

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

200 SEP 21 AM 11:00

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

1811' FNL & 1882' FWL

At proposed prod. zone

Same

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

4 air miles NE of Kirtland, NM

15. DISTANCE FROM PROPOSED*

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

1811'

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

1831'

16. NO. OF ACRES IN LEASE

1.120

17. NO. OF ACRES ASSIGNED
TO THIS WELL

160/11/4

19. PROPOSED DEPTH

1,300'

20. ROTARY OR CABLE TOOLS

Rotary

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

5,574' ungraded ground

22. APPROX. DATE WORK WILL START*

Upon Approval

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#	1,300'	≈235 cu ft & to surface

On sited with Neel McBride.

Archaeology Report #LAC-2000-31t.

This editor is subject to technical and
procedural review pursuant to 43 CFR 3165.3
and special pursuant to 43 CFR 3165.4.

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED
DATE 10/27/00 BY 60322 UCBAW/MLP

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

9-16-00

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

10/27/00

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

10/27/00

*See Instructions On Reverse Side

State of New Mexico
Energy, Minerals & Mining Resources Department

Form C - 102

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505

200 SEP 21 AM 11:50 ☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

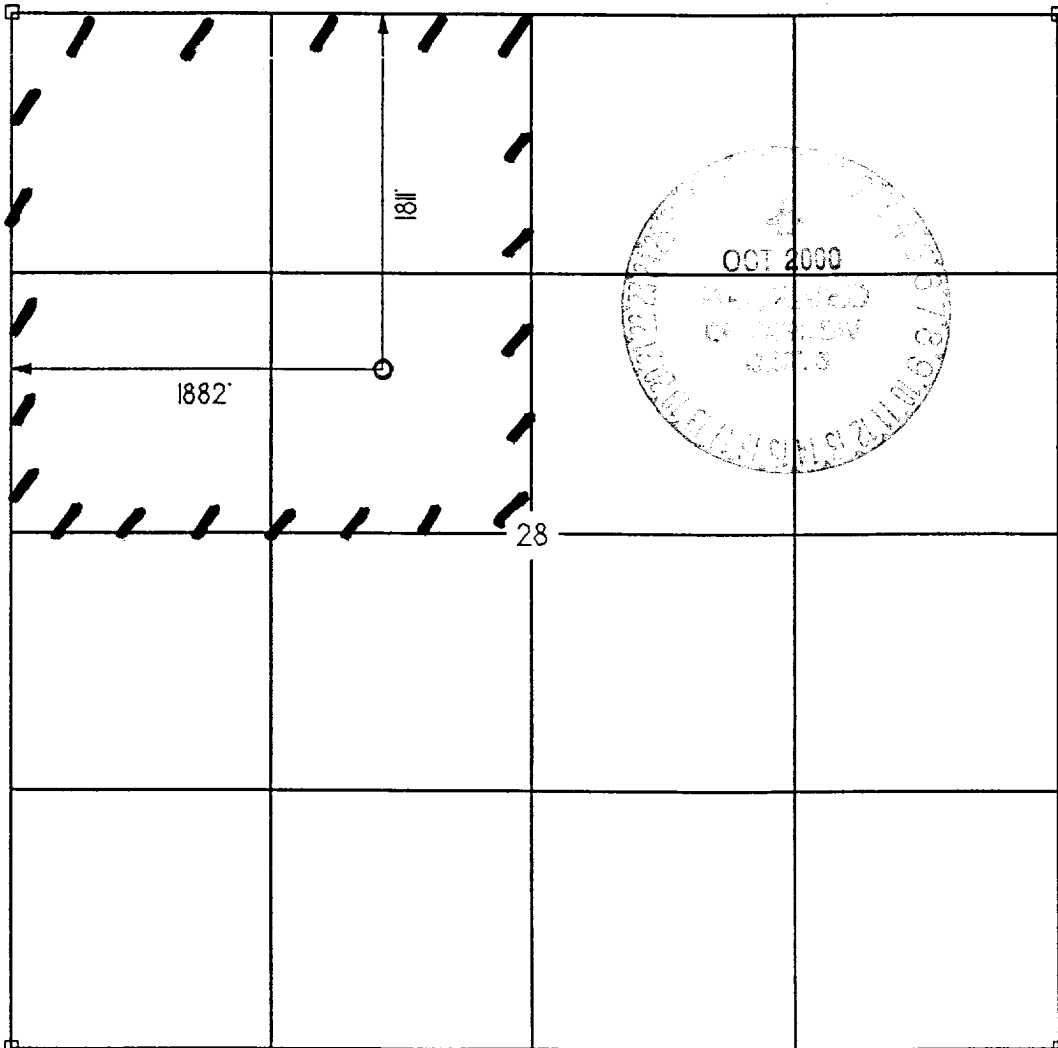
APA Number 30.045-30377	Pool Code 78160	Pool Name HARPER HILL PC
Property Code 24567	Property Name WF FEDERAL	Well Number 28 - 4
OGRID No. 019219	Operator Name RICHARDSON OPERATING COMPANY	Elevation 5574

