

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

742' FSL & 1306' FEL

At proposed prod. zone

Same

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

4 air miles NW of Farmington

15. DISTANCE FROM PROPOSED*

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

742'

16. NO. OF ACRES IN LEASE

585.69

17. NO. OF ACRES ASSIGNED
TO THIS WELL

SE/4 146.26

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

2608'

19. PROPOSED DEPTH

1,320'

20. ROTARY OR CABLE TOOLS

Rotary

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

5,405' ungraded

22. APPROX. DATE WORK WILL START*

July 10, 2001

23.

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	1,320'	≈190 cu. ft. & to surface

Archaeology report LAC-2000-73e filed 3-5-2001.

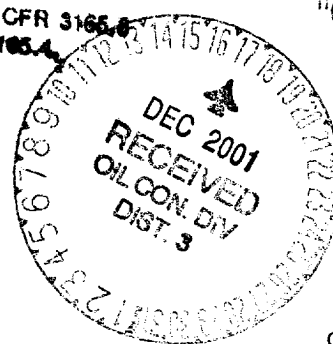
DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS"

RECEIVED

2001 JUN 26 AM 8:31

070 Farmington

procedural review pursuant to 43 CFR 3165.8
and appeal pursuant to 43 CFR 3165.4



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.

SIGNED

TITLE

DATE

Consultant (505) 466-8120

6-17-01

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

12/14/01

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

[Signature]

AFM

12/14/01

*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

☐ AMENDED REPORT

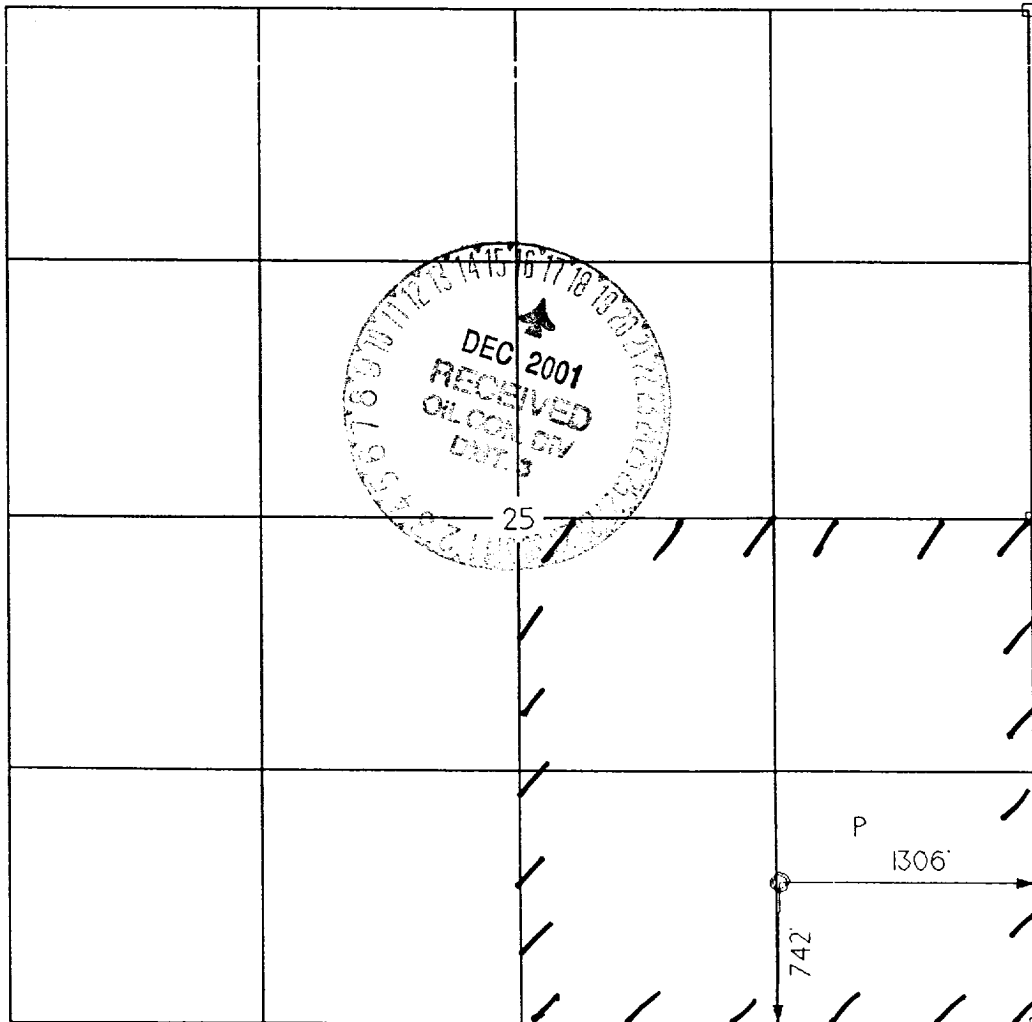
WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number 30.045-30713	Pool Code 78160	Pool Name HARPER HILL PICTURED CLIFFS EXT
Property Code 28758	Property Name WF FEDERAL	Well Number 25 - 2
OGRID No. 019219	Operator Name RICHARDSON OPERATING COMPANY	Elevation 5405'

Surface Location									
UL or Lot P	Sec. 25	Twp. 30 N.	Rge. 14 W.	Lot Idn.	Feet from > .742	North/South SOUTH	Feet from > 1306	East/West EAST	County SAN JUAN

Bottom Hole Location If Different From Surface									
UL or Lot	Sec.	Twp.	Rge.	Lot Idn.	Feet from >	North/South	Feet from >	East/West	County
Dedication	Joint ?	Consolidation	Order No.						

