



Santa Fe Energy Resources, Inc.

RECEIVED

MAR 24 1995

Oil Conservation Division

March 17, 1995

New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Sirs:

Attached is an application to dispose of produced water into Santa Fe Energy Resources, Inc. proposed Old Ranch Knoll "8" Fed. No.4. We have completed the requirements set out in Form C-108 and are seeking administrative approval of the application.

Should you have questions regarding this application, please do not hesitate to call me at 915-686-6614.

Sincerely,

Darrell Roberts

Darrell Roberts
Division Drilling Engineer

ork84-3.doc

XC: NMOCD - Artesia, NM
Jim Bruce - Hinkle Law Firm - Santa Fe, NM

Application for Authorization to Inject
New Mexico Oil Conservation Division
Energy and Minerals Department
Form C-108

- I. Purpose: Secondary Recovery Pressure Maintenance Disposal Storage
Application Qualifies for administrative approval? Yes No.
- II. Operator: Santa Fe Energy Resources, Inc.
Address: 550 W. Texas Suite 1330, Midland, Texas 79701
Contact Party: Darrell Roberts - Drilling Engineer Phone: 915-687-3551
- III. Well Data: Attached are well data sheets for the proposed casing designs for the subject disposal well as specified on the reverse side of Form C-108.
- IV. Is this an expansion of an existing project? yes no.
If yes, give the Division Order number authorizing the project None.
- V. Attached is a map identifying the proposed well's area of review. The map identifies all wells and leases within two miles of the proposed disposal well and a one-half mile radius circle has been drawn around the proposed disposal well.
- VI. There are no wells within the area of review which penetrated the proposed injection zone.
- VII.
 1. We propose to dispose of an estimated 15,000 BWPD which is formation water from the Cisco-Canyon zones, from offset wells.
 2. The system will be closed, the water will come via pipeline from the Central Tank Battery located approximately 400' south of the proposed well.
 3. The estimated average injection pressure is on a vacuum to 100 psi. and estimated maximum injection pressure is 1000 psi.
 4. We have not drilled the well yet, so we do not have formation water from the injection zone to test the compatibility with the proposed injection water.
 5. No known samples of formation water from the Devonian or Montoya.
- VIII. The proposed injection zones in this well for the disposal of produced formation waters from the Cisco-Canyon formations are the Devonian and Montoya formations. These formations are expected to be encountered between the depth of 10,630' and 11,400' in the proposed wellbore. Lithologically these formations are similar, consisting of dolomite and cherty dolomites that exhibit intercrystalline to vuggy porosity. The proposed injection interval will be in selected porous intervals over a gross Devonian/Montoya section of approximately 750 feet in thickness. On October 3, 1994 we drilled a potential water well located in the NE/4 SW/4 of this same section. We drilled the well to total depth of 190 feet and did not encounter any water bearing formations. The well was plugged and abandoned. There are no known underground sources of drinking water in the immediate area.
- IX. After running open hole logs over the Devonian and Montoya formations, porous intervals will be perforated through the 7" casing and the injection intervals will be acidized with 15 % HCl to improve the injectivity of the proposed zones.
- X. We plan to run a porosity log and resistivity log over the entire Devonian and Montoya formations.

- XI. No known fresh water wells within one mile of the proposed well.
- XII. There is no known underground source of drinking water for possible open faults or hydrologic connection to have communication to the disposal water. The proposed disposal zone at almost two miles below the surface is so far removed from the surface that contamination of possible drinking water sources by communication should not a concern.
- XIII. We have mailed a copy of this application to the Bureau of Land Management, Carlsbad Resource Area, as they are the owners of the land on which the well is located. We have also mailed a copy of this application to Yates Petroleum Corp., Artesia, New Mexico, as they are the only leasehold operator within one-half mile of the proposed well location. We have also attached a copy of an Affidavit of Publication to verify that we had a legal advertisement published in the Carlsbad Current- Argus on February 21 & 28, 1995, per the requirements of this application. We will supply you with the verification that certified letters were sent to the BLM & Yates Petroleum once we have received the signature cards from the various parties.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

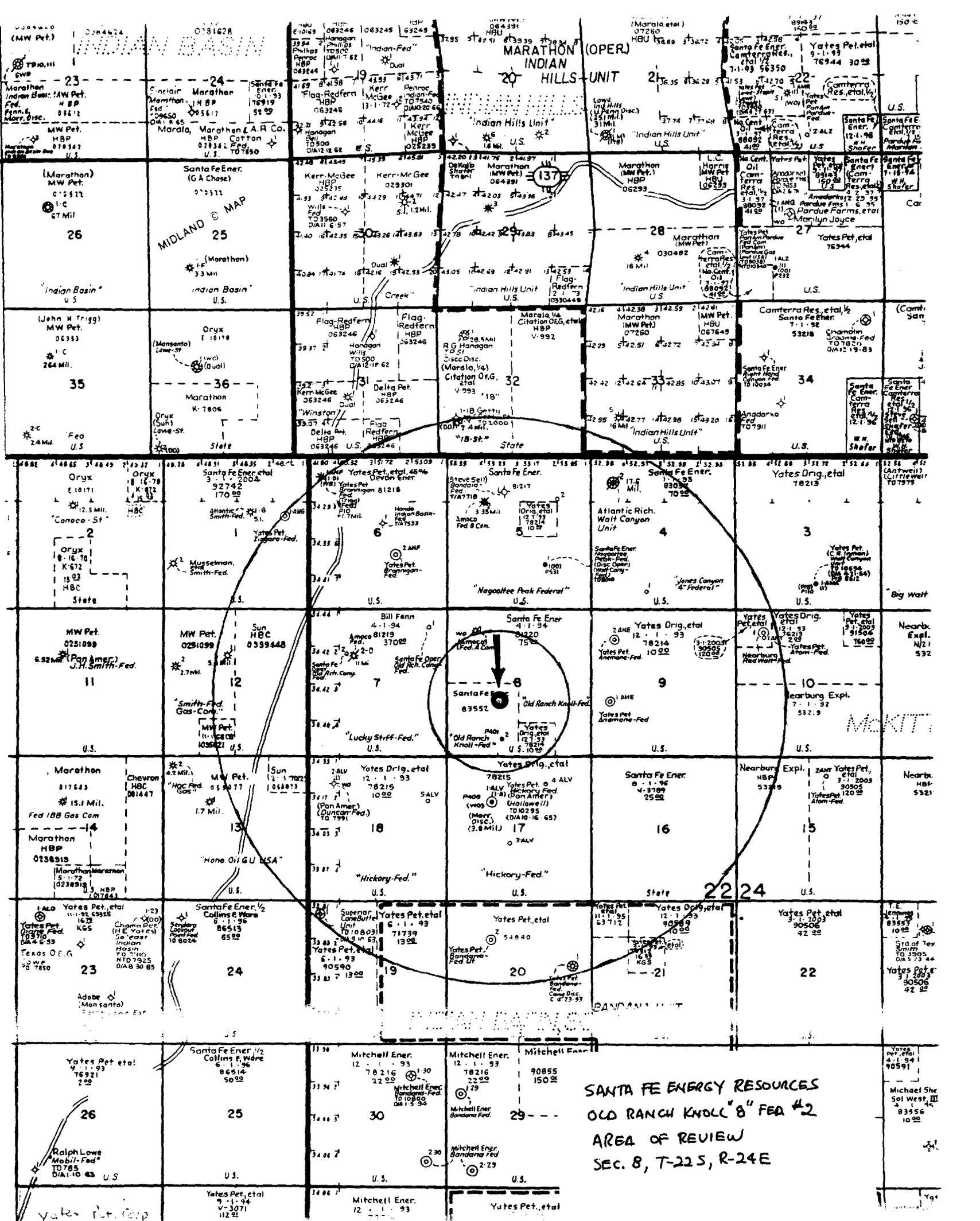
Name: Darrell Roberts Title: Division Drilling Engineer

