

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. (505) 564-3100

3. ADDRESS AND TELEPHONE NO.

3100 LaPlata Highway, Farmington, NM 87401

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

At surface

746' FSL & 665' FEL

At proposed prod. zone Same

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

1 air mile SW of Farmington

15. DISTANCE FROM PROPOSED\*

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

746'

16. NO. OF ACRES IN LEASE

1,470.81

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

157.76

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

1,383'

19. PROPOSED DEPTH

1,400'

20. ROTARY OR CABLE TOOLS

Rotary

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

5,370' ungraded

22. APPROX. DATE WORK WILL START\*

8-15-02

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	1,400'	~280 cu. ft. & to surface

Well name & number changed from 3-16-02 Notice of Staking ("RPC 19 #4")  
to correspond with Richardson's new nomenclature ("F-RPC 19 #4").

Archaeology report LAC 2002-15a filed 7-18-02 by LaPlata.

On site with Roger Herrera.

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

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

cc: BLM, OCD (via BLM), Richardson

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

7-21-02

SIGNED

TITLE

DATE

(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:

APPROVED BY

/s/ Charlie Beecham

TITLE

ACTING

DATE

AUG 29 2002

NMOCD

\*See Instructions On Reverse Side

## Form C - 102

☐ AMENDED REPORT

APA Number 30-045-31152	Pool Code 79680	Pool Name WEST KUTZ PICTURED CLIFFS
Property Code 30492	Property Name RPC 19	Well Number 4
OGRIID No. 019219	Operator Name RICHARDSON OPERATING COMPANY	Elevation 5370'

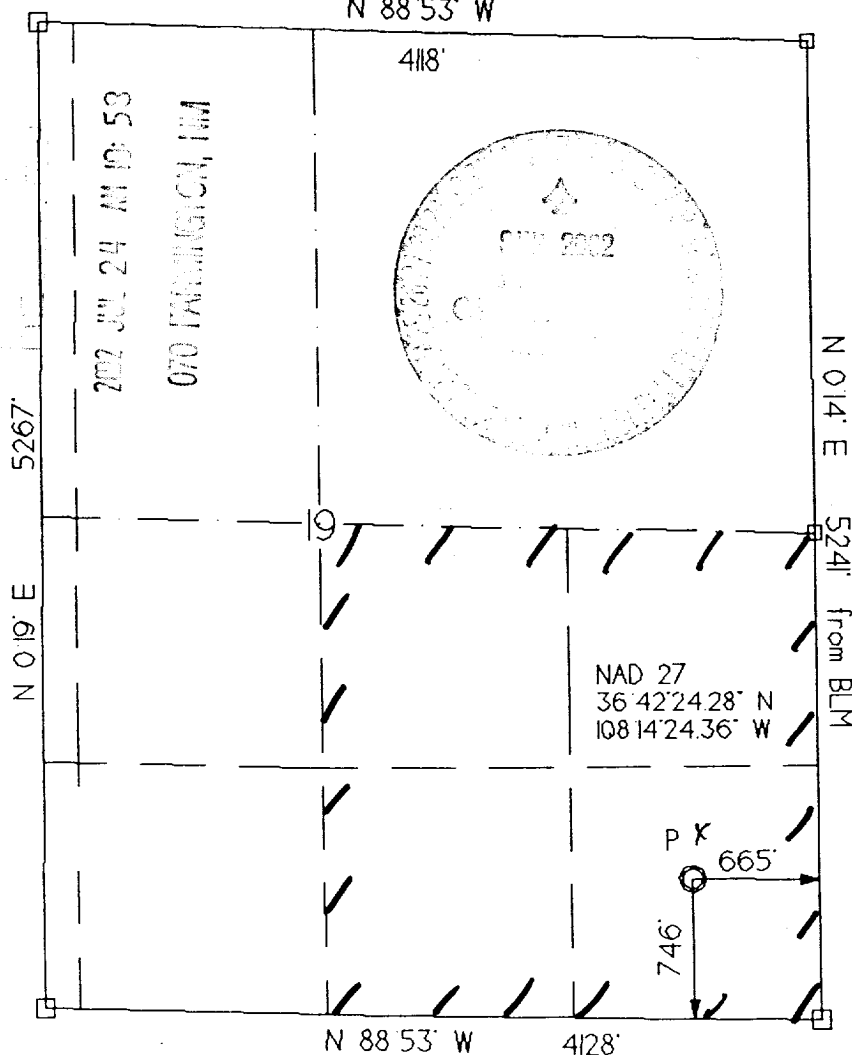
Surface Location									
U. or Lot	Sec.	Twp.	Rge.	Lot Idn.	Feet from>	North/South	Feet from>	East/West	County
P	19	29 N.	13 W.		746'	SOUTH	665'	EAST	SAN JUAN

Bottom Hole Location If Different From Surface

U. or Lot	Sec.	Twp.	Rge.	Lot Idn.	Feet from >	North/South	Feet from >	East/West	County
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Dedication	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



