

**NAVAJO NATION**

**APD**

**Tribal Operations on  
Tribal Lands**

**PERMIT**

**ACCEPTED FOR  
RECORD ONLY**

NOS:     
APDP:     
MP:     
SMA:     
BOND:     
CAVA:   

RCVD APR 17 '12  
OIL CONS. DIV.  
DIST. 3

FORM APPROVED  
OMB No. 1004-0137  
Expires July 31, 2010

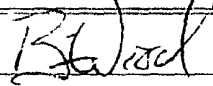
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NO-G-1008-1773	
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name NAVAJO NATION	
2. Name of Operator NAVAJO NATION OIL & GAS COMPANY		7. If Unit or CA Agreement, Name and No.	
3a. Address 1675 BROADWAY, SUITE 1100 DENVER, CO 80202		8. Lease Name and Well No. CBM 29-27-14 #13	
3b. Phone No. (include area code) 303 534 8300		9. API Well No. 30-045-35345	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1017' FSL & 1131' FWL 8WSW At proposed prod. zone SAME LOT 400		10. Field and Pool, or Exploratory BASIN FRUIT. COAL, WC GALL, & DK	
14. Distance in miles and direction from nearest town or post office* 15 AIR MILES SW OF FARMINGTON, NM		11. Sec., T. R. M. or Blk. and Survey or Area SWSW 29-27N-14W NMPM	
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) 25,269'	16. No. of acres in lease 150,000	17. Spacing Unit dedicated to this well W2 (Fruit. Coal & Dakota) and SWSW (Gallup)	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 3,050'	19. Proposed Depth 6,000'	20. BLM/BIA Bond No. on file RLB0006712	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 5,950' UNGRADED	22. Approximate date work will start* 04/01/2011	23. Estimated duration 1 MONTH	
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 	Name (Printed/Typed) BRIAN WOOD (505 466-8120)	Date 01/15/2011
Title CONSULTANT (FAX 505 466-9682)		
Approved by (Signature)	Name (Printed/Typed)	Date
Title	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.

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.

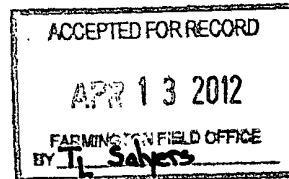
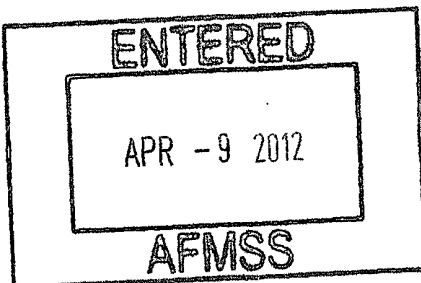
(Continued on page 2)

\*(Instructions on page 2)

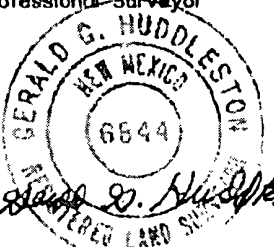
ACCEPTED FOR RECORD

NMOCD

APR 30 2012 ca



A COMPLETE C-144 MUST BE SUBMITTED TO AND APPROVED BY THE NMOCD FOR: A PIT, CLOSED LOOP SYSTEM, BELOW GRADE TANK, OR PROPOSED ALTERNATIVE METHOD, PURSUANT TO NMOCD PART 19.15.17, PRIOR TO THE USE OR CONSTRUCTION OF THE ABOVE APPLICATIONS.

<b>OPERATOR CERTIFICATION</b>	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the bottom hole location or has the right to drill this well at this location pursuant to a contract with an owner of a mineral interest or working interest, or to a voluntary pool agreement or a compulsory pooling order heretofore entered by the division.	
Date	1-16-11
Signature	<i>B. Wood</i>
Printed Name	BRIAN WOOD
<b>SURVEYOR CERTIFICATION</b>	
I hereby certify that the well location on this plot was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.	
Date of survey : 09/27/'10	
Signature and seal of Professional Surveyor	
	
Certificate Number 6844	

RCVD APR 20 '12

OIL CONS. DIV.

