

NAVAJO NATION

APD

**Tribal Operations on
Tribal Lands**

PERMIT

**ACCEPTED FOR
RECORD ONLY**

BIA
Onsite 6/28/11
NNOG
Expires 8/1/12

Form 3160-3
(August 2007)

RECEIVED

MAR 23 2012

RCVD APR 11 '12
OIL CONS. DIV.

DIST. 3

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Bureau of Land Management
Farmington Field Office

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 NNOG Exploration and Production LLC		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 A POD 13 K #1	
3b. Phone No. (include area code) 303 534 8300		9. API Well No. 30-045-35336	
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 1893' FSL & 1495' FWL At proposed prod. zone SAME		10. Field and Pool, or Exploratory BASIN FRUIT, COAL, WC GALL, & DK	
11. Distance in miles and direction from nearest town or post office* 11 AIR MILES SSW OF FARMINGTON, NM		11. Sec., T. R. M. or Blk. and Survey or Area NESW 13-27N-14W NMPM	
12. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 3,785'		12. County or Parish SAN JUAN	
13. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 3,145' (A Pod 14 J 1)		13. State NM	
14. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,052' UNGRADED		14. No. of acres in lease 150,000	
15. Approximate date work will start* 10/01/2011		15. Spacing Unit dedicated to this well S2 (Fruit, Coal & Dakota) and NESW (Gallup)	
16. Estimated duration 1 MONTH		16. BLM/BIA Bond No. on file RLB0006712	

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>Brian Wood</i>	Name (Printed/Typed) BRIAN WOOD (505 466-8120)	Date 08/11/2011
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)

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.

ACCEPTED FOR RECORD

APR 10 2012

FARMINGTON FIELD OFFICE
BY *[Signature]*

NMOCD
A

APR 18 2012 *ca*

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

District I
 1625 N. French Dr., Hobbs NM 88249
 District II
 1301 W. Grand Avenue, Artesia, NM 88210
 District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV
 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
 Energy, Minerals & Mining Resources Department
OIL CONSERVATION DIVISION
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

Form C - 102
 Revised July 16, 2010
 Submit one copy to appropriate
 District Office

☐ AMENDED REPORT

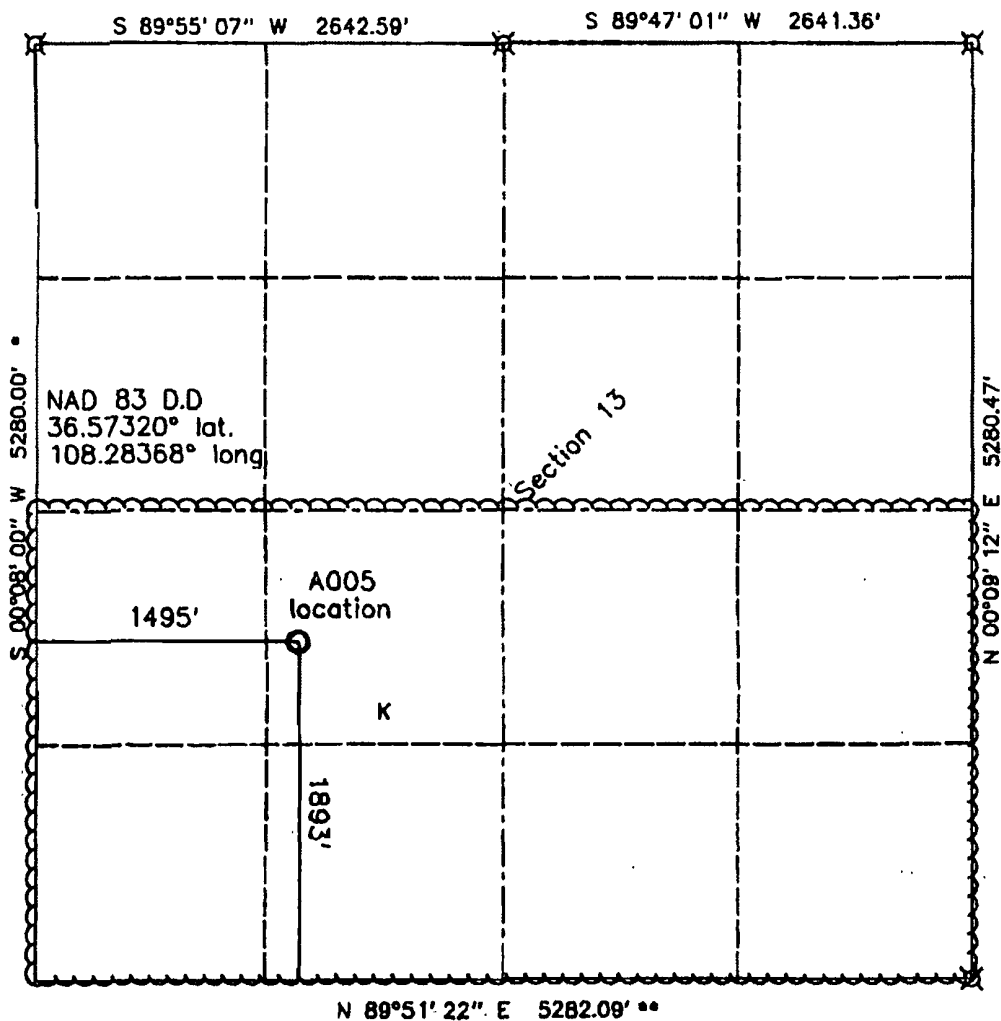
WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-045-35336		2 Prod. Code 71629		3 Pool Name BASIN FRUITLAND COAL (GAS)	
4 Property Code 39161		5 Property Name CBM A Pod 13K			6 Well Number 1
7 OGRID No. 242841		8 Operator Name NNOGC Exploration and Production LLC			9 Elevation 6052'

