

NAVAJO NATION

APD

**Tribal Operations on
Tribal Lands**

PERMIT

**ACCEPTED FOR
RECORD ONLY**

RCUD APR 17 2012
OIL CONS. DIV.
DIST. 3

RECEIVED

Form 3160-3
(August 2007)

NOS: _____
APDP: _____
MP: BIA
SMA: ALW 475,000.00
BOND: ALW 475,000.00
CAPA: _____

FORM APPROVED
OMB No. 1009-0137
Expires July 31, 2010

Navajo Nation
Expires 8-17-2020

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NO-G-1008-1773
6. If Indian, Allottee or Tribe Name
NAVAJO NATION

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		7. If Unit or CA Agreement, Name and No.	
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		8. Lease Name and Well No. <u>CBM A Pod 10 H #1</u>	
2. Name of Operator <u>NNOGC Exploration and Production LLC</u>		9. API Well No. <u>30-045-35342</u>	
3a. Address <u>1675 BROADWAY, SUITE 1100 DENVER, CO 80202</u>	3b. Phone No. (include area code) <u>303 534 8300</u>	10. Field and Pool, or Exploratory <u>BASIN FRUIT. COAL, WC GALL, & DK</u>	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface <u>1330' FNL & 1227' FEL</u> At proposed prod. zone <u>SAME</u>		11. Sec., T. R. M. or Blk. and Survey or Area <u>SENE 10-27N-14W NMPM</u>	
14. Distance in miles and direction from nearest town or post office* <u>10 AIR MILES SW OF FARMINGTON, NM</u>		12. County or Parish <u>SAN JUAN</u>	13. State <u>NM</u>
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) <u>11,787'</u>	16. No. of acres in lease <u>150,000</u>	17. Spacing Unit dedicated to this well <u>N2 (Fruit. Coal & Dakota) and NESE (Gallup)</u>	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <u>4,556' (A Pod 11 G 1)</u>	19. Proposed Depth <u>6,000'</u>	20. BLM/BIA Bond No. on file <u>RLB0006712</u>	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <u>5,878' UNGRADED</u>	22. Approximate date work will start* <u>11/01/2011</u>	23. Estimated duration <u>1 MONTH</u>	

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>[Signature]</i>	Name (Printed/Typed) <u>BRIAN WOOD (505 466-8120)</u>	Date <u>09/10/2011</u>
Title <u>CONSULTANT</u> (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.

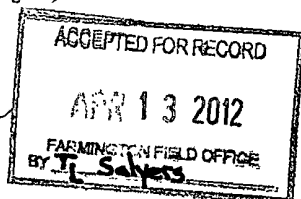
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Continued on page 2)

*(Instructions on page 2)

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

APR 30 2012 ca



ENTERED
AFMSS

APR 09 2012

ACCEPTED FOR RECORD BY *[Signature]*

A COMPLETE 144 WU-21 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.

RCVD APR 20 '12
OIL CONSV. DIV.
DIST. 3

District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rto 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