DIST. 3

Form C - 102

Revised October 12, 2005

Submit to appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

State of New Mexico  
Energy, Minerals & Mining Resources Department

OIL CONSERVATION DIVISION

2040 South Pacheco

Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

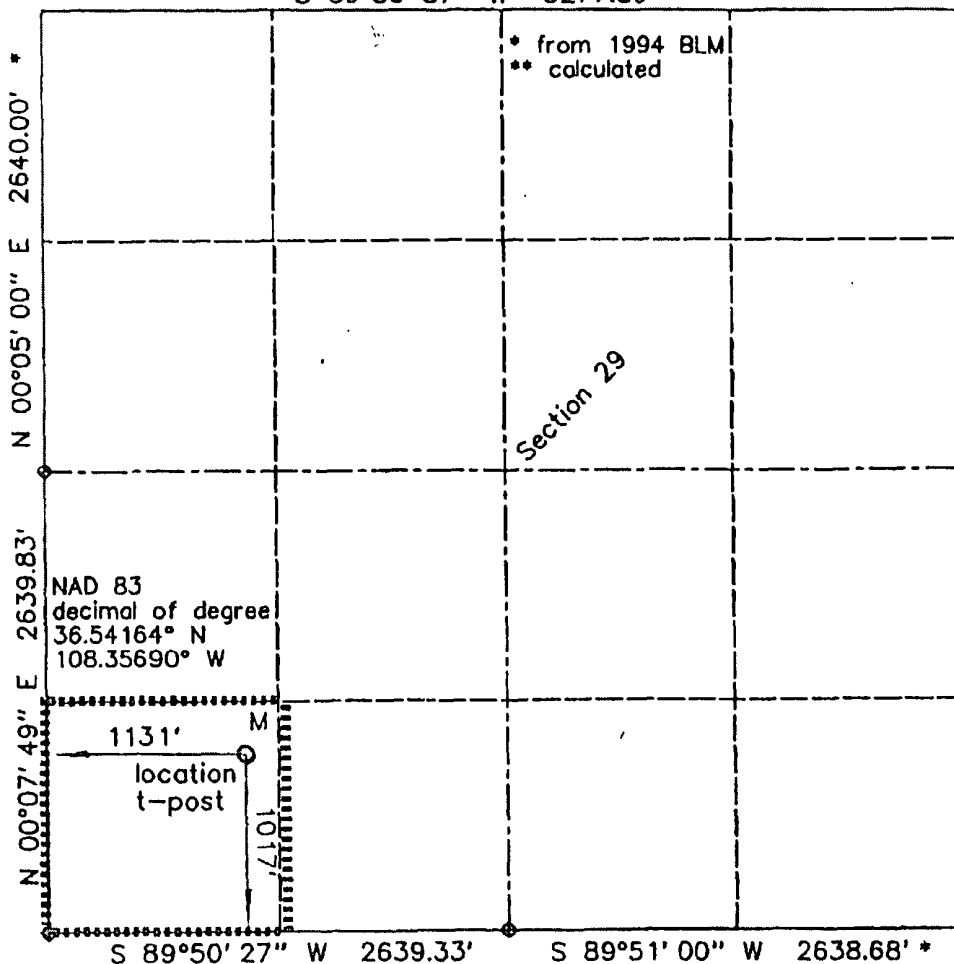
APA Number 30-045- 35345		Pool Code 97935	Pool Name WC27N14W29; GALLUP(O)
Property Code 39184	Property Name CBM 29-27-14		Well Number 13
OCRID No. 242841	Operator Name NAVAJO NATION OIL & GAS CO., INC		Elevation 5950'

Surface Location									
UL or Lot M	Sec. 29	Twp. 27 N.	Rge. 14 W.	Lot Idn. 400	Feet from 1017'	North/South SOUTH	Feet from 1131'	East/West WEST	County SAN JUAN

Bottom Hole Location if Different From Surface													
UL or Lot	Sec.	Twp.	Rge.	Lot Idn.	Feet from	North/South	Feet from	East/West	County				
<table border="1"> <tr> <td>Dedication 40</td> <td>Joint ?</td> <td>Consolidation</td> <td>Order No.</td> </tr> </table>										Dedication 40	Joint ?	Consolidation	Order No.
Dedication 40	Joint ?	Consolidation	Order No.										

