

**/ CASE 7206: MOBIL PRODUCING INC. FOR
SALT WATER DISPOSAL, LEA COUNTY, NEW
MEXICO**

CASE NO.

7206

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,
ETC.



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

March 24, 1983

Mobil Producing Texas & New Mexico Inc.
Nine Greenway Plaza - Suite 2700
Houston, Texas 77046

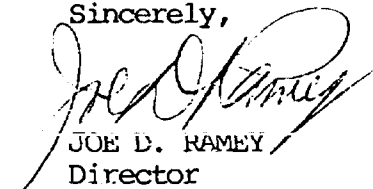
Attention: J. A. Morris, Regulatory Engineering Supervisor
S. D. Marino, Regulatory Engineer

Re: Salt Water Disposal Well No. 3
Crossroads Devonian Pool
Lea County, New Mexico

Gentlemen:

We have reviewed your request to change the packer depth on the subject well. Your original request of 12,212' was considered unacceptable, but based on conversations between our offices your alternate packer depth of 11,835' is considered acceptable. Therefore, you are hereby allowed to move the packer from its present depth to a depth of 11,835'. Should you have any questions concerning this contact Gilbert Quintana at (505) 827-5807 in this office.

Sincerely,


JOE D. RAMEY
Director

JDR/jc

cc: Hobbs District Office
Case file #7206
Gilbert Quintana

Memo

From
Gilbert P. Quintana
Petroleum Engineer

To File #7206

Texaco has agreed to a
packer depth of 11,835'
on this well No. 3 and will
not protest this depth.

Mobil will therefore use
this depth (11,835'). The
Texaco engineer involved was RLS.

Gilbert Quintana
3/24/83

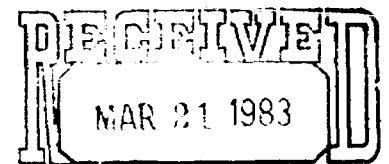
Oil Conservation Division Santa Fe, New Mexico 87501
P.O. Box 2088



PETROLEUM PRODUCTS

PRODUCING DEPARTMENT

March 18, 1983



OIL CONSERVATION DIVISION

SANTA FE

TEXACO

U.S.A.

A DIVISION OF TEXACO INC.

P. O. BOX 3109

MIDLAND, TEXAS 79702

OBJECTION TO APPLICATION
FOR AUTHORIZATION TO INJECT
MOBIL PRODUCING TX. & N.M. INC.
SANTA FE PACIFIC LEASE
SALT WATER DISPOSAL WELL NO. 3
CROSSROADS DEVONIAN POOL
LEA COUNTY, NEW MEXICO

The State of New Mexico
Dept. of Energy & Minerals
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Attn: Mr. Mike Stogner

Gentlemen:

Texaco Inc. has been advised by Mobil Producing Texas and New Mexico of their application to amend the current authorized injection interval for the captioned well from 12,212' - 12,555' to 4900' - 12,555'. The basis for this request is the savings of \pm \$70,000 in tubing costs.

Our understanding of this application is to allow the injection packer in the well to be set at \pm 4800' instead of the currently required \pm 12100'. Although Mobil contends that, "at this time", they desire to continue injection only into the Devonian interval 12,222' to 12555', the approval of this application will result in an additional 7300+' of casing being exposed to the corrosive environments encountered below the packer of any salt water disposal well. We believe that in time leaks will develop in this exposed casing. With the cement top determined by temperature survey to be at only 6390' in this casing string, obviously it will be next to impossible to insure that disposal will only occur into the Devonian.

This is recycled paper

NMOCD
Santa Fe, New Mexico

-2-

RECEIVED
MAR 21 1983
OIL CONSERVATION DIVISION
March 18, 1982 SANTA FE

Accordingly, Texaco Inc. believes that the savings of \$70,000 in tubing costs does not justify the potential problems that may result from the proposed operation of this well and do hereby object to any approval of this application.

Yours very truly,

Alan R. McDaniel
Division Vice President

By John Weaver RSL
John Weaver
Petroleum Engineering Manager

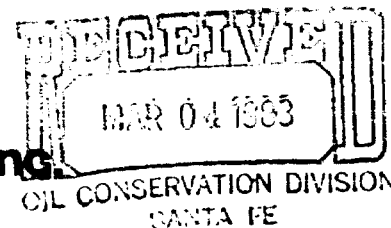
JMWlr/sr

cc: Mobil Producing Tx. & N. M. Inc.

Mr. Jerry Sexton, NMOCD - Hobbs, N. M.

White, Koch, Kelly & McCarthy

Mobil Producing Texas & New Mexico Inc.



February 25, 1983

NINE GREENWAY PLAZA SUITE 2700
HOUSTON, TEXAS 77046

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

Attention Mr. J. D. Ramey

7.01
SALT WATER DISPOSAL WELL
MOBIL PRODUCING TX. & N.M. INC.
SANTA FE PACIFIC LEASE, WELL #3
CROSSROADS DEVONIAN POOL
LEA COUNTY, NM

Gentlemen:

MPTM respectfully requests authorization to increase the present designated injection interval from 12,212'-12,555' to 4900'-12,555'. Our original authorization was granted under Case #7206, Order No. R-6647, dated 4-13-81, please refer to this document for information required for Sections VI, VIII, X and XI of this application. At this time, we desire to continue injecting production water from 12,222'-12,555' while labeling a longer injection interval. This authorization will allow us to set a packer within 100' of the labeled injection zone at savings of ±\$70,000 in tubing costs which would otherwise be incurred. In this application, we submit the relevant data to demonstrate protection of the fresh water aquifer, Ogallala, at ±175', and that correlative rights are not violated or no known loss of oil or gas reserves occur.