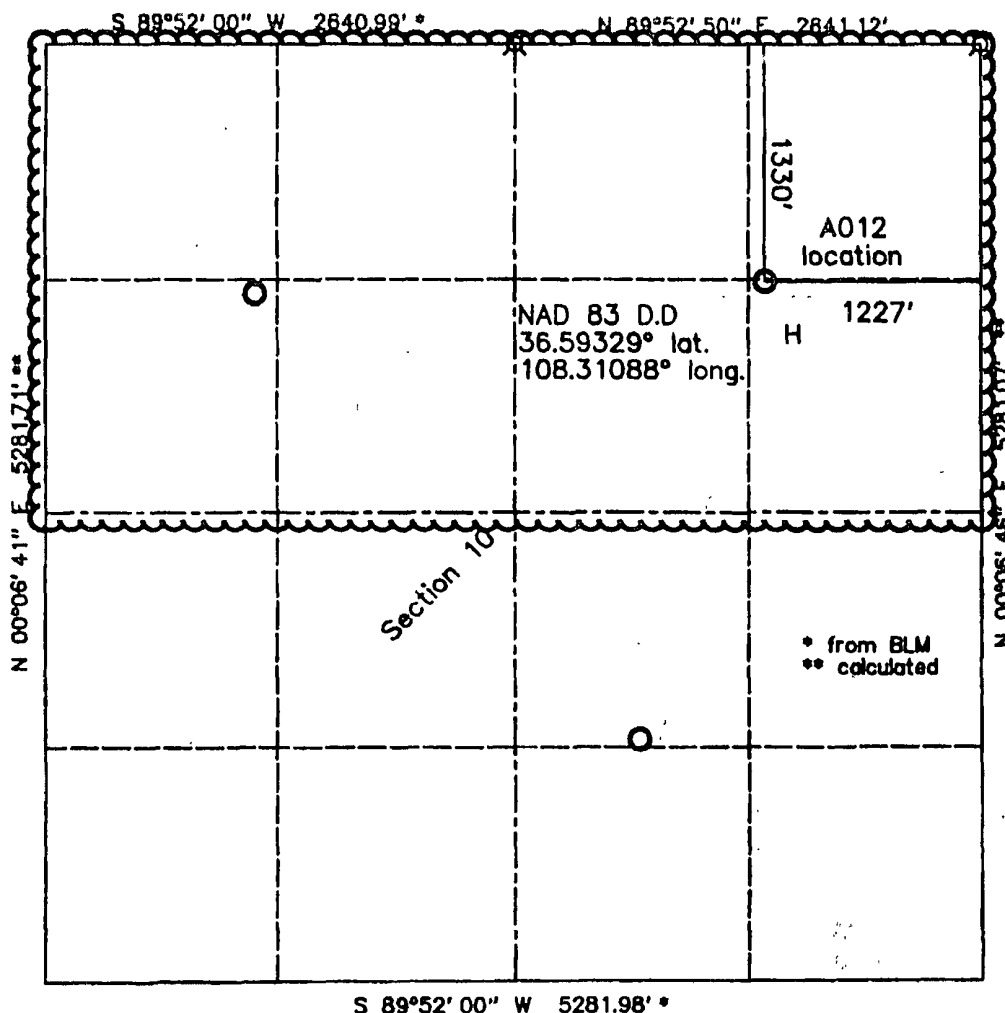
¹ API Number 30-045- 35342	² Pool Code 71629	³ Pool Name BASIN FRUITLAND COAL (GAS)
⁴ Property Code 39185	⁵ Property Name CBM A Pod 10H	⁶ Well Number 1
⁷ OGRID No 242841	⁸ Operator Name NNOGC Exploration and Production LLC	⁹ Elevation 5878'

¹⁰ Surface Location									
UT or Lot H	Section 10	Township 27 N.	Range 14 W.	Lot Idn 400	Feet from the 1330'	North/South line NORTH	Feet from the 1227'	East/West line EAST	County SAN JUAN

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

¹² Dedicated Acres 320	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.



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 signature is given under a working interest in and under control of the land on which the bottom hole location is shown on this plat.	
Signature <i>Brian Wood</i>	Date 9-10-11
Printed Name BRIAN WOOD	
E-mail Address brian@permitswest.com	
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 06/08/11	
Signature and Seal of Professional Surveyor <i>Ben Gerald</i>	
Certificate Number 6844	

RCVD APR 20 '12
OIL CONS. DIV.

DIST. 3
Form C - 102
Revised July 16, 2010
Submit one copy to appropriate
District Office

District I
1625 N. French Dr., Hobbs, NM 88240
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

