

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 WATER DISPOSAL ☐

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

1495' FSL & 1477' FEL

At proposed prod. zone

Same

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

2 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)

1,176'

16. NO. OF ACRES IN LEASE

2,523.72

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

642'

19. PROPOSED DEPTH

3,700'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

N/A

20. ROTARY OR CABLE TOOLS

Rotary

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

5,297' ungraded

22. APPROX. DATE WORK WILL START*

Sept. 20, 2001

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
9-7/8"	J-55 8-5/8"	24	200'	≈50 cu. ft. & to surface
6-3/4"	K-55 5-1/2"	15.5	3,700'	≈542 cu. ft. & to surface

SWD 811 order

Archaeology report to be filed by LaPlata.



This action is subject to compliance with
procedural review pursuant to 43 CFR 3165.3
and appeal pursuant to 43 CFR 3165.4.

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

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.

SIGNED: [Signature] TITLE: Consultant DATE: 8-25-01
(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

10/2/01

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

[Signature]

TITLE

AFM Minerals

DATE

10/2/01

*See Instructions On Reverse Side

NMOCD

State of New Mexico
Energy, Minerals & Mining Resources Department
OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C - 102

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number 30-045-30812	Pool Code 96160	Pool Name SW Di Mesquite MESA VERDE WATER DISPOSAL WELL
Property Code 24806	Property Name SALTY DOG	Well Number 2
OGFID No. 019219	Operator Name RICHARDSON OPERATING COMPANY	Elevation 5297'

Surface Location

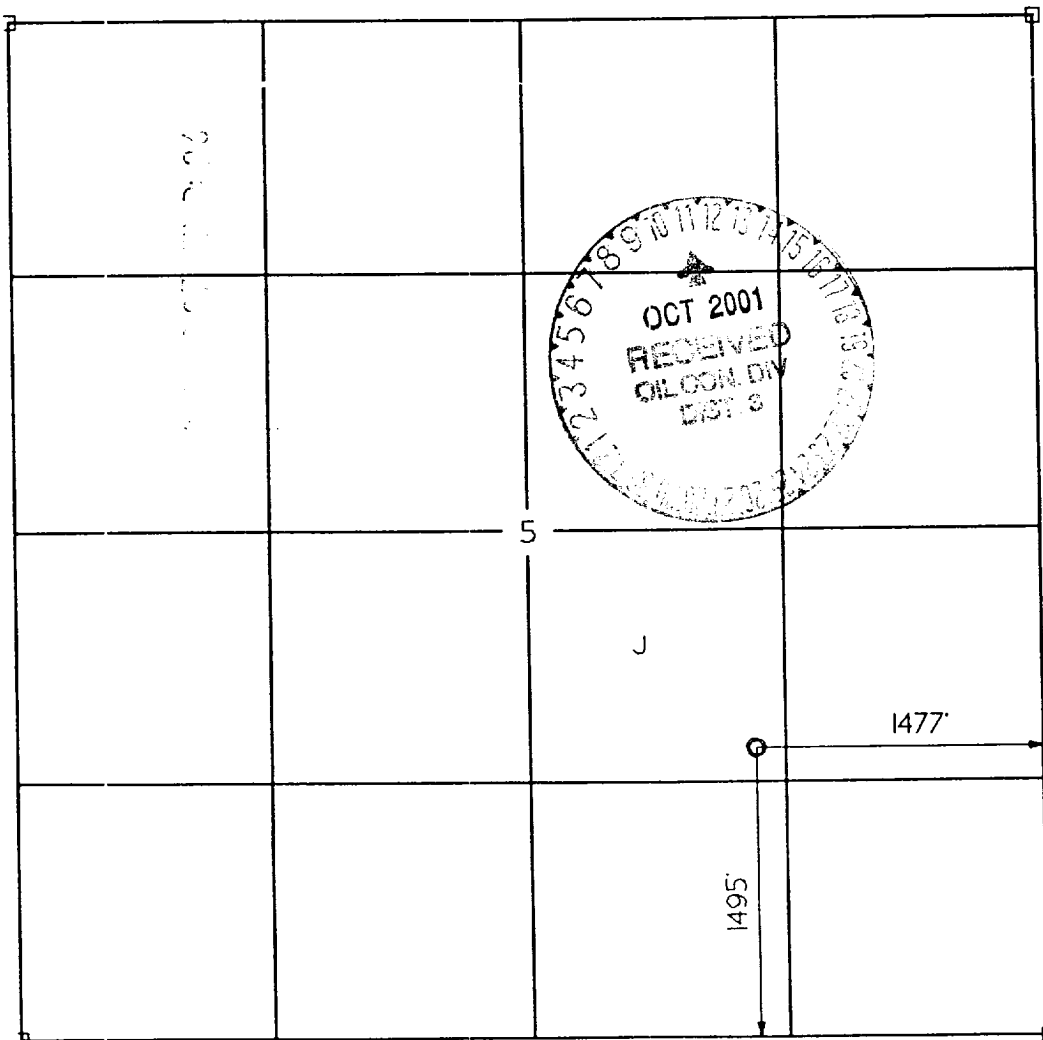
UL or Lot	Sec.	Twp.	Rge.	Lot Idn.	Feet from	North/South	Feet from	East/West	County
J	5	29 N.	14 W.		1495	SOUTH	1477'	EAST	SAN JUAN