The Ogallala aquifer is protected by the well's construction, geology, and reservoir conditions. Mechanically, the Ogallala is isolated from the injection water and from the sources of contamination by these factors: (1) three strings of casing plus a cemented surface casing string surround the wellbore, (2) injection will be through 4½" tubing lined with fiberglass to a packer set at ±4900' and then through 7" casing to the Devonian formation, 12,212'-12,555'. (see completion sketch), (3) required average pump pressures are less than ±50 PSI, virtually guaranteeing the fluid to go into the Devonian formation, and (4) leak detection and monitoring will be in accordance with New Mexico statewide rules governing saltwater disposal.

Mobil

Oil Conservation Division

Page 2

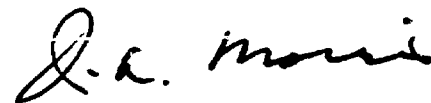
February 25, 1983

These mechanical protective measures are complemented by existing geological and reservoir conditions. The geological and reservoir conditions permit the injection of large volumes of water at low pump in pressures which reduce chances of channeling or pressuring up another sand. The geology of the Devonian is carbonate rock with 8% porosity and 40 MD permeability. The Devonian reservoir is a highly prolific water drive. In summary, the well's completion, geology, and reservoir conditions grant adequate protection of the Ogallala aquifer.

The correlative rights of the mineral owner are not an issue because there are no known commercial oil or gas reserves nor any fresh water sands in this portion of the Crossroads Field below 4900'. This fact is supported by the current perimeter of temporarily abandoned or plugged wells and the list of active production wells cited in the State production schedule. However, interest-holders with correlative rights were notified in accordance with Statewide Rule 701.

In conclusion, I have examined the available geological and engineering data and do not find any evidence of open faults or any other hydrological connection between the disposal zone and any underground source of drinking water.

Yours truly,



SDMarino/ec
Attachments

J.A. Morris
Regulatory Engineering Supervisor

cc: NMOCD District #1

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: Mobil Producing TX. & N.M. Inc.
Address: Nine Greenway Plaza, Suite 2700, Houston, TX 77046
Contact party: S.D. Marino Phone: (713) 871-5351
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☒ yes ☐ no
If yes, give the Division order number authorizing the project R-6647.
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
- XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- 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: J.A. Morris Title: Reg. Engineering Supervisor
Signature: *J.A. Morris* Date: February 25, 1983
- If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. Hearing under Case #7206, Order Number R-6647 date 4-13-81.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) the formation name and depth with expected maximum injection rates and pressures; and
- (4) a notation that 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.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Mobil Producing TX. & N.M. Inc.

Santa FE Pacific

OPERATOR

LEASE

3

660' FWL & 660' FSL

26

9S

36E

WELL NO.

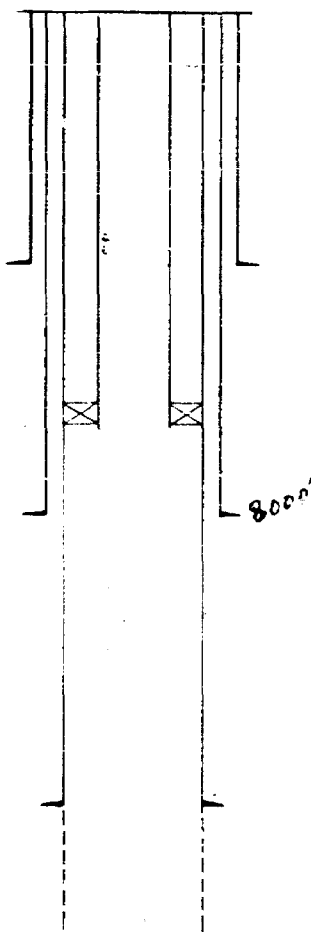
FOUNTAIN LOCATION

SECTION

TOWNSHIP

RANGE

Schematic



Tabular Data

Surface Casing

Size 13-3/8 " Cemented with 300 sx.
 TOC Surface feet determined by circulation
 Hole size 17 1/4

Intermediate Casing

Size 9-5/8 " Cemented with 4000 sx.
 TOC 1810 feet determined by temp. survey
 Hole size 12-3/4

Long string

Size 7 " Cemented with 1750 sx.
 TOC 6390 feet determined by temp. survey
 Hole size 8-3/4"

Total depth 12,555'

