

CHECKLIST for ADMINISTRATIVE INJECTION APPLICATIONS

Operator: Santa Fe Energy Res, Inc. Well: Old Ranch Kiosk 8' Fed No. 4

Contact: Don Rogers Title: Area Mgr. Phone: _____

DATE IN 5-4-98 RELEASE DATE 5-19-98 DATE OUT 6-26-98

Proposed Injection Application is for: WATERFLOOD Expansion Initial

Original Order: R- _____ Secondary Recovery Pressure Maintenance

SENSITIVE AREAS

SALT WATER DISPOSAL Commercial Well

WIPP Capitan Reef

Data is complete for proposed well(s)? YES Additional Data Req'd _____

AREA of REVIEW WELLS

1 Total # of AOR 6 # of Plugged Wells
YES Tabulation Complete Schematics of P & A's
YES Cement Tops Adequate AOR Repair Required

INJECTION FORMATION

Injection Formation(s) Devonian / Montoya Compatible Analysis YES

Source of Water or Injectate CISCO CANYON

PROOF of NOTICE

Copy of Legal Notice Information Printed Correctly
 Correct Operators Copies of Certified Mail Receipts
NO Objection Received Set to Hearing _____ Date

NOTES: _____

APPLICATION QUALIFIES FOR ADMINISTRATIVE APPROVAL? YES

COMMUNICATION WITH CONTACT PERSON:

1st Contact: Telephoned Letter _____ Date _____ Nature of Discussion _____
2nd Contact: Telephoned Letter _____ Date _____ Nature of Discussion _____
3rd Contact: Telephoned Letter _____ Date _____ Nature of Discussion _____

SWD 5/19/98

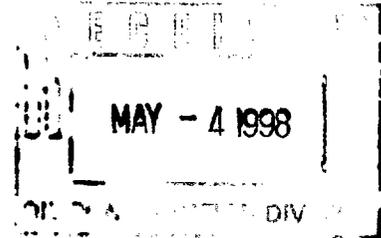
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 **Santa Fe Energy Resources, Inc.**

Don D. DeCarlo
Division Manager, Production

April 29, 1998

New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505



Attn: David Catanach, Examiner

Dear David,

Enclosed is a copy of an Application for Authority to Inject (NMOCD Form C-108) for the Old Ranch Knoll "8" Fed #4, in Section 8, Township 22 South, Range 24 East, Eddy County, New Mexico. A similar application was made in early 1995 and was approved under OCD Administrative Order SWD-585. Because of economic considerations, however, the well was never drilled and the Authority to Inject subsequently expired.

If you have any questions regarding this new application, please contact me at (915) 686-6709.

Sincerely,

Don Rogers
Project Manager - Indian Basin Area

c: D. D. Decarlo
M. R. Burton
W. D. Fulton
W. R. Adams

**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 : Don Rogers - Project Manager Phone : 915-686-6709

III. The Old Ranch Knoll "8" Fed #4 is to be drilled 1,854' FSL & 1,921' FWL, Section 8, T22S-R24E, Eddy Co., N.M. This well is proposed as an 11,400' Devonian-Montoya salt water disposal well. Produced water for disposal will come from the Cisco-Canyon formation at approximately 7,800'-8,400'.

Attached are well data sheets detailing the proposed design and specifications for the casing, tubing, and injection packer on the subject well.

IV. Is this an expansion of an existing project? Yes No

If yes, give the Division Order number authorizing the project. N/A

V. Attached is a map identifying the proposed well's area of review. This 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 is one well within the area of review, the Jones Canyon "4" Fed #2 (Sec. 4-T22S-R24E), which penetrated the proposed Devonian-Montoya injection zone. It is currently being used for disposal.

VII. 1. The average and maximum injection rates are expected to be $\pm 15,000$ BWPD and $\pm 20,000$ BWPD, respectively, of formation water from the Cisco-Canyon formation.

2. The system will be closed. Water will be transported via pipeline from the EIB Central Tank Battery, located approximately 400' South of the proposed well.

3. The average and maximum injection pressures are expected to be 500 psi and 1200 psi, respectively.

4. No water samples are available from the Devonian-Montoya disposal zone for compatibility tests. The Devonian formation, however, is widely used in the area for the disposal of Cisco-Canyon produced water. Cisco-Canyon water analyses are attached.

5. No known samples of Devonian-Montoya produced water exist from the immediate area.

VIII. The proposed injection zone for the Cisco-Canyon produced water is the Devonian-Montoya at 11,400'. Lithologically, these two zones are similar, consisting of dolomite and cherty dolomites characterized by intercrystalline to vuggy porosity. The proposed injection zone will be selected porous intervals across a 400 foot thick Devonian-Montoya section. In October, 1994, Santa Fe drilled a fresh water supply well approximately 400' to the South (NE/4 SW/4 of Section 8). The well was drilled to a depth of ~90 feet, but did not encounter any water bearing formations and was plugged and abandoned. There are no known sources of drinking water in the immediate area.

