

11-184

OCD-ARTESIA

Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMLC-0028775B
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 VETERNAS AIRPARK LN #3000 MIDLAND, TX 79705	3b. Phone No. (include area code) 432-818-1167	8. Lease Name and Well No. BARNSDALL FEDERAL #019
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 1650' FSL & 1650' FWL At proposed prod. zone SAME		9. API Well No. 30-015- 39157
14. Distance in miles and direction from nearest town or post office* APPROX 5 MILES SOUTHWEST OF LOCO HILLS, NM		10. Field and Pool, or Exploratory EMPIRE; GLORIETA-YESO, EAST
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1650'	16. No. of acres in lease 680	11. Sec., T. R. M. or Blk. and Survey or Area UL: K SEC: 27 T17S R29E
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 335'	19. Proposed Depth 6100'	12. County or Parish EDDY
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3528'	22. Approximate date work will start* 03/31/2011	13. State NM
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 03/22/2011
Title DRILLING TECH		

Approved by (Signature) /s/ James A. Amos	Name (Printed/Typed)	Date JUN 10 2011
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

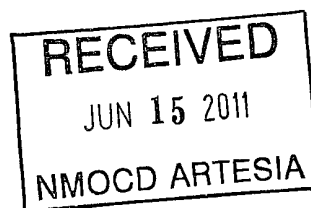
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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)

Roswell Controlled Water Basin



Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE
620 E. GREENE STREET
CARLSBAD, NM 88220

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

Operator Name: APACHE CORPORATION
Street or Box: 303 VETERANS AIRPARK LANE, STE. 3000
City, State: Midland, TX
Zip Code: 79705

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Lease No: NMLC – 0028775B BARNSDALL FEDERAL #19

Legal Description of Land: 1650' FSL & 1650' FWL

UL: K Section: 27 Township: 17S Range: 29E

County: EDDY State: NM

Bond Coverage: \$150,000

Statewide Oil and Gas Surety Bond, APACHE CORPORATION.

BLM Bond File No.: BLM-CO-1463 NATIONWIDE

Signature:  Printed Name: BOBBY L. SMITH

Title: DRILLING MANAGER, PERMIAN REGION

Date: 1/28/2011

DRILLING PLAN: BLM COMPLIANCE

(Supplement to BLM 3160-3)

APACHE CORPORATION (OGRID: 873) BARNSDALL FEDERAL #19

Lease #: NMLC-0028775B Projected TD: 6100' GL: 3528'
1650' FSL & 1650' FWL, UL: K SEC: 27 T17S R29E 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	492'	
Salt Top	540'	
Salt Bottome	665'	
Yates	847'	
Seven Rivers	1110'	Oil
Queen	1760'	Oil
Grayburg	2162'	Oil
San Andres	2492'	Oil
Glorieta	4034'	
Yeso	4121'	Oil
Blaine	4604'	
Tubb	5518'	
TD	6100'	
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 @ 515' & 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

See CCA

HOLE SIZE	DEPTH	OD CSG	WEIGHT	COLLAR	GRADE	COLLAPSE	BURST	TENSION
17-1/2"	0' - 515' 25"	13-3/8"	48#	STC	H-40	1.125	1.0	1.8
11"	515' - 850' 74"	8-5/8"	24#	STC	J-55	1.125	1.0	1.8
7-7/8"	850' - 6100'	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 515'. Cmt with:
Lead: 560 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 surface***
- B. **8-5/8" Intermediate:** Run & set 8-5/8" 24# J-55 STC csg to 850'. Cmt with:
Lead: 80 sx (50:50) Poz C w/ 4% Bentonite, 1% CaCl₂, 0.25% R38 (12 wt, 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 surface***
- A. **5-1/2" Production:** Run & set 5-1/2" 17# J-55 LTC csg to 6100' 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: 460 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: 290 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.** See cmt

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 nipped 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 2496 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 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' - 515' ²²⁵	8.4	29	NC	Fresh Water
515' to 850' ⁷⁵⁰	9.8 - 10.0	29	NC	Brine
850' - 6100'	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 EOA