Injection interval

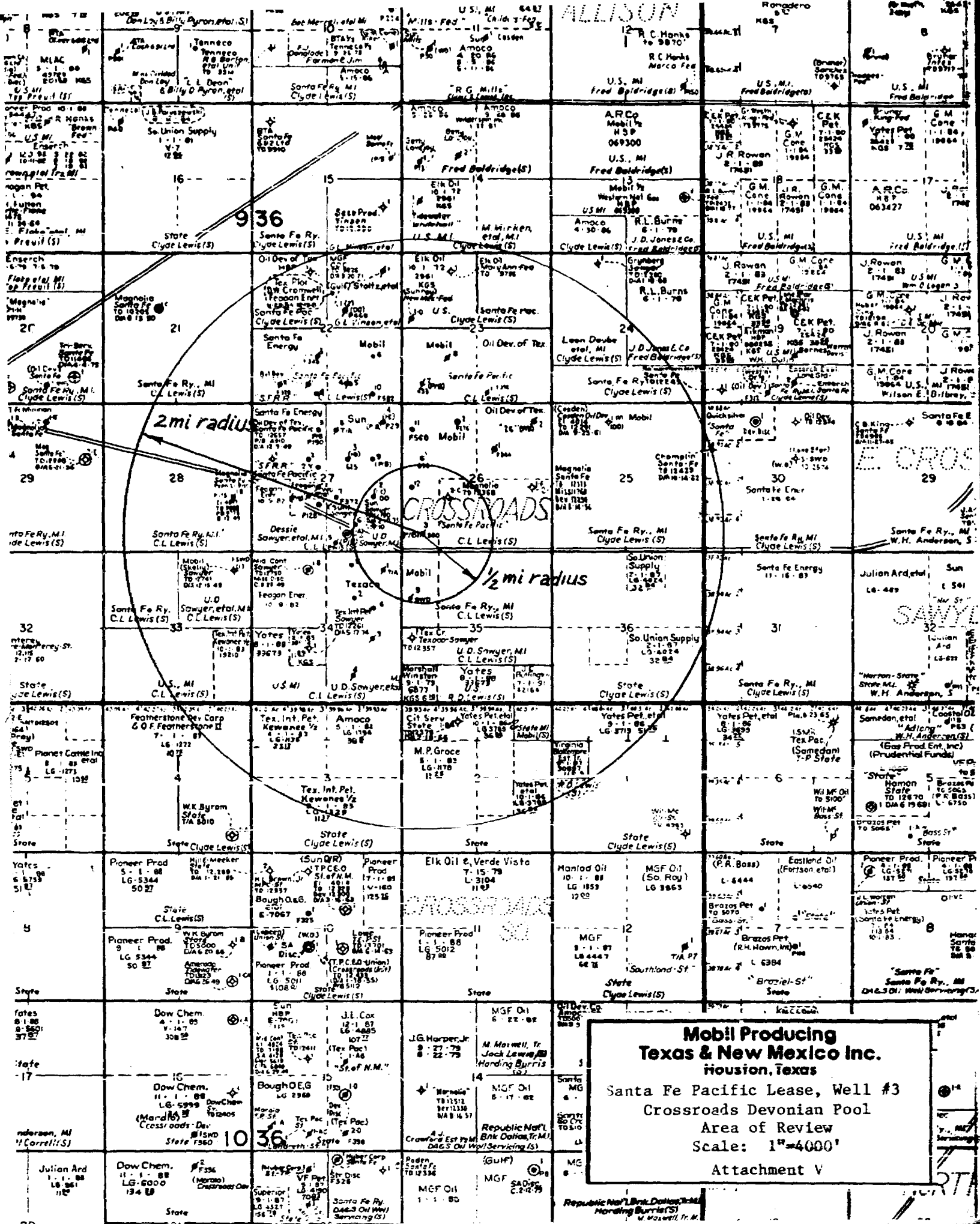
4900 feet to 12,555 feet
 (perforated or open-hole, indicate which)
 Perforated and open hole

Tubing size 4 1/2" lined with high temp. fiberglass set in c
 (material)
Baker PA-1 packer at 4900 feet
 (brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Devonian
- Name of field or Pool (if applicable) Crossroads Siluro Devonian Field
- Is this a new well drilled for injection? ☐ Yes ☒ No
 If no, for what purpose was the well originally drilled? _____
Production from Devonian formation
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used)
Yes. Perforated Penn. zone @ 11,445'-11,538'; 26 holes. Squeezed w/300 sx. Class
H neat cement.
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.
Penn. 11,445' oil zone
San Andres 4200' oil zone



Mobil Producing TX. & N.M. Inc.
Santa Fe Pacific Lease
Well No. 3
Crossroads Devonian Pool
Sec. 26, T9S, R36E
660' FWL & 660' FSL

Data on Proposed Operation

1. Avg. Daily Rate 17,000 BWPD
Max. Daily Rate 20,000 BWPD
2. Closed Disposal System
3. Avg. injection pressure 0 psi
Max. injection pressure 100 psi
4. Reinjecting produced water

Attachment VII

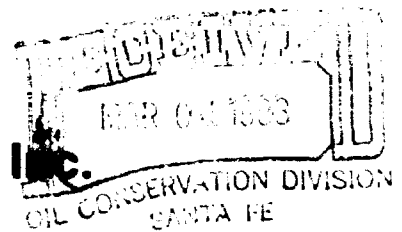
Mobil Producing TX. & N.M. Inc.
Santa Fe Pacific Lease
Well No. 3
Crossroads Devonian Pool
Sec. 26, T9S, R36E
660' FWL & 660' FSL

Stimulation Program

1. Hook up pump truck and pump 10,000 gals. 15% HCl.
Treat at 500 psig maximum surface treating pressure.
2. SI well for 1 hour. Backflow if necessary.
3. Place on disposal at 17,000 BWPD

Attachment IX

Mobil Producing Texas & New Mexico Inc.



