

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

2003 FEB 28 AM 11: 25

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		070 Farmington, NM	
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		<input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone	
2. Name of Operator <b>RICHARDSON OPERATING COMPANY</b>			
3a. Address <b>3100 LaPLATA HIGHWAY FARMINGTON, NM 87401</b>		3b. Phone No. (include area code) <b>(505) 564-3100</b>	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <b>848' FSL &amp; 1787' FEL</b> At proposed prod. zone <b>SAME</b>		7. If Unit or CA Agreement, Name and No. <b>N/A</b>	
14. Distance in miles and direction from nearest town or post office* <b>3 AIR MILES SW OF FARMINGTON</b>		12. County or Parish <b>SAN JUAN</b>	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>467' to lease line &amp; 848' to comm. line</b>		16. No. of Acres in lease <b>600</b>	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>1,619'</b>		19. Proposed Depth <b>1,300'</b>	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>5,440' GL</b>		22. Approximate date work will start* <b>UPON APPROVAL</b>	
		23. Estimated duration <b>2 WEEKS</b>	
24. Attachments			

5. Lease Serial No. <b>14-20-603-2198-A</b>
6. If Indian, Allottee or Tribe Name <b>NAVAJO</b>
7. If Unit or CA Agreement, Name and No. <b>N/A</b>
8. Lease Name and Well No. <b>NV NAVAJO 24 #4</b>
9. API Well No. <b>30-045-31424</b>
10. Field and Pool, or Exploratory <b>BA. FRUIT. COAL &amp; W. KUTZ PC</b>
11. Sec., T., R., M., or Blk. and Survey or Area <b>24-29n-14w NMPM</b>
12. County or Parish <b>SAN JUAN</b>
13. State <b>NM</b>

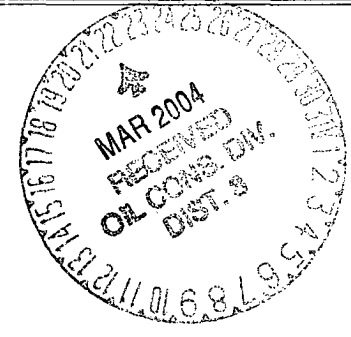
The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

- |   |  |
|---|--|
| 1. Well plat certified by a registered surveyor.  | 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

DRILLING OPERATIONS AUTHORIZED ARE  
SUBJECT TO COMPLIANCE WITH ATTACHED  
"GENERAL REQUIREMENTS".

This action is subject to technical and  
procedural review pursuant to 43 CFR 3165.3  
and appeal pursuant to 43 CFR 3165.4



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

25. Signature	Name (Printed/Typed) <b>BRIAN WOOD</b>	Date <b>2-16-03</b>
Title <b>CONSULTANT</b>	PHONE: <b>505 466-8120</b>	FAX: <b>505 466-9682</b>
Approved by (Signature)	Name (Printed/Typed) <b>David J. Markiewicz</b>	Date <b>MAR 19 2004</b>
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.