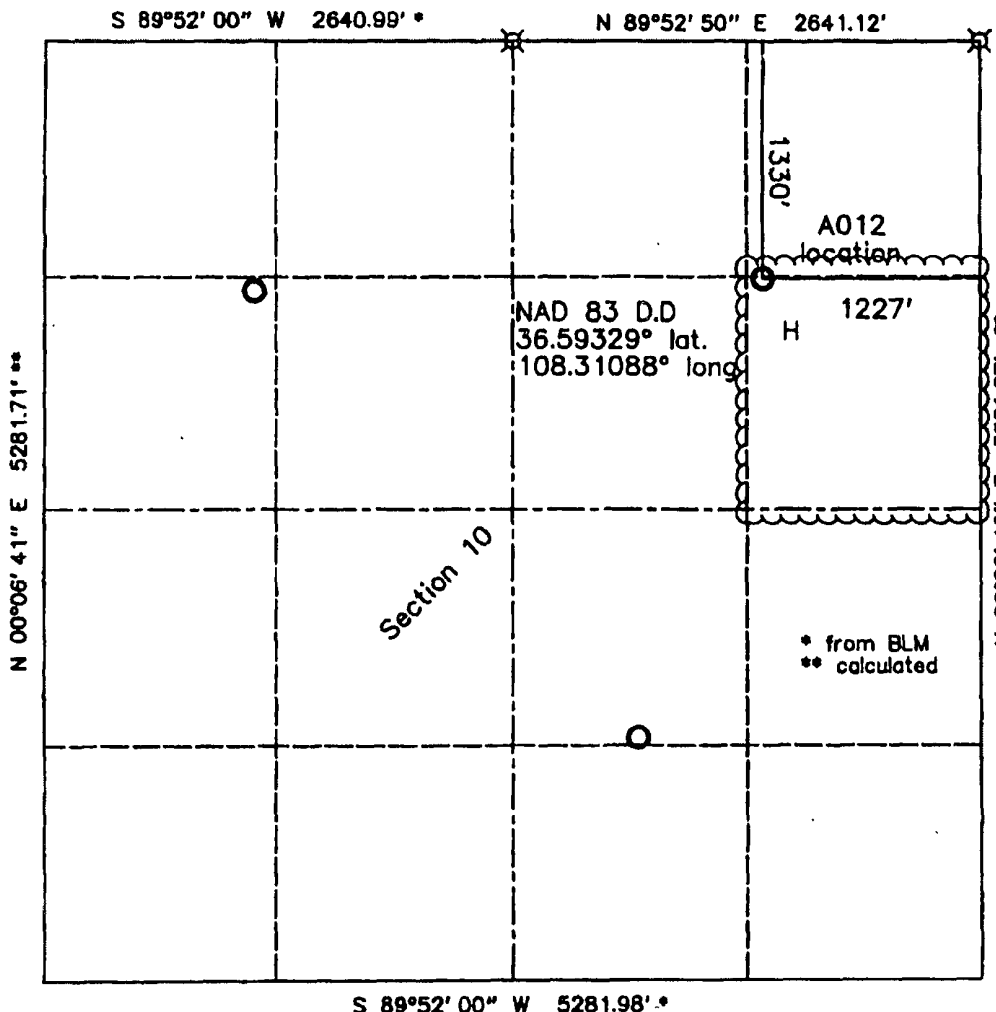
State of New Mexico
Energy, Minerals & Mining Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-045- 35342		2 Pool Code 97934		3 Pool Name WC 27N14W10, GALLUP CO	
4 Property Code 39185		5 Property Name CBM A Pod 10H			6 Well Number 1
7 OGRID No 242841		8 Operator Name NNOGC Exploration and Production LLC			9 Elevation 5878'
10 Surface Location					
11 U. or Lot H	12 Section 10	13 Township 27 N.	14 Range 14 W	15 Lot Idn. 400	16 Feet from the North/South line 1330'
				17 Feet from the East/West line 1227'	18 County SAN JUAN
19 Bottom Hole Location If Different From Surface					
20 U. or Lot	21 Section	22 Township	23 Range	24 Lot Idn.	25 Feet from the North/South line
				26 Feet from the East/West line	27 County
28 Dedicated Acres 40		29 Joint or Infill		30 Consolidation Code	
				31 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.



OPERATOR CERTIFICATION	
I hereby certify that the information contained herein is true and correct to the best of my knowledge and belief, and that this information was obtained from a reliable source and that I am not aware of any other information that would affect the accuracy of the information provided.	
Signature <i>Brian Wood</i>	Date 9-10-11
Printed Name BRIAN WOOD	
E-mail Address brian@permitswest.com	
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 06/08/11	
Signature and Seal of Professional Surveyor <i>Gerald B. Hubberton</i>	
Certificate Number 6844	

RCVD APR 20 '12

OIL CONS. DIV.
DIST. 3

Form C - 102

Revised July 16, 2010

Submit one copy to appropriate
District Office

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1060 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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045- 35342	² Pool Code 71599	³ Pool Name BASIN DAKOTA
⁴ Property Code 39185	⁵ Property Name CBM A Pod 10H	⁶ Well Number 1
⁷ OGRID No 242841	⁸ Operator Name NNOGC Exploration and Production LLC	⁹ Elevation 5878'