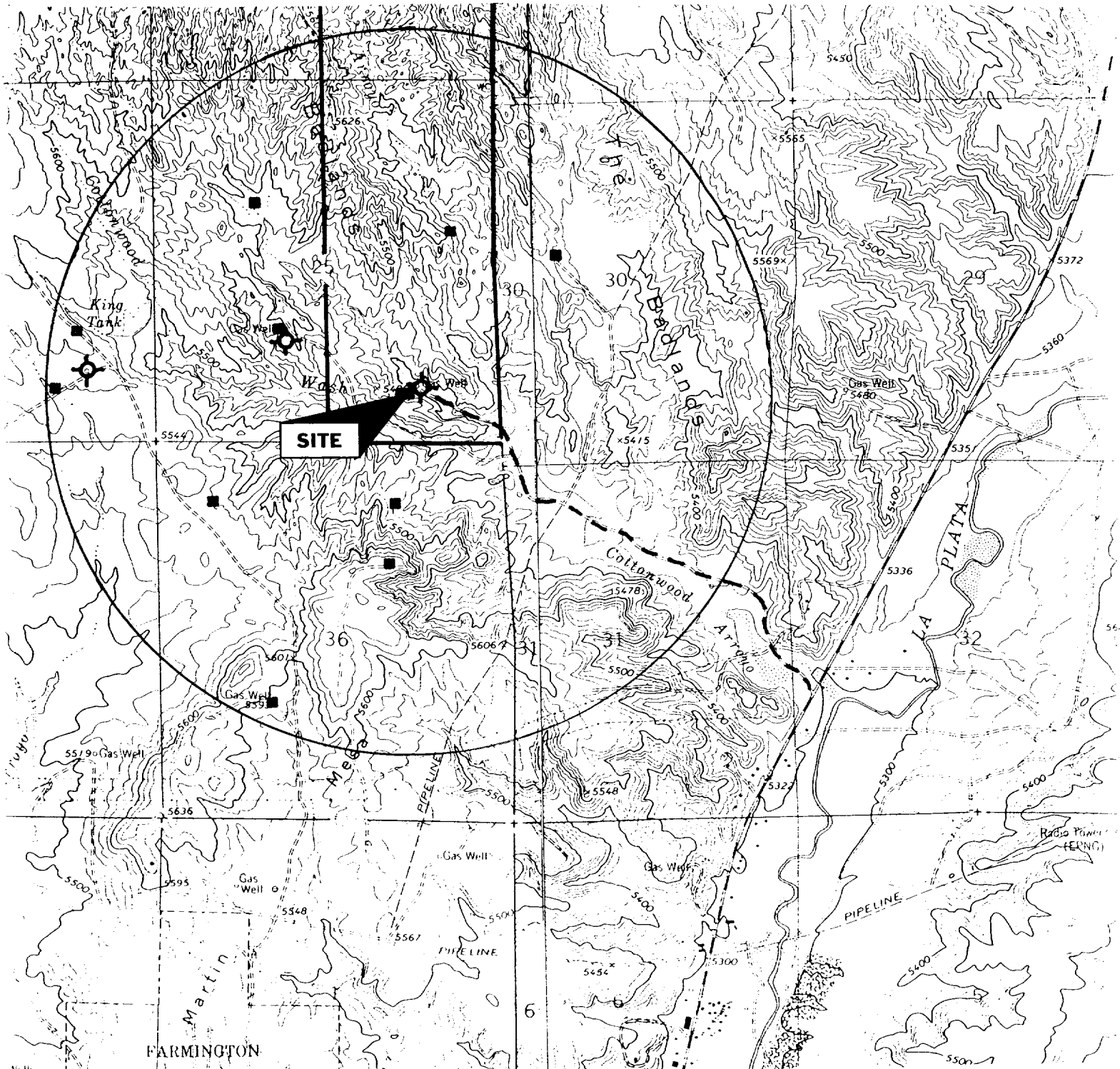
NO ALLOWABLE WILL ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



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 JUNE 17, 2001	
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 8 JANUARY 2001	
Signature and Seal of Professional Surveyor <i>Gerald H. Wood</i> GERALD H. WOOD NEW MEXICO 6894 REGISTERED LAND SURVEYOR	

Richardson Operating Co.
 WF Federal 25 #2
 742' FSL & 1306' FEL
 Sec. 25, T. 30 N., R. 14 W.
 San Juan County, New Mexico

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PROPOSED WELL: ■ EXISTING ROAD: - - -
 EXISTING WELL: ■ LEASE: ┘
 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'	+5,405'
Basal Fruitland Coal	1095'	1100'	+4,290'
Pictured Cliffs Ss	1110'	1115'	+4,270'
Total Depth (TD)*	1320'	1755'	+4,085'

* all elevations reflect the ungraded ground level of 5,405'

2. NOTABLE ZONES

<u>Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
Fruitland Coal (1095')	Fruitland Coal (1095')	Fruitland Coal (1095')
Pictured Cliffs (1110')		

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 ≈ 700 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	1,320'

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 ≈ 110 cu. ft. (≈ 54 sx) of Class B with 2% metasilicate (yield = 2.06 cu. ft./sk, slurry weight = 12.5 PPG). Tail with ≈ 80 cu. ft. (≈ 68 sx) of Class B with 2% CaCl_2 (yield = 1.18 cu. ft./sk, slurry weight = 15.6 PPG). Total cement volume is ≈ 190 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. Four centralizers will be spaced on every other joint starting above the shoe. Four turbolizers will be placed on every other joint starting from the top of the well.