

NAVAJO NATION

APD

**Tribal Operations on
Tribal Lands**

PERMIT

ACCEPTED FOR

RECORD ONLY

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

5. Lease Serial No.
NO-G-1008-1773

6. If Indian, Allottee or Tribe Name
NAVAJO NATION

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
CBM B Pod 20 N #1

9. API Well No.
30-045-35429

10. Field and Pool, or Exploratory
BASIN FRUIT, COAL, WC GALL, & DK

11. Sec., T. R. M. or Blk. and Survey or Area
SESW 29-27N-14W NMPM
20

12. County or Parish
SAN JUAN

13. State
NM

1a. Type of work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone

2. Name of Operator NNOGC Exploration and Production LLC

3a. Address 1675 BROADWAY, SUITE 1100
DENVER, CO 80202

3b. Phone No. (include area code)
303 534 8300

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At surface 189' FSL & 1743' FWL

At proposed prod. zone SAME

14. Distance in miles and direction from nearest town or post office*
14 AIR MILES SW OF FARMINGTON, NM

15. Distance from proposed* location to nearest property or lease line, ft.
(Also to nearest drig. unit line, if any)
24,617'

16. No. of acres in lease
150,000

17. Spacing Unit dedicated to this well
W2 (Fruit, Coal & Dakota) and SESW (Gallup)
320 acres & 40 acres

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
2,069' (B Pod 29 K)

19. Proposed Depth
6,000'

20. BLM/BIA Bond No. on file
RLB0006712

RCVD APR 15 '13
OIL CONS. DIV.

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
5,930' UNGRADED

22. Approximate date work will start*
08/01/2012

23. Estimated duration
1 MONTH

DIST. 3

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, must be attached to this form:

1. Well plat certified by a registered surveyor.

2. A Drilling Plan.

3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).

5. Operator certification

6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature

Brian Wood

Name (Printed/Typed)

BRIAN WOOD (505 466-8120)

Date

04/23/2012

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.

ACCEPTED FOR RECORD

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.

HOLD ON FOR NSL

APR 11 2013

(Instructions on page 2)

NMOCD

Ar

FARMINGTON FIELD OFFICE
BY TL Sellers

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

APR 25 2013 ca

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

District I
1615 N. French Dr., Hobbs, NM 88240
Phone (505) 393-4161 Fax (505) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone (505) 745-1285 Fax (505) 748-0720
District III
1090 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 331-6178 Fax (505) 331-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3160 Fax (505) 476-3462

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 August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

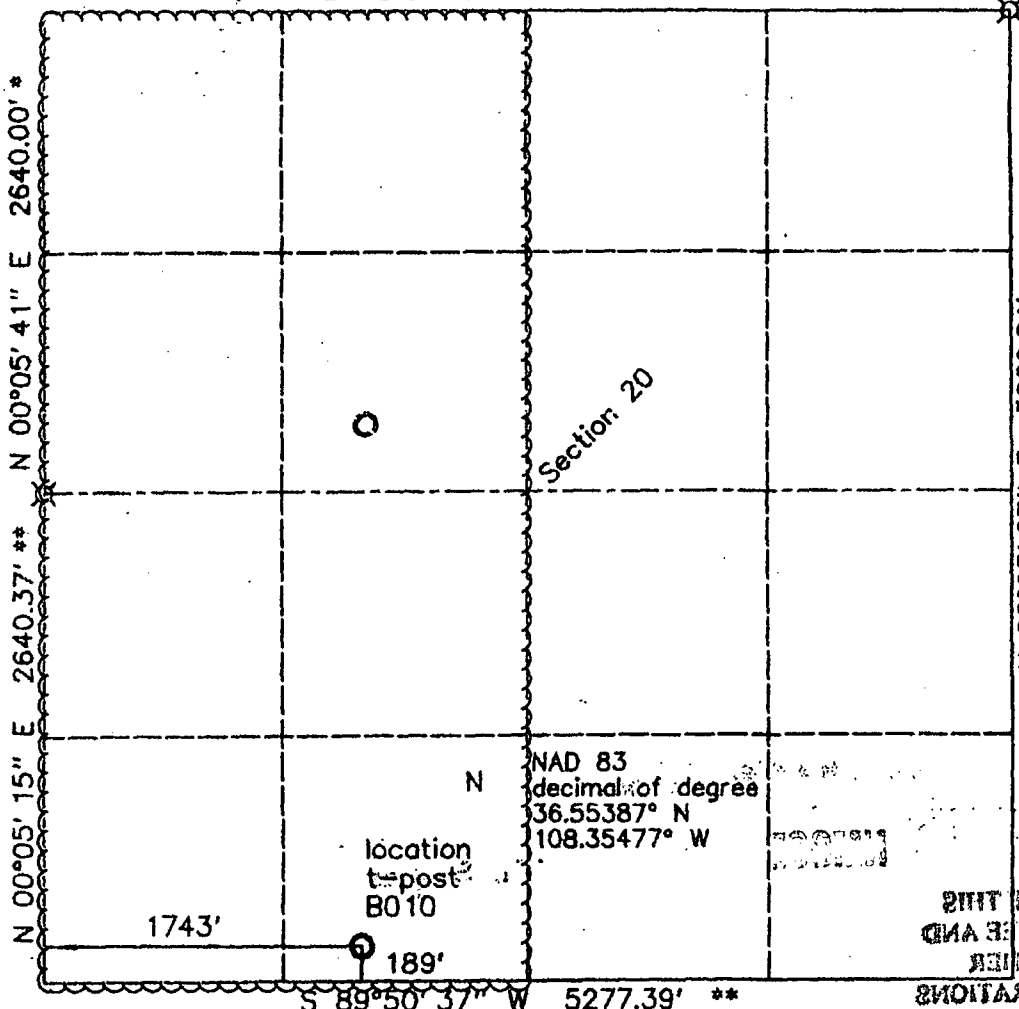
WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045- 35429		² Pool Code 71629		³ Pool Name BASIN FRUITLAND COAL (GAS)	
⁴ Property Code 39831		⁵ Property Name CBM B Pod 20N			⁶ Well Number 1
⁷ OGRID No 242841		⁸ Operator Name NNOGC Exploration and Production LLC			⁹ Elevation 5930'
¹⁰ Surface Location					
UT or Lot N	Section 20	Township 27 N.	Range 14 W.	Lot Idn. 400	Feet from the North/South line 189'
				Feet from the East/West line 1743'	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
¹² Dedicated Acres 320 W/p		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.

