

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1. TYPE OF WORK

DRILL ☒

DEEPEN ☐

2. TYPE OF WELL

OIL WELL ☐

GAS WELL ☒

OTHER ☐

SINGLE ZONE ☐

MULTIPLE ZONE ☒

3. NAME OF OPERATOR

Richardson Operating Co. (303) 830-8000

4. ADDRESS AND TELEPHONE NO.

1700 Lincoln, Suite 1700, Denver, Co. 80203

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

At surface

850' FNL & 1850' FEL

At proposed prod. zone

Same

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

5 air miles W of Farmington, NM

7. DISTANCE FROM PROPOSED*

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

470'

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

3,120'

9. NO. OF ACRES IN LEASE

2,523.72

10. PROPOSED DEPTH

1,050'

11. NO. OF ACRES ASSIGNED TO THIS WELL

320 FC

160 PC

12. ROTARY OR CABLE TOOLS

Rotary

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

This action is subject to technical and procedural review pursuant to 43 CFR 3100.3

5,315' ungraded ground

14. APPROX. DATE WORK WILL START*

Upon Approval

15. and appeal pursuant to 43 CFR 3100.4,

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#	1,050'	≈200 cu ft & to surface

Will communitize NE4 and N2 as appropriate.

Archaeology report LAC 2000-31c filed.

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

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.

16.

SIGNED

TITLE

DATE

Consultant (505) 466-8120

8-10-00

(This space for Federal or State office use)

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

TITLE

DATE

*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

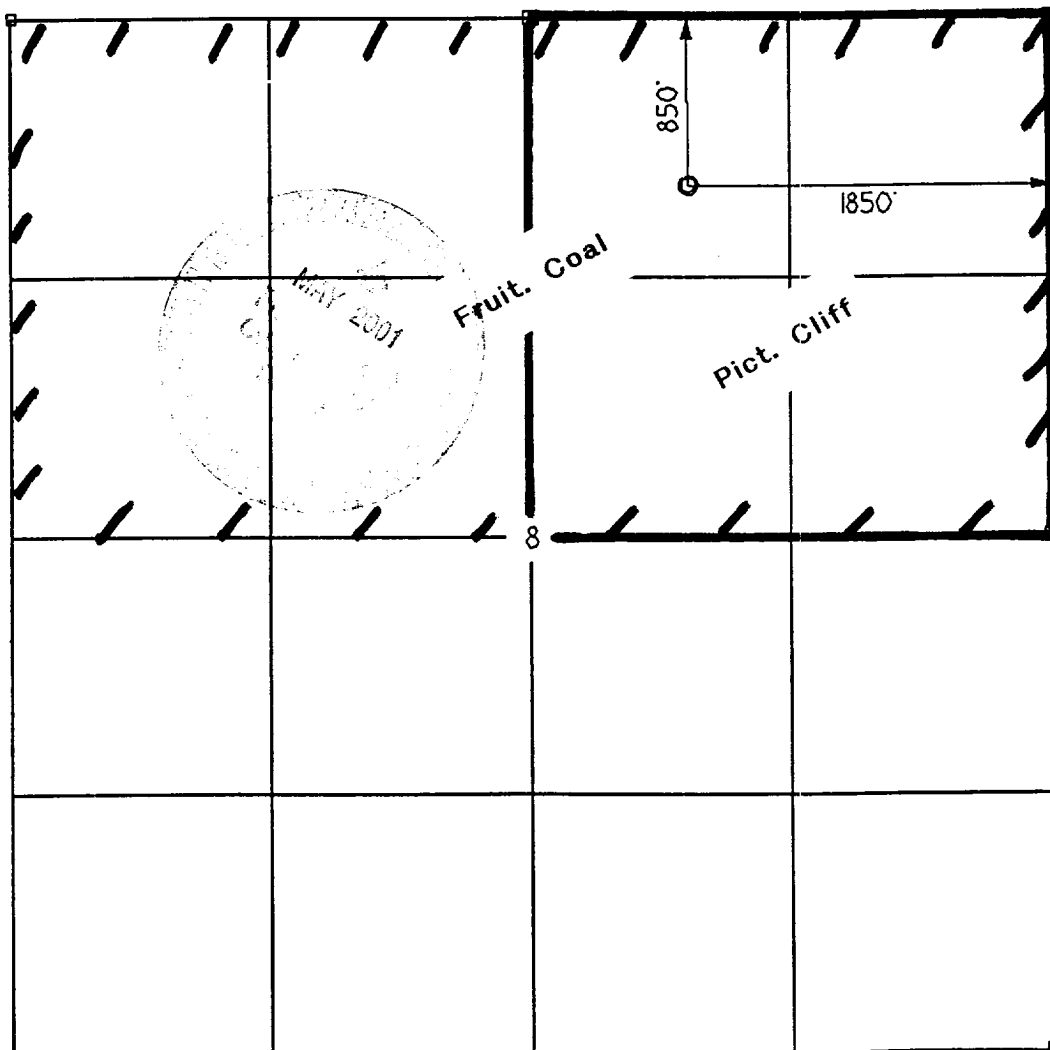
WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number 30-045-30346	Pool Code 71629 & 86620	Pool Name FRUIT. COAL & TWIN MOUNDS PC EX
Property Code 27065	Property Name ROPCO	Well Number 8 - 1
OGRD No. 019219	Operator Name RICHARDSON OPERATING COMPANY	Elevation 5315'

Surface Location									
UL or Lot B	Sec. 8	Twp. 29.N.	Rge. 14.W.	Lot Idn.	Feet from >	North/South	Feet from >	East/West	County SAN JUAN
					.850	NORTH	1850	EAST	

