

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 1830' FSL & 1060' FWL

At proposed prod. zone Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
2 air miles NE of Kirtland, NM

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)  
2698'

16. NO. OF ACRES IN LEASE  
2523.72

17. NO. OF ACRES ASSIGNED TO THIS WELL  
160/318.9

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

19. PROPOSED DEPTH  
1,200'

20. ROTARY OR CABLE TOOLS  
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
5,435' ungraded ground

22. APPROX. DATE WORK WILL START\*  
Upon Approval

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#	1,200'	~220 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"

On sited with Neel McBride.  
Archaeology report LAC 2000-31e submitted July 24, 2000.



cc: BLM (& OCD), Colby

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 [Signature] TITLE Consultant (505) 466-8120 DATE 10-8-00

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

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 /s/ Jim Lovato TITLE \_\_\_\_\_ DATE MAR - 9 2001

\*See Instructions On Reverse Side

AMOC

X

State of New Mexico  
Energy, Minerals & Mining Resources Department

Form C - 102

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number <b>30-045-30394</b>	Pool Code 71629 & 86620	Pool Name <b>FRUIT. COAL &amp; TWIN MOUNDS PC</b>
Property Code <b>27506</b>	Property Name ROPCO	Well Number 4 - 3
OGRD No. <b>019219</b>	Operator Name RICHARDSON OPERATING COMPANY	Elevation 5435'

Surface Location

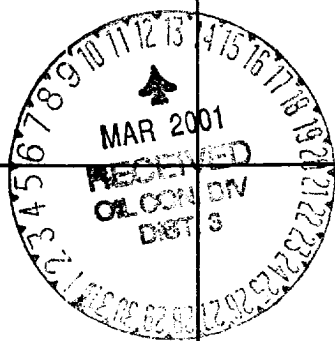
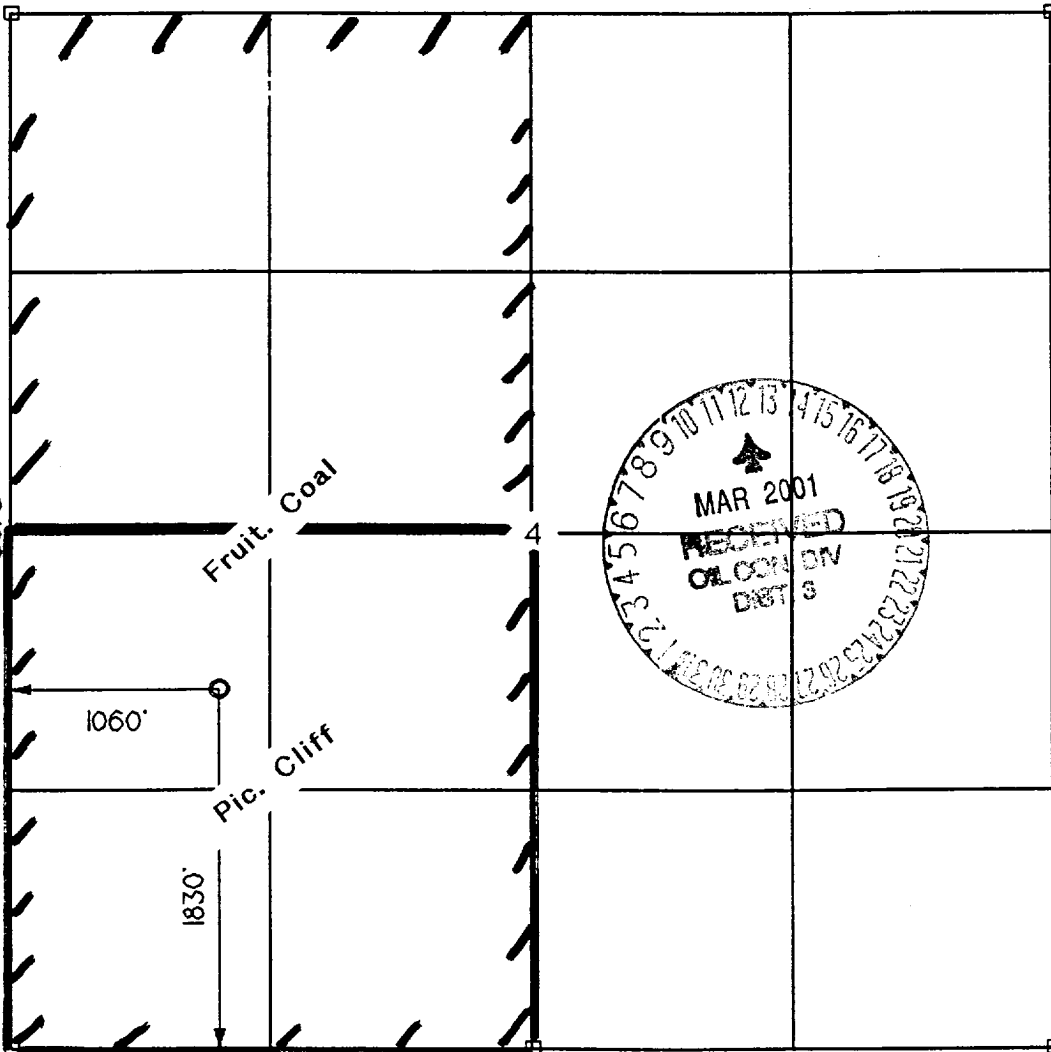
UL or Lot	Sec.	Twp.	Rge.	Lot lch.	Feet from >	North/South	Feet from >	East/West	County
L	4	29 N.	14 W.		1830	SOUTH	1060	WEST	SAN JUAN