Signature: *Darrell Roberts* Date: 3/7/95

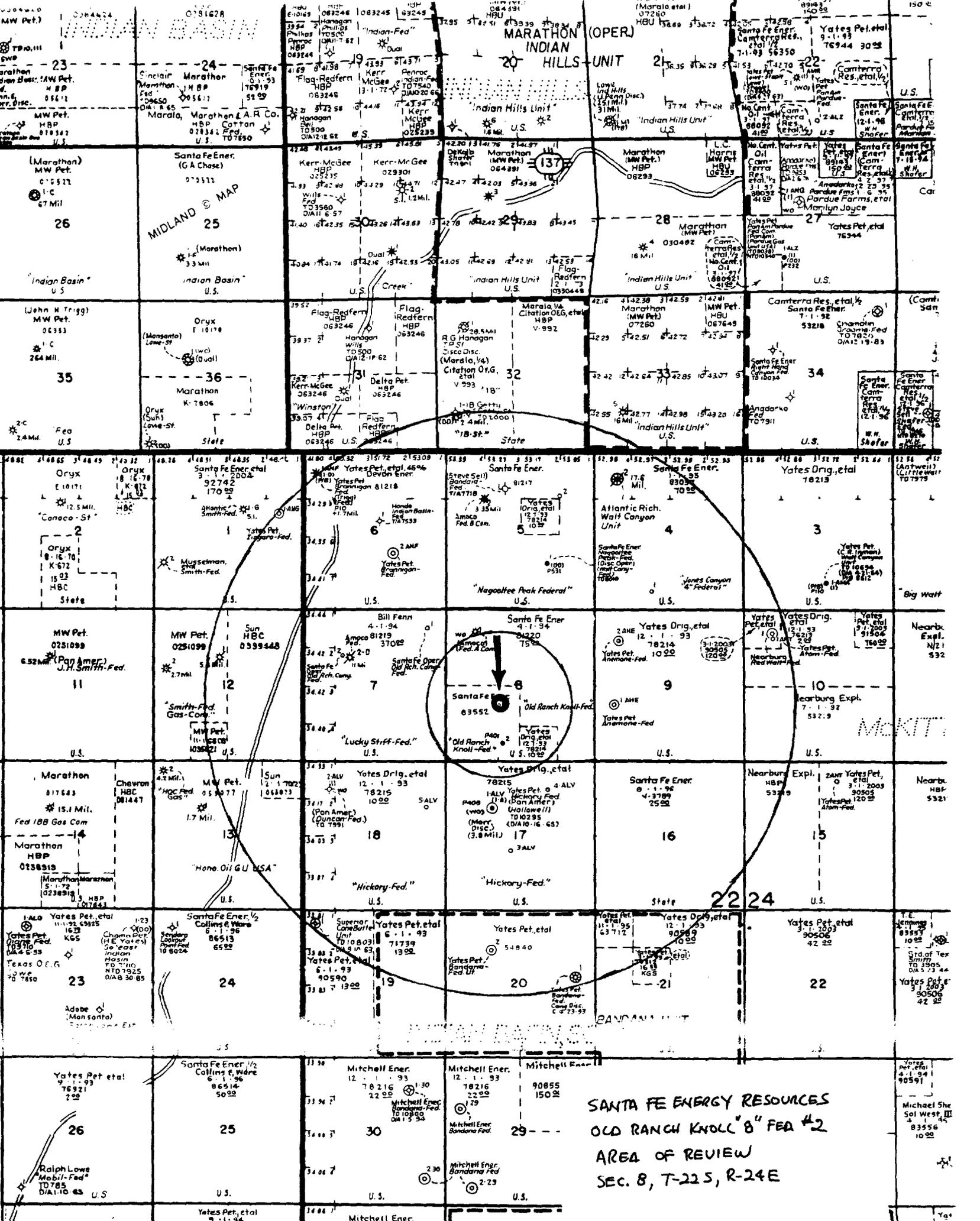
- XC: NMOCD - Santa Fe
- NMOCD- Artesia
- BLM - Carlsbad
- Yates Petroleum - Artesia
- Hinkle Law Firm - Santa Fe

Santa Fe Energy Resources, Inc.
Old Ranch Knoll "8" Federal No.4
Application for Authorization to Inject
Well Data for NMOCD Form C-108

- III. A. (1) Name & Location: Old Ranch Knoll "8" Federal No.4 SWD
1804' FSL & 1921' FWL
Section 8, T-22S, R-24E
Lea County, New Mexico
- III. A. (2) Casing & Cement:
- Surface Casing: Drill a 17-1/2" hole to approximately 350'. Run 13-3/8" 48.0 ppf H-40 ST&C casing. Cement with 400 sx Class "C" + 2% CaCl₂ + 1/4 pps celloflake mixed at 14.8 ppg and 1.32 ft³/sk yield to circulate to the surface.
- Intermediate Casing: Drill a 12-1/4" hole to approximately 2500'. Run 9-5/8" 36.0 ppf K-55 ST&C casing. Cement with 900 sx Class "C" Lite (35:65:6) + 2% CaCl₂ mixed at 12.7 ppg and 1.84 ft³/sk and tail-in with 300 sx Class "C" + 2% CaCl₂ mixed at 14.8 ppg and 1.32 ft³/sk yield to circulate to the surface.
- Production Casing: Drill a 8-3/4" hole to approximately 11,400'. Run 7" 26.0 ppf K-55 &C-90 LT&C and BT&C casing. Cement with 900 sx Class "H" + 0.8% Halad-322 + 5% Salt mixed at 15.7 ppg and 1.18 ft³/sk yield to circulate cement to approximately 6,000'.
- III. A. (3) Injection Tubing: 4-1/2" 11.60 ppf N-80 AB-Mod LT&C tubing, internally plastic coated with ICO SC650, hung off in the wellhead and attached to packer at approximately 10,600'.
- III. A. (4) Injection Packer: 4-1/2" X 7" Guiberson Uni VI Packer with an On-Off Tool, all internally plastic coated and set at approximately 10,600'.
- III. B (1) Injection Formation: Devonian and Montoya.
- III. B (2) Injection Interval: Selected porous intervals within the Devonian and Montoya formations from 10,630'-11,400' and the intervals will be perforated through the 7" casing.
- III. B (3) This proposed well is being drilled strictly for disposal purposes.
- III. B (4) We do not plan to test any other intervals in this wellbore.
- III. B (5) The Morrow Sands have produced in the area in an interval from 9,700'- 10,000'. The Cisco Canyon formation is the primary productive horizon in the area and it produces from an interval from 8,000'- 8,400' and this well will be utilized to dispose of produced from this interval (see attached water analyses).