- 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 H₂S in this area. If H₂S 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: 2496 psi and estimated BHT: 115°.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

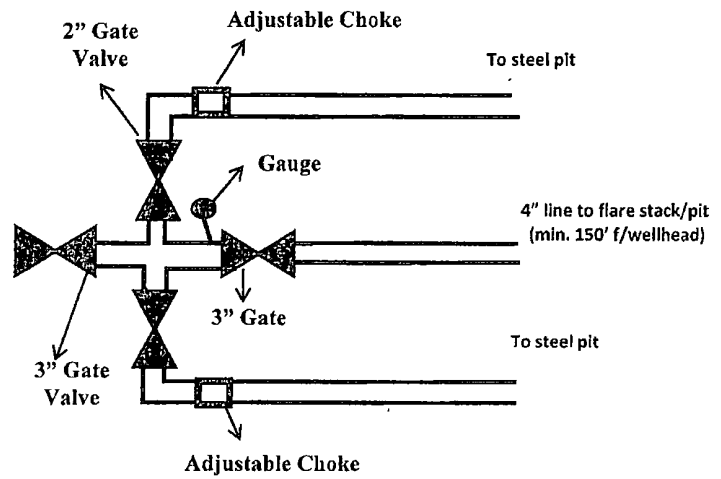
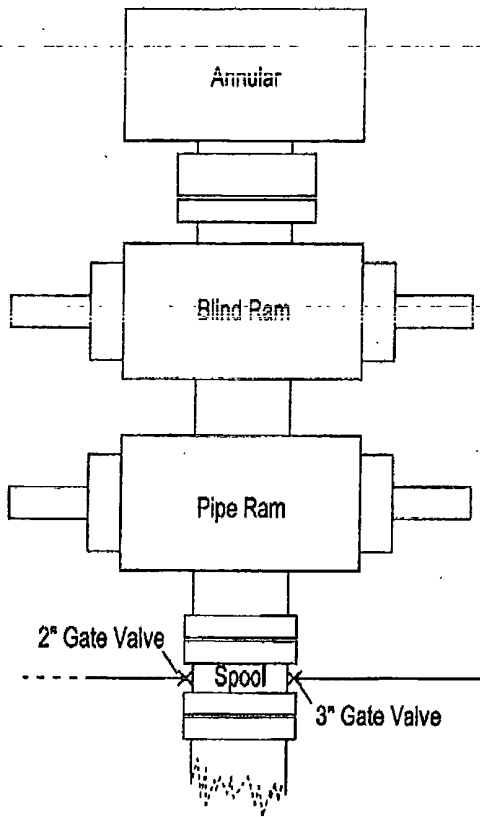
Road and location construction will begin after Santa Fe & BLM has approved APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as rig will be available. Move in operations and drilling is expected to take 10 days. If production casing is run then an additional 90 days 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 Empire; Glorieta-Yeso, East formation will be perforated and stimulated in order to establish production. The well will be swab tested & potentialized as an oil well.