NO ALLOWABLE WILL ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

S 89°50' 37" W 5277.39' \*\*



<b>OPERATOR CERTIFICATION</b>	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization neither owns a working interest or unleased mineral interest in the land including the bottom hole location or has the right to drill this well at this location pursuant to a contract with an owner of a mineral interest or working interest, or to a voluntary pool agreement or a compulsory pooling order heretofore entered by the division.	
Date	1-15-11
Signature	<i>Brian Wood</i>
Printed Name	BRIAN WOOD
<b>SURVEYOR CERTIFICATION</b>	
I hereby certify that the well location on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.	
Date of survey : 09/27/' 10	
Signature and seal of Professional-Surveyor	
Certificate Number 6844	

State of New Mexico  
Energy, Minerals & Mining Resources Department

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

RCVD APR 20 '12

OIL CONS. DIV.

DIST. 3

Form C - 102

Revised October 12, 2005  
Submit to appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number 30-045- <b>35345</b>	Pool Code 71599	Pool Name BASIN DAKOTA
Property Code <b>39184</b>	Property Name CBM 29-27-14	Well Number 13
OGRID No. 242841	Operator Name NAVAJO NATION OIL & GAS CO., INC	Elevation 5950'

Surface Location

UL or Lot	Sec.	Twp.	Rge.	Lot Idn.	Feet from	North/South	Feet from	East/West	County
M	29	27 N.	14 W.	<b>400</b>	1017'	SOUTH	1131'	WEST	SAN JUAN

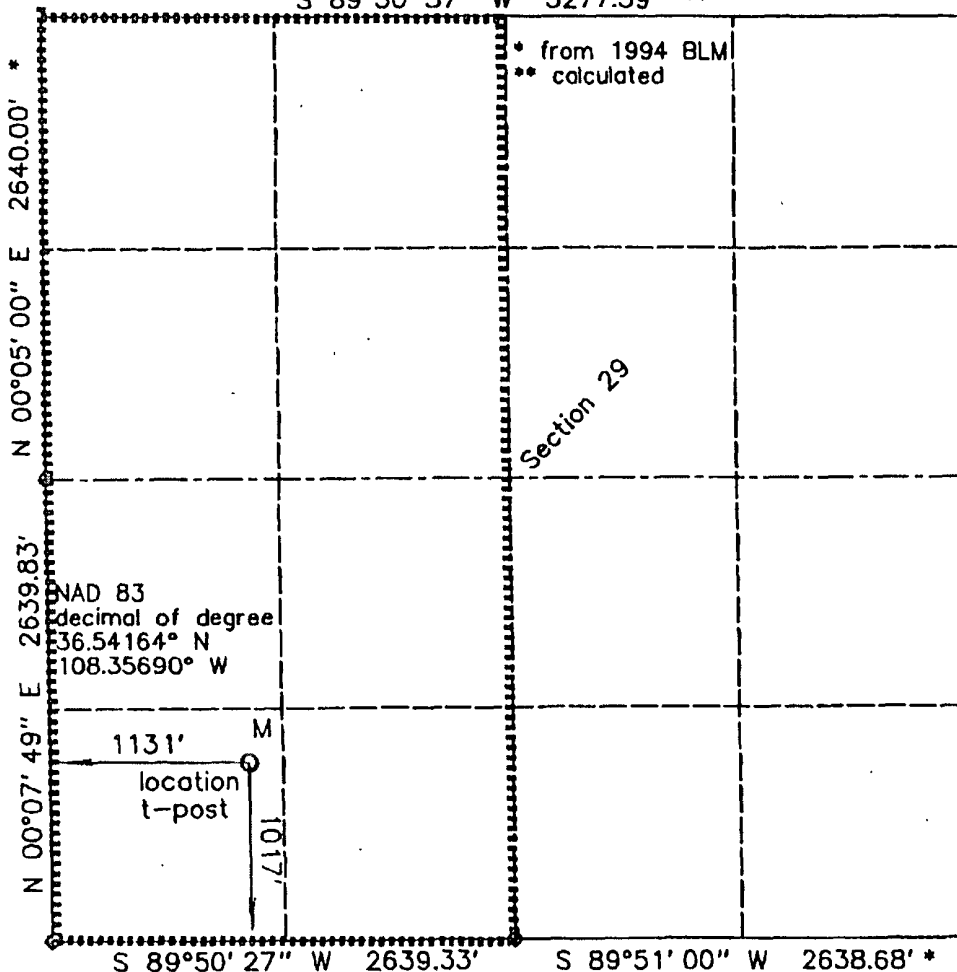
Bottom Hole Location If Different From Surface

