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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0136
Expires January 31, 2004

5. Lease Serial No.
NMNM-97841

6. If Indian, Allottee or Tribe Name
N/A

7. If Unit or CA Agreement, Name and No.
N/A

8. Lease Name and Well No.
WF Federal 27 #4

9. API Well No.
30-045- 32394

10. Field and Pool, or Exploratory
Basin Fruitland Coal

11. Sec., T., R., M., or Blk. and Survey or Area
G Sec. 27-T30N-R14W, NMPM

12. County or Parish
San Juan

13. State
NM

1a. Type of Work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator
Richardson Operating Company

3a. Address
3100 La Plata Hwy, Far., NM 87401

3b. Phone No. (include area code)
564-3100

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At surface 1335' FNL & 1330' FEL
At proposed prod. zone Same

14. Distance in miles and direction from nearest town or post office*
5 miles NE of Kirtland, New Mexico

15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any) 1330'

16. No. of Acres in lease
480.00

17. Spacing Unit dedicated to this well
E/2 320.00 Acres

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft. 200'

19. Proposed Depth
1250'

20. BLM/BIA Bond No. on file
BLM Nationwide #158293308

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
5575 GL

22. Approximate date work will start*
Upon approval

23. Estimated duration
2 weeks

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature

Name (Printed/Typed)

Date

Paul Lehrman

5-27-04

Title

Petroleum Landman

Approved by (Signature)

Name (Printed/Typed)

Date

Title

Office

FFO

Application approval does not warrant or certify the 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, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on reverse)

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- 32394	Pool Code 71629	Pool Name Basin Fruitland Coal
Property Code 28632	Property Name WF FEDERAL 27	Well Number 4
OGRID No. 19219	Operator Name RICHARDSON OPERATING COMPANY	Elevation 5575'

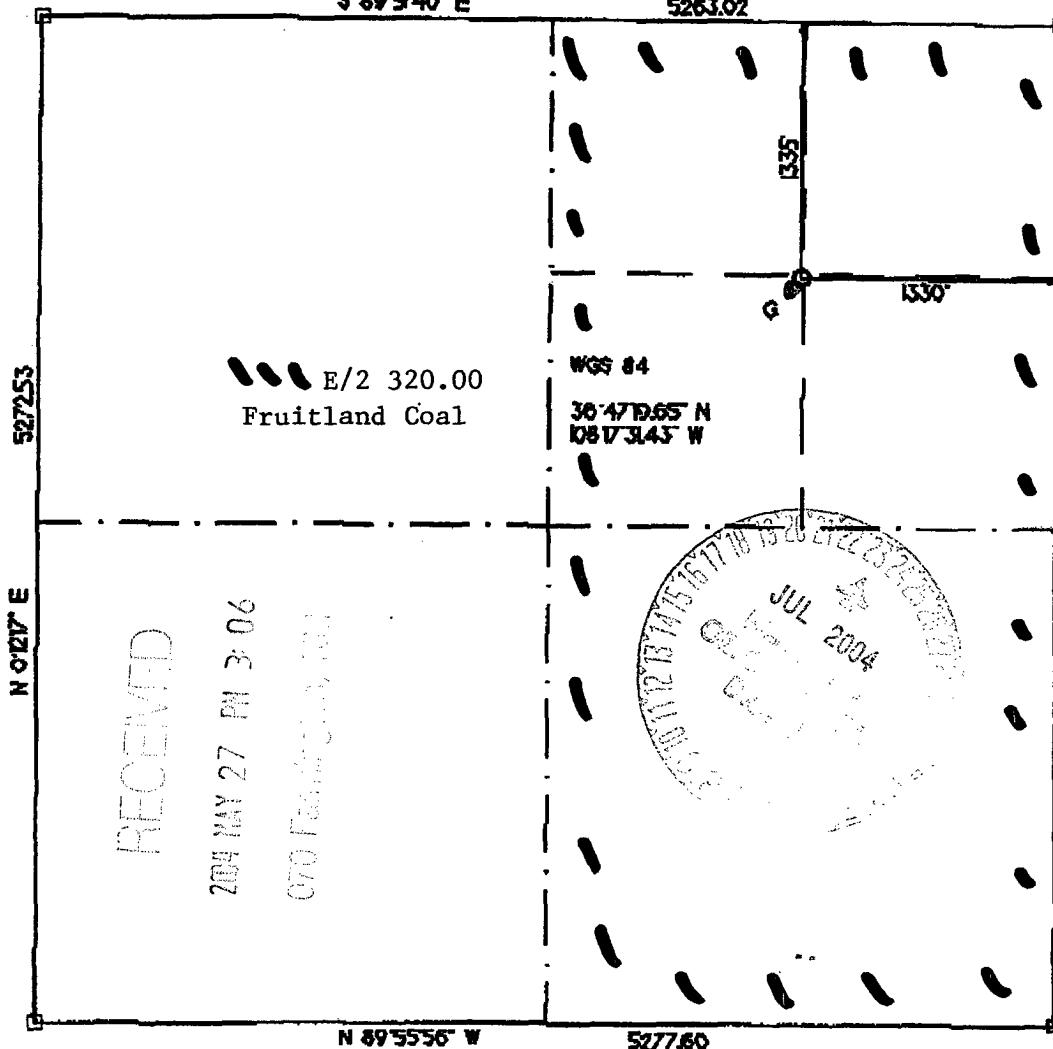
Surface Location									
UL or Lot	Sec.	Twp.	Rge.	Lot Id.	Feet From	North/South	Feet From	East/West	County
G	27	30 N.	14 W.		1335'	NORTH	1330'	EAST	SAN JUAN

