

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK
 DRILL DEEPEN 200 NOV 30 AM 9:49

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 St., Suite 1700, Denver, Co. 80203

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
 At surface 685' FNL & 1855' FWL
 At proposed prod. zone Same 770 1978 See plat

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

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)
 770'

16. NO. OF ACRES IN LEASE
 2,523.72

17. NO. OF ACRES ASSIGNED TO THIS WELL
 160 & 320^{FE}

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
 3895'

19. PROPOSED DEPTH
 1,175' -

20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 5,530' ungraded

22. APPROX. DATE WORK WILL START*
 Dec. 15, 2000

5. LEASE DESIGNATION AND SERIAL NO.
 NMSF-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. 33 #1

9. API WELL NO.
 30-045-30442

10. FIELD AND BOOL. OR WILDCAT
 Coal & Tw. Mo. PC

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 B 33-30n-14w NMPM

12. COUNTY OR PARISH
 San Juan

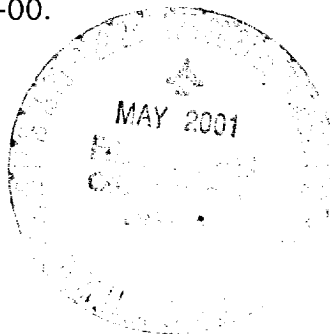
13. STATE
 NM

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
8-3/4"	K-55 7"	20	120'	≈36 cu. ft. & to surface
6-1/4"	K-55 4-1/2"	10.5	1,175' -	≈220 cu. ft. & to surface

Archaeology report: LPAC 2000-31u filed 11-15-00.

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4.



ALL ACTIONS ARE AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED FEDERAL REQUIREMENTS

cc: BLM, Colby, OCD (via BLM)

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.

SIGNED [Signature] TITLE Consultant (505) 466-8120 DATE 11-24-00

PERMIT NO. _____ APPROVAL DATE 5/23/01

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/ Lee Ottenl TITLE _____ DATE _____