UL or Lot	Sec.	Twp.	Rge.	Lot Idn.	Feet from	North/South	Feet from	East/West	County

Dedication 320	Joint ?	Consolidation	Order No.
-------------------	---------	---------------	-----------

NO ALLOWABLE WILL ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

S 89°50' 37" W 5277.39' \*\*



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the bottom hole location or has the right to drill this well at this location pursuant to a contract with an owner of a mineral interest or working interest, or to a voluntary pool agreement or a compulsory pooling order heretofore entered by the division.

Date **4-15-11**

Signature **Brian Wood**

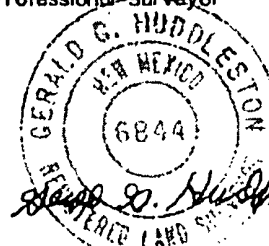
Printed Name **BRIAN WOOD**

SURVEYOR CERTIFICATION

I hereby certify that the well location on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of survey : **09/27/' 10**

Signature and seal of Professional Surveyor



Certificate Number 6844

Navajo Nation Oil & Gas Company  
CBM 29-27-14 #13  
1017' FSL & 1131' FWL  
Sec. 29, T. 27 N., R. 14 W.  
San Juan County, New Mexico

PAGE 1

## Drilling Program

### 1. FORMATION TOPS

The estimated tops of important geologic markers are:

<u>Formation</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Elevation</u>
Kirtland Shale	0'	12'	+5,950'
Fruitland Formation	650'	662'	+5,300'
Pictured Cliffs Sandstone	1,100'	1,112'	+4,850'
Lewis Shale	1,250'	1,262'	+4,700'
Mesa Verde Sandstone	1,870'	1,882'	+4,080'
Point Lookout Sandstone	3,650'	3,662'	+2,300'
Mancos Shale	3,790'	3,802'	+2,160'
Gallup Sandstone	4,930'	4,963'	+1,020'
Sanostee	5,450'	5,462'	+500'
Dakota Sandstone	5,800'	5,812'	+150'
Morrison Formation	5,950'	5,962'	0'
Total Depth (TD)	6,000'	6,012'	-50'

### 2. NOTABLE ZONES

Fruitland coal gas is the primary goal. Gallup and Dakota are the secondary goals. Oil and gas shows which appear to the well geologist to be commercial will be tested. All fresh water and prospectively valuable minerals will be recorded by depth and protected with casing and cement. Water could be found in the Fruitland, Pictured Cliffs, Point Lookout, Gallup, and Dakota formations.

### 3. PRESSURE CONTROL

Navajo Nation Oil & Gas Company  
CBM 29-27-14 #13  
1017' FSL & 1131' FWL  
Sec. 29, T. 27 N., R. 14 W.  
San Juan County, New Mexico

PAGE 3

A double ram type  $\geq 2,000$  psi working pressure BOP with a rotating head system will be used. See the preceding page for details on the typical BOP equipment. All ram type preventers and related equipment will be hydraulically tested to  $\approx 1,500$  psi at nipple-up and after any use under pressure. A typical diagram is attached.

The blind rams will be hydraulically activated and checked for operational readiness each time the pipe is pulled out of the hole. All checks of the BOP stack and equipment will be noted on the daily drilling report. The BOP equipment will include a kelly cock, floor safety valve, and choke manifold. All will be rated to  $\geq 2,000$  psi.