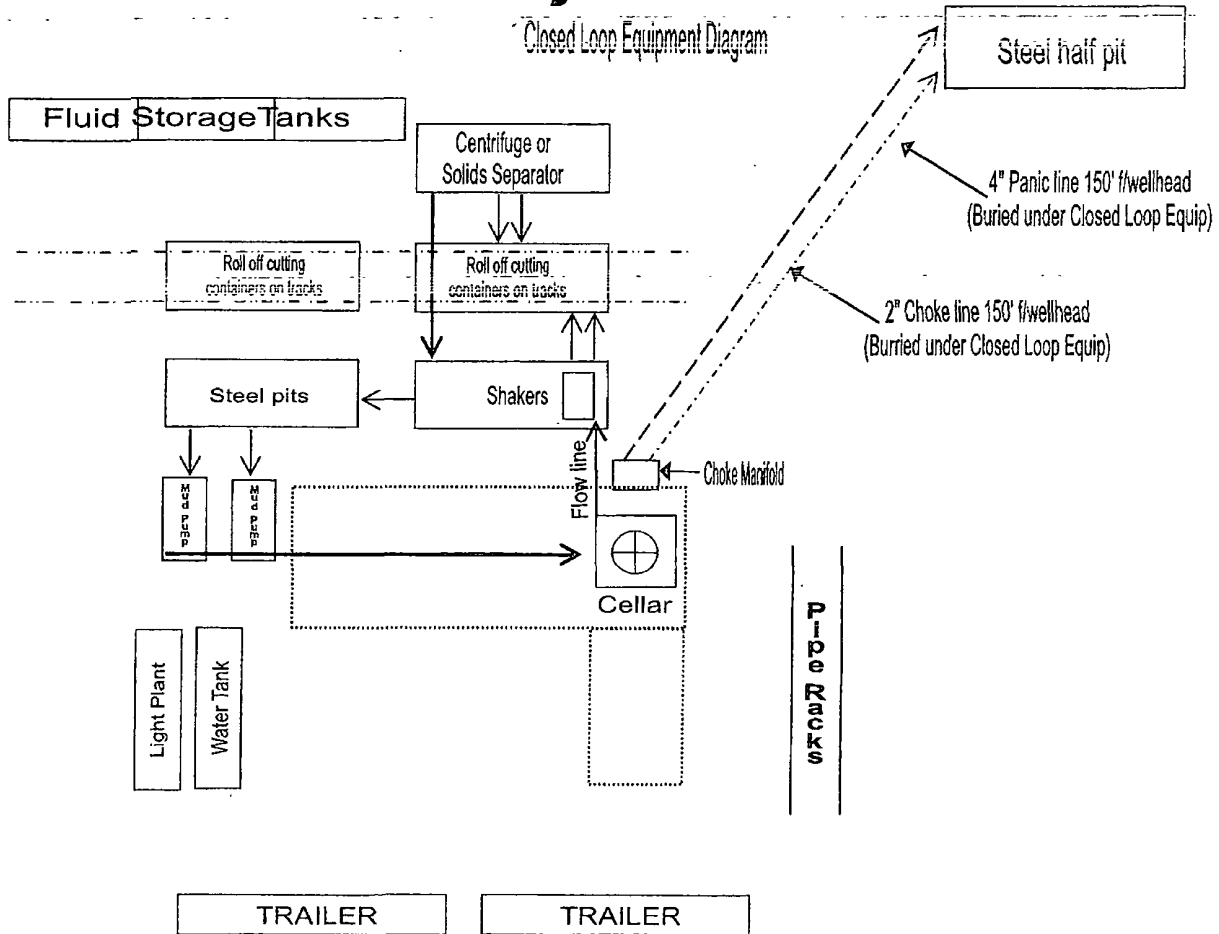
3M psi BOPE & Choke Manifold

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



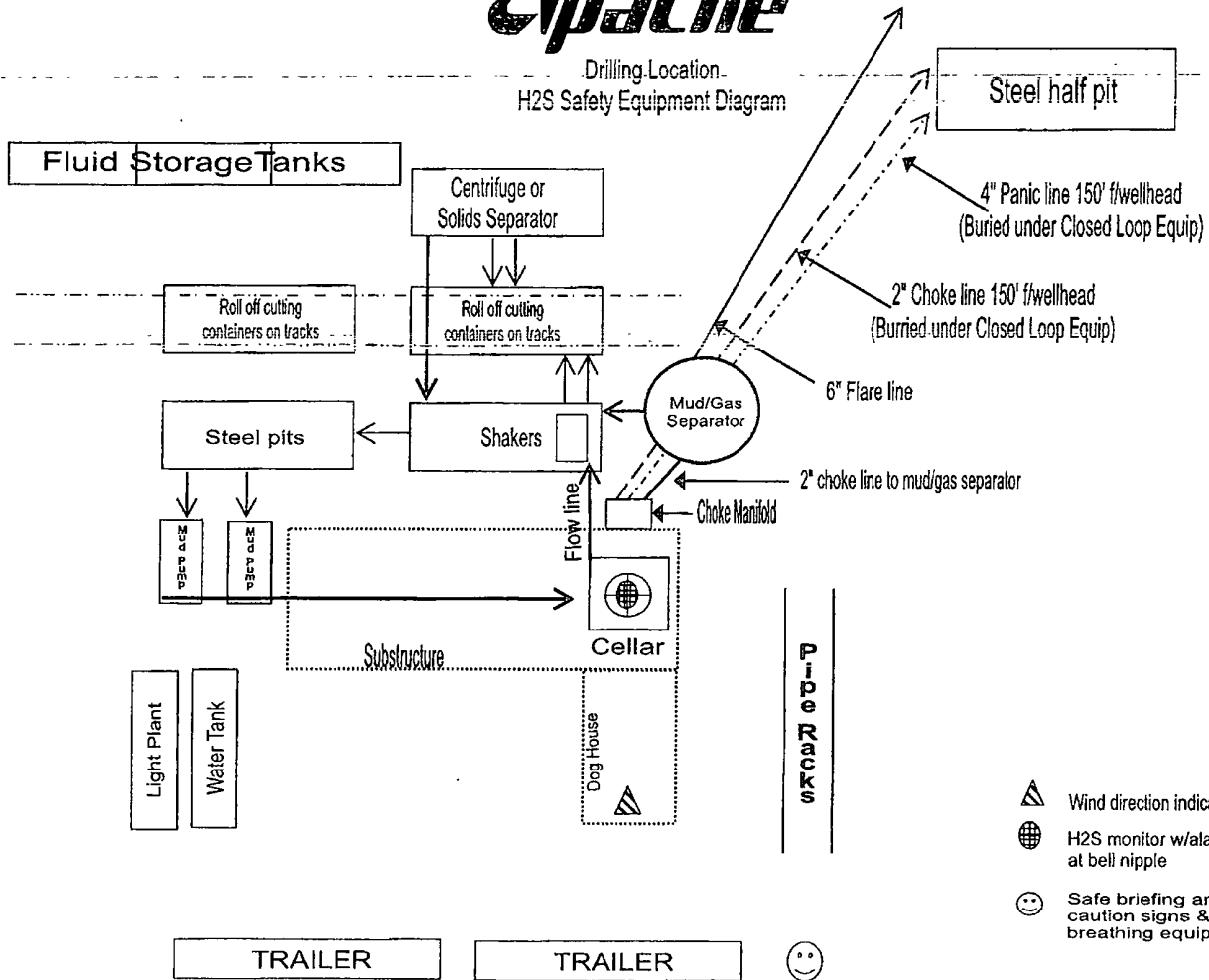
Apache

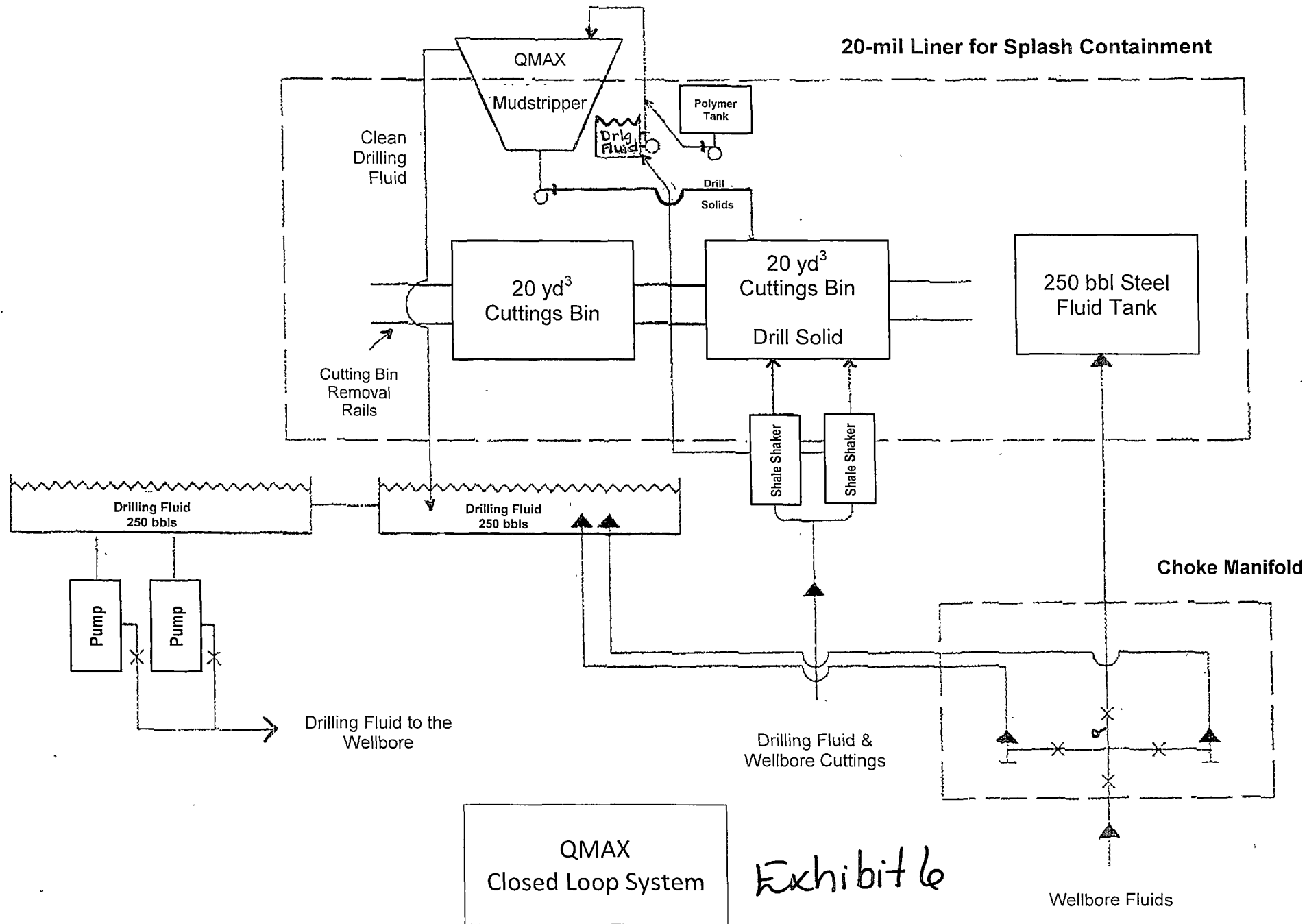
Closed Loop Equipment Diagram

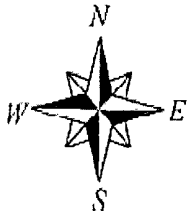


Apache

Drilling Location