10 Surface Location									
11 Ul. or Lot K	12 Section 13	13 Township 27 N.	14 Range 14 W.	15 Lot Idn 400	16 Feet from the 1893'	17 North/South line SOUTH	18 Feet from the 1495'	19 East/West line WEST	20 Country SAN JUAN

11 Bottom Hole Location If Different From Surface									
12 Ul. or Lot	13 Section	14 Township	15 Range	16 Lot Idn	17 Feet from the	18 North/South line	19 Feet from the	20 East/West line	21 Country
12 Dedicated Acres 320.92		13 Joint or Infill		14 Consolidation Code		15 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.



12 OPERATOR CERTIFICATION	
I hereby certify that the information contained herein is true and correct to the best of my knowledge and belief, and that I am not aware of any facts or circumstances which would render the information furnished herein false or misleading.	
Signature <i>Brian Wood</i>	Date 8-11-11
Printed Name BRIAN WOOD	
E-mail Address brian@permitswest.com	
13 SURVEYOR CERTIFICATION	
I hereby certify that the well location shown 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 05/03/11	
Signature and Seal of Professional Surveyor 	
Certificate Number 6844	

District I
 1625 N. French Dr., Hobbs, NM 88240
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WELL LOCATION AND ACREAGE DEDICATION PLAT

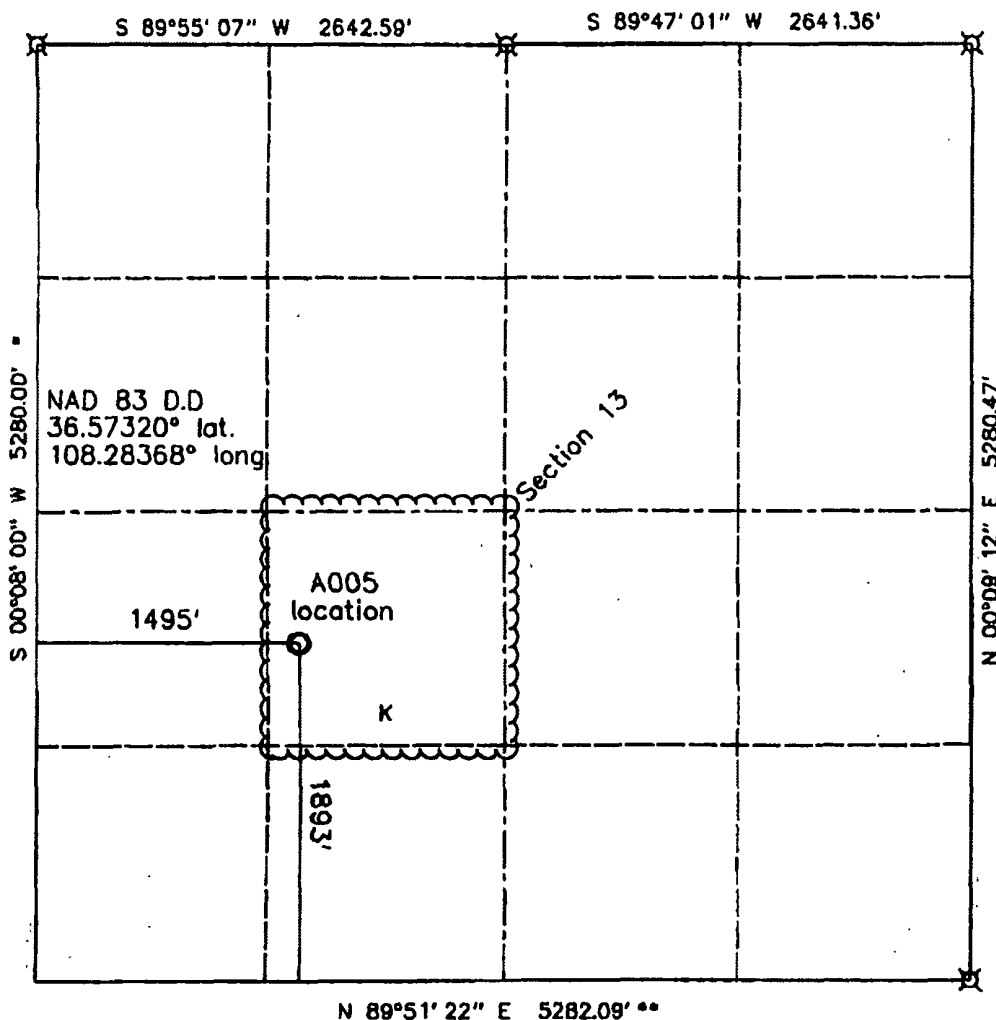
1 API Number 30-045-35336		2 Pool Code 97931		3 Pool Name Wc27N14W13; GALLUP(OIL)	
4 Property Code 39161		5 Property Name CBM A Pod 13K			6 Well Number 1
7 OGRID No 242841		8 Operator Name NNOGC Exploration and Production LLC			9 Elevation 6052'