February 25, 1983

NINE GREENWAY PLAZA SUITE 2700
HOUSTON, TEXAS 77046

Lovington Daily Leader
14 West Avenue B
Lovington NM 88260

7.01
NOTICE OF APPLICATION FOR
SALT WATER DISPOSAL WELL
MOBIL PRODUCING TX. & N.M. INC
SANTA FE PACIFIC LEASE
WELL #3
CROSSROADS DEVONIAN POOL
LEA COUNTY, NM

Gentlemen:

Mobil Producing Texas and New Mexico Inc. (MPTM) requests publication of the attached notice, to inject salt water down the subject wellbore, in your newspaper.

We would appreciate if the completed affidavit and printed notice would be returned, as soon as possible, to fulfill a Oil Conservation Division permit prerequisite. We provide an addressed and stamped envelope for this purpose. The invoice should be sent to the attention of Mr. J.A. Morris.

Yours truly,

Original Signed By:
J. A. Morris

SDMarino/ec
Attachments

J.A. Morris
Regulatory Engineering Supervisor

cc: NMOCD - Santa Fe

Notice of Application for Fluid Injection Well Report

APPLICANT:

Mobil Producing Texas & New Mexico Inc.,
9 Greenway Plaza, Suite 2700
Houston, TX 77046
Telephone: (713) 871-5351
Contact: Steve Marino

PURPOSE:

To inject fluid into the Devonian Formation,
Santa Fe Pacific Lease,
Crossroads Devonian Pool,
Well #3,
Location - Section 26,
Township 9S, Range 36E

OPERATIONAL
CHARACTERISTICS:

Formation - Devonian,
Injection interval 4900'-12,555',
Expected maximum injection pressure 100 PSI
and rate 20,000 BWPD.

Interested parties may file objections or request a hearing within
15 days of this notice with the:

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

Attachment XIV

STATE OF NEW MEXICO

COUNTY OF _____

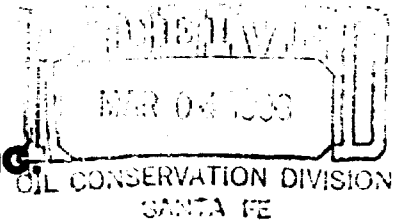
Before me, the undersigned authority, on this day personally
appeared _____, the _____ of the
(Name) (Title)
_____, a newspaper having general
(Name of Newspaper)
circulation in _____ County, N.M. who being by me duly
sworn, deposes and says that the foregoing attached notice was published in
said newspaper on the following date(s), to wit: _____.

Subscribed and sworn to before me this the ____ day of
_____, 19__, to certify which witness my hand and seal of office.

Notary Public in and for

County, N.M.

Mobil Producing Texas & New Mexico Inc.



February 25, 1983

NINE GREENWAY PLAZA-SUITE 2700
HOUSTON, TEXAS 77046

County Clerk
P.O. Box 1507
Lovington, New Mexico 88260

Attention Pat Snipes

7.01
NOTICE OF APPLICATION FOR SALT
WATER DISPOSAL WELL
MOBIL PRODUCING TX. & N.M. INC.
SANTA FE PACIFIC LEASE
WELL #3
CROSSROADS DEVONIAN POOL
LEA COUNTY, NEW MEXICO

Dear Pat Snipes:

Mobil Producing TX. & N.M. Inc. (MPTM) has made application to the Oil Conservation Division of New Mexico to inject fluid into a formation which could be productive of oil or gas.

The Oil Conservation Division requires that the enclosed application be sent to you for public information notice in the county in which the well is located. Please post the attached application as you desire.

Yours truly,

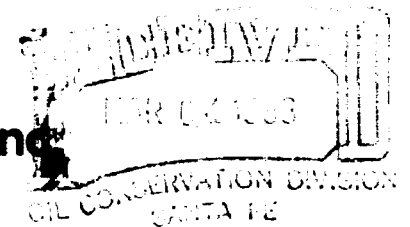
Original Signed By:
J. A. Morris

SDMarino/ec
Attachments

J.A. Morris
Regulatory Engineering Supervisor

cc: NMOCD - Santa Fe

Mobil Producing Texas & New Mexico Inc



February 25, 1983

NINE GREENWAY PLAZA-SUITE 2700
HOUSTON, TEXAS 77046

Oil Development Company of Texas
900 Polk Street
Amarillo, TX 79101

7.01
NOTICE OF APPLICATION FOR
SALT WATER DISPOSAL WELL
MOBIL PRODUCING TX. & N.M. INC.
SANTA FE PACIFIC LEASE
WELL #3
CROSSROADS DEVONIAN POOL
LEA COUNTY, NM

Gentlemen:

Mobil Producing TX. & N.M. Inc. has made application to the Oil Conservation Division of New Mexico for authority to inject production water into a reservoir productive of oil or gas through the subject well.

A copy of this application is furnished to you for this information.

Yours truly,

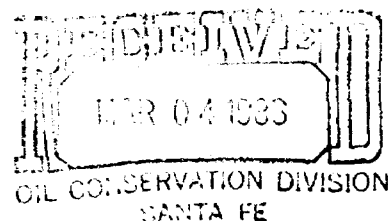
Original Signed By:
J. A. Morris

SDMarino/ec
Attachments

J.A. Morris
Regulatory Engineering Supervisor

cc: NMOCD - Santa Fe

Mobil Producing Texas & New Mexico Inc.



