

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED

2002 SEP -4 AM 10:00

070 FARMINGTON, NM

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. 14-20-603-2172	
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name NAVAJO	
2. Name of Operator RICHARDSON OPERATING CO.		7. If Unit or CA Agreement, Name and No. N/A 31905	
3a. Address 3100 LaPLATA HIGHWAY FARMINGTON, NM 87401		8. Lease Name and Well No. NV NAVAJO 36 #2	
3b. Phone No. (include area code) (505) 564-3100		9. API Well No. 30-045- 31191	
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 1980' FNL & 665' FWL At proposed prod. zone SAME		10. Field and Pool, or Exploratory WEST KUTZ PICTURED CLIFFS	
14. Distance in miles and direction from nearest town or post office* 5 AIR MILES SW OF FARMINGTON		11. Sec., T., R., M., or Blk. and Survey or Area 36-29n-14w NMPM	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 4,135'		12. County or Parish SAN JUAN	
16. No. of Acres in lease 2,560		13. State NM	
17. Spacing Unit dedicated to this well NW4: 160 AC.			
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1,512'		20. BLM/BIA Bond No. on file #158293308 (BLM - NATIONWIDE)	
19. Proposed Depth 1,700'			
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 5,916' GL		22. Approximate date work will start* UPON APPROVAL	
23. Estimated duration 2 WEEKS			

24. Attachments

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

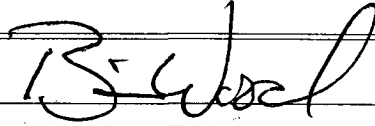
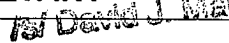
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|---|--|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

Comments

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".

cc: BIA, BLM (&OCD), Richardson, Tribe

25. Signature 	Name (Printed/Typed) BRIAN WOOD	Date 8-31-02
Title CONSULTANT	PHONE: 505 466-8120 FAX: 505 466-9682	
Approved by (Signature) 	Name (Printed/Typed)	Date
Title	Office	

FEB 24 2003

Application approval does not warrant or certify the 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.

NMOC

State of New Mexico
Energy, Minerals & Mining Resources Department
OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C - 102

☐ AMENDED REPORT

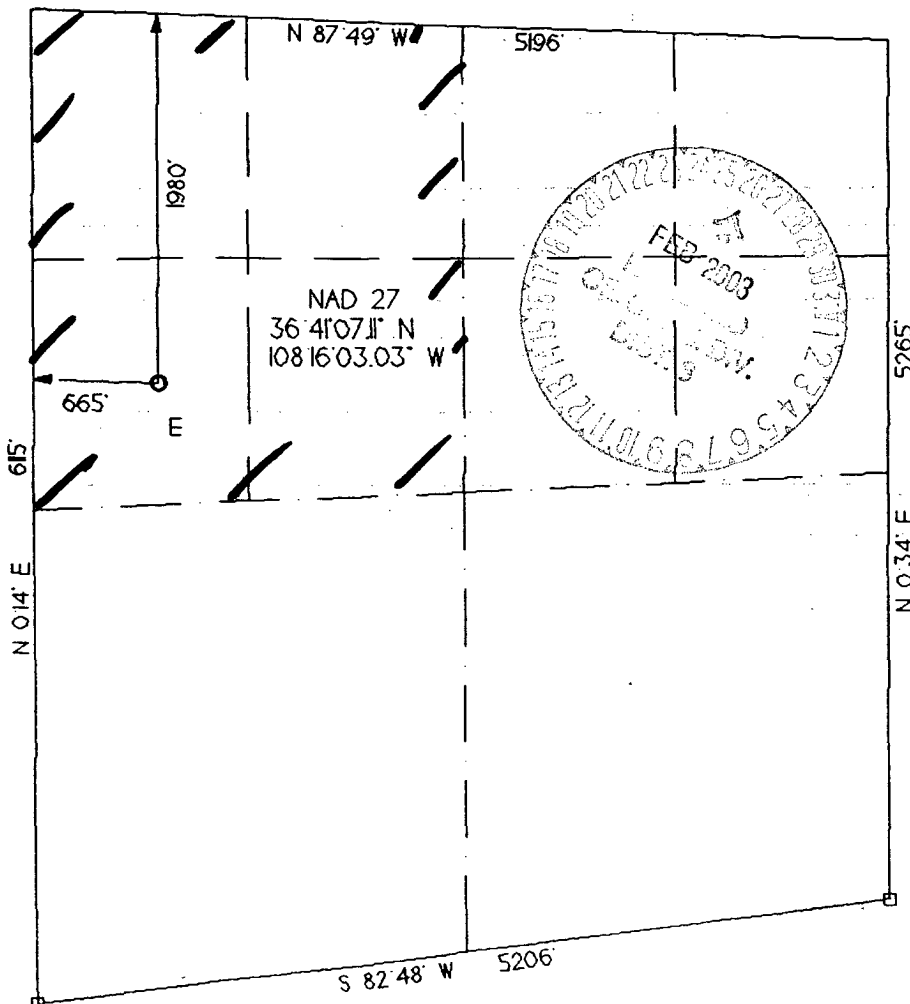
WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number 30-045-31191	Pool Code 79680	Pool Name WEST KUTZ PICTURED CLIFFS
Property Code 31905	Property Name NV NAVAJO 36	Well Number 2
GRID No. 019219	Operator Name RICHARDSON OPERATING COMPANY	Elevation 5916'