Bottom Hole Location If Different From Surface									
UL or Lot	Sec.	Twp.	Rge.	Lot Id.	Feet From	North/South	Feet From	East/West	County
Dedication E/2 320	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

S 89°54'0" E

5263.02



OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature: <i>[Signature]</i>	
Printed Name	Paul Lehrman
Title	Landman
Date	5-27-04
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 5/7/04 Signature and Seal of Professional Surveyor <i>[Signature]</i>	



**Richardson Operating Company
WF Federal 27 #4
1335' FNL & 1330' FEL
Section 27, T30N, R14W, NMPM
San Juan County, New Mexico**

DRILLING PROGRAM

1. ESTIMATED FORMATION TOPS:

<u>Formation</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Subsea Elevation</u>
Ojo Alamo/ Kirtland Shale	Surface	5'	+5,575'
Fruitland Fm	760'	765'	+4,815'
Basal Fruitland Coal	1135'	1140'	+4,440'
Pictured Cliffs Ss	1150'	1155'	+4,425'
Total Depth (TD)*	1250'	1255'	+4,325'

*All elevations reflect the ungraded ground level of 5,575'

2. NOTABLE ZONES:

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

Water zones will be protected with casing, cement, and water based mud. Fresh water encountered during drilling will be recorded by depth. Centralizers will be run through usable water zones to ensure that the casing is centralized through these zones. Number of centralizers will be based on API standards. A turbulizing centralizer will be run to ensure an adequate cement procedure just below the base of the lowest usable water zone. Oil and gas shows will be tested for commercial potential based on the well site representatives recommendations.

3. PRESSURE CONTROL:

The drilling contract has not yet been awarded, thus the exact BOP model to be used is unknown. (A typical 2,000 psi model has been attached to the end of the drilling program.) 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 floor safety valve and choke manifold rated to 2000 psi. Maximum expected pressure is less than 1000 psi.

Drilling Program
Richardson Operating Company

Page Two

4. CASING AND CEMENTING PROGRAM:

<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	J-55	New	120'
6 1/4"	4 1/2"	10.5	J-55	New	1250'

Surface casing will be cemented to surface with ≈ 36 cu.ft. (³⁰~~35~~ sx) Class B + 2% CaCl. 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 drilling fluid to surface. Thirty barrels of fresh water will then be circulated. Lead with ≈ 135 cu.ft. (≈ 75 sx) Class B with 2% metasilicate (yield = 2.06 cu.ft./sk, slurry weight = 12.5 ppg). Tail in with ≈ 80 cu.ft. (≈ 70 sx) Class B with 2% CaCl (yield = 1.18 cu.ft./sk, weight = 15.6 ppg). Total cement volume is ≈ 215 cu.ft. based on 100% excess and circulating to surface.
²³⁸

Production casing will have 4 1/2" cement guide shoe and self fill float collar. Float will be placed one joint above the shoe. Six centralizers will be spaced every other joint starting above the shoe. Six turbolizers will be placed every other joint starting from the top of the well.

5. MUD PROGRAM:

Surface casing hole will be drilled with fresh water mud. Production casing hole will be drilled with a fresh water polymer mud. Weighting material will be drill solids or, if needed, barite. Maximum expected mud weight will be 8.7 ppg. Sufficient material to maintain mud properties, control lost circulation, and contain a blowout will be available at the well while drilling.