February 25, 1983

NINE GREENWAY PLAZA SUITE 2700
HOUSTON, TEXAS 77046

Sun Oil Company
P.O. Box 1861
Midland, TX 79702

7.01
NOTICE OF APPLICATION FOR
SALT WATER DISPOSAL WELL
MOBIL PRODUCING TX. & N.M. INC.
SANTA FE PACIFIC LEASE
WELL #3
CROSSROADS DEVONIAN POOL
LEA COUNTY, NM

Gentlemen:

Mobil Producing TX. & N.M. Inc. has made application to the Oil Conservation Division of New Mexico for authority to inject production water into a reservoir productive of oil or gas through the subject well.

A copy of this application is furnished to you for this information.

Yours truly,

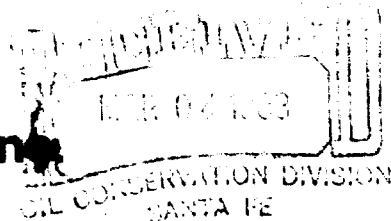
Original Signed By:
J. A. Morris

SDMarino/ec
Attachments

J.A. Morris
Regulatory Engineering Supervisor

cc: NMOCD - Santa Fe

Mobil Producing Texas & New Mexico Inc.



February 25, 1983

NINE GREENWAY PLAZA-SUITE 2700
HOUSTON, TEXAS 77046

Texaco, U.S.A.
P.O. Box 3109
Midland, TX 79702

7.01
NOTICE OF APPLICATION FOR
SALT WATER DISPOSAL WELL
MOBIL PRODUCING TX. & N.M. INC.
SANTA FE PACIFIC LEASE
WELL #3
CROSSROADS DEVONIAN POOL
LEA COUNTY, NM

Gentlemen:

Mobil Producing TX. & N.M. Inc. has made application to the Oil Conservation Division of New Mexico for authority to inject production water into a reservoir productive of oil or gas through the subject well.

A copy of this application is furnished to you for this information.

Yours truly,

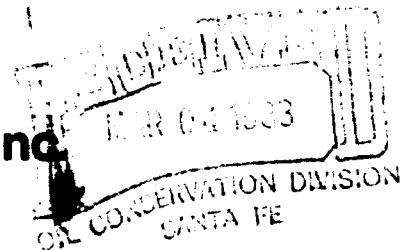
Original Signed By:
J. A. Morris

SDMarino/ec
Attachments

J.A. Morris
Regulatory Engineering Supervisor

cc: NMOCD - Santa Fe

Mobil Producing Texas & New Mexico Inc



February 25, 1983

NINE GREENWAY PLAZA—SUITE 2700
HOUSTON, TEXAS 77046

Clarence Valern Lewis
P.O. Box 987
Crossroads, NM 88141

7.01
NOTICE OF APPLICATION FOR
SALT WATER DISPOSAL WELL
MOBIL PRODUCING TX. & N.M. INC.
SANTA FE PACIFIC LEASE
WELL #3
CROSSROADS DEVONIAN POOL
LEA COUNTY, NM

Gentlemen:

Mobil Producing TX. & N.M. Inc. has made application to the Oil Conservation Division of New Mexico for authority to inject production water into a reservoir productive of oil or gas through the subject well.

A copy of this application is furnished to you for this information.

Yours truly,

Original Signed By:
J. A. Morris

SDMarino/ec
Attachments

J.A. Morris
Regulatory Engineering Supervisor

cc: NMOCD - Santa Fe

Mobil Producing TX. & N.M. Inc.
Santa Fe Pacific Lease
Well #3
Crossroads Devonian Pool
Sec. 26, T9S, R36E
660' FWL & 660' FSL

This application was sent by certified mail to the surface owner of the land on which the well is located and to each lease operator within (1/2) one-half mile radius of the well location.

Offset Operators

Oil Development Company of Texas
900 Polk Street
Amarillo, TX 79101

Sun Oil Company
P.O. Box 1861
Midland, TX 79702

Texaco, U.S.A.
P.O. Box 3109
Midland, TX 79702

Surface Owner

Clarence Valern Lewis
P.O. Box 987
Crossroad, NM 88141

(City, State, and ZIP Code)

MOBIL PRODUCING TX & NM INC.
9 GREENWAY PLAZA SUITE 2700
HOUSTON, TEXAS 77046
(Area No. 865)

RETURN
TO

SENDER INSTRUCTIONS
Print your name, address, and ZIP Code in the space below.
• Complete items 1, 2, and 3 on the reverse.
• Attach to front of article if space permits.
• Indicate article "Return Receipt Requested" adjacent to number.

PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE: \$300



UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

MDTM
SANTA FE PACIFIC LEASE
WELL #3
CROSBREE FIELD
SEC 26 T9S R36E

PS Form 3811, Jan. 1975

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
☒ Show to whom and date delivered.....
☐ Show to whom, date and address of delivery.....
☐ RESTRICTED DELIVERY
Show to whom and date delivered.....
☐ RESTRICTED DELIVERY.
Show to whom, date, and address of delivery.....
(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
TEXICO, U.S.A.
P.O. BOX 3109
MIDLAND, TX 79702

3. ARTICLE DESCRIPTION:
REGISTERED NO. CERTIFIED NO. INSURED NO.
677837
(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐ Addressee ☐ Authorized agent
DATE OF DELIVERY POSTMARK
MAR 4 1983

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CARRIER'S INITIALS

GPO : 1979-300-453

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, and 3 on the reverse.
- Attach to front of article if space permits, enclosure affix to back of article.
- Enclose article "Return Receipt Requested" adjacent to number.

