

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

| | | |
|--|---|--|
| 1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER | | 5. Lease Serial No. NMNM-025857 |
| 1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone | | 6. If Indian, Allottee or Tribe Name N/A |
| 2. Name of Operator Richardson Operating Company | | 7. If Unit or CA Agreement, Name and No. |
| 3a. Address 3100 La Plata Hwy, Farm., NM 87401 | 3b. Phone No. (include area code) 564-3100 | 8. Lease Name and Well No. WF Federal 21 #4 |
| 4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1185' FNL & 1425' FEL At proposed prod. zone Same | | 9. API Well No. 30-045- 32392 |
| 14. Distance in miles and direction from nearest town or post office* 8 miles North of Kirtland, NM | | 10. Field and Pool, or Exploratory Basin Fruitland Coal |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1185' | | 11. Sec., T., R., M., or Blk. and Survey or Area Bsec. 21-T30N-R14W, NMPM |
| 16. No. of Acres in lease 800.00 | | 12. County or Parish San Juan |
| 17. Spacing Unit dedicated to this well E/2 320.00 Acres | | 13. State NM |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 500' | | 19. Proposed Depth 1300' |
| 20. BLM/BIA Bond No. on file BLM Nationwide #158293308 | | 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 5690' GL |
| 22. Approximate date work will start* Upon approval | | 23. Estimated duration One week |

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) Paul Lehrman | Date 6-27-04 |
| Title Petroleum Landman | | |
| Approved by (Signature) | Name (Printed/Typed) | Date 6/30/04 |
| Title Acting Field Manager - Mun. | Office | |

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, 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)

NMOC

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

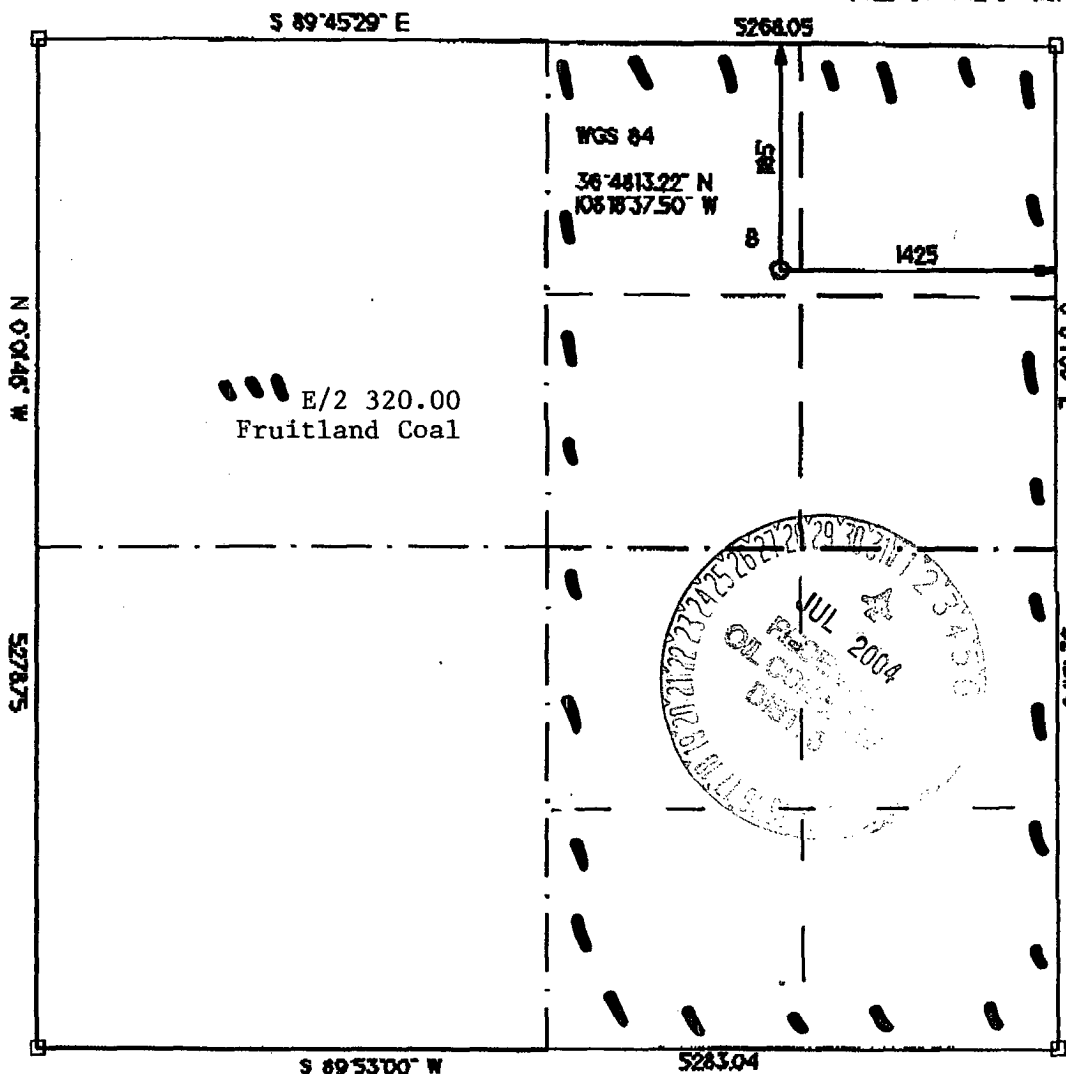
| | | |
|------------------------------------|---|-----------------------------------|
| APA Number 30-045- 32392 | Pool Code 71629 | Pool Name Basin Fruitland Coal |
| Property Code 23338 | Property Name WF FEDERAL 21 | Well Number 4 |
| OGRD No. 19219 | Operator Name RICHARDSON OPERATING COMPANY | Elevation 5690' |