H2S Safety Equipment Diagram



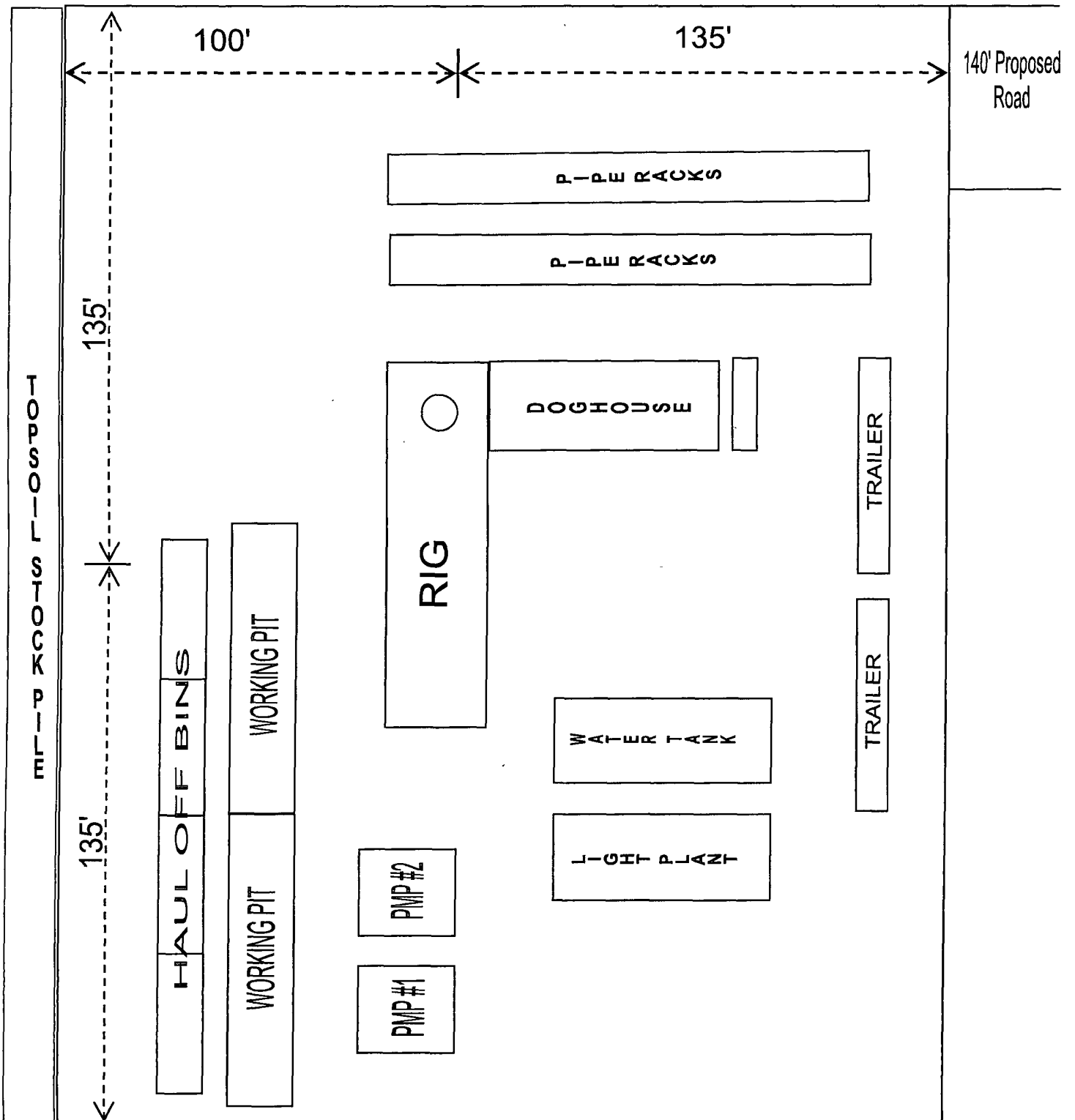




WELLSITE / RIG LAYOUT
BARNSDALL FEDERAL #19

Exhibit 3

V DOOR

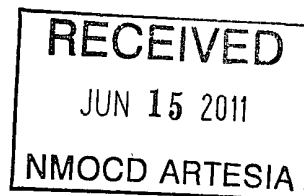




3/31/2011

Sorina Flores
Apache Corporation
303 Veterans Airpark Ln., Ste. 3000
Midland, TX 79705

Bureau of Land Management
620 E. Greene
Carlsbad, NM 88220
575-887-6544



Dear Sirs:

Apache Corporation anticipates encountering H₂S while drilling the Barnsdall Federal #19 located in UL: K Sec: 27, T17S, R29E, in Eddy County, New Mexico. I have attached an *H₂S Drilling Operations Plan*, *H₂S Contingency Plan* and *Well Control Emergency Response Plan*. If you need anything further, please contact me at the telephone number or email listed above.

Thank you,

A handwritten signature in cursive script, appearing to read "Sorina Flores". The signature is fluid and stylized, with a long, sweeping underline.

Sorina Flores
Drilling Tech