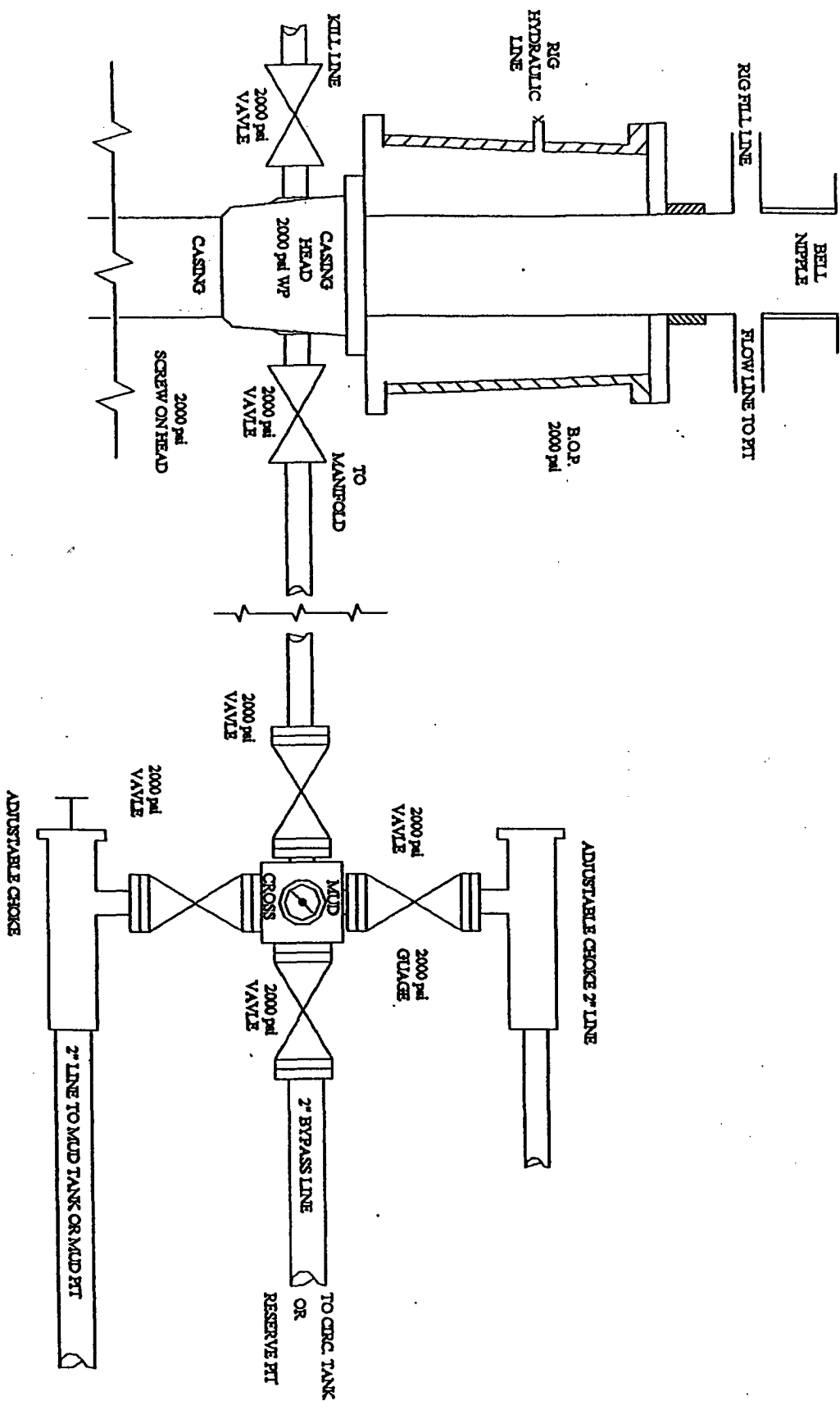
6. CORING, TESTING, & LOGGING:

No cores or DSTs are planned. A cased hole CNL/GR will be run from TD to surface.

7. DOWNHOLE CONDITIONS:

No abnormal pressures, temperatures, nor hydrogen sulfide are expected. Maximum pressure will be approximately ≈ 520 psi. Although no hydrogen sulfide is expected while drilling, if encountered appropriate safety measures will be instituted. After the well is in production, if hydrogen sulfide is encountered, appropriate safety measures will be instituted to ensure the safety of the public, Richardson employees, contractors, or anyone expected to work or recreate in the vicinity. This may include, but not be limited to, monitoring, flagging or other measures appropriate for the situation.

BLOW OUT PREVENTER (B.O.P.)



Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
March 4, 2004

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-045-
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/> NM 97841
6. State Oil & Gas Lease No. N/A
7. Lease Name or Unit Agreement Name WF Federal 27
8. Well Number #4
9. OGRID Number 19219
10. Pool name or Wildcat Basin Fruitland Coal

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH
PROPOSALS.)

1. Type of Well:
Oil Well ☐ Gas Well ☒ Other

2. Name of Operator
Richardson Operating Company

3. Address of Operator
3100 La Plata Highway, Farm., NM 87401

4. Well Location
Unit Letter G : 1335 feet from the North line and 1330 feet from the East line
Section 27 Township 30N Range 14W NMPM San Juan County NM

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
5575 GR

Pit or Below-grade Tank Application (For pit or below-grade tank closures, a form C-144 must be attached)

Pit Location: UL G Sect 27 Twp 30N Rng 14W Pit type Drilling Depth to Groundwater >100 Distance from nearest fresh water well >1000
Distance from nearest surface water >1000 Below-grade Tank Location UL Sect Twp Rng ;
feet from the line and feet from the line

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPLETION ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐

CASING TEST AND CEMENT JOB ☐

OTHER: Pit Permit ☒

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒ a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Paul Lehrman TITLE Paul Lehrman DATE 5-27-04

Type or print name Paul Lehrman E-mail address: plerhman@digii.net Telephone No. 564-8115

(This space for State use)

APPROVED BY TITLE DATE
Conditions of approval, if any:

WF Federal 27 # 4

well pad and section

