

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

1350' FNL & 1540' FEL

At proposed prod. zone

1775 FSL 1400 FWL  
Same

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

5 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)

80'

16. NO. OF ACRES IN LEASE

80

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

N/A

19. PROPOSED DEPTH

1,400'

17. NO. OF ACRES ASSIGNED TO THIS WELL

160/320 <sup>HH</sup> <sub>BFL</sub>

20. ROTARY OR CABLE TOOLS

Rotary

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

5,500' 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#	1,400'	~240 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 sited with Neel McBride.

Archaeology report LAC 2000-31h submitted Sept. 8, 2000.

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

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

TITLE

Consultant (505) 466-8120

DATE

10-7-00

(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:

/s/ Joel Farrell

APPROVED BY

TITLE

DATE

AUG - 8 2000

\*See Instructions On Reverse Side

KV

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT *2000 OCT 7 2000*

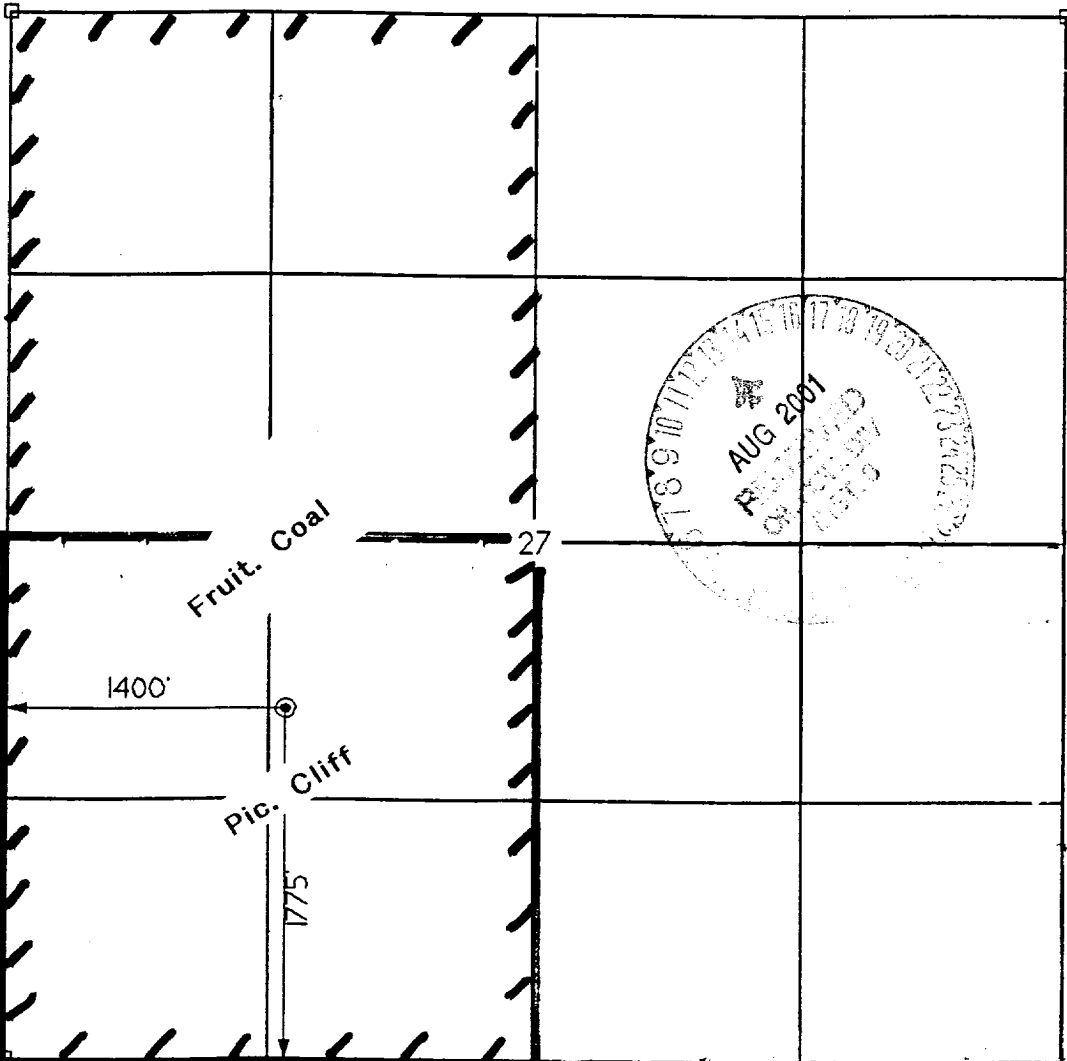
APA Number <b>30-045-30393</b>		Pool Code 71629 & 78160	Pool Name <b>FRUIT, COAL &amp; HARPER HILL PC</b>
Property Code <b>28632</b>	Property Name <b>WF FEDERAL</b>		Well Number 27 - 3
OGRID No. <b>019219</b>	Operator Name <b>RICHARDSON OPERATING COMPANY</b>		Elevation 5500'

Surface Location									
UL or Lot	Sec.	Twp.	Rge.	Lot Lch.	Feet from >	North/South	Feet from >	East/West	County
K	27	30 N.	14 W.		1775	SOUTH	1400	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

