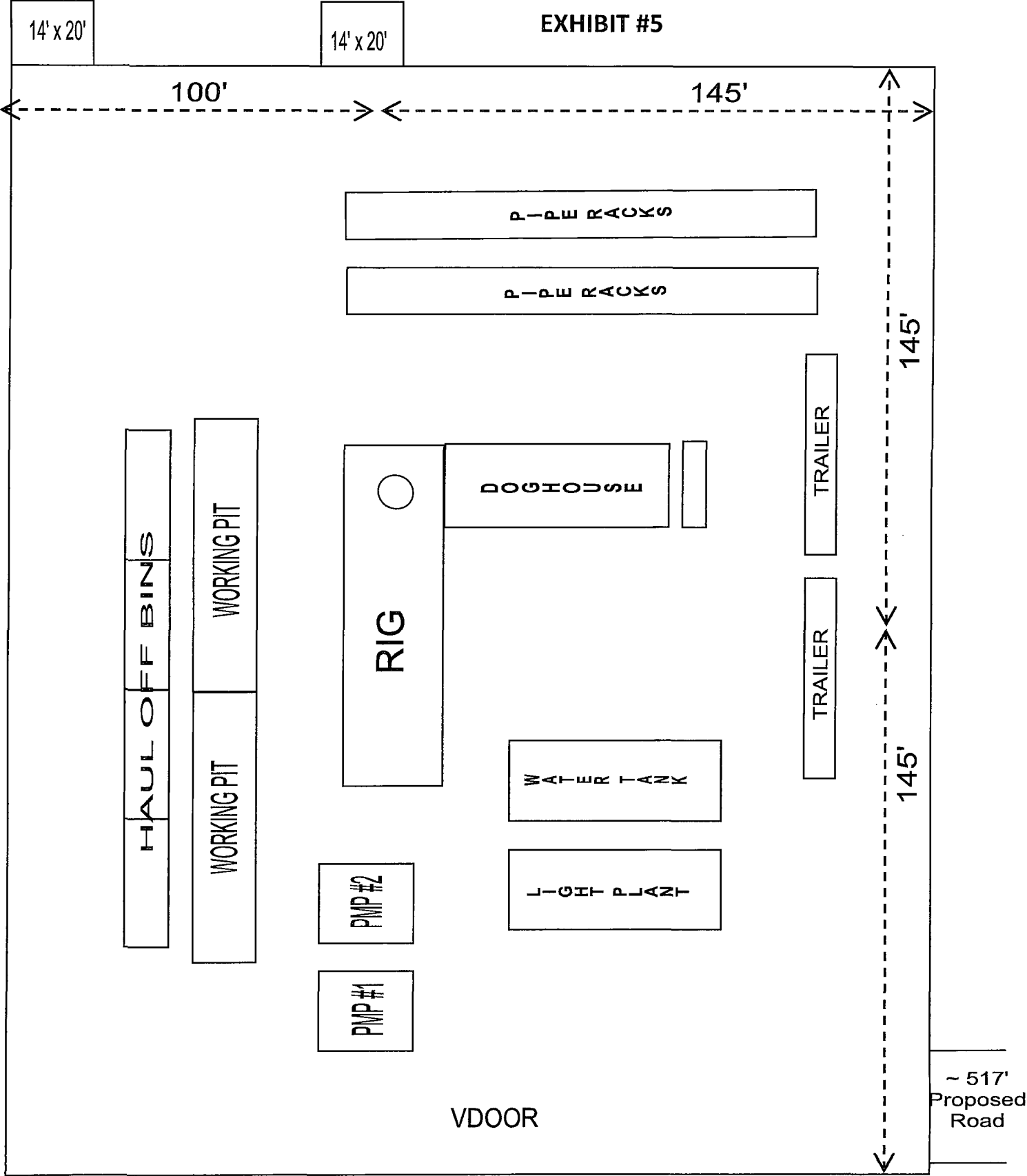
Exhibit 4

FLOWBOY FEDERAL #2



Approx 517' of
new road

WELLSITE / RIG LAYOUT
PLOW BOY FEDERAL #2
EXHIBIT #5



PRIVATE SURFACE OWNER AGREEMENT

OPERATOR: APACHE CORPORATION

WELL NAME: PLOW BOY FEDERAL #2

UL: J SECTION: 35 TOWNSHIP: 19S RANGE: 38E

LOCATION: 1650' FSL & 1990' FEL COUNTY: LEA STATE: NM

LEASE NUMBER: NM-14812

STATEMENT OF SURFACE USE

The surface to the subject land is owned by APACHE CORPORATION
303 VETERANS AIRPARK LN #1000
MIDLAND, TX 79705 432-818-1000

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: MAXWELL GROVE

SIGNATURE: 

DATE: 3/19/2014

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.