*See Instructions On Reverse Side

NMOCD

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

200 NOV 30 AM 9:49 AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

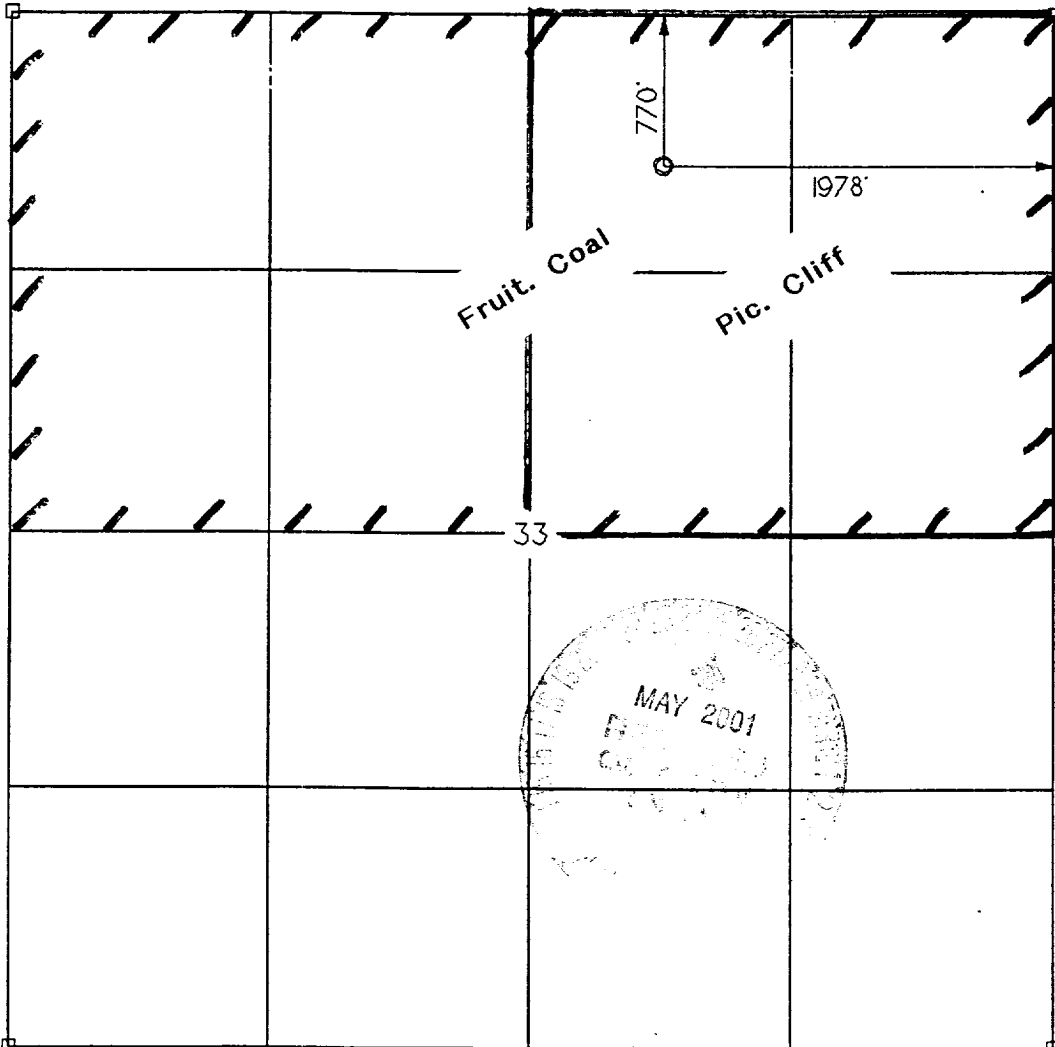
APA Number 30-045-30442	Pool Code 71629 & 86620	Pool Name FRUIT COAL & TWIN MOUNDS PC
Property Code 26923	Property Name WF FEDERAL	Well Number 33 - 1
OGRID No. 019219	Operator Name RICHARDSON OPERATING COMPANY	Elevation 5530'

Surface Location									
UL or Lot	Sec.	Twp.	Rge.	Lot Lch.	Feet from >	North/South	Feet from >	East/West	County
B	33	30 N.	14 W.		770'	NORTH	1978'	EAST	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

