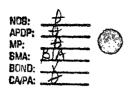
NAVAJO NATION

APD

Tribal Operations on
Tribal Lands
PERMIT
ACCEPTED FOR
RECORD ONLY





RCVD APR 17'12 OIL CONS. DIV. DIST. 3

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

UNITED STATES								
DEPARTMENT OF THE I BUREAU OF LAND MAN	5 Lease Serial No. NO-G-1008-1773							
APPLICATION FOR PERMIT TO	6. If Indian, Allotec of Tribe Name NAVAJO NATION							
la. Type of work: DRILL REENTE	7 If Unit or CA Agreement, Name and No.							
lb. Type of Well: Oil Well Gas-Well Other	Single Zone 🗸 Multip	ole Zone	8 Lease Name and Well No. CBM 29-27-14 #13					
2 Name of Operator NAVAJO NATION OIL & GAS COMPA		9, API Well No. 30-045-35345						
Ja. Address 1675 BROADWAY, SUITE 1100 DENVER, CO 80202	. Address 1675 BROADWAY, SUITE 1100 36. Phone No. (include area code) 303 534 8300							
 Location of Well (Report location clearly and in occurdance with an At surface 1017' FSL & 1131' FWL &WSW 	, .	11. Sec., T. R. M. or Blk.and Survey or Area SWSW 29-27N-14W NMPM						
At proposed prod. zone SAME	UH 40	0						
4. Distance in miles and direction from nearest town or post office* 15 AIR MILES SW OF FARMINGTON, NM			12. County or Parish SAN JUAN	13. State NM				
Distance from proposed* 25,269' location to nearest property or lease line, ft (Also to nearest drig, unit line, if any)	16 No. of peres in lease 150,000		ng Unit dedicated to this well uit. Coal & Dakota) and SWSW (Gallup)					
8. Distance from proposed location* 3.050' to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 6,000	20. ·BLM/ RLB000	/BIA Bond No. on file 06712					
tt. Elevations (Show whether DF, KDB, RT, GL, etc.) 5,950' UNGRADED	rt*	23. Estimated duration 1 MONTH						
	24. Attachments							
he following, completed in accordance with the requirements of Onsho	re Oil and Gas Order No.1, must be a	ttached to th	is 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 Sorvice 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

		SUPO must be filed with the appropriate Forest Sorvice O	ffice). 6. Such other site specific i BLM.	information and/or plans as may be required by the							
35.		25. Signature Balence	Name (Printed/Typed) BRIAN WOOD (505 466-81	Date 20) 01/15/2011							
4 HR	TI SI	Title CONSULTANT	(FAX 505 466-9682)								
24	Q	Approved by (Signature)	Name (PrintedTyped)	Date							
CD	ංර ්	Title	Office								
O C	subject lease which would entitle the applicant to										
717	,	Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, m States any false, fictitious or fraudulent statements or represen	ake it a crime for any person knowingly and willfully tations as to any matter within its jurisdiction.	o make to any department or agency of the United							
< >	- H	(Continued on page 2)	ENTERED	*(Instructions on page 2)							
F		^		. ACCEPTED FOR RECORD							
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NMOCD

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APPROVED BY THE NMOCD FOR: A PIT, CLOSED LOOP SYSTEM, BELOW GRADE TANK, OR

A COMPLETE C-144 MUST BE SUBMITTED TO AND

State of New Mexico Energy, Minerals & Mining Resources Department

OIL CONSERVATION DIVISION 2040 South Pacheco Santa Fe, NM 87505

RCVD APR 20 '12 Formic 1-3102
Revised October 12, 2005
Submit to appropiate Distric Office
State Lease - 4 Copies
Fee Lease - 3 Copies

AMENDED REPORT

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	OGRID N							Operator	Name					Elevation
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State of New Mexico
Energy, Minerals & Mining Resources Department

OIL CONSERVATION DIVISION 2040 South Pacheco Santo Fe, NM 87505 RCVD APR 20'12 OIL CONS. DIV.

