

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☐

DEEPEN ☐

b. TYPE OF WELL

OIL WELL ☐

GAS WELL ☐

OTHER

SINGLE ZONE ☐

MULTIPLE ZONE ☐

2. NAME OF OPERATOR

Richardson Operating Co. (303) 830-8000

3. ADDRESS AND TELEPHONE NO.

1700 Lincoln, Suite 1700, Denver, Co. 80203

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

1415' FSL & 1150' FWL

At proposed prod. zone

Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

4 air miles SW of Farmington, NM

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drig. unit line, if any)

1150'

16. NO. OF ACRES IN LEASE

2,560

17. NO. OF ACRES ASSIGNED
TO THIS WELL

SW 1/4 160 & 320 W 1/2

18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

900'

19. PROPOSED DEPTH

1,700'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

5,870' ungraded ground

22. APPROX. DATE WORK WILL START*

Apr. 1, 2000

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
8-3/4"	7" (K-55)	20#	120'	≈36 cu ft & to surface
6-1/4"	4-1/2" (K-55)	10.5#	1,700'	≈310 cu ft & to surface

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"



IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED Brian J. [Signature] TITLE Consultant (505) 466-8120 DATE 12-31-99

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE 1/2/02

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:

APPROVED BY [Signature] TITLE AFM DATE 1/2/02

*See Instructions On Reverse Side

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Form C-102
Revised March 17, 1994

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-300 99		² Pool Code 71629 & 79680		³ Pool Name FRUIT. COAL & W. RUTZ PC EX	
⁴ Property Code 29191		⁵ Property Name WF Navajo 26			⁶ Well Number 2-1
⁷ GRID No. 019219		⁸ Operator Name RICHARDSON OPERATING COMPANY			⁹ Elevation 5870'

¹⁰ Surface Location

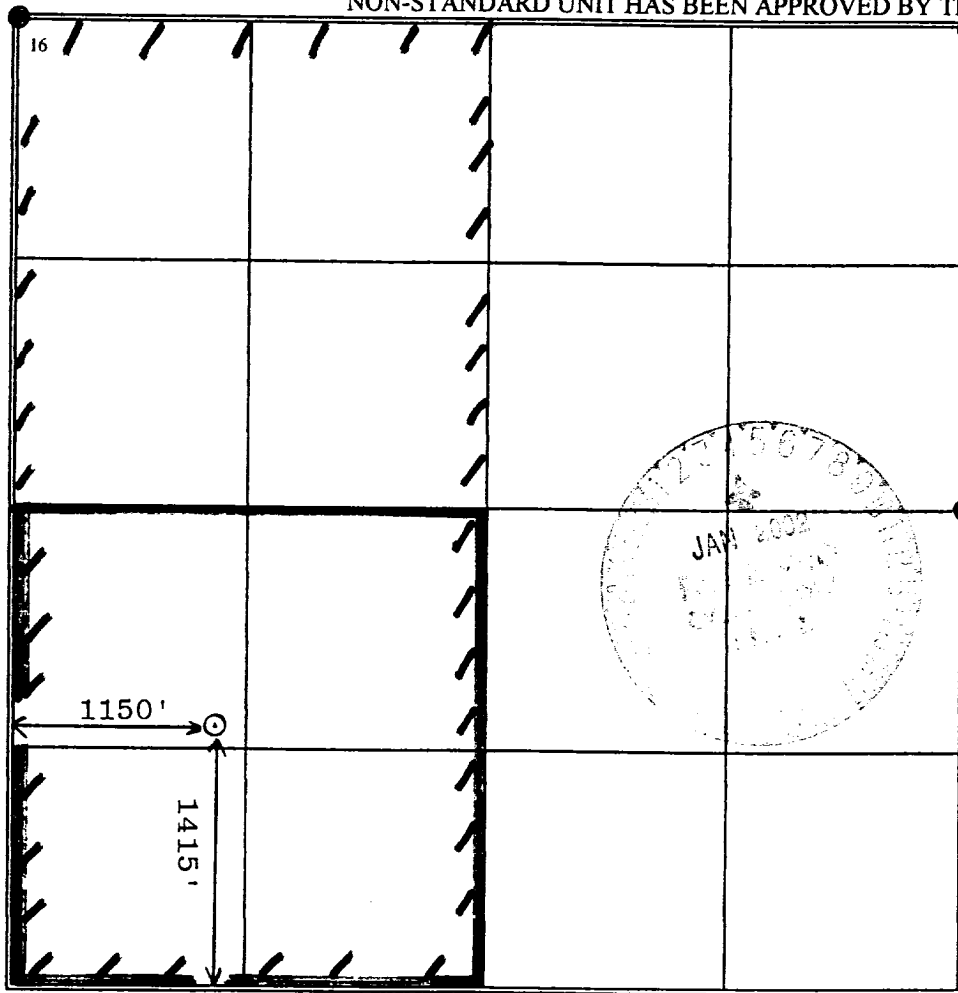
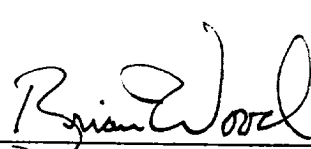
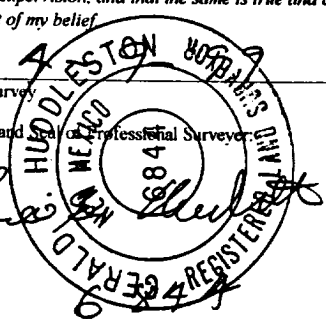
U/L or lot no. L.	Section 26	Township 29 N	Range 14 W	Lot Idn	Feet from the '1415'	North/South line 'South	Feet from the '1150'	East/West line 'West	County San Juan
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¹¹ Bottom Hole Location If Different From Surface