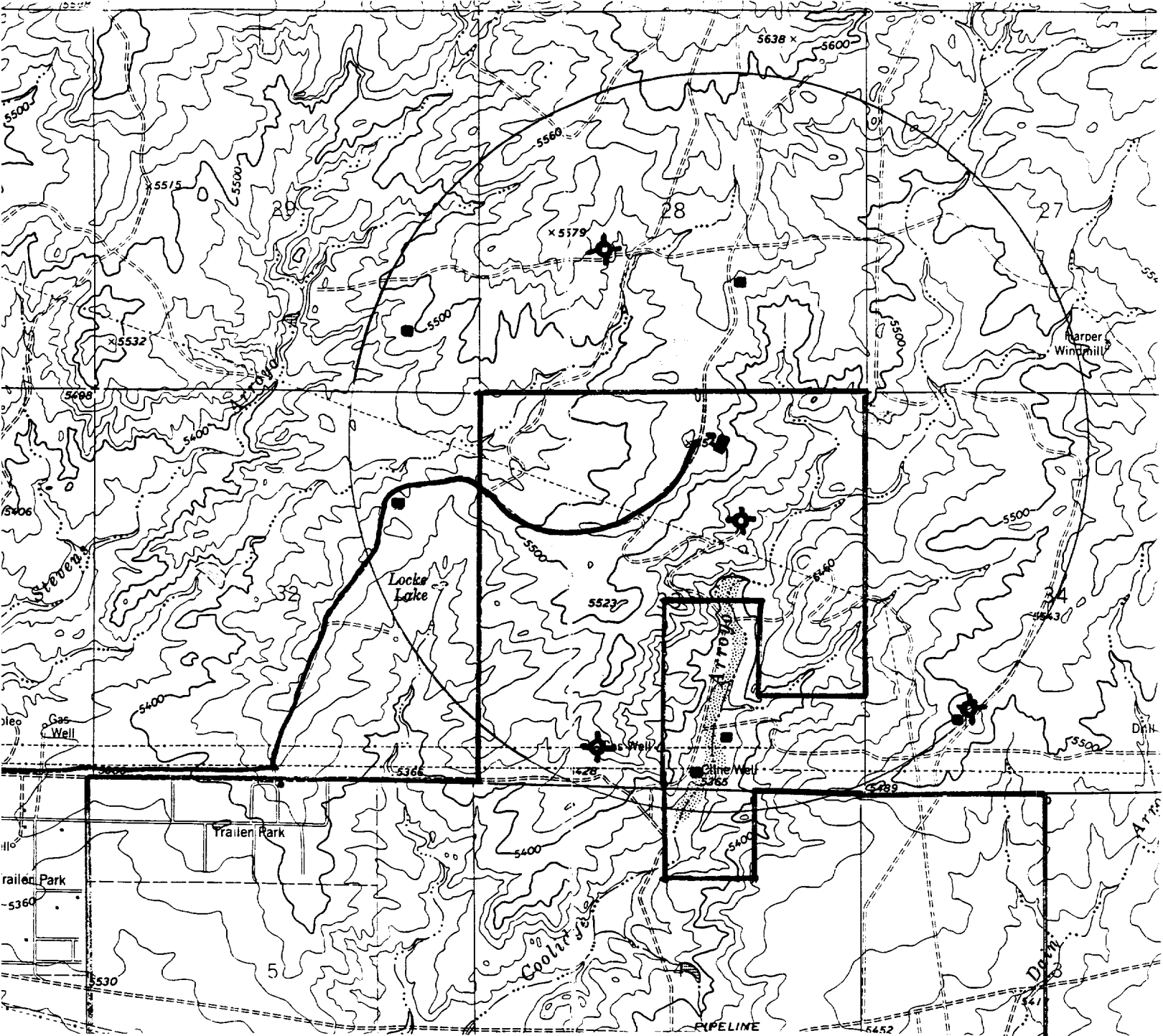
Dedication 160 T.M. PL 300 B.F.C.	Joint ?	Consolidation	Order No.
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NO ALLOWABLE WILL ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
Signature	<i>Brian Wood</i>
Printed Name	BRIAN WOOD
Title	CONSULTANT
Date	NOV. 24, 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	27 October 2000
Signature and Seal of Professional Surveyor	<i>[Signature]</i>

Richardson Operating Co.
 WF Federal 33 #1
 770' FNL & 1978' FEL
 Sec. 33, T. 30 N., R. 14 W.
 San Juan County, New Mexico



- PROPOSED WELL: ●
- EXISTING WELL: ■
- P&A WELL: ⊕
- PROPOSED ROAD & PIPES: —
- EXISTING ROAD: ~
- LEASE: L

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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'	+5,530'
Fruitland Fm	1,035'	1,040'	+4,495'
Pictured Cliffs Ss	1,055'	1,060'	+4,475'
Total Depth (TD)*	1,175'	1,180'	+4,355'

* all elevations reflect the ungraded ground level of 5,530'

2. NOTABLE ZONES

<u>Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
Fruitland Fm (1,035')	Fruitland Fm (1,035')	Fruitland Fm (1,035')
Pictured Cliffs (1,055')		

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 ≈ 470 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	1,175'

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 ≈ 125 cu. ft. (≈ 61 sx) of Class B with 2% metasilicate (yield = 2.06 cu. ft./sk, slurry weight = 12.5 PPG). Tail with ≈ 95 cu. ft. (≈ 81 sx) of Class B with 2% CaCl_2 (yield = 1.18 cu. ft./sk, slurry weight = 15.6 PPG). Total cement volume is ≈ 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.