NAVAJO NATION

APD

Tribal Operations on Tribal Lands PERMIT ACCEPTED FOR RECORD ONLY

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MINERALS DEPARTMENT

Post Office Box 1910 Window Rock, Arizona 86515

Phone: (928) 871-6587 • Fax: (928) 871-7095

Ben Shelly *President*

June 27, 2011

Rex Lee Jim Vice-President

Ms. Sharon Pinto Acting Regional Director Navajo Region Bureau of Indian Affairs P.O. Box 1060 Gallup, New Mexico 87305 JUN 29 2011

Farmington Field Office Sureau of Land Managemen

RE: <u>APPROVAL OF APPLICATION FOR PERMIT TO DRILL (APD) NO. CBM 33-29-14 #6, FOR THE NAVAJO NATION OIL AND GAS COMPANY (NNOGC) ON</u>
NAVAJO NATION TRUST LAND

Dear Ms. Pinto:

Pursuant to Resolution RDCJN-05-11 and the amended procedures for the review and approval of APDs approved by the Resources and Development Committee of the Navajo Nation Council on June 14, 2011, the Navajo Nation Minerals Department hereby approves the enclosed APD to construct, operate and maintain the "CBM 33-29-14 #6" well, pipelines and ancillary facilities submitted by NNOGC within Operating Agreement No. NO-G-1008-1773 on, over and across Navajo Nation Trust Lands, San Juan County, Navajo Nation (New Mexico), enclosed hereto as Exhibits "A" through "D". NNOGC is required to obtain a Finding of No Significant Impact from the U.S. Bureau of Indian Affairs prior to the commencement of any surface disturbing activities.

The Navajo Nation's approval of the APD to NNOGC is subject to, but not limited to, the terms and conditions contained in Exhibit "D" and the specific requirements imposed by the Navajo Nation Environmental Protection Agency and the Navajo Nation Department of Fish and Wildlife. If you have any questions, please call me at (928) 871-6587.

Sincerely,

Akhtar Zaman, Director Minerals Department

BN/AZ/kjs ENCLOSURE

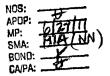
xc: W. Mike Halona, Program Director, Navajo Land Department, DNR

Howard Draper, Project Review Office, DNR

Dave Evans, Dist. Manager, U.S. Bureau of Land Management, Farmington, NM

Wilson Groen, CEO, Navajo Nation Oil & Gas Company

Novami Nation 0 & 67 Novami Nation 8/17/2020 All Chargest 2007) (August 2007) 11/3/10 Oh Site W/ BSP ALCER



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Bureau of Land Management Farmington Field Office FORM APPROVED OMB No. 1004-0137 Expires July 31, 2010

6. If Indian, Allotee or Tribe Name

UNITED STATES Fan DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

		, 00	341)	
5.	Lease Serial -G-1008-17	No.		
NO.	-G-1008-17	73	~	

APPLICATION FOR PERMIT TO	NAVAJO NATION							
la. Type of work:								
ib. Type of Well: Oil Well Gas Well Other		gle Zone 📝 Multip	le Zone	8. Lease Name and Well CBM 33-29-14 #6	I No.			
2. Name of Operator NAVAJO NATION OIL & GAS COMPA	NY		1	9. API Well No. 29 30-045- 3529	7			
^{3a.} Address 1675 BROADWAY, SUITE 1100 DENVER, CO 80202	3b. Phone No. 303 534 83	(include arca code) 00		10. Field and Pool, or Exp BASIN FRUIT. COAL				
4. Location of Well (Report location clearly and in accordance with an At surface 1480' FNL & 1593' FWL SENW	F	11. Sec., T. R. M. or Blk and Survey or Area SENW 33-29N-14W NMPM						
At proposed prod. zone SAME								
14. Distance in miles and direction from nearest town or post office* 4 AIR MILES SE OF KIRTLAND, NM				12. County or Parish SAN JUAN	NM			
15. Distance from proposed* 1,812' location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of ac 150,000	ores in lease	N2 (Frui	cing Unit dedicated to this well (c) uit. Coal & Dakota) and E2NW4 (Gallup)				
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed	·	RLB000	/BIA Bond No. on file 06712 NW 475,000 =				
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 5,609' UNGRADED	22. Approxin 04/01/201	nate date work will star 1	rt*	23. Estimated duration 1 MONTH				
	24. Attac	hments		RCVD	JUL 18'11			
 The following, completed in accordance with the requirements of Onsho Well plat certified by a registered surveyor. A Drilling Plan. A Surface Use Plan (if the location is on National Forest System SUPO must be filed with the appropriate Forest Screece Office). 		4. Bond to cover if Item 20 above). 5. Operator certification.	he operation	ons unless covered by an ex	DIST. 3			
25. Signature	1	(Printed/Typed) N WOOD (505	466-8120	. = :	ate 11/19/2010			
Title CONSULTANT		(FAX 505	5 466-968	ACCE	PTED FOR RECORD			
Approved by (Signature)	Name	(Printed/Typed)		E	it 0 6 2011			
Title Application approval does not warrant or certify that the applicant hole conduct operations thereon.	Office ds legal or equit	able title to the serieth	2 inthese	FARMI BY Upget Wase which would entit	INGTON FIELD OFFICE			
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	TO CA	SING &	Villfully to	make to any department or	agency of the United			
States any false, fictitious or fraudulent statements or representations as	to any matter w	within its jurisdiction.	rationly to i	make to any acparation of a	igonoy of the office			

