

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

(Other instructions on reverse side)

FORM APPROVED  
OMB NO. 1004-0136  
Expires: February 28, 1995

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  
1265' FNL & 1095' FWL  
At proposed prod. zone  
Same

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

15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)  
1,265'

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
>1 mi.

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
5,460' ungraded ground

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.

On site inspector: Neel McBride

Archaeology report: LAC 2000-7a



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 3-19-00

(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 MAY 24 2000

\*See Instructions On Reverse Side

5. LEASE DESIGNATION AND SERIAL NO.  
NMSE-079968  
6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
N/A  
7. UNIT AGREEMENT NAME  
N/A  
8. FARM OR LEASE NAME, WELL NO.  
WF Fed. 3 #1  
9. API WELL NO.  
30-045-30202  
10. FIELD AND POOL, OR WILDCAT  
Twin Mounds PC EXT  
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
D 3-29n-14w NMPM  
12. COUNTY OR PARISH  
San Juan  
13. STATE  
NM

District II  
 PO Drawer DD, Artesia, NM 88211-0719  
 District III  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 District IV  
 PO Box 2088, Santa Fe, NM 87504-2088

**OIL CONSERVATION DIVISION**  
 PO Box 2088  
 Santa Fe, NM 87504-2088

Revised February 21, 1994  
 Instructions on back  
 Submit to Appropriate District Office  
 State Lease - 4 Copies  
 Fee Lease - 3 Copies

AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

APT Number <b>30-045-30202</b>		Pool Code <b>86620</b>	Pool Name <b>Fruitland Sandstone</b> <b>TWIN MOUNDS PC</b>
Property Code <b>25983</b>	Property Name <b>WF Federal</b>		Well Number <b>3-1</b>
OGRID No. <b>019219</b>	Operator Name <b>RICHARDSON OPERATING COMPANY</b>		Elevation <b>5460'</b>

**10 Surface Location**

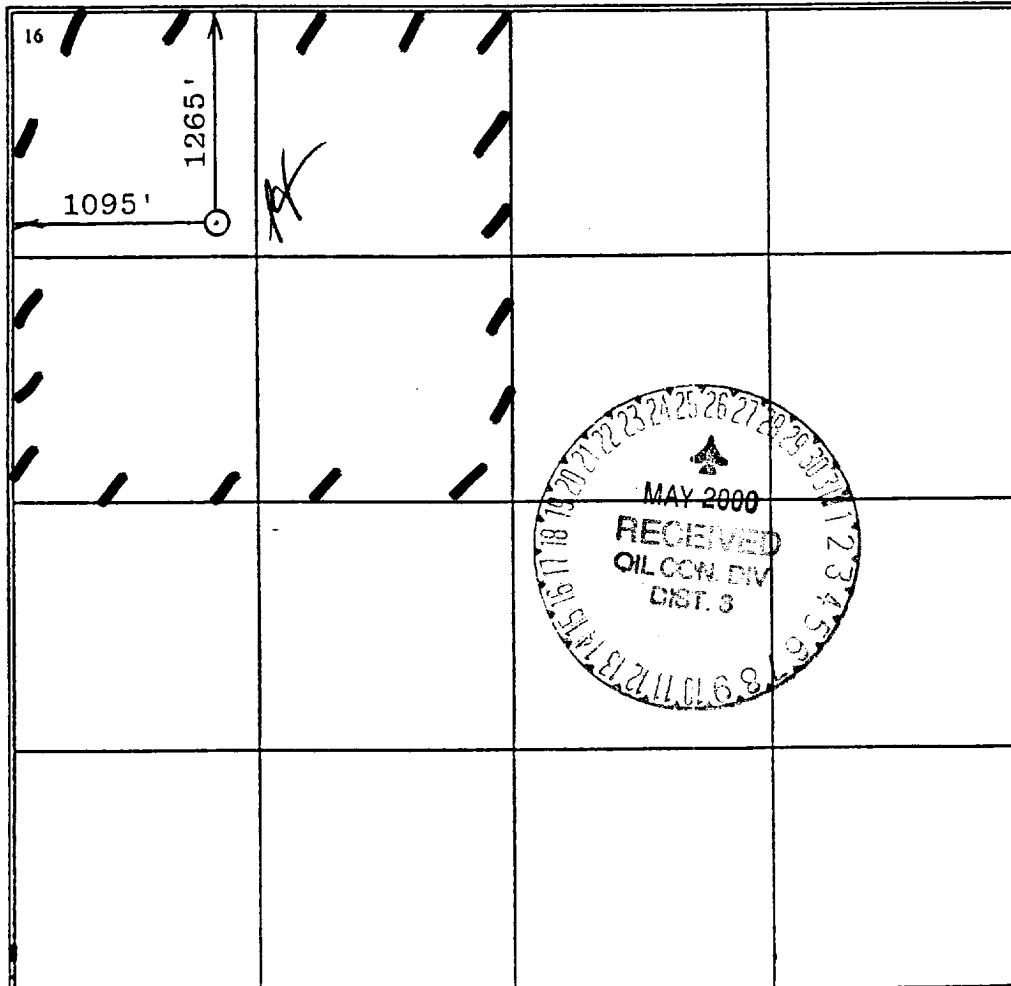
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	3	29 N	14 W		1265	North	1095	West	San Juan

**11 Bottom Hole Location If Different From Surface**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

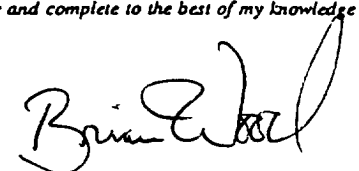
12 Dedicated Acres <b>158.15 NW</b>	13 Joint or Infill	14 Consolidation Code	15 Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
 OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION




