

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

RECEIVED

**APPLICATION FOR PERMIT TO DRILL OR DEEPEN**

## 1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

070 Farmington, NM

## b. TYPE OF WELL

OIL WELL ☐GAS WELL ☒

OTHER

SINGLE ZONE ☐MULTIPLE ZONE ☒

## 2. NAME OF OPERATOR

**Richardson Operating Company**

## 3. ADDRESS AND TELEPHONE NO.

**3100 LaPlata Highway, Farmington, NM 87401**

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

At surface

1175' FNL &amp; 1905' FWL

At proposed prod. zone

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

5 air miles N of Kirtland, NM

## 15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT. 735'  
(Also to nearest drg. unit line, if any)

## 16. NO. OF ACRES IN LEASE

1840

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

WAF 320/160

NW 1/4 PC

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

3204'

## 19. PROPOSED DEPTH

1300'

## 20. ROTARY OR CABLE TOOLS

Rotary

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

5595' GR

## 22. APPROX. DATE WORK WILL START\*

ASAP

## 23.

**PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
8.75"	7" (J-55)	17#	120'	~36 cu.ft. & to surface
6.25"	4.5" (J-55)	10.5#	1300'	~235 cu.ft. & to surface

Please note: The original APD for this well was approved 5/31/00 and has expired. Please reference original APD for on site and archeology reports.

The Basin Fruitland Coal has been added to this permit pursuant to New Mexico Oil Conservation Division Order No. R-11775-B.

This APD is also a road right-of-way application to amend BLM right-of-way NM-99904. Application length = 1,685.75'. Application width = 20'. Application crosses W2NE Sec. 20, T30N, R14W.

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



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 true vertical depths. Give blowout preventer program, if any.

## 24.

SIGNED

TITLE Operations ManagerDATE 3-14-03

(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:

APR 15 2003

APPROVED BY

**/s/ David J. Mankiewicz**

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

**NMOCD**

District II  
O Drawer DD, Artesia, NM 88211-0719  
District III  
XO Rio Hondo Rd., Aztec, NM 87410  
District IV  
O Box 2088, Santa Fe, NM 87504-2088

L CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>30-045-31569</b>		Pool Code <b>71629/86620</b>	Pool Name <b>Basin Fruitland Coal &amp; Twin Mounds Pictured Cliffs</b>
Property Code <b>23.606</b>	Property Name <b>WF Federal</b>		Well Number <b>20-4</b>
OGRID No. <b>019219</b>	Operator Name <b>RICHARDSON OPERATING COMPANY</b>		Elevation <b>5595'</b>