(Continued on page 2) ENTERED

JUN 27 2011

MAR - 4 2011

TRIBAL OPERALIAND

EXHIBIT "A"

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.

AUG 2 2 2011 A

State of New Mexico Energy, Minerals & Mining Resources Department

OIL CONSERVATION DIVISION 2040 South Pacheco Santa Fe, NM 87505

Form C - 102 Revised October 12, 2005
Submit to appropiate Distric Office
State Lease — 4 Copies
Fee Lease — 3 Copies

☐ AMENDED REPORT

APA Number Pool Code							ACREAGE DEDICATION PLAT Pool Name							
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Property	y Code				Property Name CBM 33-29-14							Well Number 6		
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OIL CONSERVATION DIVISION 2040 South Pacheco Santa Fe, NM 87505 Form C - 102

Revised October 12, 2005

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☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

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State of New Mexico Energy, Minerals & Mining Resources Department

OIL CONSERVATION DIVISION 2040 South Pacheco Santa Fe, NM 87505 Form C - 102
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Certificate Number 6844

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

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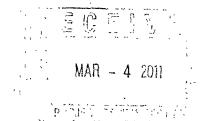
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N 87°38′55″ W

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Drilling Program



1. FORMATION TOPS

The estimated tops of important geologic markers are:

<u>Formation</u>	GL Depth	KB Depth	<u>Elevation</u>
Kirtland Shale	0'	12'	+5,609*
Fruitland Coal	879'	891'	+4,730 '
Pictured Cliffs Sandstone	1,009'	1,021'	+4,600'
Lewis Shale	1,159'	1,171'	+4,450'
Mesa Verde Sandstone	2,009'	2,021'	+3,600'
Point Lookout Sandstone	3,574'	3,586'	+2,035'
Mancos Shale	3,809'	3,821'	+1,800'
Gallup Sandstone	4,959'	4,971'	+650'
Sanostee	5,309'	5,321'	+300'
Dakota Sandstone	5,609'	5,621'	+0'
Morrison Formation	5,909'	5,921'	-300'
Total Depth (TD)	6,000'	6,012'	-391'

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



A double ram type $\geq 2,000$ psi working pressure BOP with a rotating head system will be used. See the next 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.

joints

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 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% CaCl2 + 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% CaCl2 + 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. <u>DOWN HOLE CONDITIONS</u>

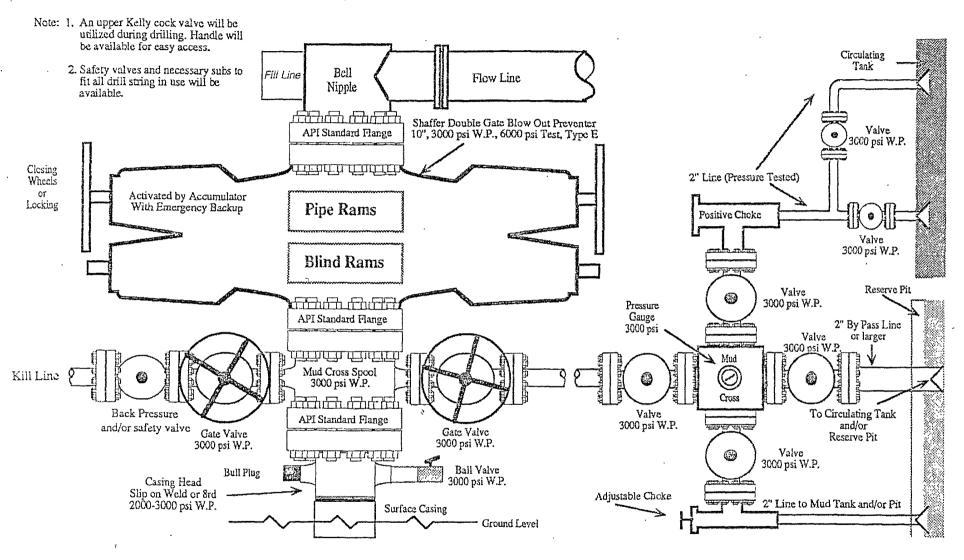
No abnormal temperatures, abnormal pressures, or hydrogen sulfide are expected. Maximum expected bottom hole pressure will be ≈2,598 psi.



8. OTHER INFORMATION

The anticipated spud date is April 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: 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.