¹⁰ Surface Location

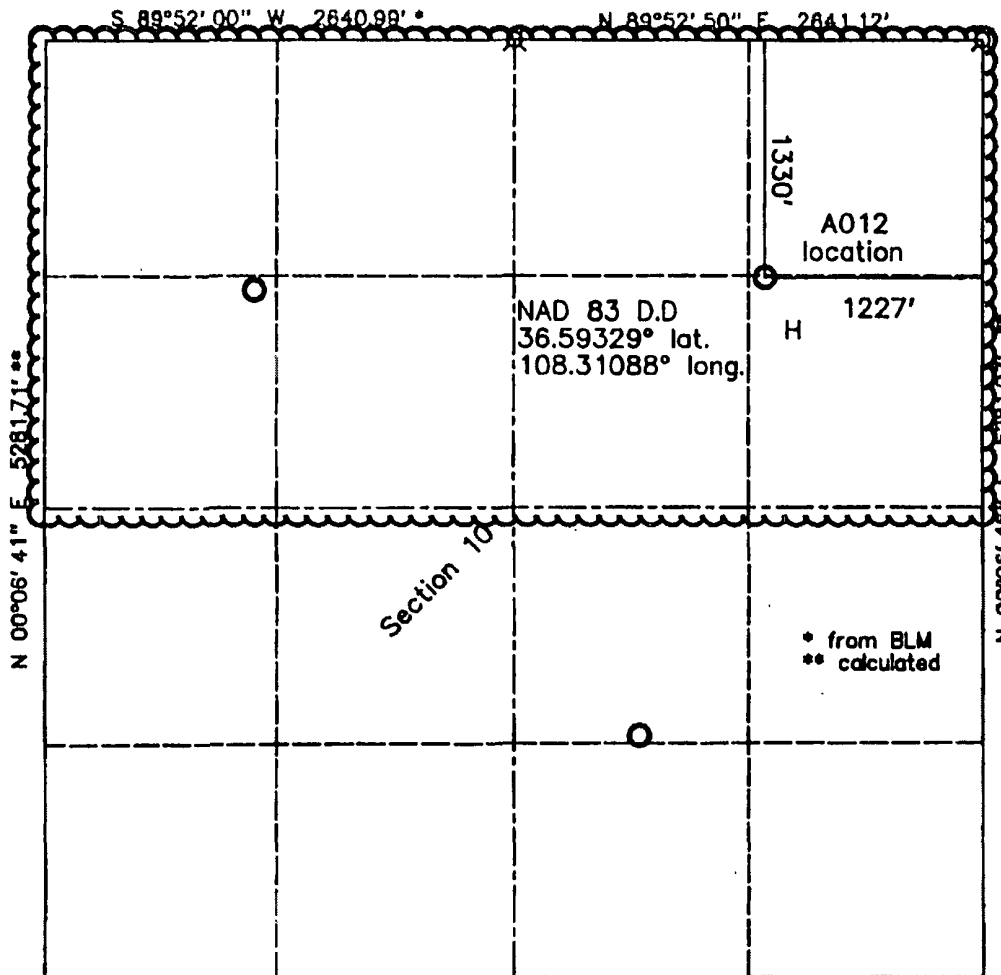
UT or Lot	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
H	10	27 N.	14 W	400	1330'	NORTH	1227'	EAST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

UT or Lot	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acres 320	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.



OPERATOR CERTIFICATION	
I hereby certify that the information contained herein is true and correct to the best of my knowledge and belief, and that my organization is the owner of the well shown on this plat, and that the well is being drilled for the purpose of producing oil or gas from the land shown on this plat.	
Signature <i>Brian Wood</i>	Date 9-10-11
Printed Name BRIAN WOOD	
E-mail Address brian@permitswest.com	
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 06/08/'11	
Signature and Seal of Professional Surveyor <i>Gerald B. Hudson</i>	
Certificate Number 6844	

NNOGC Exploration and Production LLC
CBM A Pod 10 H #1
1330' FNL & 1227' FEL
Sec. 10, 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'	10'	+5,878'
Fruitland Formation	853'	863'	+5,025'
Pictured Cliffs Sandstone	1,075'	1,085'	+4,803'
Lewis Shale	1,420'	1,430'	+4,458'
Mesa Verde Sandstone	2,007'	2,017'	+3,871'
Point Lookout Sandstone	3,750'	3,760'	+2,128'
Mancos Shale	3,943'	3,953'	+1,935'
Upper Gallup Sandstone	4,845'	4,855'	+1,033'
Lower Gallup Sandstone	5,035'	5,045'	+843'
Sanostee	5,306'	5,316'	+572'
Dakota Sandstone	5,728'	5,738'	+150'
Morrison Formation	5,903'	5,913'	-25'
Total Depth (TD)	6,000'	6,010'	-122'

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.