10 Surface Location								County	
UI or Lot	Section	Township	Range	Lot Idn.	Feet from the North/South line	Feet from the East/West line			
K	13	27 N.	14 W.	400	1893'	SOUTH	1495'	WEST	SAN JUAN

11 Bottom Hole Location If Different From Surface								County
UI or Lot	Section	Township	Range	Lot Idn.	Feet from the North/South line	Feet from the East/West line		

12 Dedicated Acres 40	13 Joint or Infill	14 Consolidation Code	15 Order: No
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No allowable will assigned to this completion until all interests have been consolidated or a non standard unit has been approved by the division.



7 OPERATOR CERTIFICATION	
I hereby certify that the information contained herein is true and correct to the best of my knowledge and belief, and that I am not aware of any other person who is not a party to this well location and acreage dedication plat.	
Signature <i>Brian Wood</i>	Date 8-11-11
Printed Name BRIAN WOOD	
E-mail Address brian@permitswest.com	
8 SURVEYOR CERTIFICATION	
I hereby certify that the well location shown on this plat was plotted from field notes of actual survey made by me or under my supervision, and that the same is true and correct to the best of my belief.	
Date of Survey 05/03/11	
Signature and Seal of Professional Surveyor <i>Gerald E. Huddleston</i>	
Certificate Number 6844	

Form C - 102
Revised July 16, 2017
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