**SANTA FE ENERGY RESOURCES
 OLD RANCH KNOLL #8 FEED #2
 AREA OF REVIEW
 SEC. 8, T-22S, R-24E**



McKIT

**Yates etal
 4-1-94
 90591**

**Michael She
 Sol West, III
 83556
 10 22**

22-141 50 SHEETS
 22-142 100 SHEETS
 22-144 200 SHEETS



Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 YATES PETROLEUM CORP.
 105 SOUTH 4TH
 ARTESIA NEW MEXICO 88220

4a. Article Number
 P 198*931 139

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 MAR 9 1995

5. Signature (Addressee)
[Handwritten Signature]

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
[Handwritten Signature]

PS Form 3811, December 1991 U.S. GPO: 1993-362-714 DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete item 1 and/or 2 for additional services.
- Complete item 3 and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 US DEPT. OF INTERIOR
 BUREAU OF LAND MANAGEMENT
 P.O. BOX 1778
 CARLSBAD NEW MEXICO 88221-1778

4a. Article Number
 P 198 931 140

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 MAR 9 1995

5. Signature (Addressee)
[Handwritten Signature]

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
[Handwritten Signature]

PS Form 3811, December 1991 U.S. GPO: 1993-362-714 DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

13,782 500 SHEETS FILLER 5 SQUARE
 42,381 50 SHEETS EYE-EASE 5 SQUARE
 42,382 100 SHEETS EYE-EASE 5 SQUARE
 42,383 200 SHEETS EYE-EASE 5 SQUARE
 42,384 100 RECYCLED WHITE 5 SQUARE
 42,385 200 RECYCLED WHITE 5 SQUARE
 Made in U.S.A.



P 198 931 140 DR



Receipt for Certified Mail

No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

PS Form 3800, June 1991

| | |
|---|----|
| Sent to Bureau of Land Management | |
| Street and No. P.O. Box 1778 | |
| P.O. State and ZIP Code Carlsbad, NM 8221-1778 | |
| Postage | \$ |
| Certified Fee | |
| Special Delivery Fee | |
| Restricted Delivery Fee | |
| Return Receipt Showing to Whom & Date Delivered | |
| Return Receipt Showing to Whom, Date, and Addressee's Address | |
| TOTAL Postage & Fees | \$ |
| Postmark or Date <i>Old Ranch Knoll "9" Feb #4</i> | |

P 198 931 139 DR



Receipt for Certified Mail

No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

PS Form 3800, June 1991

| | |
|---|----|
| Sent to Yates Petroleum Corp. | |
| Street and No. 105 SOUTH 4th | |
| P.O. State and ZIP Code Artesia, NM 88220 | |
| Postage | \$ |
| Certified Fee | |
| Special Delivery Fee | |
| Restricted Delivery Fee | |
| Return Receipt Showing to Whom & Date Delivered | |
| Return Receipt Showing to Whom, Date, and Addressee's Address | |
| TOTAL Postage & Fees | \$ |
| Postmark or Date <i>Old Ranch Knoll "8" Feb #4</i> | |

Santa Fe Energy Resources, Inc.

Sent Via Certified Mail

March 8, 1995

Yates Petroleum Corp.
105 S. 4th
Artesia, New Mexico 88220

Dear Sirs:

Enclosed is a copy of an Application for Authority to Inject (NMOCD Form C-108) that Santa Fe Energy Resources, Inc. is filing with the NMOCD in Santa Fe, New Mexico.

We plan to drill this well to a depth of 11,400' for the purpose of disposing of produced water from our Central Tank Battery located in Section 8, T-22S, R-34E, Eddy County, New Mexico. We are sending you a copy of this application as part of the requirements specified by the NMOCD. Yates Petroleum Corp. is a leasehold operator within one-half mile of the proposed well, your Hickory Fed. No.1 is located in Section 17.

Should you have any questions, please do not hesitate to call me at 915-687-3551.

Sincerely,



Darrell Roberts
Division Drilling Engineer

ork84-2.doc



Sent Via Certified Mail

March 8, 1995

U.S. Department of the Interior
Bureau of Land Management
P.O. Box 1778
Carlsbad, New Mexico 88221-1778

Dear Sirs:

Enclosed is a copy of an Application for Authority to Inject (NMOCD Form C-108) that Santa Fe Energy Resources, Inc. is filing with the NMOCD in Santa Fe, New Mexico. This well is called the Old Ranch Knoll "8" Federal No.4 SWD and a BLM APD was filed on February 3, 1995. This notification is being sent as part of the permitting process to notify the owner of the surface around the proposed disposal well; the surface around the subject well is under the jurisdiction of the BLM.

Should you have any questions, please do not hesitate to call me at 915-687-3551.

Sincerely,

A handwritten signature in cursive script that reads "Darrell Roberts".

Darrell Roberts
Division Drilling Engineer

ork84-1.doc

Central Division
550 W. Texas, Suite 1330
Midland, Texas 79701
915/687-3551

Affidavit of Publication

No 16964

February 21, 28, 1995

State of New Mexico,
County of Eddy, ss.

Amy McKay
being first duly sworn, on oath says:

That she is Business Manager
of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the state wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

February 21, 19 95
February 28, 19 95
_____, 19____
_____, 19____
_____, 19____
_____, 19____

That the cost of publication is \$ 39.02,
and that payment thereof has been made and will be assessed as court costs.

Amy McKay

Subscribed and sworn to before me this

1st day of March, 1995

Donna Crump

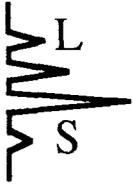
My commission expires 8/01/98

Notary Public

Santa Fe Energy Resources, Inc. has made application to drill the Old Ranch Knoll "8" Fed. No. 4 to a depth of 11,400' for the sole purpose of disposing of formation water into the Devonian/Montoya formations at selected intervals from 10,600'-11,300'. The proposed well location is at 1804' FSL: E 1921' FWE: of Section 8, T-22S, R-24E, Eddy County, New Mexico. We plan to dispose of approximately 15,000 barrels of water per day at an estimated pressure of 1,000 psi.

Interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days of the publication of this notice.

Applicant:
Santa Fe Energy Resources, Inc.
550 W. Texas, Suite 1330
Midland, Texas 79701
Phone: 915-687-3551
Attention: Darrell Roberts



Laboratory Services, Inc.

1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

CC: Mike Burton

WATER ANALYSIS

COMPANY Sante Fe Energy

SAMPLE Old Ranch Canyon 7 Federal #1

SAMPLED BY Bobby Fowler - Omega

DATE TAKEN 10/6/94 12:00PM

REMARKS Sample Temp. 106 Atmos. Temp. 75

| | | |
|----------------------------|--------|---------|
| Barium as Ba | 0.00 | |
| Carbonate alkalinity PPM | 36 | |
| Bicarbonate alkalinity PPM | 760 | |
| pH at Lab | 7.38 | |
| Specific Gravity @ 60° F | 1.003 | |
| Magnesium as Mg | 1,102 | |
| Total Hardness as CaCO3 | 1,900 | |
| Chlorides as Cl | 2,471 | |
| Sulfate as SO4 | 1,850 | |
| Iron as Fe | 0.02 | |
| Potassium | 1.15 | |
| Hydrogen Sulfide | 366.21 | |
| Resistivity Ohms | 2.1500 | 24.4° C |
| Total Dissolved Solids | 5,750 | |
| Calcium as CA | 798 | |
| Nitrate | 92.40 | |

Results reported as Parts per Million unless stated

Langelier Saturation Index +1.18

Analysis by Rolland Perry
Date: 10-07-94

UNICHEM INTERNATIONAL
P.O. BOX 61427 4312 County Road 1298 S.
Midland, Texas 79711

Santa Fe Energy

Report Date: May 3, 1994
Lab In Date: May 2, 1994
Sample Date: April 28, 1994

Listed below please find our water analysis report from Roaring Springs, Fed. #1 :

Specific Gravity: 1.022
Total Dissolved Solids: 30443
PH: 6.85
Ionic Strength: .578

CATIONS:

mg/liter
Calcium: (Ca++) 1120
Magnesium: (Mg++) 292
Sodium: (Na+) 9939
Iron (Total) (Fe++) 1.10
Barium (Ba++) 3.20
Manganese: (Mn++) 2.05
Resistivity:

ANIONS:

Bicarbonate: (HCO3-) 756
Carbonate: (CO3--) 0
Hydroxide: (OH-) 0
Sulfate: (SO4--) 2336
Chloride: (Cl-) 16000

GASES:

Carbon Dioxide: (CO2) 290.0
Oxygen: (O2) *****
Hydrogen Sulfide: (H2S) 340.0

SCALE INDEX (Positive Value Indicates Scale Tendency) * indicates tests were not run.

| Temperature | CaCO3 SI | CaSO4 SI |
|-------------|----------|----------|
| 86F 30.0C | .26 | -16.92 |
| 104F 40.0C | .49 | -17.21 |
| 122F 50.0C | .73 | -17.04 |
| 140F 60.0C | 1.06 | -16.46 |
| 168F 70.0C | 1.37 | -15.52 |
| 176F 80.0C | 1.71 | -13.49 |

If you have any questions or require further information, please contact us.

Sincerely,

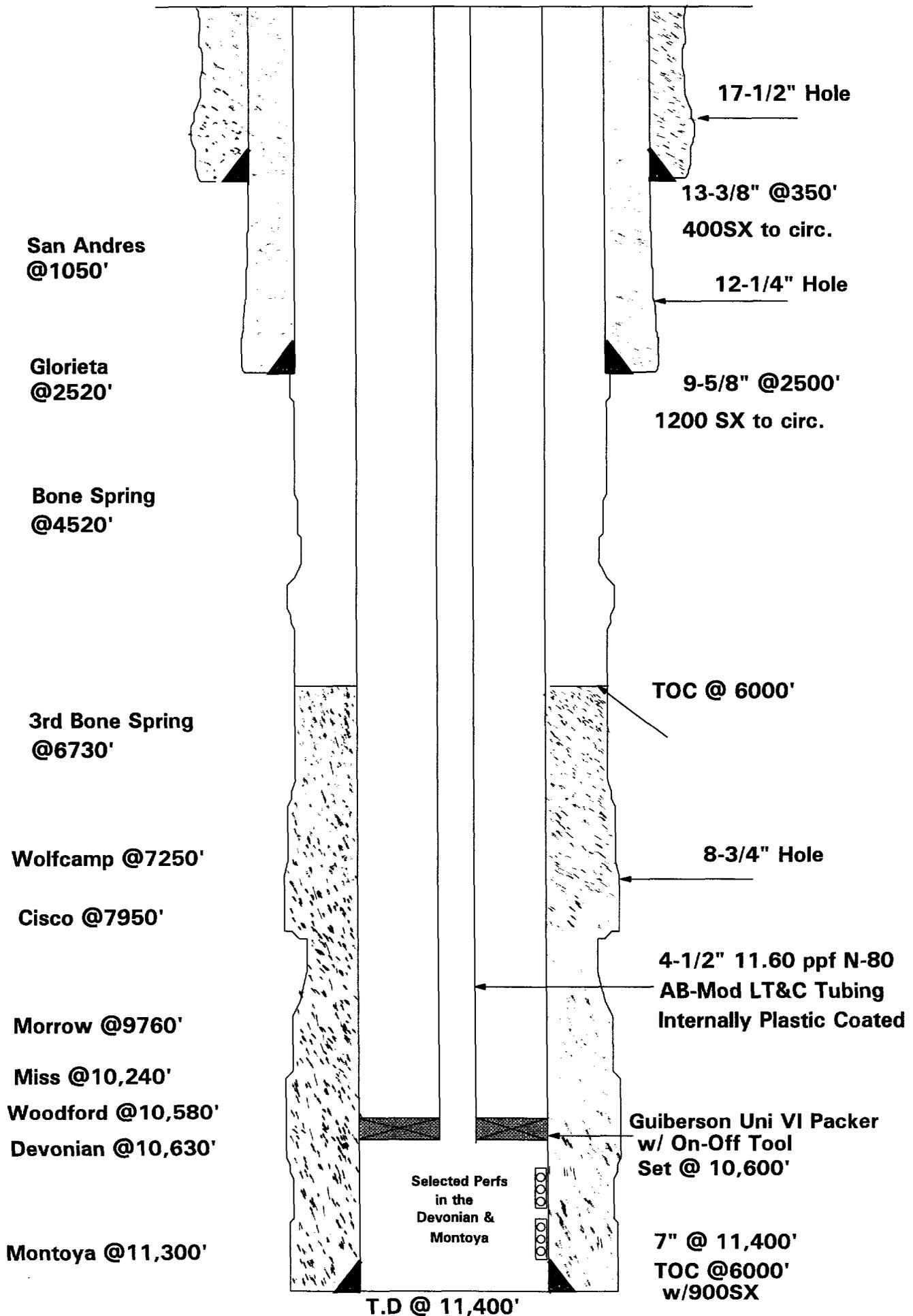
Jeanne M. McMurray

Laboratory Technician

cc:

