

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 St., Suite 1700, Denver, Co. 80203

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

At surface 1067' FSL & 791' FEL

At proposed prod. zone Same

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

4 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)

791'

16. NO. OF ACRES IN LEASE

1,120

17. NO. OF ACRES ASSIGNED
TO THIS WELL

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

105'

19. PROPOSED DEPTH

1,300'

20. ROTARY OR CABLE TO 320 & 160

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

5,573' ungraded

22. APPROX. DATE WORK WILL START*

Oct. 5, 2001

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	1,300'	~235 cu. ft. & to surface

Archaeology report prepared by LaPlata.
On sited with Jeff Tafoya.

Will shut-in existing 28 #1 well. Will then drill, evaluate, and complete 28 1 R. If 28 1 R appears productive, will then plug and abandon 28 #1 before producing from 28 1 R.

procedural review pursuant to 43 CFR 3165.3
and appeal pursuant to 43 CFR 3165.4.

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED
DATE 10/29/01 BY 1029/01

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.

24.

Consultant (505) 466-8120

9-19-01

SIGNED

TITLE

DATE

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

10/29/01

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

TITLE

DATE

See Instructions On Reverse Side

District I
PO Box 1980, Hobbs, NM 88241-1980
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

State of New Mexico
Energy, Minerals & Natural Resources Department

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

Form C-102
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

API Number 30-045-30851	Pool Code 78160 & 71620	Pool Name FRUIT. COAL & TWIN MOUNTS PIC. CLF.
Property Code 24567	Property Name WF Federal 28	Well Number 1-R
OGRID No. 019219	Operator Name Richardson Operating Company	Elevation 5573'

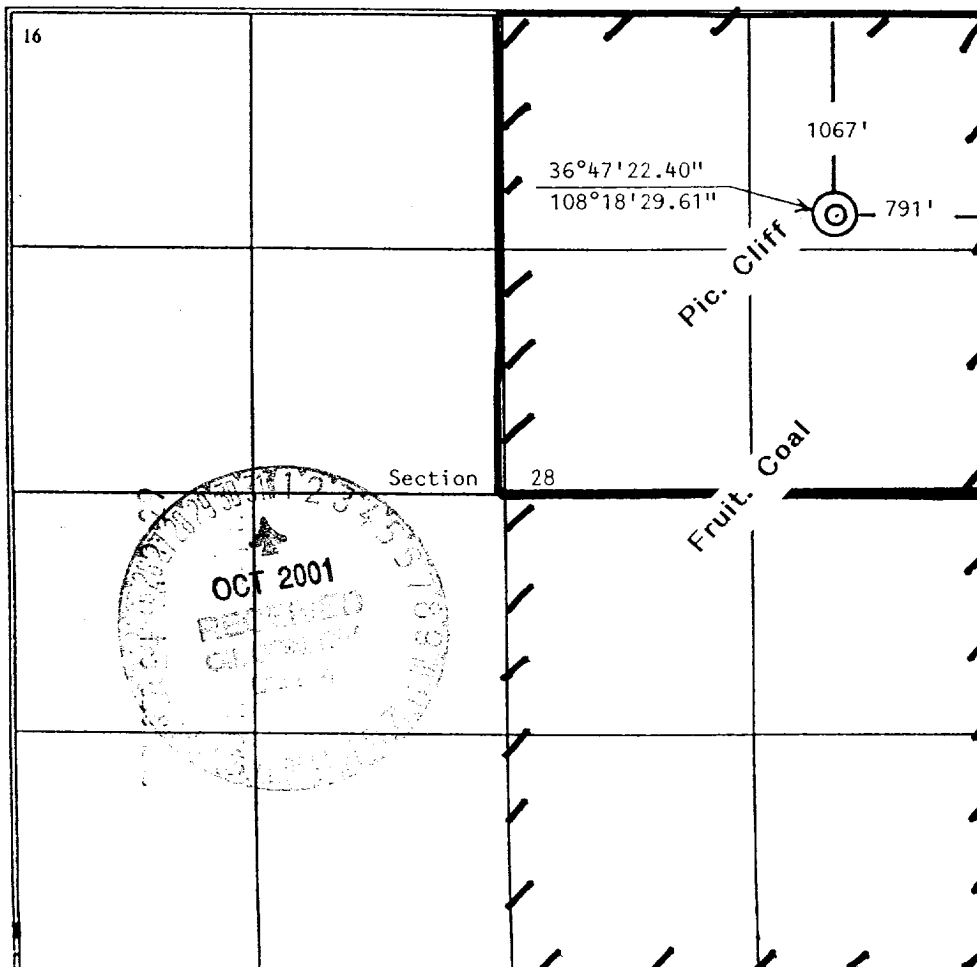
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
.	28	30N	14W	A	1067	North	791	East	San Juan