RETURN
TO

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

FEES FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE: \$200



MOBIL PRODUCING INC. TX & NM INC.
(NEW BRANCH)
9 GREENWAY PLAZA SUITE 2700
HOUSTON, TEXAS 77045

(City, State, and ZIP Code)

PS Form 3811, Jan. 1978

SENDER: Complete items 1, 2, and 3. Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)

- ☒ Show to whom and date delivered.....
- ☐ Show to whom, date and address of delivery.....
- ☐ RESTRICTED DELIVERY
Show to whom and date delivered.....
- ☐ RESTRICTED DELIVERY
Show to whom, date, and address of delivery. \$.....

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
SUN OIL CO.
P.O. BOX 1861
MIDLAND, TX 79702

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	677841	

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE ☒ Addressee ☐ Authorized agent

James L. [Signature]

4. DATE OF DELIVERY

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

POSTMARK
10 LAN
MAR 1983

★GPO : 1978-300-458

Form 3811, Jan. 1979

SENDER: Complete items 1, 2, and 3. Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)

☒ Show to whom and date delivered.

☐ Show to whom, date and address of delivery.

☐ RESTRICTED DELIVERY
Show to whom and date delivered.

☐ RESTRICTED DELIVERY.
Show to whom, date, and address of delivery.

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
OIL DEVELOPMENT CO. OF TX
900 POLK ST.
AMARILLO, TX 79101

3. ARTICLE DESCRIPTION:
REGISTERED NO. CERTIFIED NO. INSURED NO.
677838

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☒ Addressee ☐ Authorized agent
L. J. Hobbs

4. DATE OF DELIVERY POSTMARK
APR 1 1980

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS
CL

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

★ GPO : 1979-300-459

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS PM

SENDER INSTRUCTIONS

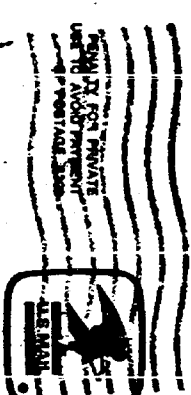
Print your name, address, and ZIP Code in the back of envelope.

- Complete items 1, 2, and 3 by the register.
- Attach to front of article if space permits.
- Endorse article to back of article.
- Endorse article "Return Receipt Requested" subject to number.

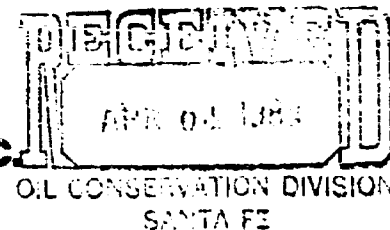
RETURN TO

MOBIL PRODUCING TX & NM INC.
9 GREENWAY PLAZA SUITE 2700
HOUSTON, TEXAS 77046

(City, State, and ZIP Code)



Mobil Producing Texas & New Mexico Inc.



March 28, 1983

NINE GREENWAY PLAZA—SUITE 2700
HOUSTON, TEXAS 77046

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

7.01
WATERFLOOD INJECTION WELL
MOBIL PRODUCING TX. & N.M. INC.
SANTA FE PACIFIC LEASE
WELL #3 AND #8
CROSSROADS FIELD
LEA COUNTY, NEW MEXICO

Gentlemen:

Enclosed within is the legal notice for each of the wells listed above. Publication was by the Lovington Daily Leader in accordance with Statewide Rule 701.

Yours truly,

J. A. Morris
J. A. Morris
Regulatory Engineering Supervisor

SDMarino/ec
Attachments

cc: Director, District 1

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Sharp being first duly sworn on oath deposes and says that he is Adv. Director of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

Notice of Application

and numbered _____ in the

_____ Court of Lea County, New Mexico, was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, once each week on the same day of the week, for one (1)

consecutive weeks, beginning with the issue of _____

March 7, 1983

and ending with the issue of _____

_____, 19____

And that the cost of publishing said notice is the sum of \$ 7.49

which sum has been (Paid) ~~XXXX~~ as Court Costs

Joyce Sharp

Subscribed and sworn to before me this 21st

day of March, 1983

Mrs. Jean Devier

Notary Public, Lea County, New Mexico

My Commission Expires Sept. 28, 1986

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Sharp being first duly sworn on oath deposes and says that he is Adv. Director of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

Notice of Application

and numbered _____ in the _____ Court of Lea County, New Mexico, was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, once each week on the same day of the week, for ONE (1) consecutive weeks, beginning with the issue of March 7, 1983 and ending with the issue of _____, 19____.

And that the cost of publishing said notice is the sum of \$ 7.49

which sum has been (Paid) XXXX as Court Costs

Joyce Sharp
Subscribed and sworn to before me this 21st

day of March, 1983

Mrs. Jean Benier
Notary Public, Lea County, New Mexico

My Commission Expires Sept. 28, 1986

LEGAL NOTICE

Notice of Application for Fluid Injection Well Report
APPLICANT: Mobil Producing Texas & New Mexico Inc., 9 Greenway Plaza, Suite 2700 Houston, TX 77046, Telephone: 871-5351, Contact: Steve Marino.

PURPOSE: To inject fluid into the Devonian Formation, Santa Fe Pacific Lease, Crossroads Devonian Pool, Well No. 2, Location - Section 28, Township 35S, Range 36E.