NNOGC Exploration and Production LLC
CBM A Pod 10 H #1
1330' FNL & 1227' FEL
Sec. 10, T. 27 N., R. 14 W.
San Juan County, New Mexico

PAGE 3

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
CBM A Pod 10 H #1
1330' FNL & 1227' FEL
Sec. 10, T. 27 N., R. 14 W.
San Juan County, New Mexico

PAGE 4

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.



NNOGC Exploration and Production LLC
CBM A Pod 10 H #1
1330' FNL & 1227' FEL
Sec. 10, T. 27 N., R. 14 W.
San Juan County, New Mexico

PAGE 5

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

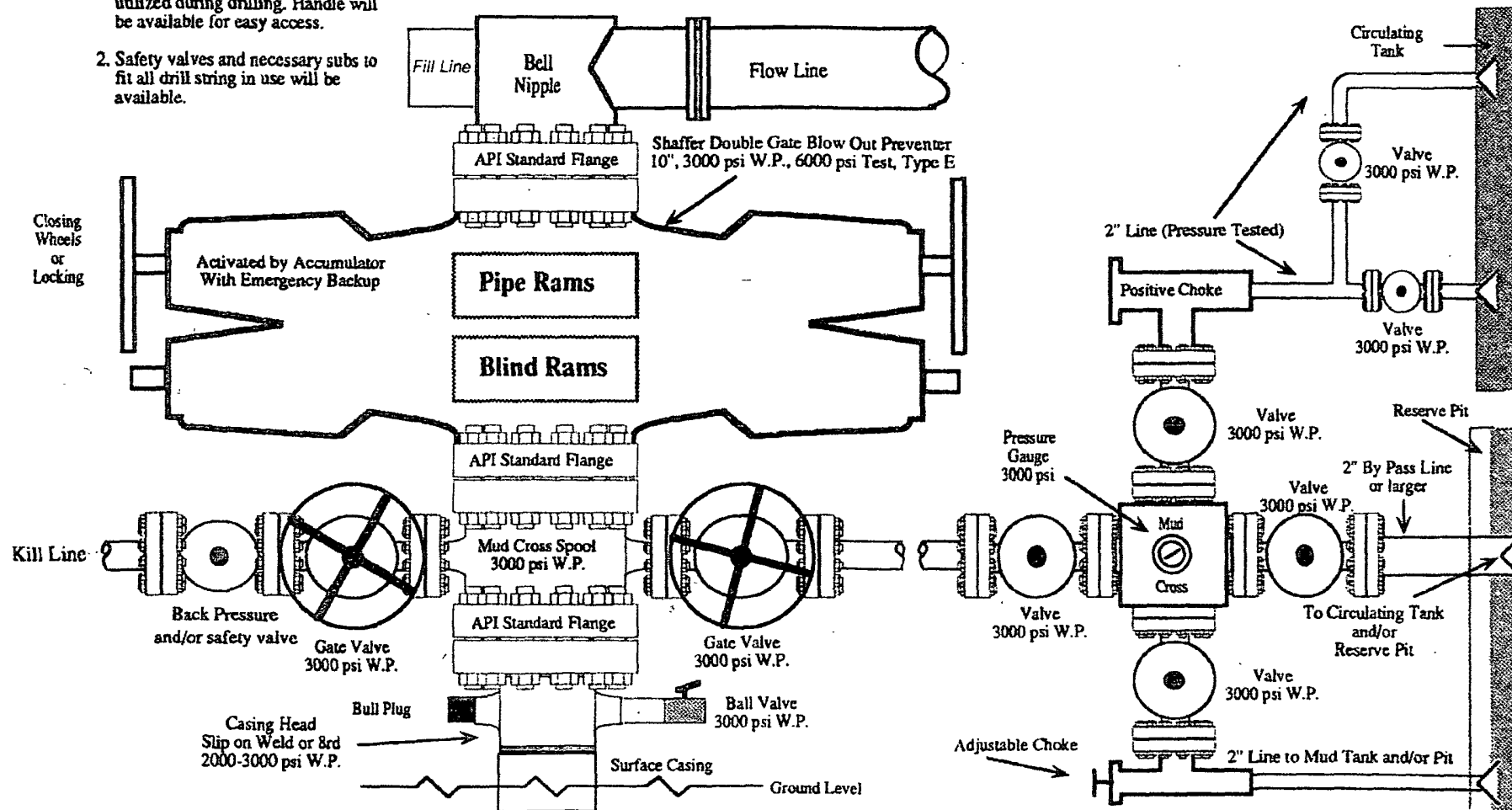
It is expected it will take ≈ 10 days to drill and ≈ 2 weeks to complete the well.



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.