| Surface Location | | | | | | | | | |
|------------------|------------|---------------|---------------|----------|------------------|----------------------|-------------------|-------------------|--------------------|
| UL or Lot B | Sec. 21 | Twp. 30 N. | Rge. 14 W. | Lot Lth. | Feet from 185 | North/South NORTH | Feet from 1425 | East/West EAST | County SAN JUAN |

| Bottom Hole Location If Different From Surface | | | | | | | | | |
|--|------|------|------|----------|-----------|-------------|-----------|-----------|--------|
| UL or Lot | Sec. | Twp. | Rge. | Lot Lth. | 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



| | |
|---|--------------------------|
| OPERATOR CERTIFICATION | |
| I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. | |
| Signature | <i>Paul Lehrman</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 | 5/12/04 |
| Signature and Seal | <i>Gerald Huddleston</i> |
| | |

**Richardson Operating Company
WF Federal 21 #4
1185' FNL & 1425' FEL
Section 21, 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 | Surface | 5' | +5,690' |
| Kirtland Shale | 190' | 195' | +5,500' |
| Fruitland Fm | 760' | 765' | +4,930' |
| Basal Fruitland Coal | 1230' | 1235' | +4,460' |
| Pictured Cliffs Ss | 1245' | 1250' | +4,445' |
| Total Depth (TD)* | 1300' | 1305' | +4,390' |

*All elevations reflect the ungraded ground level of 5,690'

2. NOTABLE ZONES:

Gas Zones

Fruitland
Pictured Cliffs

Water Zones

Fruitland Coal

Coal Zones

Fruitland Coal

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 | 1300' |

Surface casing will be cemented to surface with ≈ 36 cu.ft. (≈ 30 ~~45~~ 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 ≈ 140 ¹³⁵ cu.ft. (≈ 75 sx) Class B with 2% metasilicate (yield = 2.06 cu.ft./sk, slurry weight = 12.5 ppg). Tail in with ≈ 90 ⁸⁰ cu.ft. (≈ 80 sx) Class B with 2% CaCl (yield = 1.18 cu.ft./sk, weight = 15.6 ppg). Total cement volume is ≈ 230 ²⁵⁰ cu.ft. based on 100% 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. 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.