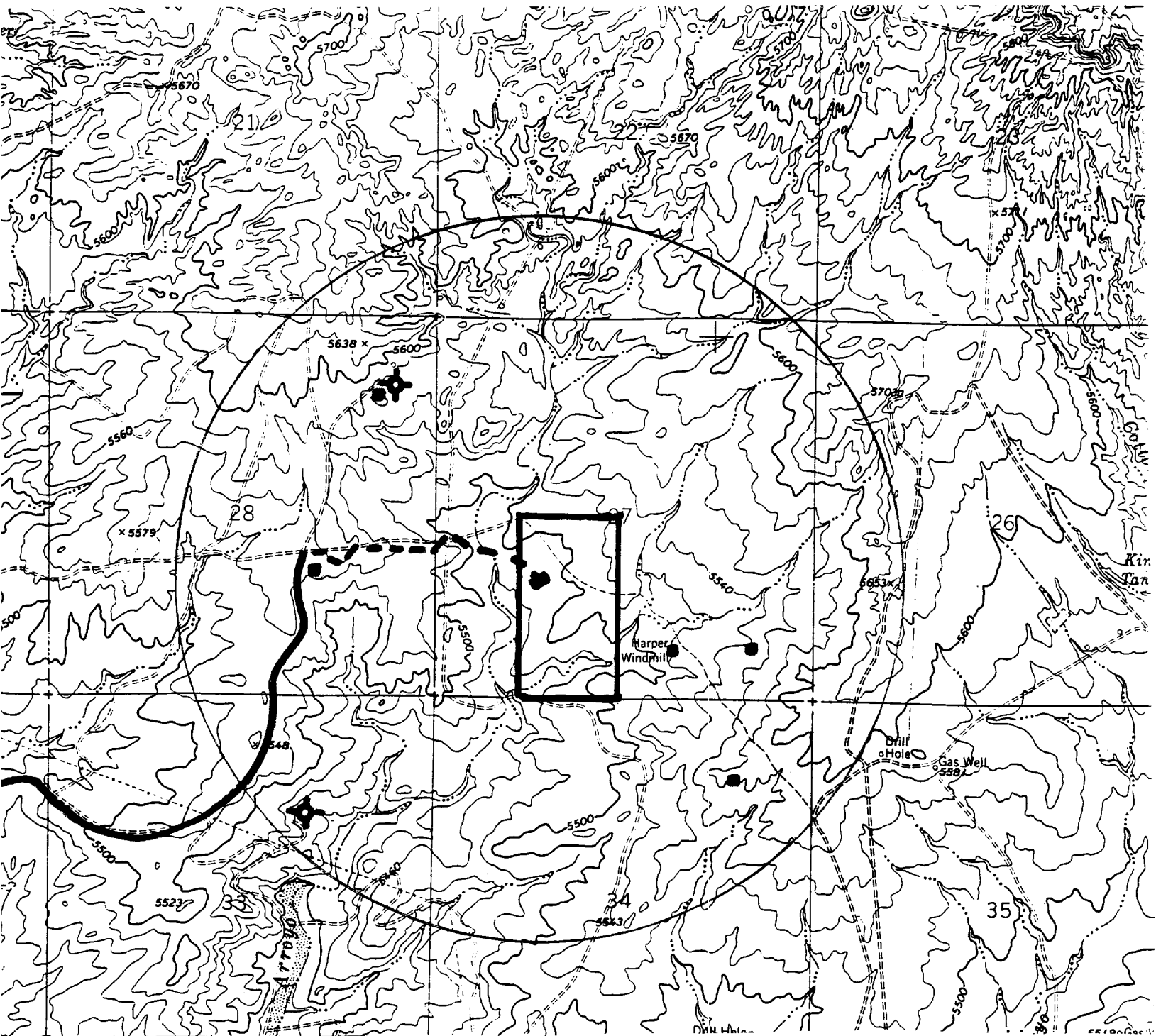
Dedication <i>160-HH 320-BFC</i>	Joint ?	Consolidation	Order No.
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NO ALLOWABLE WILL ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION






<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>Brian Wood</i>
Printed Name	<b>BRIAN WOOD</b>
Title	<b>CONSULTANT</b>
Date	<b>OCT. 7, 2000</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	<b>JULY 2000</b>
Signature of Registered Professional Surveyor	<i>Gerald S. Huddleston</i>

Richardson Operating Co.  
WF Federal 27 #3  
1775' FSL & 1400' FWL  
Sec. 27, T. 30 N., R. 14 W.  
San Juan County, New Mexico



PROPOSED WELL:   
EXISTING WELL:   
P&A WELL: 

ROAD WORK:   
EXISTING ROAD:   
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'	+5,500'
Fruitland Coal	600'	605'	+4,900'
Pictured Cliffs Ss	1,100'	1,105'	+4,400'
Total Depth (TD)*	1,400'	1,405'	+4,100'

\* all elevations reflect the ungraded ground level of 5,500'

### 2. NOTABLE ZONES

#### Gas Zones

Fruitland Coal (600')  
Pictured Cliffs (1,100')

#### Water Zones

Fruitland Coal (600')

#### Coal Zones

Fruitland Coal (600')

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  $\approx$ 560 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	1,400'

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  $\approx$ 145 cu. ft. ( $\approx$ 70 sx) of Class B with 2% metasilicate (yield = 2.06 cu. ft./sk, slurry weight = 12.5 PPG). Tail with  $\approx$ 110 cu. ft. ( $\approx$ 95 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  $\approx$ 240 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.