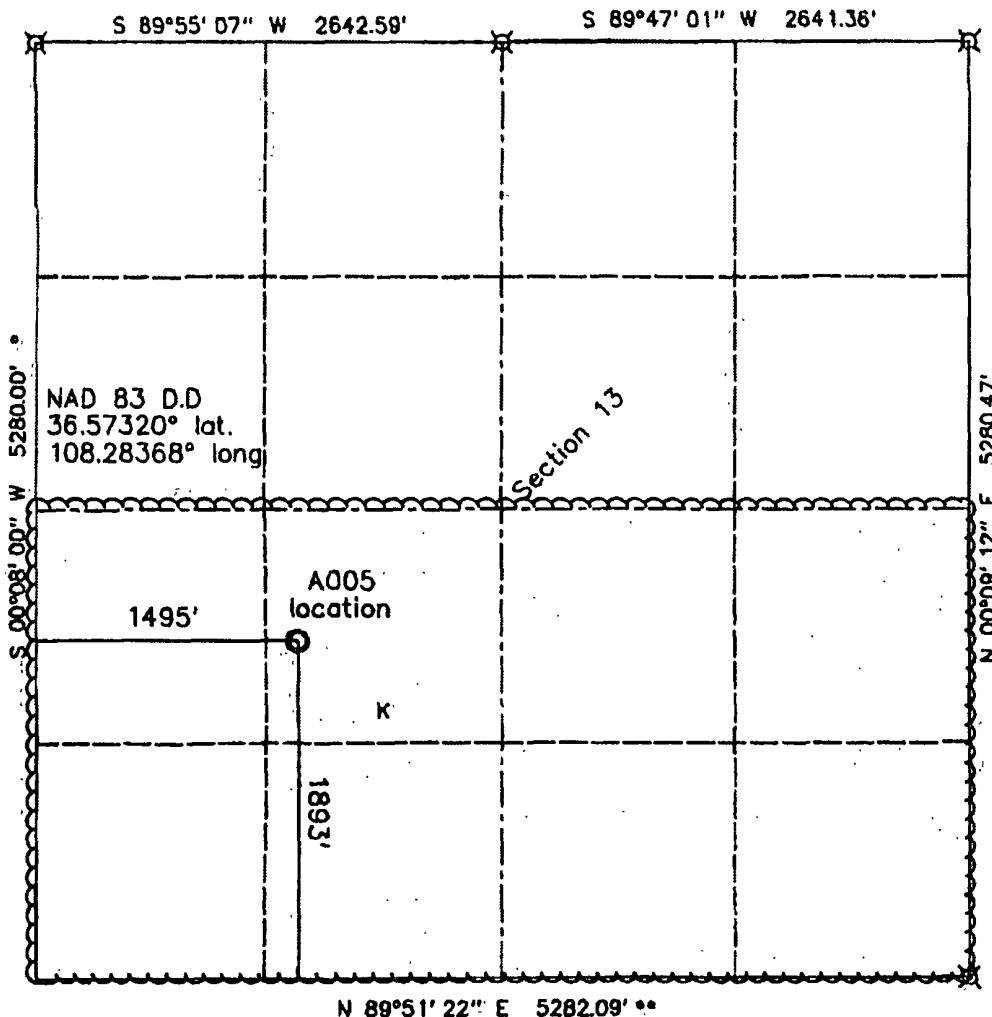
1 API Number 30-045-35336		2 Pool Code 71599		3 Pool Name BASIN DAKOTA	
4 Property Code 39161		5 Property Name CBM A Pod 13K			6 Well Number 1
7 OGRID No 242841		8 Operator Name NNOGC Exploration and Production LLC			9 Elevation 6052'

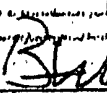
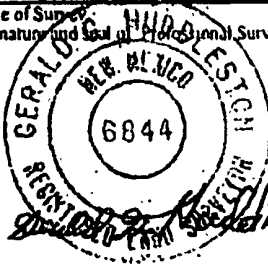
10 Surface Location									County
Lot or Loc.	Section	Township	Range	Lot Ind.	Feet from the	North/South line	Feet from the	East/West line	
K	13	27 N.	14 W.	400	1893'	SOUTH	1495'	WEST	SAN JUAN

[illegible]

12 Dedicated Acres 320 7/2	13 Joint or Infill	14 Consolidation Code	15 Order No
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No allowable will assigned to this completion until all interests have been consolidated or a non standard unit has been approved by the division.



OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief and that such representation either makes no statement or that the subject of same has no interest in the transaction, the former by the latter or have the right to do this without the consent of the latter.	
Signature 	Date 8-11-11
BRIAN WOOD	
Printed Name brian@permitswest.com	
E-mail Address	
SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plot was plotted from sight shots of actual survey marks made by me or under my supervision, and that the same is true and correct to the best of my belief.	
05/03/11	
Date of Survey	
Signature and Seal of Professional Surveyor  Gerald D. Huddleston	
Certificate Number 6844	

NNOGC Exploration and Production LLC
CBM A Pod 13 K #1
1893' FSL & 1495' FWL
Sec. 13, T. 27 N., R. 14 W.
San Juan County, New Mexico

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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'	10'	+6,052'
Fruitland Formation	1,027'	1,037'	+5,025'
Pictured Cliffs Sandstone	1,292'	1,302'	+4,760'
Lewis Shale	1,577'	1,587'	+4,475'
Mesa Verde Sandstone	2,102'	2,112'	+3,950'
Point Lookout Sandstone	3,842'	3,852'	+2,210'
Mancos Shale	4,042'	4,052'	+2,010'
Upper Gallup Sandstone	4,932'	4,942'	+1,120'
Lower Gallup Sandstone	5,162'	5,172'	+890'
Sanostee	5,377'	5,387'	+675'
Dakota Sandstone	5,902'	5,912'	+150'
Morrison Formation	5,990'	6,000'	+62'
Total Depth (TD)	6,000'	6,010'	+52'

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.



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3. PRESSURE CONTROL

A double ram type $\geq 2,000$ psi working pressure BOP with a rotating head system will be used. See the preceding page for a diagram of 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% 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 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 ≈ 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



NNOGC Exploration and Production LLC

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CBM A Pod 13 K #1

1893' FSL & 1495' FWL

Sec. 13, T. 27 N., R. 14 W.