S 89°50' 19" W 5277.36' *

☒ BLM brass cap
* from 1994 BLM
** calculated



17 OPERATOR CERTIFICATION I hereby certify that the information contained here in is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided 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 as so certified by the division.	
Signature BRIAN WOOD	Date 4-23-12
Printed Name brian@permitswest.com	
E-mail Address	
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 06/23/'11	
Signature and Seal of Professional Surveyor GERALD E. HUDSON NEW MEXICO 6844	
Certificate Number 6844	

District I
 1025 N. French Dr., Hobbs, NM 88240
 Phone (575) 393-0101 Fax (575) 393-0720
 District II
 811 S. First St., Artesa, NM 86110
 Phone (575) 945-1283 Fax (575) 748-0720
 District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 Phone (505) 735-1117 Fax (505) 334-6170
 District IV
 1220 N. St. Francis Dr., Santa Fe, NM 87505
 Phone (505) 750-3100 Fax (505) 176-3462

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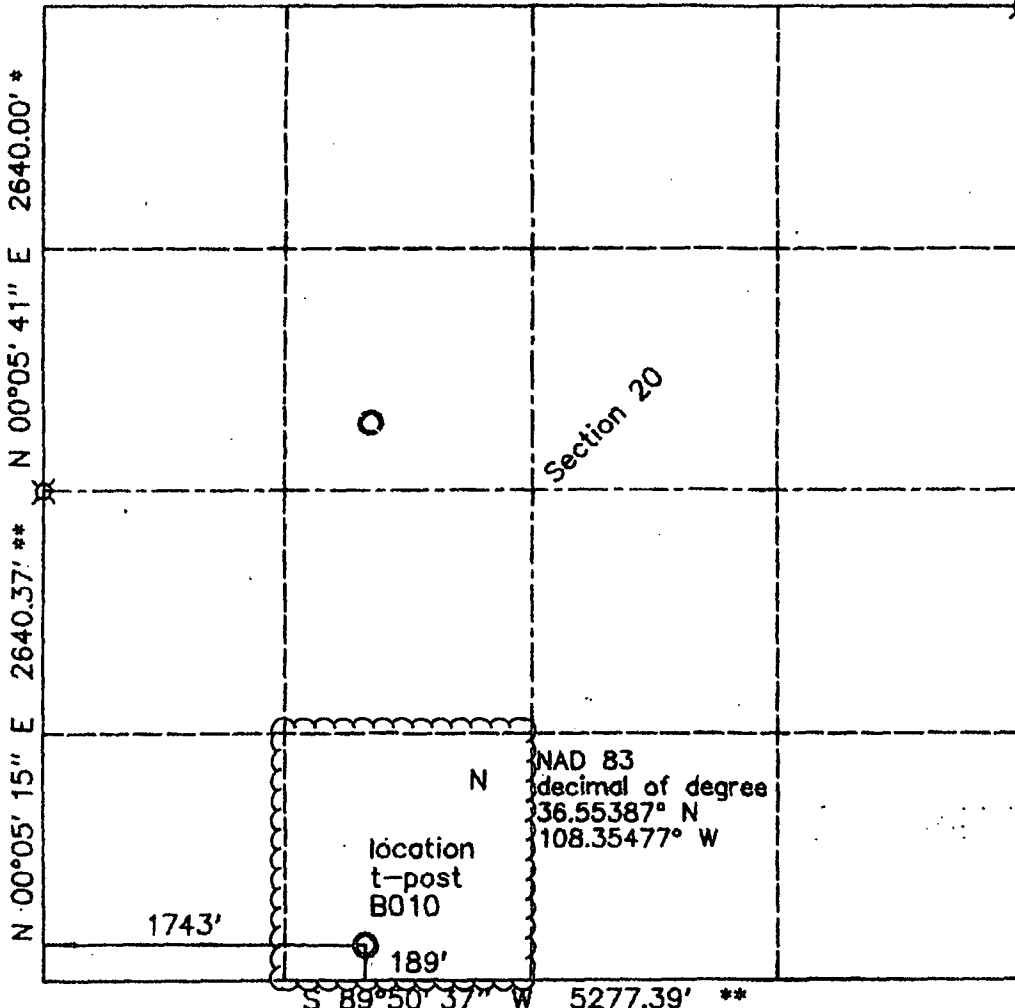
WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-045- 35429		2 Pool Code 98019		3 Pool Name WC27N14W20; GALLUP OIL					
4 Property Code 39831		5 Property Name CBM B Pod 20N						6 Well Number 1	
7 CGRID No. 24284T		8 Operator Name NNOGC Exploration and Production LLC						9 Elevation 5930'	
10 Surface Location									
11a U/L or Lot N	Section 20	Township 27 N.	Range 14 W	Lot Idn. 400	Feet from the 189'	North/South line SOUTH	Feet from the 1743'	East/West line WEST	County SAN JUAN
11b Bottom Hole Location If Different From Surface									
U/L or Lot	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
12 Dedicated Acres 40 SE 1/4									
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.

