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

RECEIVED

JUN 29 2011

armington Field Office ureau of Land Managemen

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

RE: APPROVAL OF APPLICATION FOR PERMIT TO DRILL (APD) NO. CBM14-27-14
#1, FOR THE NAVAJO NATION OIL AND GAS COMPANY (NNOGC) ON
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 14-27-14 #1" 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

JUN 27 2011 FORM APPROVED Form 3160-3 Bureau of Land Management OMB No. 1004-0137 Expires July 31, 2010 (August 2007) Farmington Field Office UNITED STATES 5. Lense Serial No. DEPARTMENT OF THE INTERIOR NO-G-1008-1773 BUREAU OF LAND MANAGEMENT If Indian, Allotee or Tribe Name APPLICATION FOR PERMIT TO DRILL OR REENTER NAVAJO NATION 7. If Unit or CA Agreement, Name and No. **V** DRILL REENTER la. Type of work: 8. Lease Name and Well No. Oil Well 🗸 Gas Well CBM 14-27-14 #1 lb. Type of Well: Single Zone \(\square\) Multiple Zone Name of Operator NAVAJO NATION OIL & GAS COMPANY 9. API Well No. 30-045- **3 52 99** 3b. Phone No. (include area code) 3a. Address 10. Field and Pool, or Exploratory 1675 BROADWAY, SUITE 1100 303 534 8300 **DENVER, CO 80202** BÁSIN FRUIT. COAL, WC GALL, & DK 11. Sec., T. R. M. or Bik. and Survey or Area Location of Well (Report location clearly and in accordance with any State requirements.*) At surface 660' FNL & 661' FEL NENE NENE 14-27N-14W NMPM At proposed prod. zone SAME 12. County or Parish 13. State 14. Distance in miles and direction from nearest town or post office* SAN JUAN MM 10 AIR MILES SSW OF FARMINGTON, NM 15. Distance from proposed* 17. Spacing Unit dedicated to this well 16. No. of acres in lease 150.000 location to nearest N2 (Fruit. Coal & Dakota) and NENE (Gallup) V property or lease line, ft. (Also to nearest drig. unit line, if any) 20. BLM/BIA Bond No. on file 18. Distance from proposed location* to nearest well, drilling, completed, 19. Proposed Depth 6.000 RLB0006712 applied for, on this lease, ft. 18,750,000,00 23. Estimated duration 22. Approximate date work will start* 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 5,984' UNGRADED 03/01/2011 1 MONTH RCVD JUL 18'11 24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, must be attached to this form: OIL CONS. DIV. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). 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 5. Operator certification SUPO must be filed with the appropriate Forest Service Office). Such other site specific information and/or plans as may be required by the 25. Signature Name (Printed/Typed) Date **BRIAN WOOD** 11/13/2010 (505 466-8120) Title ACCEPTED FOR RECORD CONSULTANT (FAX 505 466-9682) Approved by (Signature) Name (Printed/Typed) Dul 0 6 2011 Title FARMINGTON FILLD 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)

EXHIBIT "A"

AFMSS

JUN 2 7 2011

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

2014 - 1 - 1011

TRIBAL OPERATION
ON TRIBAL LAND

NOTIFY AZTEC OCD 24 HRS. PRIOR TO CASING & CEMENT

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 appropriate Distric Office
State Lease - 4 Copies
Fee Lease - 3 Copies

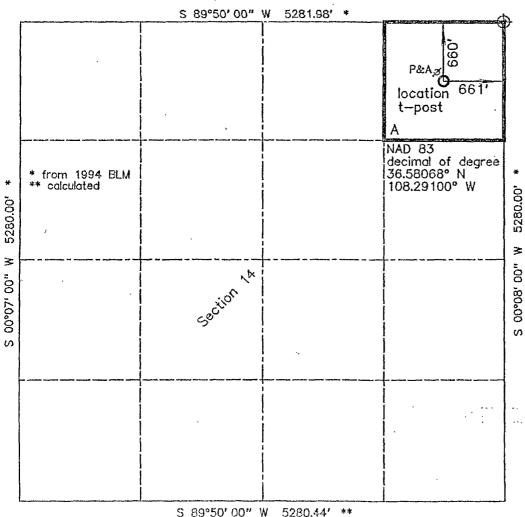
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number 30-045- 35299	9 7 8 7 1	Pool Name WC27N14W14; GALLUP OIL		
Property Code	Property N CBM 14-2		Number 1	
OGRID No. 242841	Operator N NAVAJO NATION OIL		ation 84'	