Santa Fe Energy Resources, Inc.
Old Ranch Knoll "8" Fed #4
Form C-108 - Application for Authorization to Inject, cont.

- IX. The Devonian-Montoya open hole section between 11,000' and 11,400' will be acidized with 20% HCl to optimize injectivity, if necessary.
- X. We plan to run porosity and resistivity logs across the entire open hole interval in the Devonian-Montoya formation.
- XI. There are no known fresh water wells within one mile of the proposed well.
- XII. Santa Fe Energy has examined available geologic and engineering data and has concluded that there is no known underground source of drinking water with open faults or other hydrologic connection which could communicate with the disposed water.

XIII. Proof of Notice

Surface owner of proposed well : **Department of the Interior**
Bureau of Land Management
P. O. Box 27115
Santa Fe, New Mexico 87502-7115

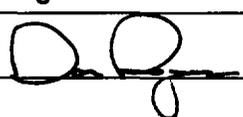
Leasehold owners or operators on adjacent property within one-half mile of the proposed disposal well location :

Yates Petroleum Corporation
105 South Fourth Street
Artesia, New Mexico 88210

Attached is an Affidavit of Publication to verify that a legal advertisement was published from March 31st to April 10th, 1998, per the requirements of this application. Verification of certified letter delivery to the parties listed above are also included.

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 : Don Rogers Title : Project Manager
Signature :  Date : 4/29/98

- XC : NMOCD - Santa Fe
- NMOCD - Artesia
- BLM - Carlsbad
- Yates Petroleum - Artesia
- James Bruce - Santa Fe

Santa Fe Energy Resources, Inc.
Old Ranch Knoll "8" Fed #4
Application for Authorization to Inject
Well Data for NMOCD Form C-108

III. A. (1) Name and Location

Federal Lse : NM-83552
Well Name : Old Ranch Knoll "8" Fed #4
Location : 08K-T22S-R24E (1,854' FSL & 1,921' FWL)

III. A. (2) Casing and Cement

Surface Csg : Drill 17½" hole to approximately 350'. Run 13-3/8" 48# H-40 ST&C csg. Cmt w/400 sx Class "C" + 2% CaCl₂ + 1/4 pps celloflake mixed at 14.8 ppg and 1.32 ft³/sk yield to circulate to surface.

Intermediate Csg : Drill 12¼" hole to approximately 2,500'. Run 9-5/8" 36# K-55 ST&C csg. Cmt w/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 surface.

Injection Csg : Drill 8¾" hole to approximately 11,000'. Run 7" 26# K-55 & C-90 LT&C and BT&C csg. Cmt w/900 sx Class "H" + 0.8% Halad-322 + 5% Salt mixed at 15.7 ppg and 1.18 ft³/sk yield to circulate to ± 6,000'.

Open Hole : Drill 6-1/8" hole to ± 11,400' as open hole section.

III. A. (3) Injection Tubing : 4½" 12.75# N-80 AB-Mod tubing, internally plastic coated.

III. A. (4) Injection Packer : 7" X 4½" Guiberson Uni-Packer VI (or equivalent) with on/off tool, set @ ± 10,600'

III. B. (1) Inject. Formation : Devonian-Montoya

III. B. (2) Injection Interval : Selected porous intervals within open-hole section of the Devonian-Montoya formation from 11,000'-11,400'.