NMOCGD

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

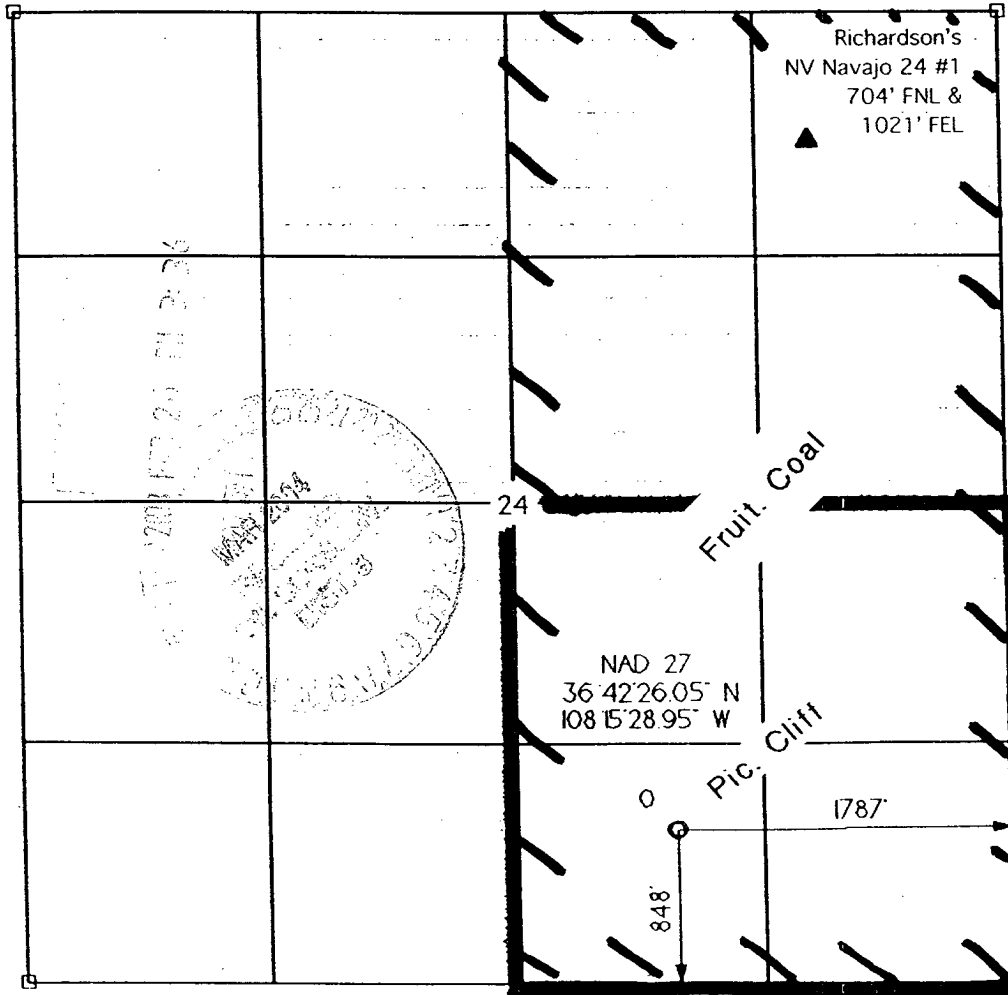
APA Number <b>30-045-31424</b>	Pool Code 1629 & 79680	Pool Name <b>BASIN FRUIT. COAL &amp; WEST KUTZ PC</b>
Property Code <b>33626</b>	Property Name NV NAVAJO 24	
OGRD No. <b>019219</b>	Operator Name RICHARDSON OPERATING COMPANY	
		Well Number 4
		Elevation 5440'

Surface Location									
UL or Lot	Sec.	Twp.	Rge.	Lot Idn.	Feet from >	North/South	Feet from >	East/West	County
0	24	29 N.	14 W.		848	SOUTH	1787'	EAST	SAN JUAN

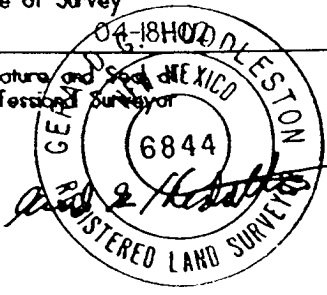
Bottom Hole Location if Different From Surface									
UL or Lot	Sec.	Twp.	Rge.	Lot Idn.	Feet from >	North/South	Feet from >	East/West	County

Dedication Fr <b>E320</b> PC <b>160</b>	Joint ?	Consolidation <b>COMMUNITIZE</b>	Order No.
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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>B. Wood</i>
Printed Name	<b>BRIAN WOOD</b>
Title	<b>CONSULTANT</b>
Date	<b>FEB. 16, 2003</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	
Signature and Seal of Professional Surveyor	<i>Paul &amp; Healy</i>



Richardson Operating Company  
NV Navajo 24 #4  
848' FSL & 1787' FEL  
Sec. 24, 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'	+5,440'
Fruitland	930'	935'	+4,510'
Pictured Cliffs Ss	1,080'	1,085'	+4,360'
Lewis Shale	1,260'	1,265'	+4,180'
Total Depth (TD)*	1,300'	1,305'	+4,140'

\* all elevations reflect the ungraded ground level of 5,440'

### 2. NOTABLE ZONES

<u>Gas Zones</u>	<u>Water Zone</u>	<u>Coal Zone</u>
Fruitland	Fruitland	Fruitland
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 1,000 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 floor safety valve, and choke manifold all rated to 2,000 psi. Maximum expected pressure is  $\approx$ 520 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	1,300'

Surface casing will be cemented to surface with  $\approx$ 36 cubic feet ( $\approx$ 30 sacks) Class B + 2% CaCl<sub>2</sub>. 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. Twenty-five barrels of fresh water will next be circulated. Lead with  $\approx$ 153 cubic feet ( $\approx$ 75 sacks) of Class B with 2% metasilicate (yield = 2.06 cubic feet per sack, slurry weight = 12.5 pounds per gallon). Tail with  $\approx$ 93 cubic feet ( $\approx$ 79 sacks) of Class B with 2% CaCl<sub>2</sub> (yield = 1.18 cubic feet per sack, slurry weight = 15.6 pounds per gallon). Total cement volume is  $\approx$ 246 cubic feet based on  $\geq$ 80% 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.