Surface Location								
Sec.	Twp.	Rge.	Lot Idn.	Feet from	North/South	Feet from	East/West	County
14	27 N.	14 W		660′	NORTH	661'	EAST	SAN JUAN
Bottom Hole Location If Different From Surface								
Sec.	Twp.	Rge.	Lot Idn.	Feet from	North/South	Feet from	East/West	County
ŀ		1		}				•
Jo	int ? (Consolidation) 0	rder No.		L		
	14 Sec.	14 27 N. Sec. Twp.	14 27 N. 14 W. Sec. Twp. Rge.	14 27 N. 14 W. Botto Sec. Twp. Rge. Lot Idn.	Sec. Twp. Rge. Lot Idn. Feet from 14 27 N. 14 W. 660' Bottom Hole Loc Sec. Twp. Rge. Lot Idn. Feet from	Sec. Twp. Rge. Lot Idn. Feet from North/South 14 27 N. 14 W 660' NORTH Bottom Hole Location If Diff. Sec. Twp. Rge. Lot Idn. Feet from North/South	Sec. Twp. Rge, Lot Idn. Feet from North/South Feet from 14 27 N. 14 W 660' NORTH 661' Bottom Hole Location If Different From Sec. Twp. Rge. Lot Idn. Feet from North/South Feet from	Sec. Twp. Rge. Lot Idn. Feet from North/South Feet from East/West 14 27 N. 14 W 660' NORTH 661' EAST Bottom Hole Location If Different From Surface Sec. Twp. Rge. Lot Idn. Feet from North/South Feet from East/West

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



UMERATUR CERTIFICATION
I hereby certify that the information contained
herein is true and complete to the beat of my
knowledge and belief, and that this origanization
oither owns a working interest or unlocated
mineral interest in the land including the bottom
toole location or has the right to did this wes
at this location present or 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. OPERATOR CERTIFICATION Date 11-13-10 Signature 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:rev 09/10/ 10 Signature and seal of Professional Sympayor So. TO HENCO 6844 Certificate Number 6844

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 appropriate Distric Office
State Lease - 4 Copies
Fee Lease - 3 Copies

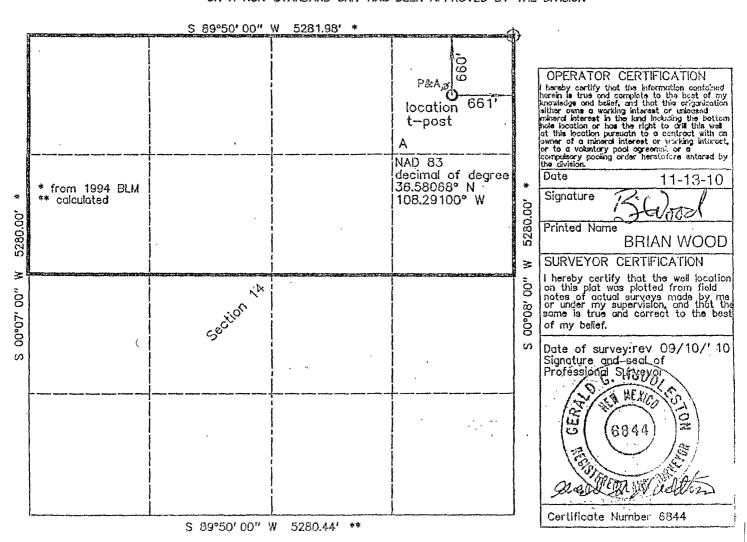
MENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Nu		Po	ol Code	Pool Name				
30-045- 35-2	99	7	1599	BASIN DAKOTA				
Property Code	Nympiakanakapusetsiminkilinguski politikishishishi unkak urbay-u pu	Weil Number 1						
OGRID No. 242841		Operator Name NAVAJO NATION OIL & GAS CO., INC						
				urface Location				
UL or Lot Sec.	Twp.	Rge. Lot	t Idn. Feet fro	m North/South	Feet from	East/West	County	
A 14	27 N. 14 W. 660' NORTH 661' EAST SAN JUA					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 Jai	nt ? Cons	solidation	Order No.		<u></u>			

320

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



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 appropriate Distric Office State Leose - 4 Copies Fee Lease - 3 Copies