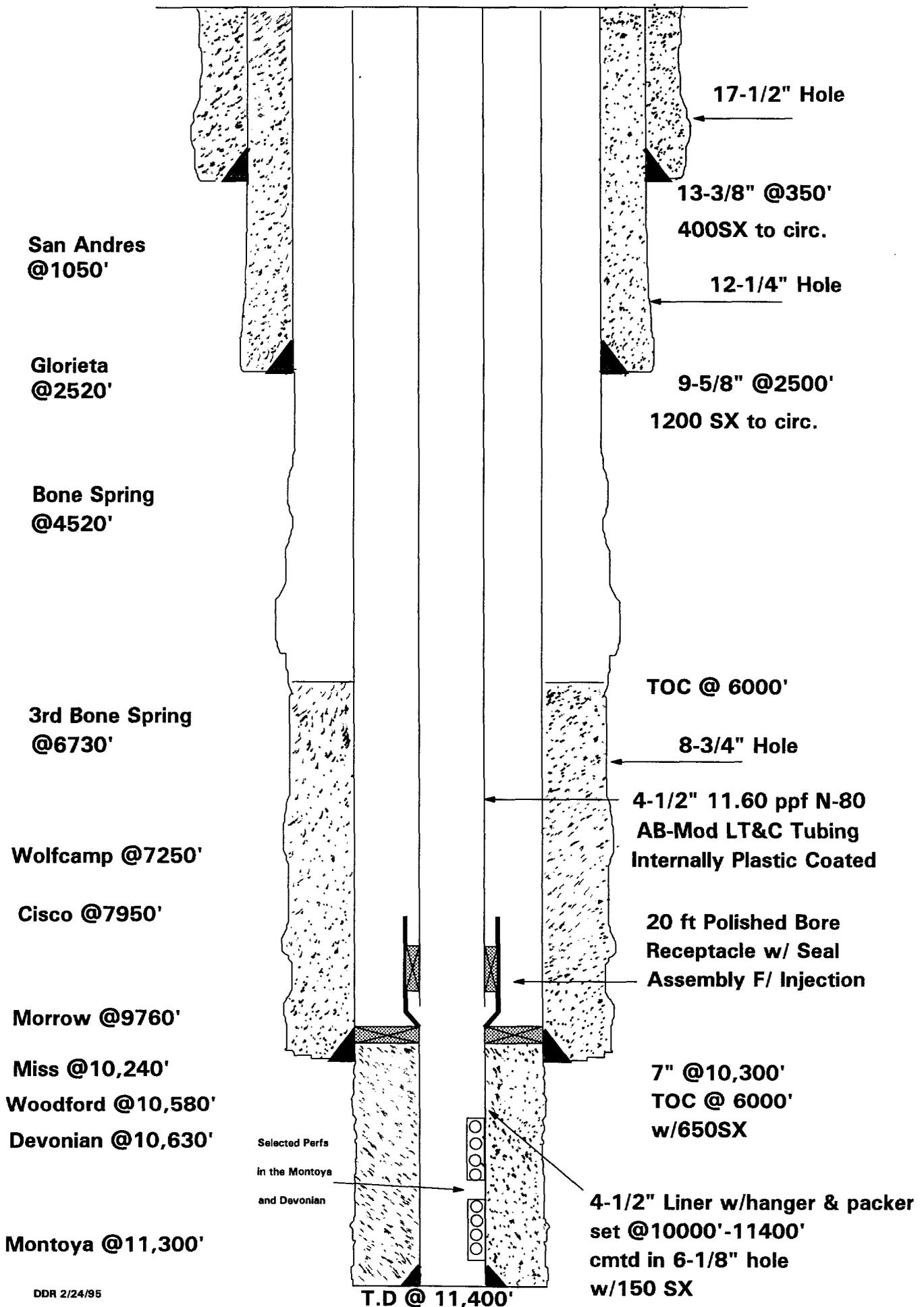
bc: Jerry Fuller
Kenny Tuttle

**Santa Fe Energy Resources
 Old Ranch Knoll "8" Fed. No.4 SWD
 1804' FSL & 1921' FWL
 Sec. 8-22S-24E, Lea Co., NM
 Proposed Wellbore Schematic**



**Santa Fe Energy Resources
 Old Ranch Knoll "8" Fed. No.4 SWD
 1804' FSL & 1921' FWL
 Sec. 8-22S-24E, Lea Co., NM
 Proposed Wellbore Schematic**

**Contingency Plan for
 Severe Lost Circulation
 in Cisco/Canyon**



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT - " for such proposals

SUBMIT IN TRIPLICATE

| | |
|---|--|
| 1. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other | 5. Lease Designation and Serial No. NM-89552 |
| 2. Name of Operator Santa Fe Energy Resources, Inc. | 6. If Indian, Allottee or Tribe Name |
| 3. Address and Telephone No. 550 W. Texas, Suite 1330, Midland, TX 79701 915-687-3551 | 7. If Unit or CA. Agreement Designation |
| 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) (K), 1921' FWL & 1804' FSL, Sec.8-22S-24E, Eddy County, N.M. | 8. Well Name and No. Old Ranch Knoll "8" Fed. No.4 |
| | 9. API Well No. |
| | 10. Field and Pool, or exploratory Area Wildcat (SWD) |
| | 11. County or Parish, State Eddy NM |

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION |
|---|---|
| <input type="checkbox"/> Notice of Intent | <input type="checkbox"/> Abandonment |
| <input checked="" type="checkbox"/> Subsequent Report | <input type="checkbox"/> Recompletion |
| <input type="checkbox"/> Final Abandonment Notice | <input type="checkbox"/> Plugging Back |
| | <input type="checkbox"/> Casing Repair |
| | <input type="checkbox"/> Altering Casing |
| | <input type="checkbox"/> Other _____ |
| | <input checked="" type="checkbox"/> Change of Plans |
| | <input type="checkbox"/> New Construction |
| | <input type="checkbox"/> Non-Routine Fracturing |
| | <input type="checkbox"/> Water Shut-Off |
| | <input type="checkbox"/> Conversion to Injection |
| | <input type="checkbox"/> Dispose Water |

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Per Barry Hunt's request, Santa Fe Energy Resources Inc. has moved the proposed location for the captioned well from 1854' FSL & 1921' FWL to 1804' FSL & 1921' FWL of Section 8, T-22S, R-24E, Eddy County, New Mexico.