Form C - 102

Revised October 12, 2005
Submit to appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

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 RCVD APR 20'12 OIL CONS. DIV.

Form C — 102

Revised October 12, 2005
Submit to appropriate Distric Office
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AMENDED REPORT

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Navajo Nation Oil & Gas Company CBM 29-27-14 #13 1017' FSL & 1131' FWL Sec. 29, T. 27 N., R. 14 W. San Juan County, New Mexico

Drilling Program

1. FORMATION TOPS

The estimated tops of important geologic markers are:

Formation	<u>GL Depth</u>	KB Depth	Elevation
Kirtland Shale	0'	12'	+5,950'
Fruitland Formation	650'	662'	÷5,300'
Pictured Cliffs Sandstone	1,100'	1,112'	+4,850'
Lewis Shale	1,250'	1,262'	+4,700'
Mesa Verde Sandstone	1,870'	1,882′	+4,080'
Point Lookout Sandstone	3,650'	3,662'	+2,300'
Mancos Shale	3,790'	3,802'	+2,160'
Gallup Sandstone	4,930'	4,963'	+1,020'
Sanostee	5,450'	5,462'	+500'
Dakota Sandstone	5,800'	5,812'	+150'
Morrison Formation	5,950'	5,962'	0'
Total Depth (TD)	6,000'	6,012'	-50'

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



Navajo Nation Oil & Gas Company CBM 29-27-14 #13 1017' FSL & 1131' FWL Sec. 29, T. 27 N., R. 14 W. San Juan County, New Mexico

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

Hole Size	<u>O. D.</u>	<u>Weight</u>	<u>Grade</u>	<u>Age</u>	Coupling	Depth Set
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 ($\underline{289}$ cubic feet) Class B with 3% CaCl₂. 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 \approx 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 2 turbolizers above the DV tool. Place 5 turbolizers every third joint from the top of the well.



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Navajo Nation Oil & Gas Company CBM 29-27-14 #13 1017' FSL & 1131' FWL Sec. 29, T. 27 N., R. 14 W. San Juan County, New Mexico

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.



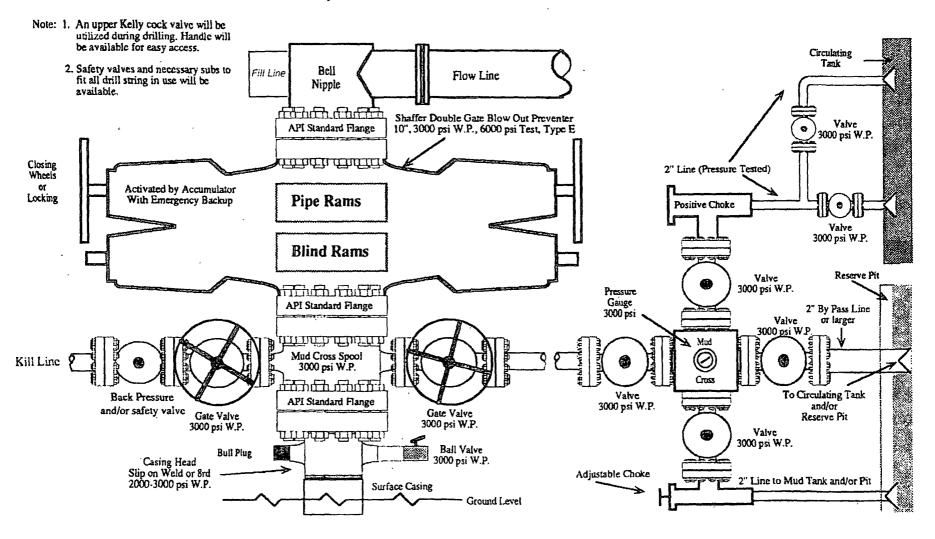
Navajo Nation Oil & Gas Company CBM 29-27-14 #13 1017' FSL & 1131' FWL Sec. 29, T. 27 N., R. 14 W. San Juan County, New Mexico

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, equirements per standard.