OPERATIONAL CHARACTERISTICS: Formation - Devonian, Injection interval 4900' - 12,555', Expected maximum injection pressure 100 PSI and rate 20,000 BWPD.

Interested parties may file objections or request a hearing within 15 days of this notice with the:

Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501
Published in the Lovington Daily Leader March 7, 1983.

STATE OF NEW MEXICO

COUNTY OF Lea

Before me, the undersigned authority, on this day personally
appeared Joyce Sharp, the Adv. Director of the
(Name) (Title)
Lovington Daily Leader, a newspaper having general
(Name of Newspaper)
circulation in Lea County, N.M. who being by me duly
sworn, deposes and says that the foregoing attached notice was published in
said newspaper on the following date(s), to wit: March 7, 1983.

Joyce Sharp

Subscribed and sworn to before me this the 21st day of
March, 1983, to certify which witness my hand and seal of office.

Mrs. Jean Sevier
Notary Public in and for

Lea County, N.M.

MY COMMISSION EXPIRES
SEPTEMBER 28, 1986

STATE OF NEW MEXICO

COUNTY OF Lea

Before me, the undersigned authority, on this day personally
appeared Joyce Sharp, the Adv. Director of the
(Name) (Title)
Lovington Daily Leader, a newspaper having general
(Name of Newspaper)
circulation in Lea County, N.M. who being by me duly
sworn, deposes and says that the foregoing attached notice was published in
said newspaper on the following date(s), to wit: March 7, 1983.

Joyce Sharp

Subscribed and sworn to before me this the 21st day of
March, 1983, to certify which witness my hand and seal of office.

Mrs. Jean Sevier
Notary Public in and for

Lea County, N.M.

MY COMMISSION EXPIRES
SEPTEMBER 28, 1986

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7206
Order No. R-6647

APPLICATION OF MOBIL PRODUCING INC.
FOR SALT WATER DISPOSAL, LEA COUNTY,
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on March 25, 1981, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 13th day of April, 1981, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises;

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Mobil Producing Inc., is the owner and operator of the Santa Fe Pacific Well No. 3, located in Unit M of Section 26, Township 9 South, Range 36 East, NMPM, Crossroads Field, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Devonian formation, with injection into the perforated interval from 12,212 feet to 12,218 feet and the open hole interval from 12,240 feet to 12,555 feet.

(4) That the injection should be accomplished through 4 1/2-inch plastic lined tubing installed in a packer set at approximately 12,100 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

-2-

Case No. 7206
Order No. R-8647

(5) That the injection well or system should be equipped with a pressure limiting device or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 2442 psi.

(6) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(7) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(8) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Mobil Producing Inc., is hereby authorized to utilize its Santa Fe Pacific Well No. 3, located in Unit M of Section 26, Township 9 South, Range 36 East, NMPM, Crossroads Field, Lea County, New Mexico, to dispose of produced salt water into the Devonian formation, injection to be accomplished through 4 1/2-inch tubing installed in a packer set at approximately 12,100 feet, with injection into the perforated interval from approximately 12,212 feet to 12,212 feet and the open hole interval from 12,240 feet to 12,555 feet.

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer.

(2) That the injection well or system shall be equipped with a pressure limiting device or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 2442 psi.

(3) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

-3-

Case No. 7206

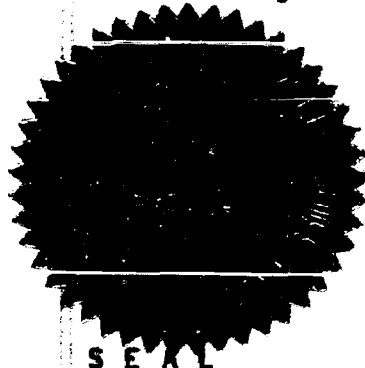
Order No. R-6647

(4) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(5) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.

(6) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Joe D. Ramey
JOE D. RAMEY
Director

rd/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
25 March 1981

EXAMINER HEARING

IN THE MATTER OF:

Appliation of Mobil Producing, Inc.,
for salt water disposal, Lea County,
New Mexico.

CASE
7206

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation
Division:

Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

James E. Sperling, Esq.
MODRALL, SPERLING, ROEHL,
HARRIS & SISK
P. O. Box 2618
Albuquerque, New Mexico 87103

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

2

I N D E X

MARTY BLOODWORTH

Direct Examination by Mr. Sperling	3
Cross Examination by Mr. Nutter	14

E X H I B I T S

Applicant Exhibit One, Map	5
Applicant Exhibit Two, Tabulation	7
Applicant Exhibit Three, Diagrammatic Sketches	7
Applicant Exhibit Four, NMOCC C-108	8
Applicant Exhibit Five, Data	8
Applicant Exhibit Six, Waiver	9
Applicant Exhibit Seven, Well Diagram	9
Applicant Exhibit Eight, Well Diagram	10
Applicant Exhibit Nine, Structure Map	11
Applicant Exhibit Ten, Log	

MR. NUTTER: The hearing will come to order.

We'll call next Case Number 7206.

MR. PADILLA: Application of Mobil Producing, Inc., for salt water disposal, Lea County, New Mexico.

MR. SPERLING: James E. Sperling. I'm with Modrall, Sperling, Roehl, Harris, and Sisk, Albuquerque, appearing for the applicant.

We have one witness.