#### 4. CASING & CEMENT

<u>Hole Size</u>	<u>O. D.</u>	<u>Weight</u>	<u>Grade</u>	<u>Age</u>	<u>Coupling</u>	<u>Depth Set</u>
12-1/4"	8-5/8"	24#	J-55	New	ST & C	350'
7-7/8"	4-1/2"	10.5#	J-55	New	LT & C	6,000'

Surface casing will be cemented to the surface with 245 sacks (289 cubic feet) Class B with 3%  $\text{CaCl}_2$ . Yield = 1.18 cubic feet per sack. Slurry weight = 15.6 pounds per gallon. Excess = 100%. W. O. C. = 12 hours. Pressure test the surface casing to  $\approx 1,500$  psi for  $\approx 30$  minutes. A notched collar and 3 centralizers will be used on the bottom 3 collars.

Production casing will be cemented to the surface. A DV tool will be set at  $\approx 3,000'$ . Hole will first be circulated with  $\geq 150\%$  hole volume of mud and  $\approx 30$  barrels of fresh water. Total cement volume = 2,284 cubic feet ( $\approx 65\%$  excess). A 4-1/2" cement guide shoe and self filling float collar will be used. Place the float one joint above the shoe. Place 10 centralizers spaced every other joint above the shoe, 2 turbolizers on the collar below the DV tool, and 2 turbolizers above the DV tool. Place 5 turbolizers every third joint from the top of the well.

Navajo Nation Oil & Gas Company  
CBM 29-27-14 #13  
1017' FSL & 1131' FWL  
Sec. 29, T. 27 N., R. 14 W.  
San Juan County, New Mexico

PAGE 4

First Stage: Lead with 570 sacks (1,003 cubic feet) Class B 65/35 poz with 6% gel + 1%  $\text{CaCl}_2$  + 4% phenoseal + 1/4 pound per sack cello flake. Yield = 1.76 cubic feet per sack. Slurry weight = 12.8 pounds per gallon.

First Stage: Tail with 100 sacks (146 cubic feet) Class B 50/50 poz with 0.15% dispersant + 1%  $\text{CaCl}_2$  + 1/4 pound per sack cello flake. Yield = 1.46 cubic feet per sack. Slurry weight = 13.0 pounds per gallon.

Second Stage: Precede cement with  $\approx 20$  barrels of water. Cement with  $\approx 645$  sacks (1,135 cubic feet) Class B 65/35 poz with 6% gel + 1%  $\text{CaCl}_2$  + 1/4 pound per sack cello flake. Yield = 1.76 cubic feet per sack. Slurry weight = 12.8 pounds per gallon.

#### 5. MUD PROGRAM

The surface hole will be drilled with a fresh water mud. The production hole will be drilled with a fresh water polymer. Weighting materials will be drill solids or, if conditions dictate, barite. Maximum expected mud weight = 9.5 pounds per gallon.

#### 6. CORES, LOGS, & TESTS

No cores or drill stem tests are currently planned. FDC/CNL/GR/SP and DIL logs will be run from the base of the surface casing to TD.

#### 7. DOWN HOLE CONDITIONS

No abnormal temperatures, abnormal pressures, or hydrogen sulfide are expected. Maximum expected bottom hole pressure will be  $\approx 2,598$  psi.



Navajo Nation Oil & Gas Company  
CBM 29-27-14 #13  
1017' FSL & 1131' FWL  
Sec. 29, T. 27 N., R. 14 W.  
San Juan County, New Mexico