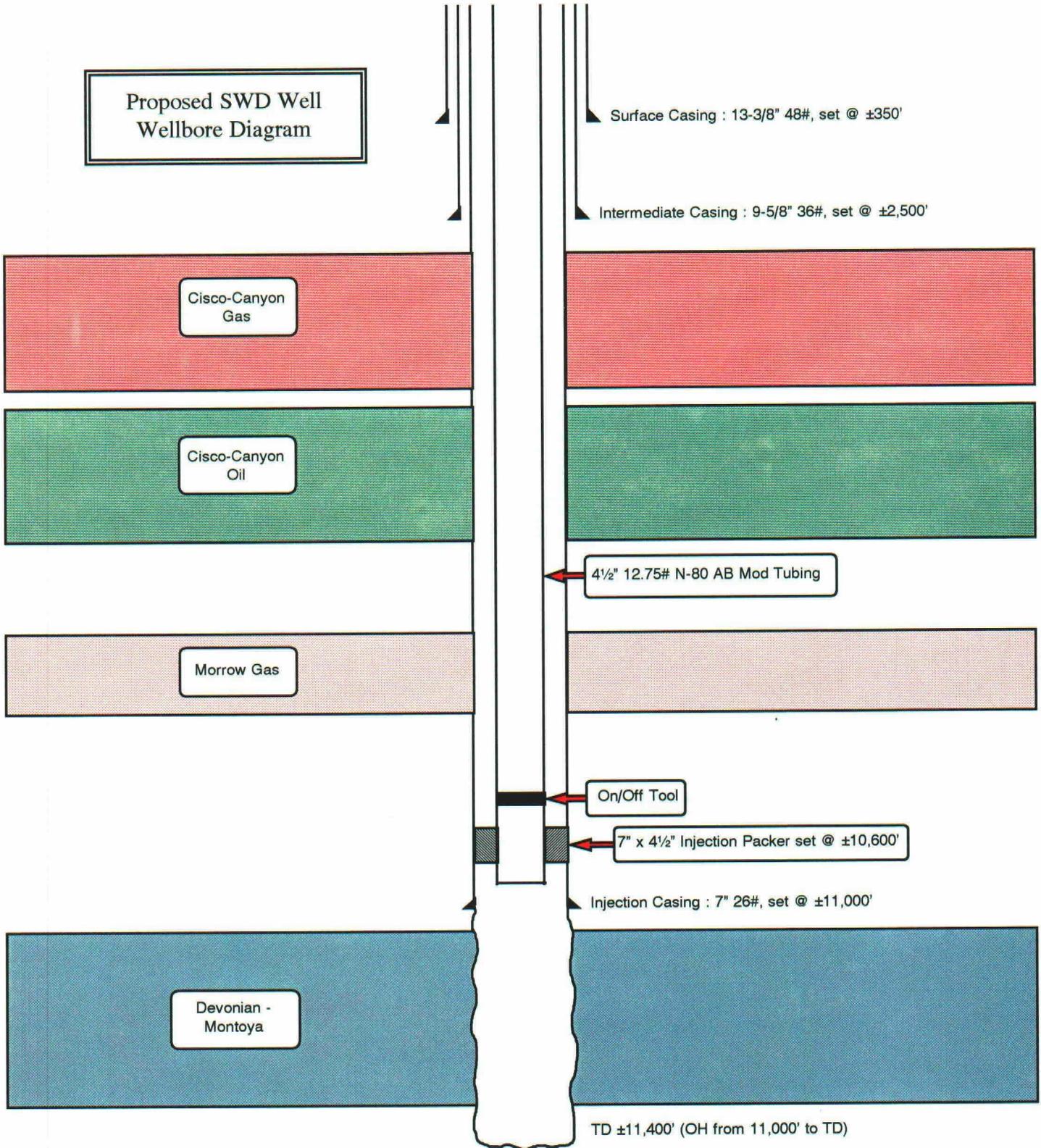
III. B. (3) The referenced well is to be used strictly for the purpose of water disposal.

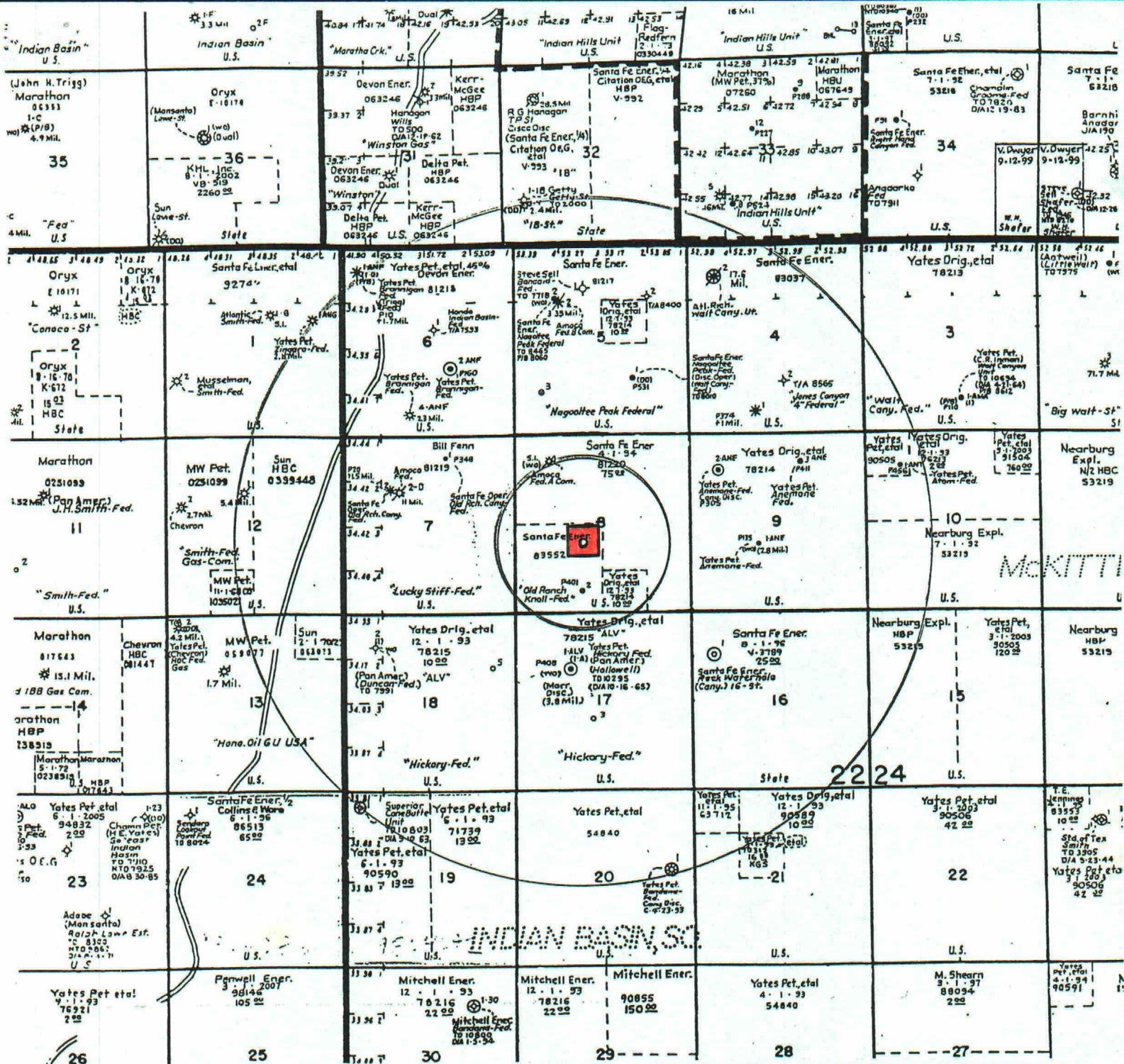
III. B. (4) We do not plan to test any other intervals in this wellbore.