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

Brian Wood

Printed Name

BRIAN WOOD

Title

CONSULTANT

Date

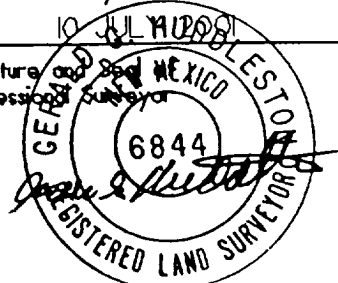
AUGUST 25, 2001

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.

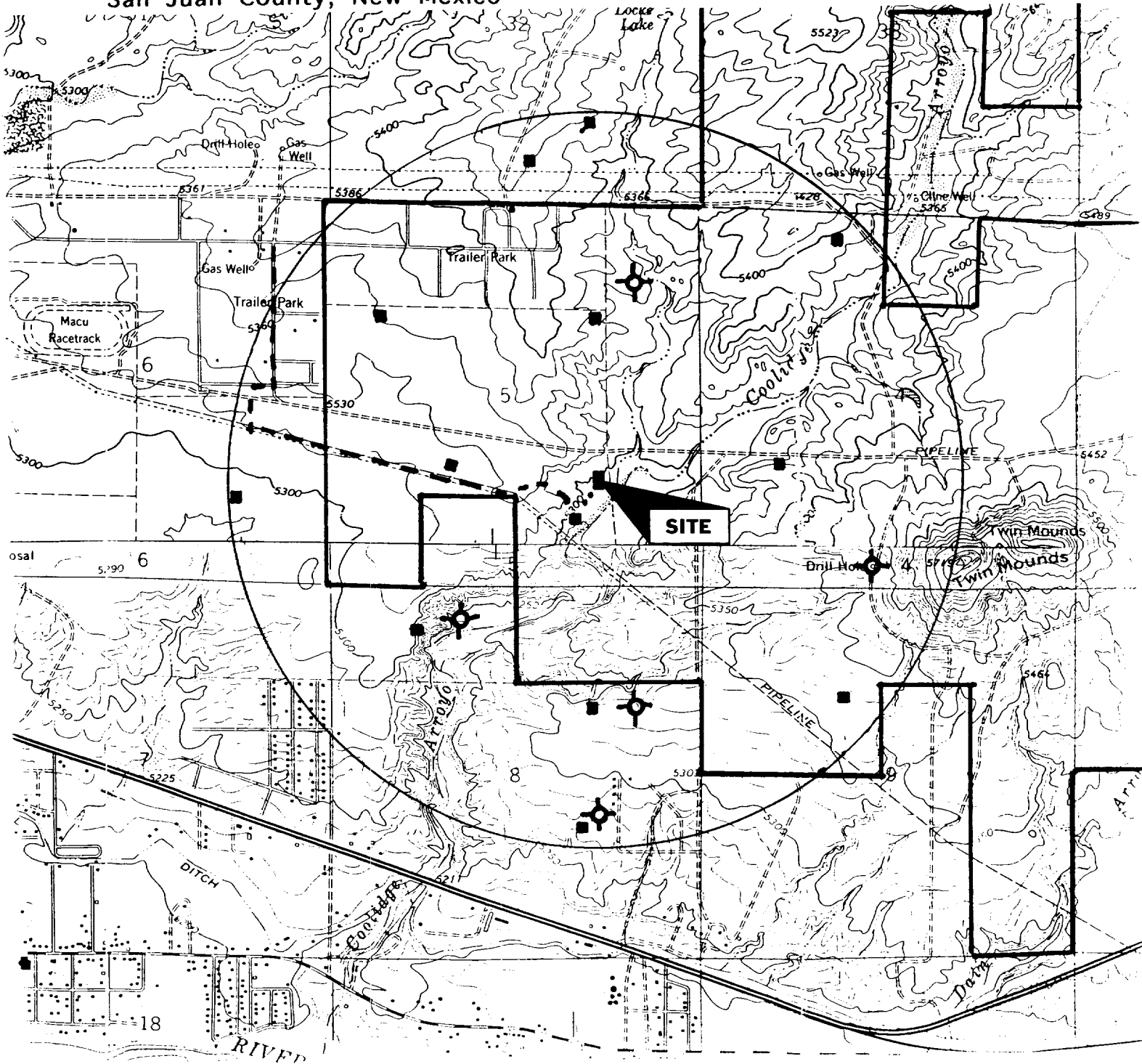
Date of Survey

Signature and Seal
Professional Surveyor



Richardson Operating Co.
 Salty Dog #2
 1495' FSL & 1477' FEL
 Sec. 5, T. 29 N., R. 14 W.
 San Juan County, New Mexico

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PROPOSED WELL: ■ PROPOSED ROAD:
 EXISTING WELL: ■ EXISTING ROAD: - - - -
 P & A WELL: ⊕ LEASE: ┌

PERMITS WEST INC.
 PROVIDING PERMITS FOR LAND USERS

Richardson Operating Co.
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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'	12'	+5,297'
Fruitland Coal	600'	612'	+4,697'
Basal Coal	790'	802'	+4,507'
Pictured Cliffs Ss	800'	812'	+4,497'
Lewis Sh	930'	942'	+4,367'
Cliff House Ss	2,200'	2,212'	+3,097'
Menefee Sh	2,440'	2,452'	+2,857'
Pt. Lookout Ss	3,310'	3,322'	+1,987'
Total Depth (TD)*	3,700'	3,712'	+1,597'

* all elevations reflect the ungraded ground level of 5,297'

2. NOTABLE ZONES

Gas Zones

Fruitland Coal (600')
Pictured Cliffs (800')

Water Zones

Fruitland Coal (600')
Cliff House (2,200')
Pt. lookout (3,310')

Coal Zones

Fruitland Coal (700')

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

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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 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 400 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>
9-7/8"	8-5/8"	24	J-55	New	200'
6-3/4"	5-1/2"	15.5	K-55	New	3,700'

Surface casing will be cemented to surface with \approx 50 cu. ft. (\approx 43 sx) Class B + 2% CaCl₂. 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 382 cu. ft. (\approx 185 sx) of Class B with 2% metasilicate (yield = 2.06 cu. ft./sk, slurry weight = 12.5 ppg). Tail with \approx 160 cu. ft. (\approx 130 sx) of Class B with 2% CaCl₂ (yield = 1.18 cu. ft./sk, slurry weight = 15.6 ppg). Total cement volume is \approx 542 cu. ft. based on 75% excess and circulating to surface.