¹¹ Bottom Hole Location If Different From Surface

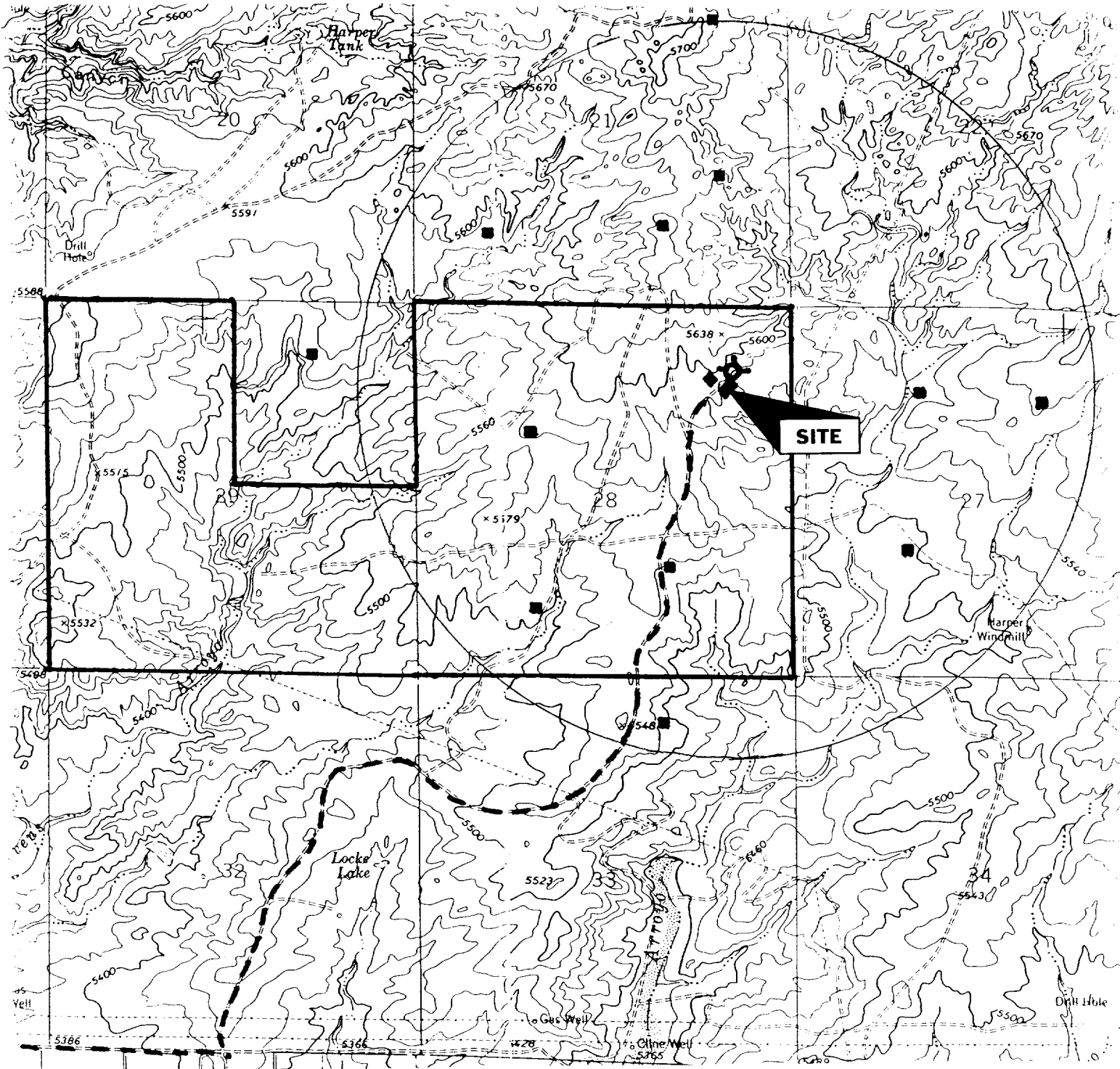
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 320 BFC 160 TM FSP	¹³ Joint or Infill	¹⁴ Consolidation Code		¹⁵ Order No.					




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

<div>16</div> 	<div>17 OPERATOR CERTIFICATION</div> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p>Signature <u>Brian Wood</u> Printed Name BRIAN WOOD Title CONSULTANT Date SEPTEMBER 19, 2001</p>
	<div>18 SURVEYOR CERTIFICATION</div> <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>September 6, 2001 Date of Survey Signature and Seal of Surveyor: <u>Edgar Hoover</u> NEW MEXICO 6979 PROFESSIONAL SURVEYOR NM Rel Certificate Number</p>

Richardson Operating Co.
WF Federal 28 1 R
1067' FNL & 791' FEL
Sec. 28, T. 30 N., R. 14 W.
San Juan County, New Mexico

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PROPOSED WELL: ■ LEASE BOUNDARY: 
EXISTING WELL: ■ EXISTING ROAD: 
P & A WELL: 

PERMITS WEST INC.
PROVIDING PERMITS for LAND USERS

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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'	+5,573'
Fruitland Fm	600'	605'	+4,973'
Pictured Cliffs Ss	1,124'	1,129'	+4,449'
Total Depth (TD)*	1,300'	1,305'	+4,273'

* all elevations reflect the ungraded ground level of 5,573'

2. NOTABLE ZONES

<u>Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
Fruitland Fm (600')	Fruitland Fm (600')	Fruitland Fm (600')
Pictured Cliffs (1,124')		

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.

Blind rams will be hydraulically activated and checked for operational readiness

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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 520 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	1,300'

Surface casing will be cemented to surface with \approx 36 cu. ft. (\approx 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 \approx 135 cu. ft. (\approx 65 sx) of Class B with 2% metasilicate (yield = 2.06 cu. ft./sk, slurry weight = 12.5 PPG). Tail with \approx 100 cu. ft. (\approx 85 sx) of Class B with 2% CaCl_2 (yield = 1.18 cu. ft./sk, slurry weight = 15.6 PPG). Total cement volume is \approx 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 on every other joint starting above the shoe. Five turbolizers will be placed on every other joint starting from the top of the well.