PAGE 5

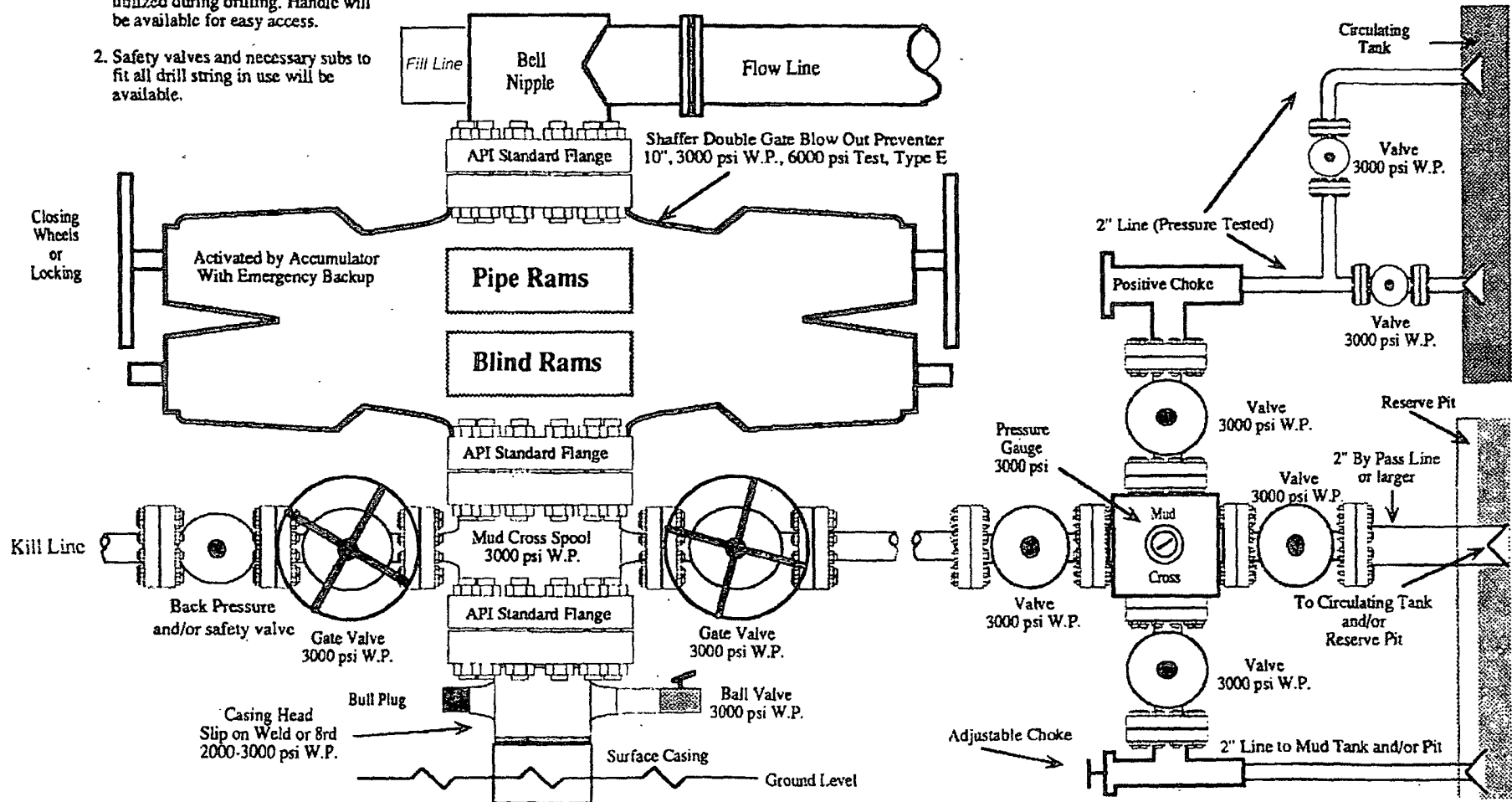
8. OTHER INFORMATION

The anticipated spud date is April 1, 2011. It is expected it will take  $\approx 10$  days to drill and  $\approx 2$  weeks to complete the well.

# 2,000 PSI BOP SYSTEM

Note: 1. An upper Kelly cock valve will be utilized during drilling. Handle will be available for easy access.

2. Safety valves and necessary subs to fit all drill string in use will be available.



Note: This equipment is designed to meet requirements for a 2-M rating standard per 43 CFR part 3160 (amended). Proper operation and testing of equipment will be carried out per standard. 2,000 psi equipment can be substituted in the drawing to meet minimum requirements per standard.

**PERMITS WEST, INC.**  
 PROVIDING PERMITS for LAND USERS  
 37 Verdano Loop, Santa Fe, New Mexico 87508 (505) 466-8120