14. I hereby certify that the foregoing is true and correct

Signed *Daniel Polito* Title Division Drilling Engineer Date March 15, 1995

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____

Conditions of approval, if any:

DISTRICT I
 P. O. Box 1980
 Hobbs, NM 88241-1980

State of New Mexico
 Energy, Minerals, and Natural Resources Department

Form C-102
 Revised 02-10-94
 Instructions on back

DISTRICT II
 P. O. Drawer DD
 Artesia, NM 88211-0719

OIL CONSERVATION DIVISION
 P. O. Box 2088
 Santa Fe, New Mexico 87504-2088

Submit to the Appropriate
 District Office
 State Lease - 4 copies
 Fee Lease - 3 copies

DISTRICT III
 1000 Rio Brazos Rd.
 Aztec, NM 87410

AMENDED REPORT

DISTRICT IV
 P. O. Box 2088
 Santa Fe, NM 87507-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | | | | | | | | |
|---|--------------|--|----------------------------|------------------------------|------------------------|---------------------------|------------------------|------------------------|----------------|
| 1 API Number | | 2 Pool Code | | 3 Pool Name WILDCAT (SWD) | | | | | |
| 4 Property Code | | 5 Property Name KNOX OLD RANCH NELE FEDERAL | | | | | 6 Well Number 4 | | |
| 7 OGRID No. | | 8 Operator Name SANTA FE ENERGY RESOURCES, INC. | | | | | 9 Elevation 4124' | | |
| 10 SURFACE LOCATION | | | | | | | | | |
| UL or lot no. K | Section 8 | Township 22 SOUTH | Range 24 EAST, N.M.P.M. | Lot Ida | Feet from the 1921' | North/South line SOUTH | Feet from the 1804' | East/West line WEST | County EDDY |
| 11 BOTTOM HOLE LOCATION IF DIFFERENT FROM SURFACE | | | | | | | | | |
| UL or lot no. | Section | Township | Range | Lot Ida | Feet from the | North/South line | Feet from the | East/West line | County |
| 12 Dedicated Acres | | 13 Joint or Infill | | 14 Consolidation Code | | 15 Order No. | | | |

NO ALLOWABLE WELL BE 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.

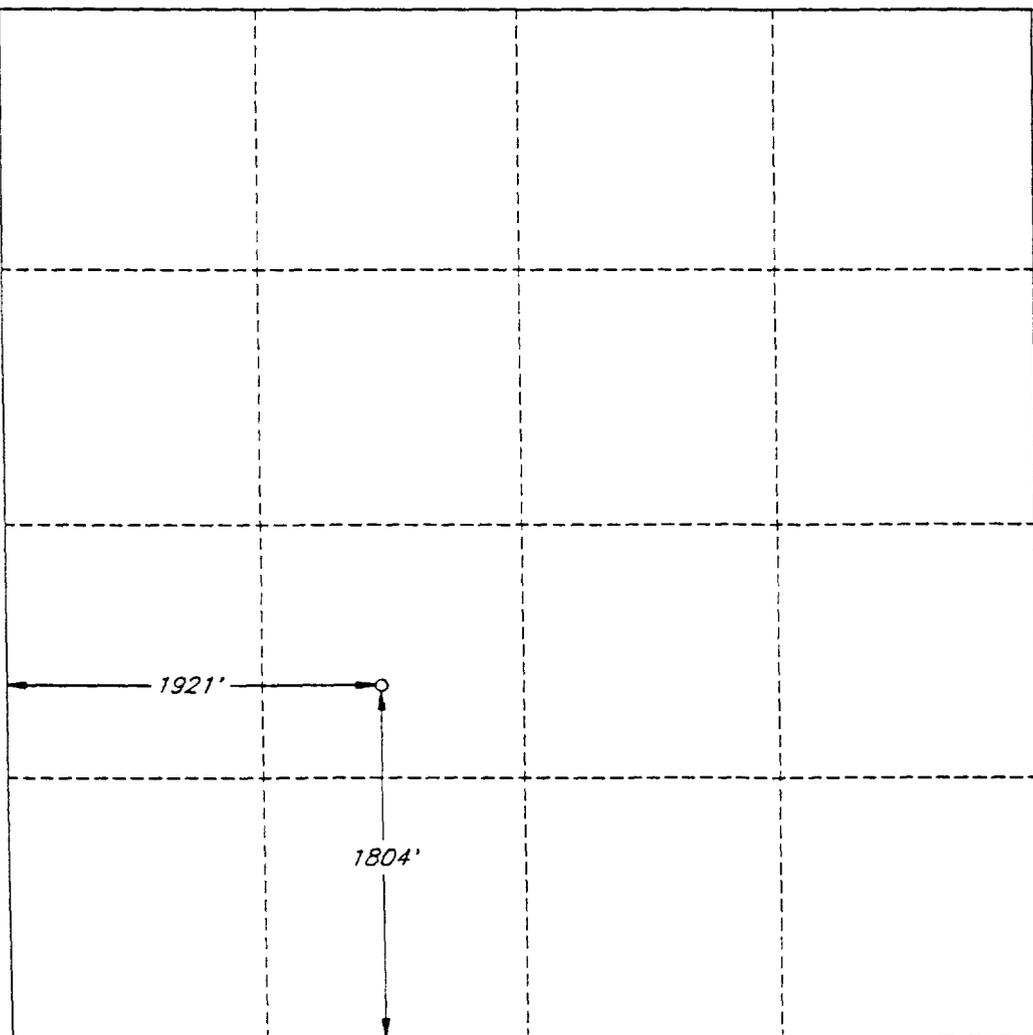
Signature
Darrell Roberts
 Printed Name
 DARRELL ROBERTS
 Title
 DIVISION DRILLING ENGINEER
 Date
 MARCH 15, 1995