**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 **MAR. 19, 2000**  
 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   
 Seal of Professional Surveyor:  
**6844**  
 REGISTERED LAND SURVEYOR

Certificate Number

Richardson Operating Co.  
WF Federal 3 #1  
1265' FNL & 1095' FWL  
Sec. 3, T. 29 N., R. 14 W.  
San Juan County, New Mexico

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'	+5,460'
Fruitland Coal	955'	960'	+4,505'
Pictured Cliffs Ss	1,010'	1,015'	+4,450'
Total Depth (TD)*	1,200'	1,205'	+4,260'

\* all elevations reflect the ungraded ground level of 5,460'

2. NOTABLE ZONES

Gas Zones

Fruitland Coal (955')  
Pictured Cliffs (1,010')

Water Zones

Fruitland Coal (955')

Coal Zones

Fruitland Coal (955')

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  $\approx 480$  psi.

#### 4. CASING & CEMENT

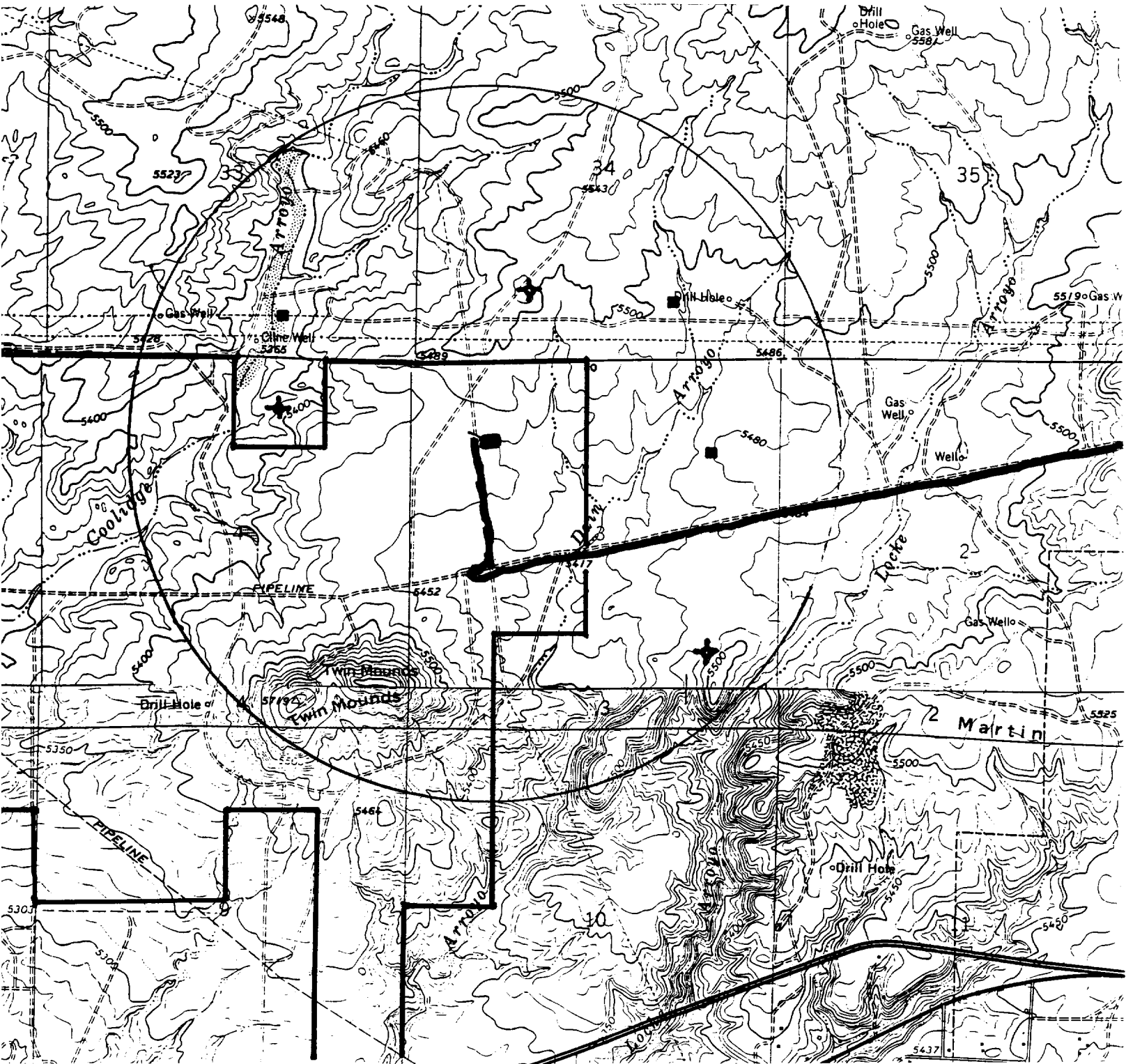
<u>Hole Size</u>	<u>O.D.</u>	<u>Weight (lb/ft)</u>	<u>Grade</u>	<u>Age</u>	<u>GL Setting Depth</u>
8-3/4"	7"	20	K-55	New	120'
6-1/4"	4-1/2"	10.5	K-55	New	1,200'

Surface casing will be cemented to surface with  $\approx 36$  cu. ft. ( $\approx 30$  sx) Class B + 2%  $\text{CaCl}_2$ . 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  $\approx 125$  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%  $\text{CaCl}_2$  (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.

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PROPOSED WELL: ■      EXISTING WELL: ■  
 LEASE LINE: ┌      EXISTING ROAD: ~