III. B. (5) Morrow Sands have produced in the area between 9,700'-10,000'. No formations below the Devonian-Montoya are productive in the area.

Old Ranch Knoll "8" Fed #4
08K-22S-24E
Eddy County, NM

Proposed SWD Well
Wellbore Diagram





Santa Fe Energy Resources, Inc.
Central Division
Midland, Texas

EDDY COUNTY, NEW MEXICO

OLD RANCH KNOLL "8" FED #4
AREA OF REVIEW
SEC. 8, T22S, R24E

DATE: 3/30/98
 FILE:

SCALE: 1"=4000'

Affidavit of Publication

No 18374

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:

March 31, 19 98
April 1, 2, 3, 4, 5, 7, 8, 9, 19 98
April 10, 19 98
_____, 19 ____
_____, 19 ____
_____, 19 ____

That the cost of publication is \$ 214.13,
and that payment thereof has been made and will be assessed as court costs.

Amy McKay

Subscribed and sworn to before me this

15th day of April, 1998

Donna Crump

My commission expires 8/1/98

Notary Public

March 31, 1998
April 1, 2, 3, 4, 5, 1998
April 7, 8, 9, 10, 1998

Santa Fe Energy Resources, Inc. has made application to drill the Old Ranch Knoll "8" Fed #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' to 11,400'. The proposed well location is a 1,304' FSL & 1,921' FWL of section 8, T22S, R24E, Eddy County, New Mexico. SFER plans to dispose of approximately 20,000 barrels of water per day at an estimated surface 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
Attn: Don Rogers



Santa Fe Energy Resources, Inc.

Don D. DeCarlo
Division Manager, Production

April 29, 1998

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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) which has been filed by Santa Fe Energy with the New Mexico Oil Conservation Division regarding a new disposal well, the Old Ranch Knoll "8" Fed #4, in Section 8, Township 22 South, Range 24 East, Eddy County, New Mexico.

This notification is being sent as part of the permitting process to notify the surface owner surrounding the proposed SWD well. If you have any questions regarding this application, please contact me at (915) 686-6709.

Sincerely,

A handwritten signature in black ink, appearing to read "Don Rogers".

Don Rogers
Project Manager - Indian Basin Area

c: D. D. Decarlo
M. R. Burton
W. D. Fulton
W. R. Adams



Santa Fe Energy Resources, Inc.

Don D. DeCarlo
Division Manager, Production

April 29, 1998

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Yates Petroleum Corporation
105 South Fourth Street
Artesia, N.M. 88210

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If you object to this application, you should notify the Oil Conservation Division in writing within 15 days of the date of this letter. The Division's address is 2040 South Pacheco Street, Santa Fe, New Mexico 87505. Failure to object will preclude you from contesting this matter at a later date.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Rogers", with a horizontal line extending to the right.

Don Rogers
Project Manager - Indian Basin Area

c: D. D. Decarlo
M. R. Burton
W. D. Fulton
W. R. Adams