San Juan County, New Mexico

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.

First Stage: Lead with 570 sacks (1,003 cubic feet) Class B 65/35 poz with 6% gel + 1% 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% 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 ≈ 20 barrels of water. Cement with ≈ 645 sacks (1,135 cubic feet) Class B 65/35 poz with 6% gel + 1% 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.



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San Juan County, New Mexico

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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.

8. OTHER INFORMATION

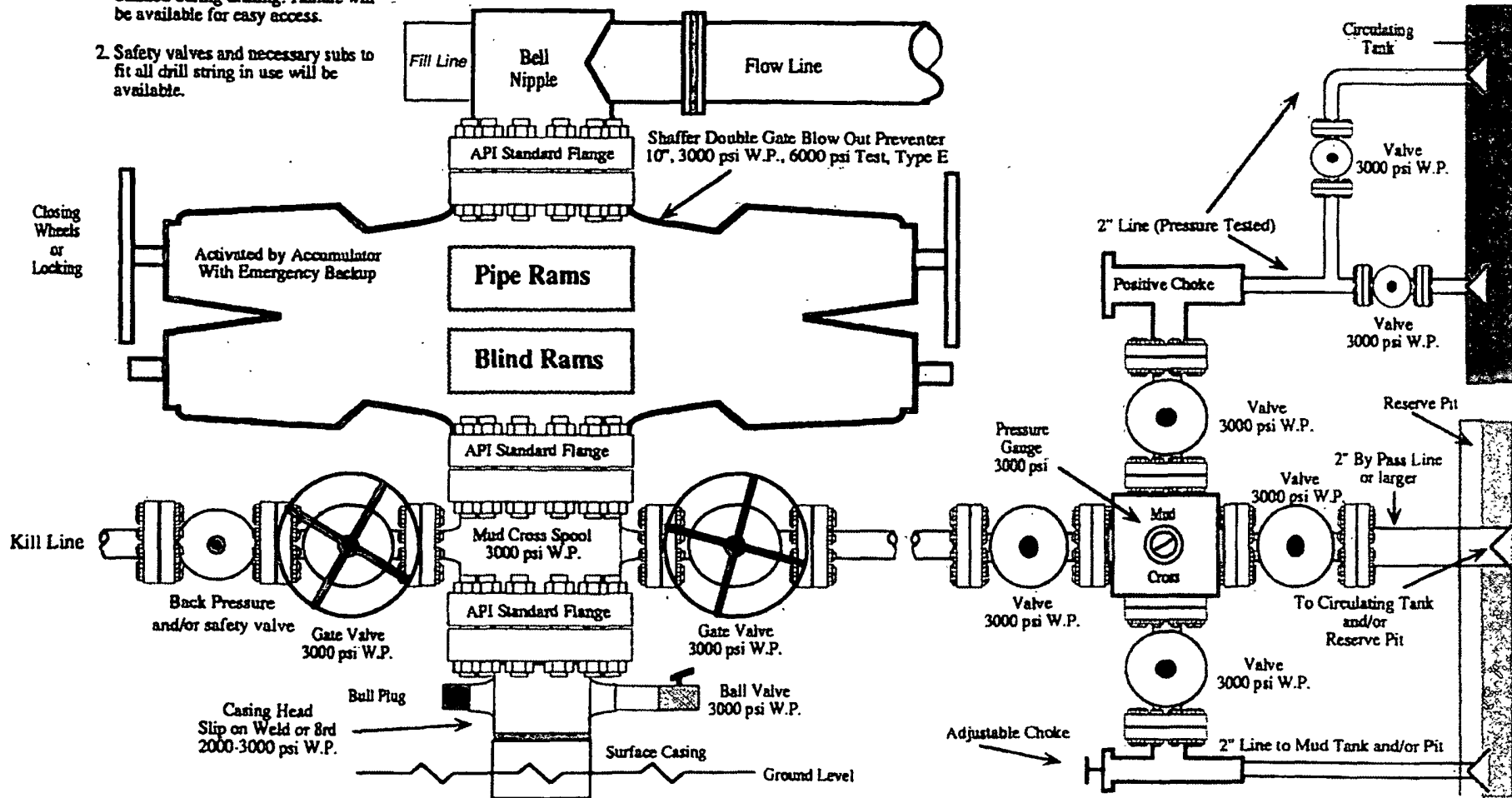
The anticipated spud date is October 1, 2011. It is expected it will take ≈ 10 days to drill and ≈ 2 weeks to complete the well.



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.