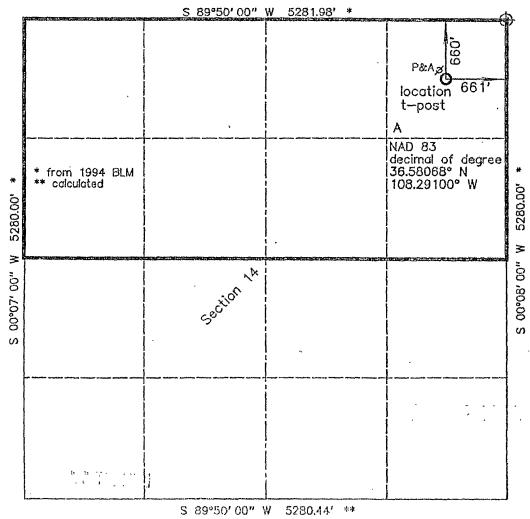
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number 30-045- 35299	Pool Code	DAL (GAS)	
30-045- 33277	71629		
Property Code	Property CBM 14-2		Well Number
OGRID No.	Operator		Elevation
242841	NAVAJO NATION OIL	& GAS CO., INC	5984'

Surface Location									
UL or Lot	Sec.	Twp.	Rge.	Lot Idn.	Feet from	North/South	Feet from	East/West	County
Α	14	27 N.	14 W		660'	NORTH	661'	EAST	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
			1.						
Dedication	Jo	int ?	Consolidation	n Oi	der No.	L	L	L.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
320									

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 UPERATUR UERTHICATION
I hereby certify that the information contained
herein is true and complete to the beat of my
imoveledge and belief, and that this origenization
either owns a working interest or unleased
mineral interest in the land invasing the bottom
take location present 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 1-13-10 Signature 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 mo or under my supervision, and that that same is true and correct to the best of my belief. Date of survey:rev 09/10/10 Signature and seal of Professional Stategyon A HENCO ᠬ () (2) 6844

Certificate Number 6844

Drilling Program

1. FORMATION TOPS

The estimated tops of important geologic markers are:

<u>Formation</u>	GL Depth	<u>KB Depth</u>	<u>Elevation</u>
Kirtland Shale	0.'	12"	+5,984'
Fruitland Formation	956'	968'	+5,028'
Pictured Cliffs Sandstone	1,526'	1,538'	+4,458'
Lewis Shale	2,081'	2,093'	+3,903'
Mesa Verde Sandstone	2,113'	2,125'	+3,871'
Point Lookout Sandstone	3,866'	3,878'	+2,118'
Mancos Shale	4,049'	4,061'	+1,935'
Upper Gallup Sandstone	4,951'	4,963'	+1,033'
Lower Gallup Sandstone	5,141'	5,153'	+843'
Sanostee	5,412'	5,424'	+572'
Dakota Sandstone	5,834'⁄	5,846'	+150'
Morrison Formation	5,990'	6,000'	-6'
Total Depth (TD)	6,000'	6,012'	-16'

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. \checkmark

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. DOWN HOLE CONDITIONS

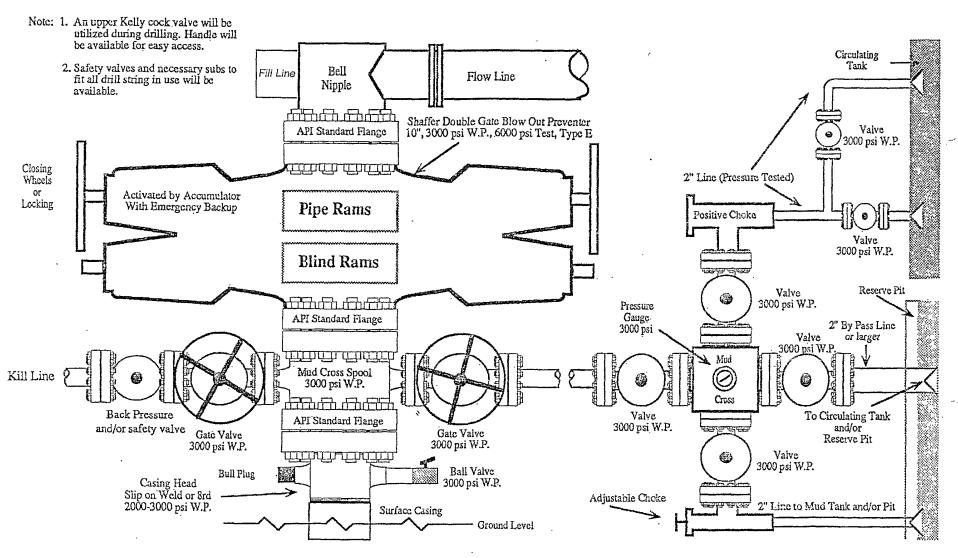
No abnormal temperatures, abnormal pressures, or hydrogen sulfide are expected. Maximum expected bottom hole pressure will be ≈ 2.598 psi.



8. OTHER INFORMATION

The anticipated spud date is March 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.