SURVEYOR CERTIFICATION

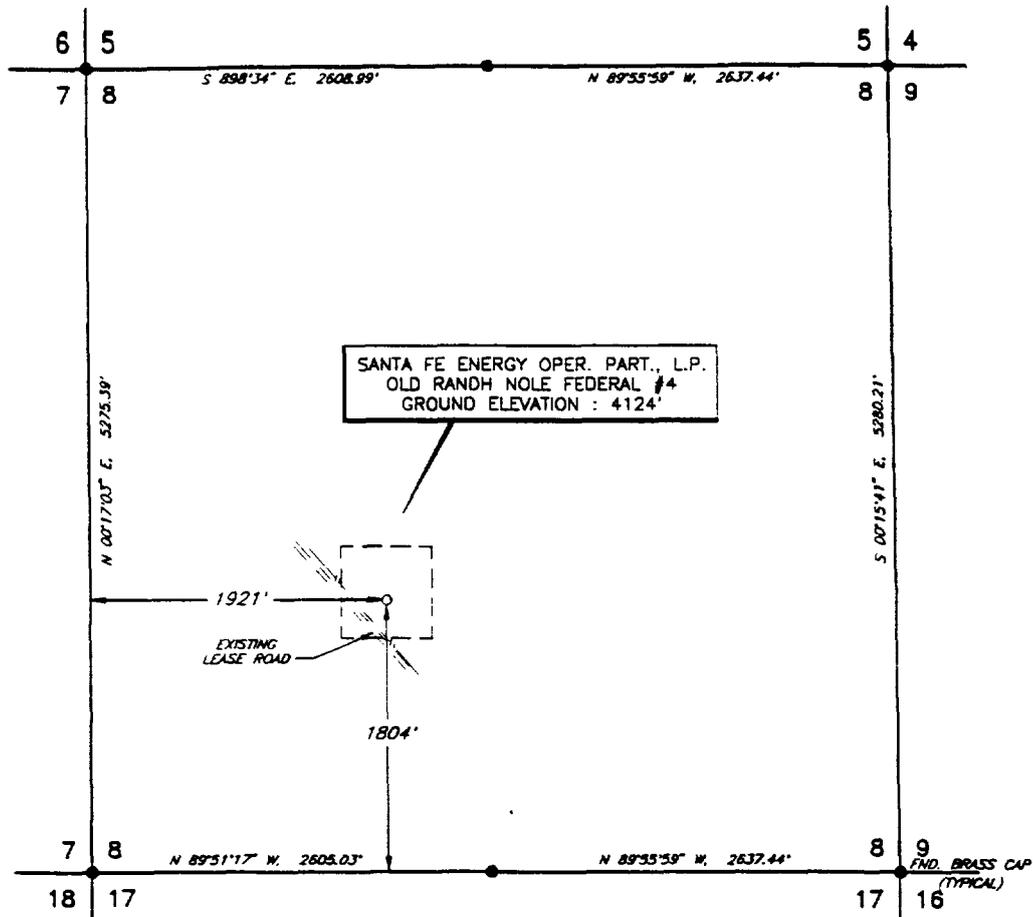
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey
 MARCH 10, 1995
 Signature and Seal of
 Professional Surveyor

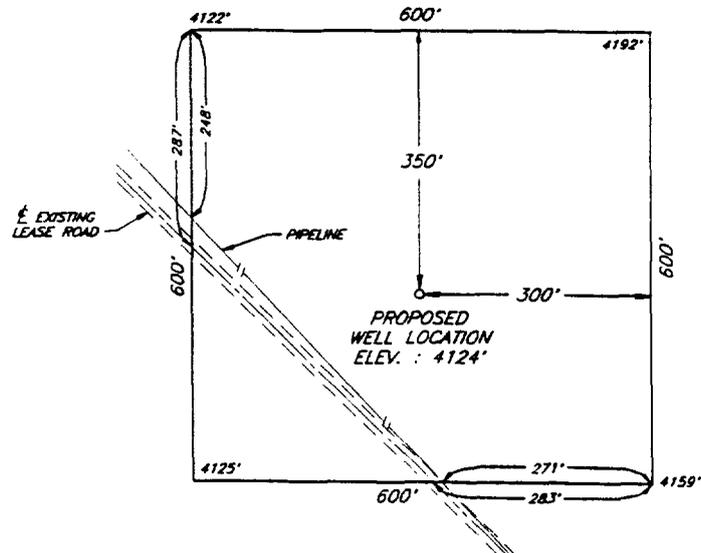
V. Lynn Beznar
 Certificate No.
 V. L. BEZNER R.P.S. #7920



PLAT SHOWING PROPOSED
WELL LOCATION AND LEASE ROAD IN
SECTION 8, T-22-S, R-24-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



PLAN VIEW
1" = 1000'



DETAIL VIEW
1" = 200'

| | | | | |
|--------------|------------|--------------|---|------------------------|
| | | | SANTA FE ENERGY RESOURCES, INC. MIDLAND, TEXAS | SCALE: AS SHOWN |
| 1 | MOVED LOC. | 5-10-95/V.B. | | DATE: FEBRUARY 2, 1995 |
| NO. | REVISION | DATE BY | SURVEYING AND MAPPING BY TOPOGRAPHIC LAND SURVEYORS MIDLAND, TEXAS | JOB NO.: 37856-F |
| SURVEYED BY: | | R.B. | | 51 NE |
| DRAWN BY: | | V.H.B. | | SHEET : 1 OF 1 |
| APPROVED BY: | | V.L.B. | | |

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.
NM 89552

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME, WELL NO.
Old Ranch Knoll "8" Fed #4

9. API WELL NO.

10. FIELD AND POOL, OR WILDCAT
Wildcat (SWD)

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 8, T-22-S, R-24-E

12. COUNTY OR PARISH
Eddy

13. STATE
New Mexico

1a. TYPE OF WORK
DRILL DEEPEN

b. TYPE OF WELL
OIL WELL GAS WELL OTHER SWD SINGLE ZONE MULTIPLE ZONE

2. NAME OF OPERATOR
Santa Fe Energy Resources, Inc.

3. ADDRESS AND TELEPHONE NO.
550 W. Texas, Suite 1330, Midland, Texas (915) 682-6373

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface
(K) 1854' FSL & 1921' FWL
At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
15 miles West of Carlsbad, New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any) 740'

16. NO. OF ACRES IN LEASE 160

17. NO. OF ACRES ASSIGNED TO THIS WELL 0

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 1243'

19. PROPOSED DEPTH 11400'

20. ROTARY OR CABLE TOOLS
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
4122.28 GR

22. APPROX. DATE WORK WILL START*
April 1, 1995

23. PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | GRADE, SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT |
|--------------|-----------------------|-----------------|---------------|----------------------|
| 17-1/2" | H-40 13-3/8" | 48 | 350' | 400 sx to circulate |
| 12-1/4" | K-55 9-5/8" | 36 | 2500' | 1200 sx to circulate |
| 8-3/4" | K-55, C-90 7" | 26 | 11400' | TOC @ 6000' |

We propose to drill to a depth sufficient to penetrate the Devonian/Montoya formations. If sufficient porosity and permeability are encountered 7" casing will be run to TD and the well will be completed as a salt water disposal well. Specific programs as per Onshore Oil and Gas Order No. 1 are outlined in the following attachments:

Drilling Program

- Exhibit A - Operations Plan
- Exhibit B - BOP & Choke Manifold
- Exhibit C - Drilling Fluid Program
- Exhibit D - Auxiliary Equipment
- Exhibit E - Topo Map of Location
- Exhibit F - Plat Showing Existing Wells
- Exhibit F (A) - Plat of Location
- Exhibit G - Well Site Layout
- Surface Use and Operations Plan
- H₂S Drilling Operations Plan

