

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0136  
Expires November 30, 2000

5. Lease Serial No.  
**14-20-603-2199**

6. If Indian, Allottee or Tribe Name  
**NAVAJO**

7. If Unit or CA Agreement, Name and No.  
**N/A**

8. Lease Name and Well No.  
**NV NAVAJO 22 #4**

9. API Well No.  
**30-045- 31243**

10. Field and Pool, or Exploratory  
**WEST KUTZ PICTURED CLIFFS**

11. Sec., T., R., M., or Blk. and Survey or Area

**P22-29n-14w NMPM**

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  
**RICHARDSON OPERATING CO.**

3a. Address **3100 LaPLATA HIGHWAY  
FARMINGTON, NM 87401**

3b. Phone No. (include area code)  
**(505) 564-3100**

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

At surface **795' FSL & 985' FEL**

At proposed prod. zone **SAME**

14. Distance in miles and direction from nearest town or post office\*  
**5 AIR MILES WSW OF FARMINGTON**

15. Distance from proposed\*  
location to nearest  
property or lease line, ft.  
(Also to nearest drig. unit line, if any) **795'**

16. No. of Acres in lease  
**1,632**

17. Spacing Unit dedicated to this well  
**160 AC. (SE4)**

18. Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft. **1,043'**

19. Proposed Depth  
**1,400'**

20. BLM/BIA Bond No. on file  
**158-293-308**

21. Elevations (Show whether DF, KDB, RT, GL, etc.)  
**5,655' 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:

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 shall 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 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

**10-19-02**

Title

**CONSULTANT**

**PHONE: 505 466-8120**

**FAX: 505 466-9682**

Approved by (Signature)

**/s/ David J. Markiewicz**

Name (Printed/Typed)

Date

**MAR 27 2003**

Title

Office

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.

**NMOCD**

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

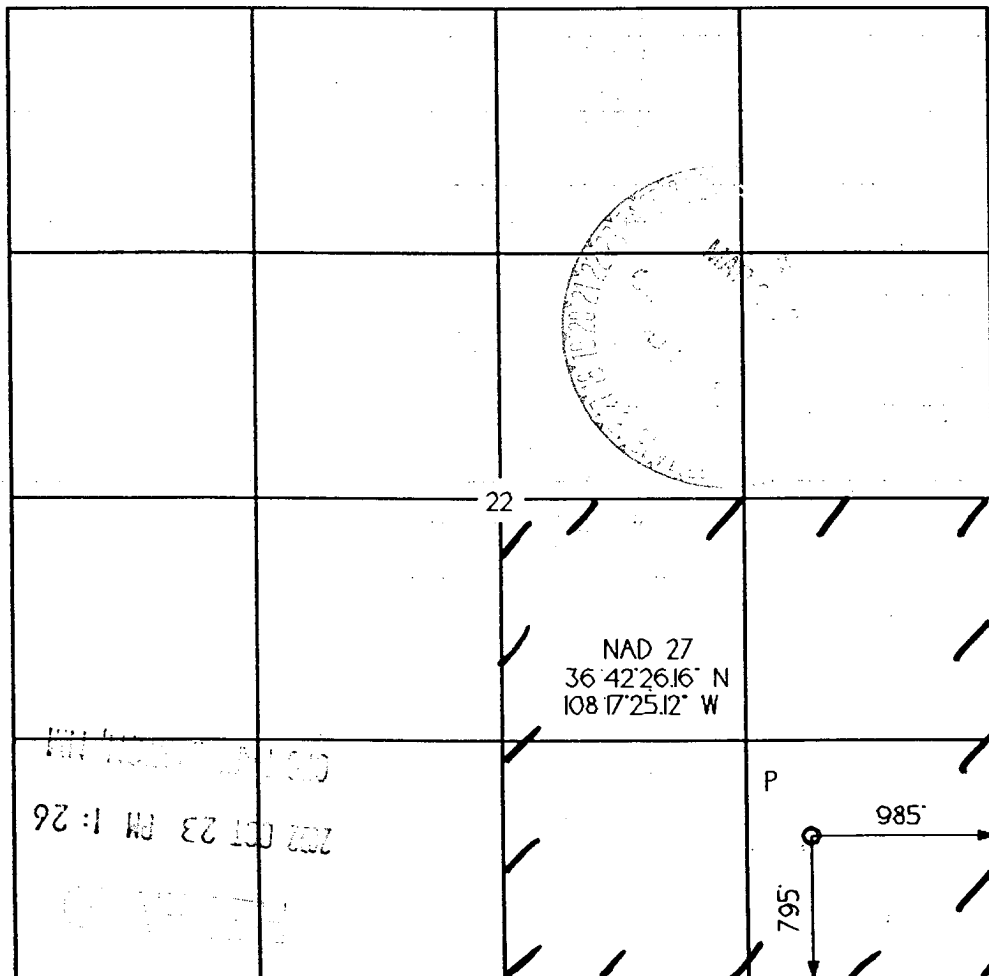
APA Number <b>30-045-31243</b>	Pool Code <b>79680</b>	Pool Name <b>WEST KUTZ PICTURED CLIFFS</b>
Property Code <b>30504</b>	Property Name <b>NAVAJO 22</b>	Well Number <b>4</b>
OGRIID No. <b>019219</b>	Operator Name <b>RICHARDSON OPERATING COMPANY</b>	Elevation <b>5655'</b>

Surface Location									County
UL or Lot	Sec.	Twp.	Rge.	Lot Ltr.	Feet from >	North/South	Feet from >	East/West	
P	22	29 N.	14 W.		795'	SOUTH	985'	EAST	SAN JUAN

Bottom Hole Location If Different From Surface									County
UL or Lot	Sec.	Twp.	Rge.	Lot Ltr.	Feet from >	North/South	Feet from >	East/West	

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



<b>OPERATOR CERTIFICATION</b> I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature <i>Brian Wood</i> Printed Name <b>BRIAN WOOD</b> Title <b>CONSULTANT</b> Date <b>OCT. 19, 2002</b>	
<b>SURVEYOR CERTIFICATION</b> 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 <b>01-17-02</b> Signature and Seal of Professional Surveyor <i>Gerard S. Huddleston</i> 	

Richardson Operating Co.  
NV Navajo 22 #4  
795' FSL & 985' FEL  
Sec. 22, 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>
Kirtland Shale	000'	5'	+5,655'
Fruitland Coal	855'	860'	+4,800'
Pictured Cliffs Ss	1,155'	1,160'	+4,500'
Total Depth (TD)*	1,400'	1,405'	+4,255'

\* all elevations reflect the ungraded ground level of 5,655'

### 2. NOTABLE ZONES

<u>Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
Fruitland Coal	Fruitland Coal	Fruitland Coal
Pictured Cliffs		

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  $\approx$ 560 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	1,400'

Surface casing will be cemented to surface with  $\approx$ 36 cubic feet ( $\approx$ 30 sacks) Class B + 2%  $\text{CaCl}_2$ . 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  $\approx$ 165 cubic feet ( $\approx$ 80 sacks) Class B with 2% metasilicate (yield = 2.06 cubic feet per sack, slurry weight = 12.5 pounds per gallon). Tail with  $\approx$ 100 cubic feet ( $\approx$ 85 sacks) of Class B with 2%  $\text{CaCl}_2$  (yield = 1.18 cubic feet per sack, slurry weight = 15.6 pounds per gallon). Total cement volume is  $\approx$ 265 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. Six centralizers will be spaced on every other joint starting above the shoe. Six turbolizers will be placed on every other joint starting from the top of the well.