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 * from 1994 BLM
 ** calculated



17 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 information was obtained from a reliable source or sources, or that I have the right to drill this well at this location pursuant to a contract with an owner of mineral interest or working interest, or to a voluntary pool agreement, or a compulsory pooling order heretofore entered by the division.	
Signature <i>Brian Wood</i>	Date 4-23-12
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 06/23/11	
Signature and Seal of Professional Surveyor 	
Certificate Number 6844	

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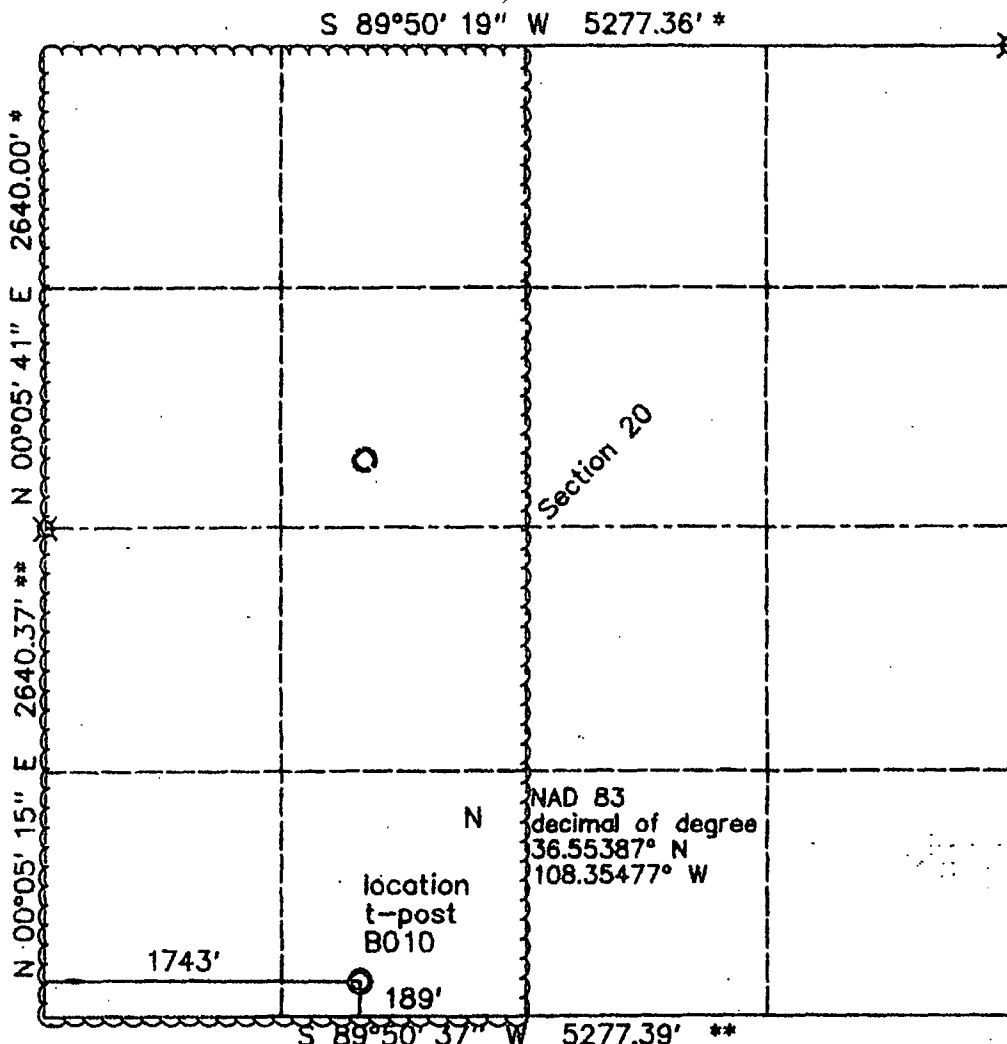
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WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35429		² Pool Code 71599		³ Pool Name BASIN DAKOTA	
⁴ Property Code 39831		⁵ Property Name CBM B Pod 20N			⁶ Well Number 1
⁷ OGRID No. 242841		⁸ Operator Name NNOGC Exploration and Production LLC			⁹ Elevation 5930'
¹⁰ Surface Location					
U/I or Lot N	Section 20	Township 27 N.	Range 14 W	Lot Idn. 400	Feet from the North/South line 189'
			Feet from the East/West line 1743'	County SAN JUAN	
¹¹ Bottom Hole Location If Different From Surface					
U/I or Lot	Section	Township	Range	Lot Idn.	Feet from the North/South line
					Feet from the East/West line
¹² Dedicated Acres 320 W/P		¹³ Joint or Infill		¹⁴ Consolidation Code	
				¹⁵ Order No.	