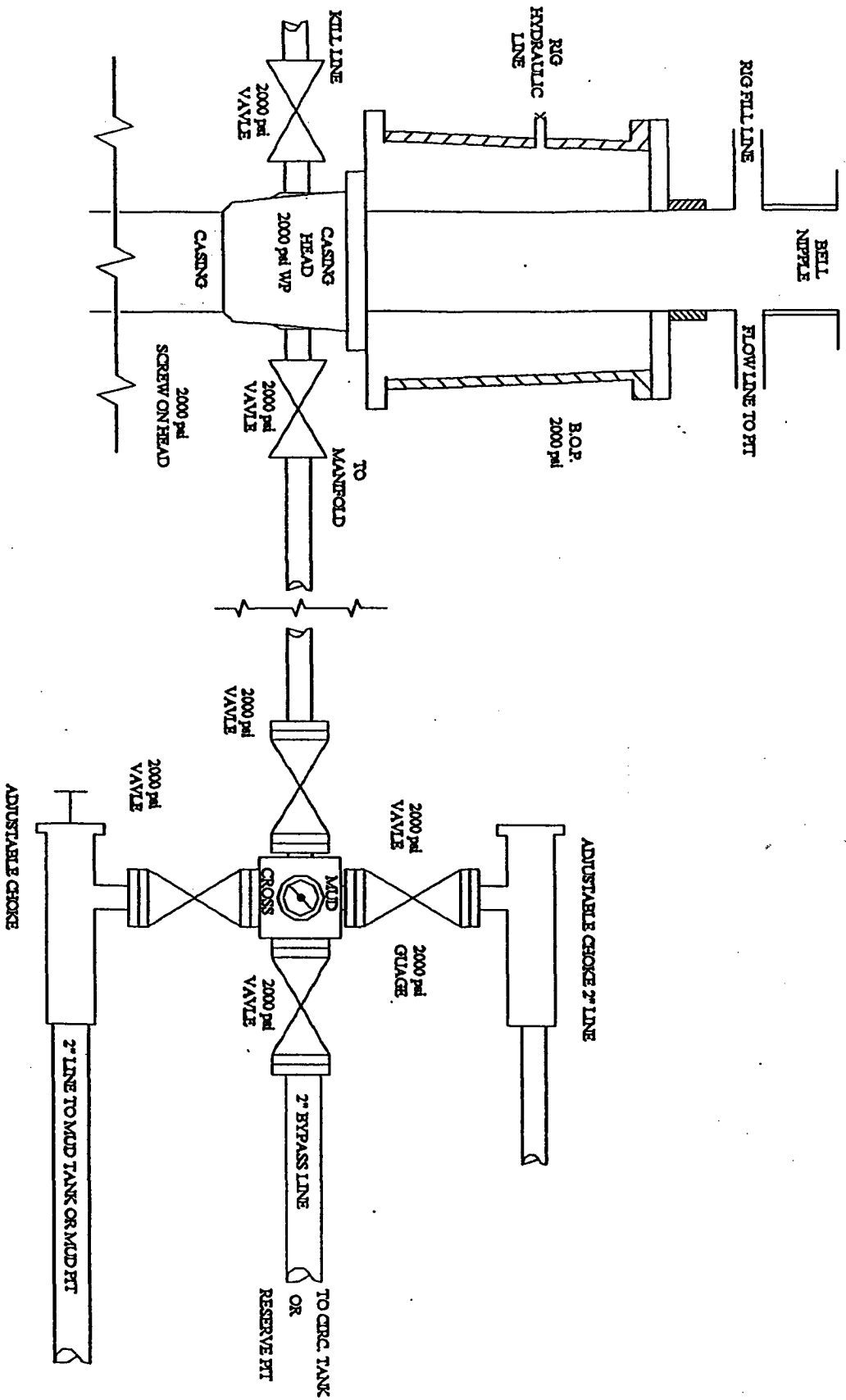
6. CORING, TESTING, & LOGGING:

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 as appropriate.

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 | Federal |
| STATE <input type="checkbox"/> | FEE <input type="checkbox"/> NMNM |
| 6. State Oil & Gas Lease No. | 025857 |
| N/A | |
| 7. Lease Name or Unit Agreement Name WF Federal 21 | |
| 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, Farmington, NM 87401

4. Well Location
Unit Letter B : 1185 feet from the North line and 1425 feet from the East line
Section 21 Township 30 N Range 14W NMPM San Juan County NM

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
5690' GR

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

Pit Location: UL B Sect 21 Twp 30N Rng 14W Pit type Drilling Depth to Groundwater >100' Distance from nearest fresh water well >1/2 mile
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 E-mail address: Telephone No. 564-8115

(This space for State use)

APPROVED BY TITLE DATE
Conditions of approval, if any:

WF Federal 21 # 4
well pad and section