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. SIGNED James J. Phil Stinson TITLE Agent for Santa Fe Energy DATE February 3, 1995
(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 _____ TITLE _____ DATE _____

*See Instructions On Reverse Side

DISTRICT I
 P. O. Box 1980
 Hobbs, NM 88241-1980

State of New Mexico
 Department of Minerals, and Natural Resources

Form C-102
 Revised 02-10-94
 Instructions on back

DISTRICT II
 P. O. Drawer DD
 Artesia, NM 88211-0719

OIL CONSERVATION DIVISION
 P. O. Box 2088
 Santa Fe, New Mexico 87504-2088

Submit to the Appropriate
 District Office
 State Lease - 4 copies
 Fee Lease - 3 copies

DISTRICT III
 1000 Rio Brazos Rd.
 Aztec, NM 87410

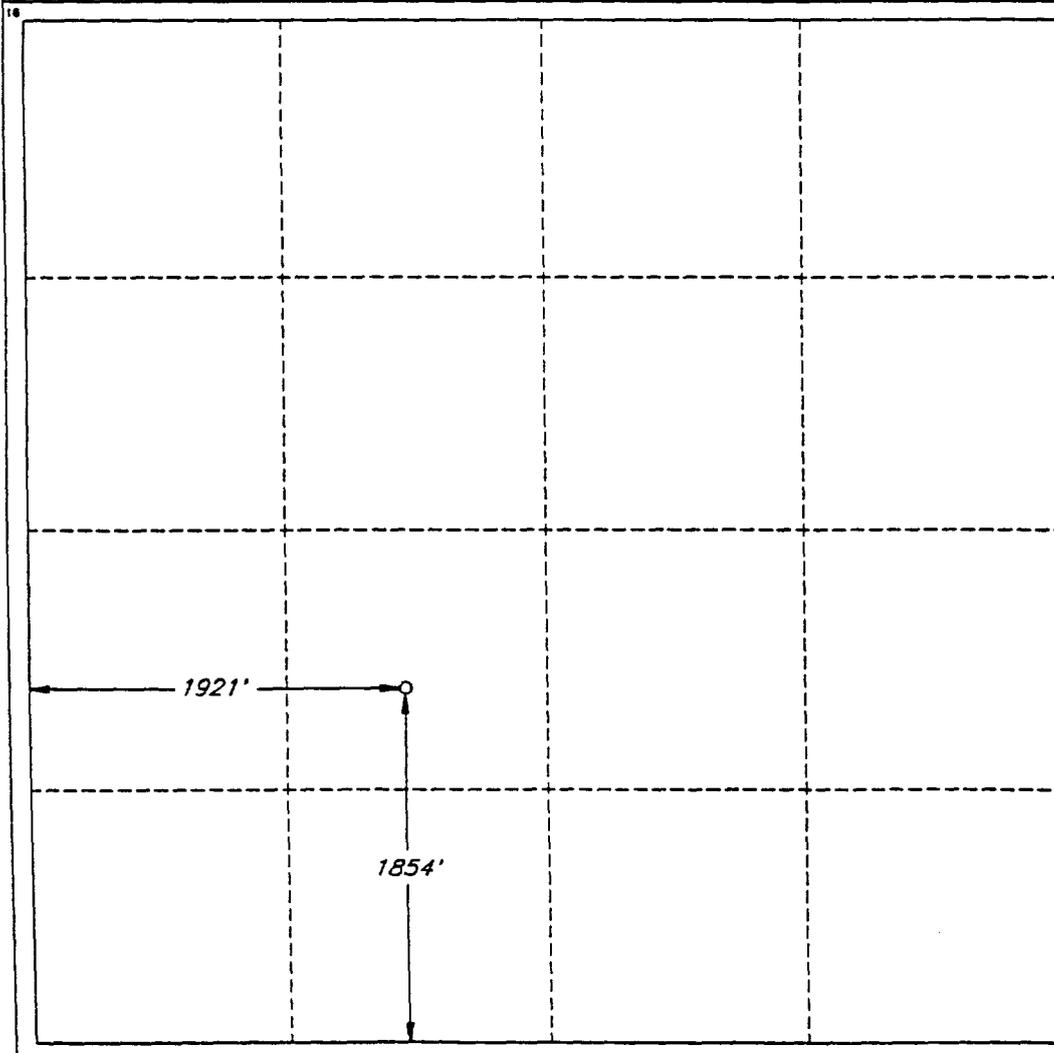
AMENDED REPORT

DISTRICT IV
 P. O. Box 2088
 Santa Fe, NM 87507-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

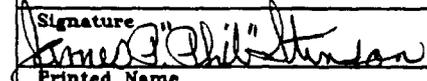
| | | | | | | | | | |
|--|--------------|--|----------------------------|------------------------------|------------------------|---------------------------|------------------------|------------------------|----------------|
| 1 API Number | | 2 Pool Code | | 3 Pool Name Wildcat (SWD) | | | | | |
| 4 Property Code | | 5 Property Name Knoll "8" OLD RANCH FEDERAL | | | | | 6 Well Number 4 | | |
| 7 OGRID No. | | 8 Operator Name SANTA FE ENERGY OPER. PART, L.P. | | | | | 9 Elevation 4122' | | |
| 10 SURFACE LOCATION | | | | | | | | | |
| UL or lot no. K | Section 8 | Township 22 SOUTH | Range 24 EAST, N.M.P.M. | Lot Ida | Feet from the 1921' | North/South line SOUTH | Feet from the 1854' | East/West line WEST | County EDDY |
| "BOTTOM HOLE LOCATION IF DIFFERENT FROM SURFACE" | | | | | | | | | |
| UL or lot no. | Section | Township | Range | Lot Ida | Feet from the | North/South line | Feet from the | East/West line | County |
| 12 Dedicated Acres 0 | | 13 Joint or Infill | | 14 Consolidation Code | | 15 Order No. | | | |

NO ALLOWABLE WELL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



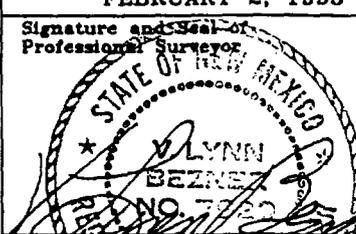
OPERATOR CERTIFICATION

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

Signature

 Printed Name
 James P. "Phil" Stinson
 Title
 Agent for Santa Fe Resources
 Date
 February 6, 1995

SURVEYOR CERTIFICATION

I hereby certify that the well location shown 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
 FEBRUARY 2, 1995
 Signature and Seal of Professional Surveyor

 Certificate No.
 V. J. BEZNER R.P.S. #7920
 JOB #37856 / V.H.B.