Surface Location									
UL or Lot F	Sec. 28	Twp. 30 N.	Rge. 14 W.	Lot Lch.	Feet from 1811	North/South NORTH	Feet from 1882	East/West WEST	County 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 160N	Joint ?	Consolidation	Order No.
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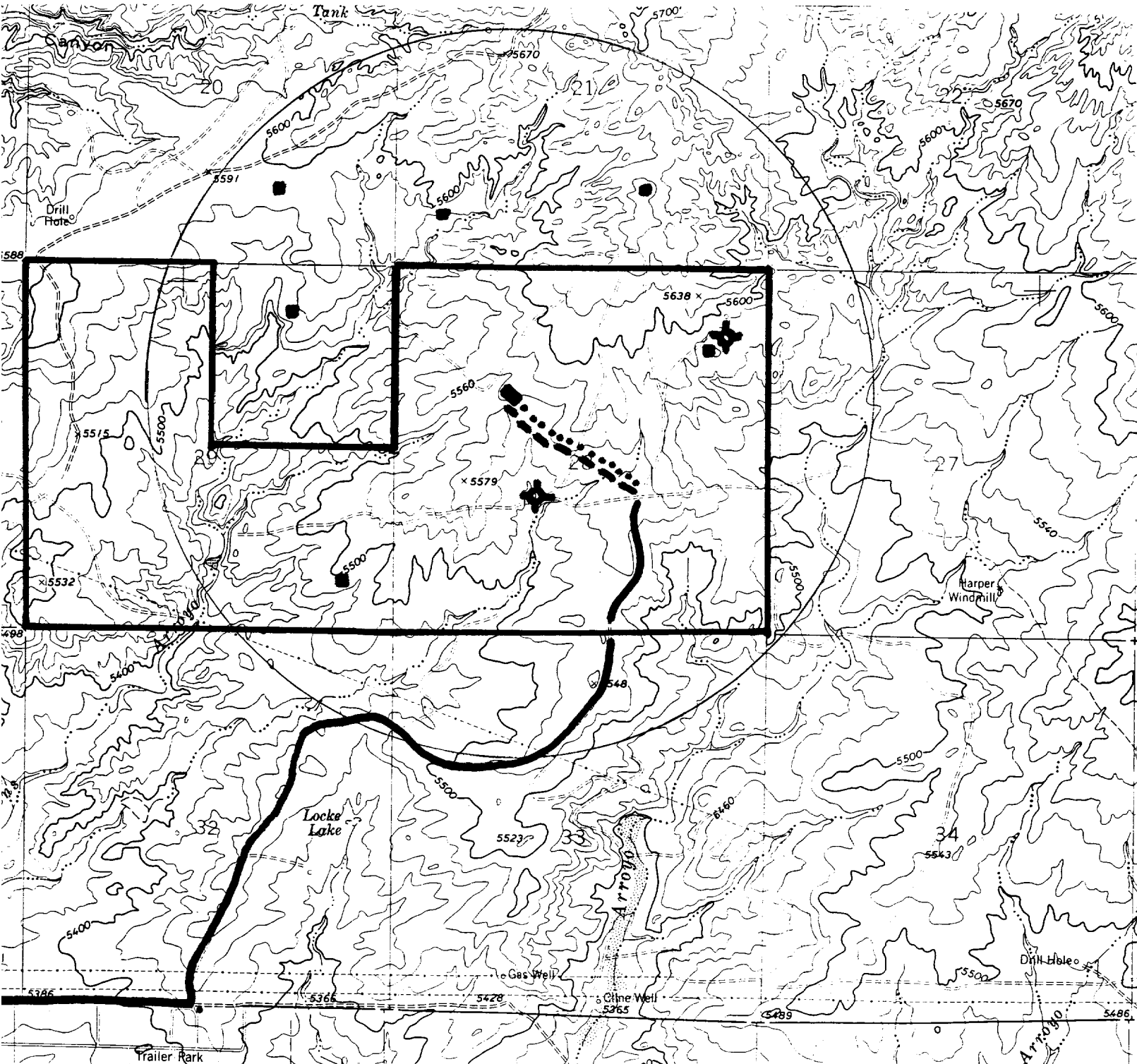
NO ALLOWABLE WILL ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION









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 SEPT. 16, 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 AUGUST 2000 Signature and Seal of Professional Surveyor 	

Richardson Operating Co.
 WF Federal 28 #4
 1811' FNL & 1882' FWL
 Sec. 28, T. 30 N., R. 14 W.
 San Juan County, New Mexico

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PROPOSED WELL:  PROPOSED PIPELINES: 
 EXISTING WELL:  UPGRADED ROAD: 
 P&A WELL:  LEASE: 

PERMITS WEST .INC
 PROVIDING PERMITS for LAND USERS

Richardson Operating Co.
WF Federal 28 #4
1811' FNL & 1882' FWL
Sec. 28, T. 30 N., R. 14 W.
San Juan County, New Mexico

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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'	+5,574'
Fruitland Fm	564'	569'	+5,010'
Pictured Cliffs Ss	1,099'	1,104'	+4,475'
Total Depth (TD)*	1,300'	1,305'	+4,200'

* all elevations reflect the ungraded ground level of 5,574'

2. NOTABLE ZONES

<u>Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
Fruitland Fm (564')	Fruitland Fm (564')	Fruitland Fm (564')
Pictured Cliffs (1,099')		

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.