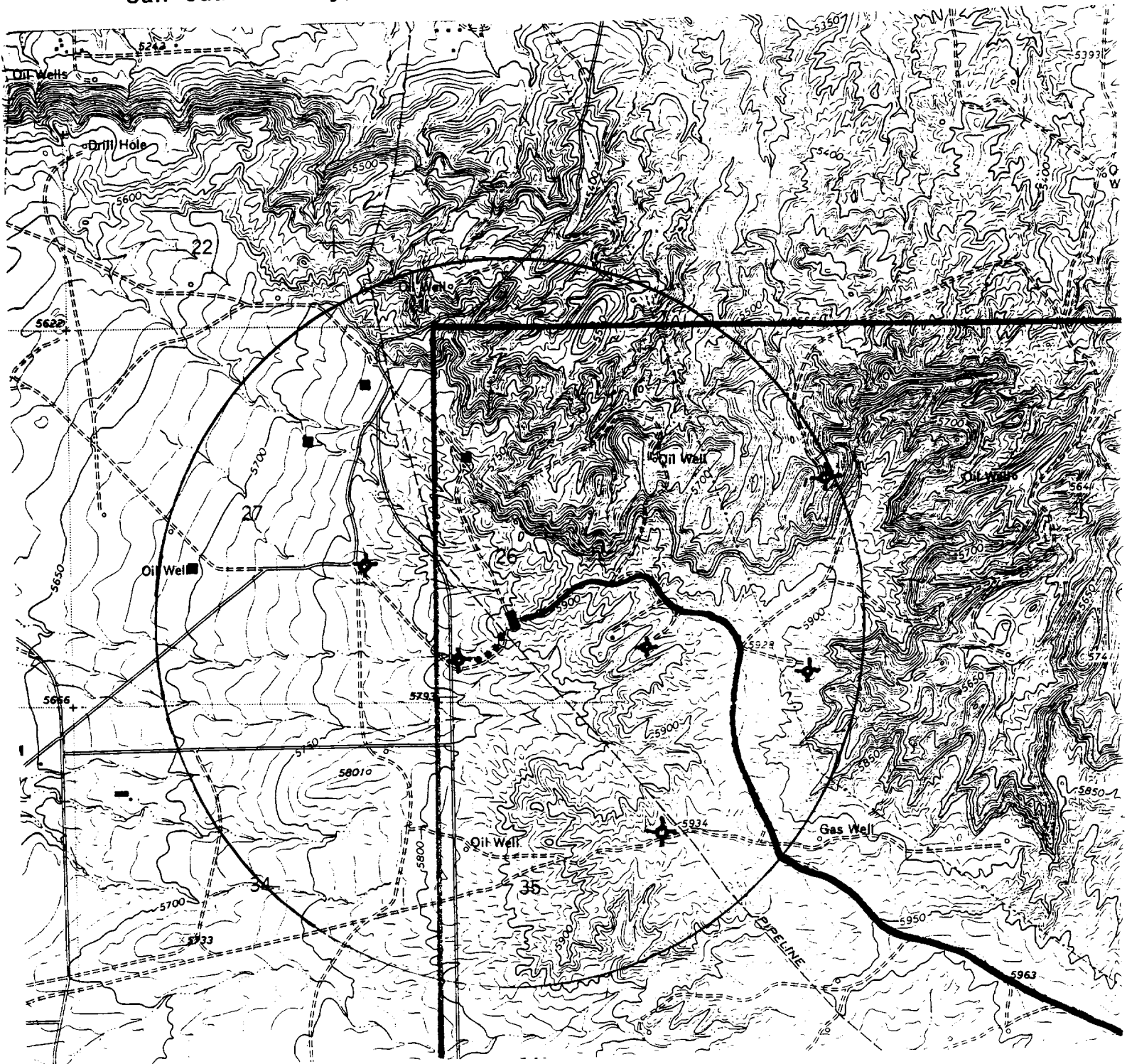
U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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¹² Dedicated Acres 320 FC 160 PC	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