10 Surface Location

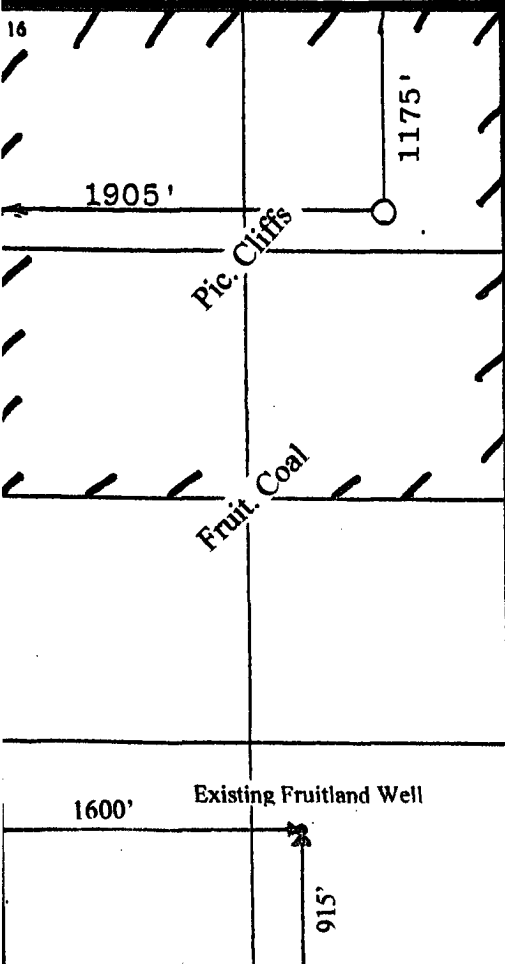

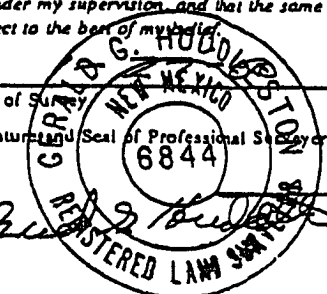
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
C	20	30 N	14 W		1175	North	1905	West	San Juan

11 Bottom Hole Location If Different From Surface

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

Dedicated Acre	Joint or Infill	Consolidation Code	Order No.

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

	<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p> Signature <b>DREW CARNES</b> Printed Name <b>OPS. MANAGER</b> Title <b>3-14-03</b> Date</p>
	<p>18 SURVEYOR CERTIFICATION</p> <p>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</p> <p> Date of Survey Signature and Seal of Professional Surveyor <b>Gerald G. Hubbard</b> REGISTERED PROFESSIONAL SURVEYOR Certificate Number</p>

**Richardson Operating Company  
WF Federal 20 #4  
1175' FNL & 1905' FWL  
Section 20, T30N, R14W, NMPM  
San Juan County, New Mexico**

**DRILLING PROGRAM**

**1. ESTIMATED FORMATION TOPS:**

<u>Formation</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Subsea Elevation</u>
Kirtland Sh	000'	5'	+5,595'
Fruitland Fm	627'	632'	+4,968'
Pictured Cliffs Ss	1092'	1097'	+4,503'
Total Depth (TD)*	1,300'	1,305'	+4,295'

\*All elevations reflect the ungraded ground level of 5,470'

**2. NOTABLE ZONES:**

<u>Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
Fruitland Fm (627')	Fruitland Fm (627')	Fruitland Fm (627')
Pictured Cliffs (1092')		

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 representatives recommendations.

**3. PRESSURE CONTROL:**

The drilling contract has not yet been awarded, thus the exact BOP model to be used is unknown. (A typical 2,000 psi model has been attached to the end of the drilling program.) 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.

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 rated to 2000 psi. Maximum expected pressure is 520 psi.

*Reference originally submitted ADD for BOP  $\frac{1}{2}$  Choke diagrams.*

**Drilling Program**  
**Richardson Operating Company**

Page Two

**4. CASING AND CEMENTING PROGRAM:**

<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	J-55	New	120'
6 1/4"	4 1/2"	10.5	J-55	New	1,300'

Surface casing will be cemented to surface with ~36 cu.ft. (~30 sx) Class B + 2% CaCl. 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 drilling fluid to surface. Thirty barrels of fresh water will then be circulated. Lead with ~135 cu.ft. (~65 sx) Class B with 2% metasilicate (yield = 2.06 cu.ft./sk, slurry weight = 12.5 ppg). Tail in with ~100 cu.ft. (~85 sx) Class B with 2% CaCl (yield = 1.18 cu.ft./sk, weight = 15.6 ppg). Total cement volume is ~235 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 every other joint starting above the shoe. Five turbolizers will be placed every other joint starting from the top of the well.

**5. MUD PROGRAM:**

Surface casing hole will be drilled with fresh water. Production casing hole will be drilled with a fresh water polymer mud. Weighting material will be drill solids or, if needed, barite. Maximum expected mud weight will be 8.7 ppg. Sufficient material to maintain mud properties, control lost circulation, and contain a blowout will be available at the well while drilling.

**6. CORING, TESTING, & LOGGING:**

No cores or DSTs are planned. A cased hole CNL/GR will be ran from TD to surface.

**7. DOWNHOLE CONDITIONS:**

No abnormal pressures, temperatures, nor hydrogen sulfide are expected. Maximum pressure will be approximately 520 psi.

**8. OTHER INFORMATION:**

The anticipated spud date is April 1, 2003. It should take 5 days to drill and 1 week to complete the well.