Surface Location									
UL or Lot	Sec.	Twp.	Rge.	Lot Ldn.	Feet from	North/South	Feet from	East/West	County
E	36	29 N.	14 W.		1980'	NORTH	665'	WEST	SAN JUAN

Bottom Hole Location if Different From Surface									
UL or Lot	Sec.	Twp.	Rge.	Lot Ldn.	Feet from	North/South	Feet from	East/West	County
Dedication	Joint ?	Consolidation		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. Signature <i>B. Wood</i>	
Printed Name BRIAN WOOD	
Title CONSULTANT	
Date AUG. 31, 2002	
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 10 JULY 2002	
Signature and Seal of Professional Surveyor 	

Richardson Operating Co.
NV Navajo 36 #2
1980' FNL & 665' FWL
Sec. 36, T. 29 N., R. 14 W.
San Juan County, New Mexico

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Drilling Program

1. ESTIMATED FORMATION TOPS

<u>Formation Name</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Elevation</u>
Ojo Alamo Ss	000'	5'	+5,916'
Kirtland Sh	100'	105;	+5,816'
Fruitland Fm	1,150'	1,155'	+4,766'
Pictured Cliffs Ss	1,450'	1,455'	+4,466'
Total Depth (TD)*	1,700'	1,705'	+4,216'

* all elevations reflect the ungraded ground level of 5,916'

2. NOTABLE ZONES

<u>Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
Fruitland Fm	Ojo Alamo Ss	Fruitland Fm
Pictured Cliffs	Fruitland Fm	

Water zones will be protected with casing, cement, and weighted mud. Fresh water encountered during drilling will be recorded by depth, cased, and cemented. Oil and gas shows will be tested for commercial potential based on the well site geologist's recommendations.

3. PRESSURE CONTROL

The drilling contract has not yet been awarded, thus the exact BOP model to be used is not yet known. (A typical 2,000 psi model is on PAGE 3.) Double ram or annular system with a rotating head will be used. All ram preventers and related equipment will be hydraulically tested at nipple up and after any use under pressure to 1000 psi.

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Blind rams will be hydraulically activated and checked for operational readiness each time pipe is pulled out of the hole. All checks of the BOP stack and equipment will be noted on the daily drilling report. BOP equipment will include a kelly cock, floor safety valve, and choke manifold all rated to 2000 psi. Maximum expected pressure is ≈ 400 psi.

4. CASING & CEMENT

<u>Hole Size</u>	<u>O. D.</u>	<u>Weight (lb/ft)</u>	<u>Grade</u>	<u>Age</u>	<u>GL Setting Depth</u>
8-3/4"	7"	20	K-55	New	120'
6-1/4"	4-1/2"	10.5	K-55	New	1,700'

Surface casing will be cemented to surface with ≈ 36 cubic feet (≈ 30 sacks) Class B + 2% CaCl_2 . Volume is based on 100% excess, yield of 1.18 cubic feet per sack, and slurry weight of 15.6 pounds per gallon. W. O. C. = 12 hours. Pressure test surface casing to 600 psi for 30 minutes.

Production casing hole will first be cleaned of rock chips by circulating at least 150% of hole volume with mud to the surface. Thirty barrels of fresh water will next be circulated. Lead with ≈ 195 cubic feet (≈ 95 sacks) of Class B with 2% metasilicate (yield = 2.06 cubic feet per sack, slurry weight = 12.5 pounds per gallon). Tail with ≈ 115 cubic feet (≈ 95 sacks) of Class B with 2% CaCl_2 (yield = 1.18 cubic feet per sack, slurry weight = 15.6 pounds per gallon). Total cement volume is ≈ 310 cubic feet based on 75% excess and circulating to surface.

Production casing will have 4-1/2" cement guide shoe and self fill float collar. Float will be placed one joint above the shoe. Five centralizers will be spaced on every other joint starting above the shoe. Five turbolizers will be placed on every other joint starting from the top of the well.