¹⁶ 	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief Signature  BRIAN WOOD Printed Name CONSULTANT Title DEC. 31, 1999 Date
	¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown 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  Certificate Number

Richardson Operating Co.
Navajo 26 #1
1415' FSL & 1150' FWL
Sec. 26, T. 29 N., R. 14 W.
San Juan County, New Mexico



EXISTING WELL: ■

PROPOSED WELL: ▣

EXISTING ROAD: ~

LEASE BOUNDARY: └

PROPOSED PIPE & POWER LINES:

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Drilling Program

1. ESTIMATED FORMATION TOPS

<u>Formation Name</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Subsea Elevation</u>
Kirtland Sh	000'	5'	+5,870'
Fruitland Ss	1,185'	1,190'	+4,685'
Fruitland Coal	1,535'	1,540'	+4,335'
Pictured Cliffs Ss	1,555'	1,560'	+4,315'
Total Depth (TD)*	1,700'	1,705'	+4,170'

* all elevations reflect the ungraded ground level of 5,870'

2. NOTABLE ZONES

<u>Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
Fruitland Ss (1,185')	Fruitland Ss (1,185')	Fruitland Ss (1,185')
Fruitland Coal (1,535')	Fruitland Coal (1,535')	Fruitland Coal (1,535')
Pictured Cliffs (1,555')		

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

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and after any use under pressure to 1000 psi.

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 cu. ft. (≈ 30 sx) Class B + 2% CaCl_2 . Volume is based on 100% excess, yield of 1.18 cu. ft./sk, and slurry weight of 15.6 PPG. WOC = 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 cu. ft. (≈ 95 sx) of Class B with 2% metasilicate (yield = 2.06 cu. ft./sk, slurry weight = 12.5 PPG). Tail with ≈ 115 cu. ft. (≈ 95 sx) of Class B with 2% CaCl_2 (yield = 1.18 cu. ft./sk, slurry weight = 15.6 PPG). Total cement volume is ≈ 310 cu. ft. 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.