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Signature <i>Brian Wood</i>	Date 4-23-12
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 06/23/11	
Signature and Seal of Professional Surveyor <i>Gerald H. Hueston</i>	
Certificate Number 6844	

NNOGC Exploration and Production LLC
CBM B Pod 20 N #1
189' FSL & 1743' FWL
Sec. 20, 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'	+5,930'
Fruitland Formation	630'	640'	+5,300'
Pictured Cliffs Sandstone	1,080'	1,090'	+4,850'
Lewis Shale	1,230'	1,240'	+4,700'
Mesa Verde Sandstone	1,850'	1,860'	+4,080'
Point Lookout Sandstone	3,630'	3,640'	+2,300'
Mancos Shale	3,770'	3,780'	+2,160'
Gallup Sandstone	4,910'	4,920'	+1,020'
Sanostee	5,430'	5,440'	+500'
Dakota Sandstone	5,780'	5,790'	+150'
Morrison Formation	5,930'	5,940'	0'
Total Depth (TD)	6,000'	6,012'	-70'

2. NOTABLE ZONES

Fruitland coal gas is the primary goal. Gallup and Dakota are the secondary goals. Oil and gas shows that 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 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% 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 other joint above the shoe, 2 turbolizers on the collar below the DV tool, and



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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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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 August 1, 2012. It is expected it will take ≈ 10 days to drill and ≈ 2 weeks to complete the well.



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San Juan County, New Mexico

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Surface Use Plan

1. DIRECTIONS (See PAGES 11 - 13)

From the NM 371 San Juan River bridge in southwest Farmington
Go South $\approx 6\frac{1}{2}$ miles on NM 371 to the equivalent of Mile Post 99.8
Then turn right and go West 5.2 miles on paved N-3003
Then turn left and go South 7.1 miles on paved N-4065
Then bear right and go West $\frac{1}{2}$ mile on a dirt road to the pipe route
Then turn right and go Northwest $\approx 700'$ on the pipeline route

Roads will be maintained to at least equal to their present condition.

2. ROAD WORK (PAGES 12 & 13)

NM One Call (811) and NAPI (505 566-2623 or 505 793-4923) will be called at least 2 working days before construction starts. The $\approx 700'$ of new road will be built to BLM Gold Book standards. Road will have a $\approx 14'$ wide running surface and will be rocked as needed. Upgrade of the existing road will consist of rocking as needed. No culvert, vehicle turn out, or cattle guard is needed. Maximum disturbed width = 20'. Maximum cut or fill = 3'. Maximum grade = 3%.

3. EXISTING WELLS (See PAGE 14)

There is one plugged well within a mile radius. There are no water, oil, gas, or injection wells within a mile radius.



Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

Exhibit #1 Typical BOP setup

Location: San Juan Basin, New Mexico

Date: January, 2012

By: John Thompson (Walsh E&P)