Bottom Hole Location If Different From Surface

UL or Lot	Sec.	Twp.	Rge.	Lot lch.	Feet from >	North/South	Feet from >	East/West	County

Dedication <b>SW 1/4 160 AC</b> <b>W 1/4 319.9 BFC</b>	Joint ?	Consolidation	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



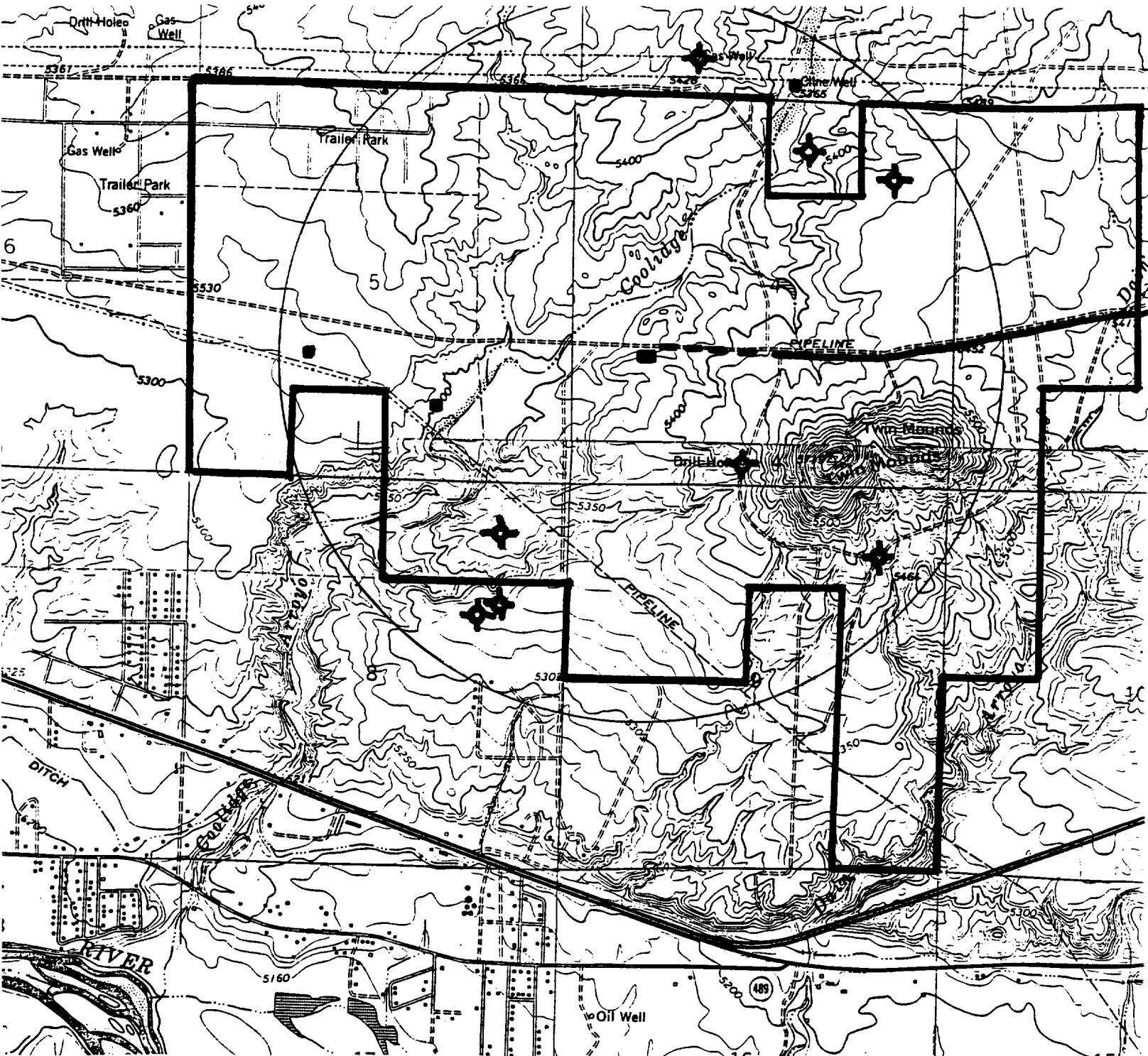
**OPERATOR CERTIFICATION**  
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature *Brian Wood*  
Printed Name **BRIAN WOOD**  
Title **CONSULTANT**  
Date **OCT. 8, 2000**

**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

Signature *Charles M. Hudson*  
Professional Surveyor  
**6844**  
REGISTERED LAND SURVEYOR

Richardson Operating Co.  
 Ropco 4 #3  
 1830' FSL & 1060' FWL  
 Sec. 4, T. 29 N., R. 14 W.  
 San Juan County, New Mexico



- |                  |                   |
|------------------|-------------------|
| PROPOSED WELL: ● | DIRT ROAD: - - -  |
| EXISTING WELL: ■ | PAVED ROAD: ~ ~ ~ |
| P&A WELL: ⊕      | LEASE BOUNDARY: ┌ |

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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'	+5,435'
Fruitland Coal	700'	705'	+4,735'
Pictured Cliffs Ss	850'	855'	+4,585'
Total Depth (TD)*	1,200'	1,205'	+4,235'

\* all elevations reflect the ungraded ground level of 5,435'

2. NOTABLE ZONES

<u>Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
Fruitland Coal (700')	Fruitland Coal (700')	Fruitland Coal (700')
Pictured Cliffs (850')		

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. It or a comparable model will be used.) 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  $\approx$ 480 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	1,200'

Surface casing will be cemented to surface with  $\approx$ 36 cu. ft. ( $\approx$ 30 sx) Class B + 2% CaCl<sub>2</sub>. 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  $\approx$ 125 cu. ft. ( $\approx$ 60 sx) of Class B with 2% metasilicate (yield = 2.06 cu. ft./sk, slurry weight = 12.5 PPG). Tail with  $\approx$ 95 cu. ft. ( $\approx$ 80 sx) of Class B with 2% CaCl<sub>2</sub> (yield = 1.18 cu. ft./sk, slurry weight = 15.6 PPG). Total cement volume is  $\approx$ 220 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.