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 160 PC 320 FC	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 AUG. 10, 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 28 MAY 2000 Signature and Seal of Professional Surveyor 	

Richardson Operating Co.
Ropco 8 #1
850' FNL & 1850' FEL
Sec. 8, T. 29 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'	+5,315'
Fruitland Coal	700'	705'	+4,615'
Pictured Cliffs Ss	875'	880'	+4,440'
Total Depth (TD)*	1,050'	1,055'	+4,265'

* all elevations reflect the ungraded ground level of 5,315'

2. NOTABLE ZONES

<u>Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
Fruitland Coal (700')	Fruitland Coal (700')	Fruitland Coal (700')
Pictured Cliffs (875')		

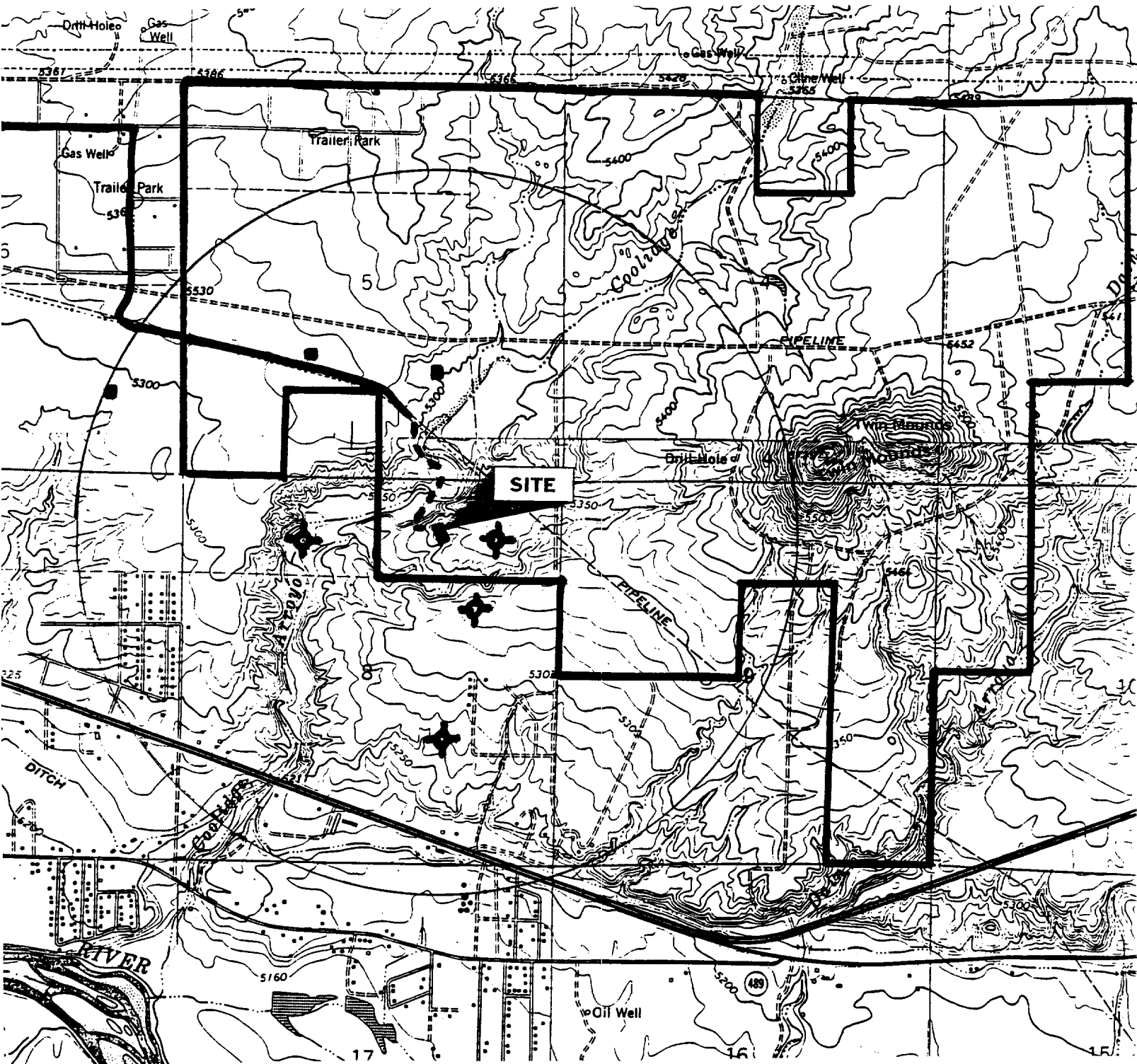
Water zones will be protected with casing, cement, and weighted mud. Fresh water encountered during drilling will be recorded by depth, cased, and cemented. Oil and gas shows will be tested for commercial potential based on the well site geologist's recommendations.




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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PROPOSED WELL: 
 EXISTING WELL: 
 P&A WELL: 

PROPOSED ROAD & PIPELINE: 
 EXISTING ROAD: 
 LEASE: 

PERMITS WEST INC.
 PROVIDING PERMITS for LAND USERS

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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 420 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	1,050'

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 110 cu. ft. (\approx 55 sx) of Class B with 2% metasilicate (yield = 2.06 cu. ft./sk, slurry weight = 12.5 PPG). Tail with \approx 90 cu. ft. (\approx 75 sx) of Class B with 2% CaCl_2 (yield = 1.18 cu. ft./sk, slurry weight = 15.6 PPG). Total cement volume is \approx 200 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.