I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature \_\_\_\_\_

Printed Name

**BRIAN WOOD**

Title
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CONSULTANT

Date \_\_\_\_\_

JULY 21, 2002

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

25 JUNE 2002

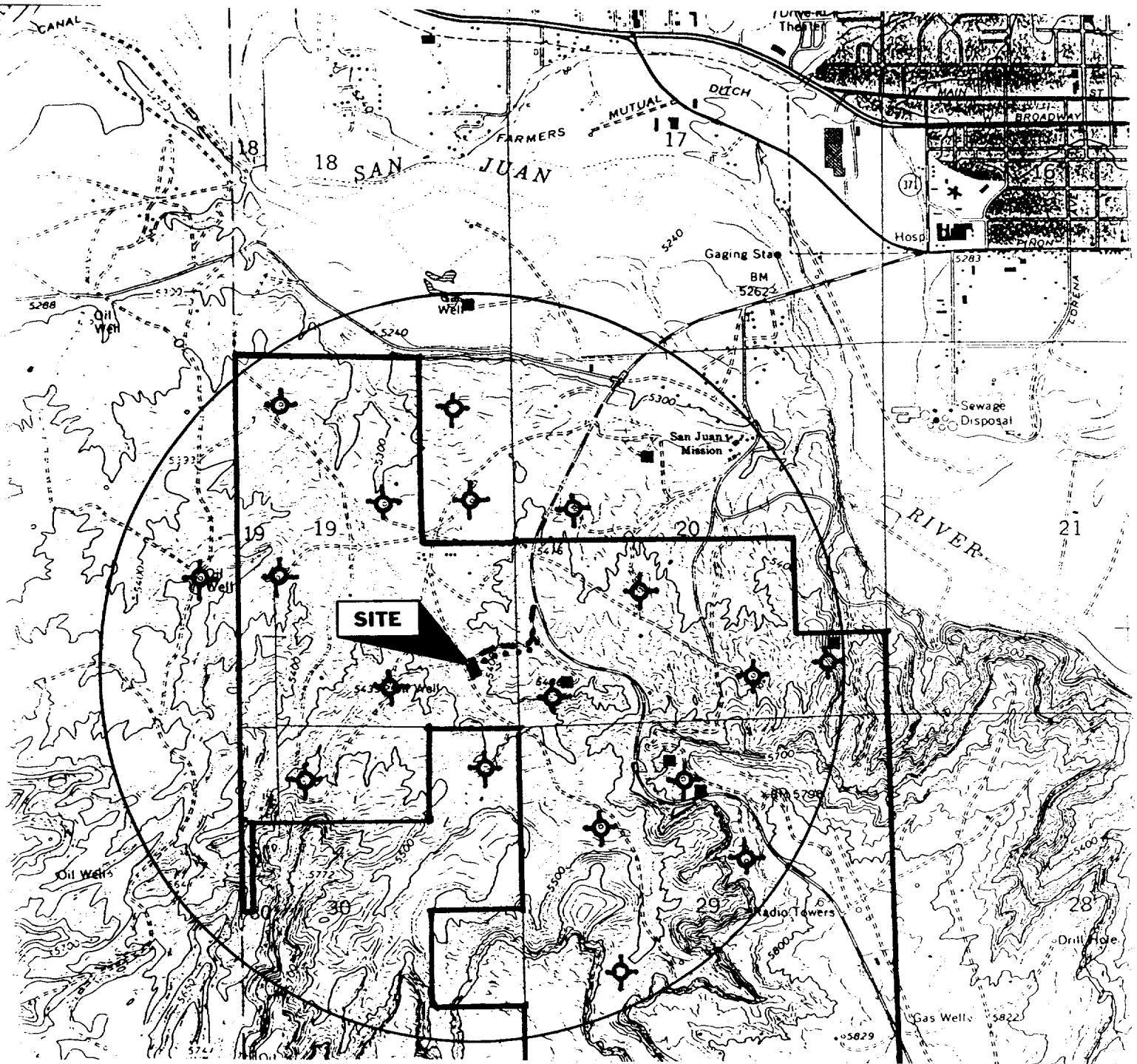
Signature and Seal of  
Professional Surveyor

6844

*Good & Healy*

Richardson Operating Co.  
F-RPC 19 #4  
746' FSL & 665' FEL  
Sec. 19, T. 29 N., R. 13 W.  
San Juan County, New Mexico

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PROPOSED WELL:

EXISTING WELL:

P & A WELL:

PIPELINE ROUTE:

EXISTING ROAD:

LEASE:

**PERMITS WEST** INC.  
PROVIDING PERMITS TO 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>Elevation</u>
Kirtland Shale	000'	5'	+5,370'
Fruitland Fm	535'	540'	+4,835'
Pictured Cliffs Ss	1,075'	1,080'	+4,295'
Total Depth (TD)*	1,400'	1,405'	+4,086'

\* all elevations reflect the ungraded ground level of 5,370'

### 2. NOTABLE ZONES

<u>Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
Fruitland	Fruitland	Fruitland
Pictured Cliffs		

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  $\approx 415$  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. ( $\approx 30$  sacks) Class B + 2%  $\text{CaCl}_2$ . Volume is based on 100% excess, yield of 1.18 cu. ft./sk, and slurry weight of 15.6 PPG. W.O.C. = 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. Forty barrels of fresh water will next be circulated. Lead with  $\approx 170$  cubic feet ( $\approx 83$  sacks) of Class B with 2% metasilicate (yield = 2.06 cubic feet per sack, slurry weight = 12.5 pounds per gallon). Tail with  $\approx 110$  cubic feet ( $\approx 93$  sacks) of Class B with 2%  $\text{CaCl}_2$  (yield = 1.18 cubic feet per sack, slurry weight = 15.6 pounds per gallon). Total cement volume is  $\approx 280$  cubic feet 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. Seven centralizers will be spaced on every other joint starting above the shoe. Seven turbolizers will be placed on every other joint starting from the top of the well.