(Witness sworn.)

MARTY BLOODWORTH

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. SPERLING:

Q Please state your name, your address, your employer, and the capacity in which you're employed.

A My name is Marty Bloodworth, Hobbs, New Mexico. I'm employed by Mobil Oil -- Mobil Producing Texas - New Mexico as an operations engineer.

1

2

Q And you're located in Hobbs?

3

A Yes, sir.

4

5

Q Are you familiar with the application
filed on Mobil's behalf in this matter?

6

A Yes, sir.

7

8

Q Are you familiar with the area which is
the subject of the application?

9

A Yes, sir.

10

11

12

Q Have you on any previous occasion
testified before the Commission, the Division, so that your
qualifications as an expert witness are a matter of record?

13

A No, sir.

14

15

16

Q Would you then please state for us
briefly, your experience and educational background, touching
upon your qualifications?

17

18

19

A Yes. Prior to graduation from college
I worked six months as a roustabout and six months as an
engineering assistant for Mobil.

20

21

22

23

I graduated with a Bachelor of Science
in petroleum engineering in December of '77 from Texas Tech
University, and I have been working for Mobil in the capacity
of an operations engineer for three years.

24

25

MR. SPERLING: Mr. Examiner, are the
witness' qualifications acceptable?

1
2 MR. NUTTER: Yes, they are.

3 MR. SPERLING: Thank you.

4 Q Would you please state for the record
5 Mobil's purpose in filing this application?

6 A Mobil is requesting permission of the
7 Commission for conversion of the Santa Fe Pacific No. 3,
8 currently a temporarily abandoned Pennsylvanian producer,
9 for a salt water disposal service to dispose of produced
10 salt water from the Crossroads Siluro-Devonian Field into
11 the Lower Crossroads Siluro-Devonian.

12 This well is necessary due to loss of
13 Cosden Oil Development Corporation No. 1, a salt water
14 disposal well, which was previously connected to our system.
15 This loss of disposal capacity has caused the production to
16 be curtailed.

17 Q Can you please refer now to what's been
18 marked as Exhibit One and explain what is shown by that
19 exhibit, and also, why it is Mobil is seeking the permission
20 of the Division for the establishment of salt water disposal
21 well at the location shown on the exhibit?

22 A Okay. Exhibit Number One as shown is
23 a two mile radius of the proposed conversion. Mobil is
24 seeking permission for the conversion because Mobil is the
25 operator of the Crossroads Devonian system, which serves

1

2 several wells in the area.

3

4 This field has a strong water drive,
5 therefor producing quite a bit of water. The water is cur-
6 rently disposed into MPTM Santa Fe Pacific No. 9 and into
7 MPTM Sawyer No. 1 at a rate of approximately 37,000 barrels
8 per day.

9

10 MR. NUTTER: Where are those wells,
11 please?

12

13 A. They are shown -- the Santa Fe No. 9 is
14 Unit E, Section 35.

15

16 MR. NUTTER: That's south of the sub-
17 ject well.

18

19 A. Yes, sir, south. And Sawyer No. 1 is
20 in Section 33, Unit A.

21

22 MR. NUTTER: Okay, thank you.

23

24 A. We estimate that the system would need
25 to have a capacity of 60,000, roughly, barrels per day in the
future, and for curtailment of production to cease, we would
need approximately 55,000 barrels capacity at present, and
the conversion of this well would allow us this additional
capacity.

26

27 Q. What is the current operating capacity
28 of the system?

29

30 A. We're operating approximately 37,000

1
2 barrels per day

3 Q And your testimony is that by reason
4 of the limited capacity of the system, that there has been
5 curtailed production?

6 A Yes, sir, production has been curtailed.

7 Q Okay. Would you please now refer to
8 Exhibit Number Two and explain the purpose for that exhibit?

9 A Exhibit Number Two is a tabular summary
10 of all the wells, showing their ownership, lease name, current
11 status, in an area located within a half mile radius of the
12 proposed conversion.

13 This listing also includes two P&A'd
14 wells. Sketches are also included per future exhibits.

15 This tabular summary includes location,
16 casing programs, depth, setting depths, cement, and the
17 cement tops, and casing-tubing programs, also.

18 Q Did you identify on Exhibit One the
19 Devonian wells and how they are indicated on the exhibit?

20 A The Devonian wells are indicated by
21 circles with a dot.

22 Q Okay. Would you refer now to Exhibit
23 Three and explain the purpose of that exhibit?

24 A Exhibit Three is diagrammatic wellbore
25 sketches of the two wells within the subject half mile area

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

that have been plugged, indicating cement plugs, locations, amounts, and casing that is still there, and it also indicates their date of plugging.

Q There are two schematics and the wells are identified at the top of the exhibit, is that right?

A. That's correct.

Q Would you next refer to Exhibit Four?

A. Exhibit Number Four is the New Mexico Oil Conservation Division Form C-108. It shows the proposed disposal formation, being the Devonian, the depth of any fresh water zones which are located above 320 feet -- this would be the Ogallala fresh water sands -- and anticipated daily disposal volume in this particular well would be 20,000 barrels per day, barrels of water per day.

The system is a closed system. The present injection, initial injection pressure is anticipated to be essentially zero, with a 200 pound per square inch maximum injection pressure.

Also included in this exhibit is the name of the surface owner and of the current offset operators.

Q Would you now refer to Exhibit Five and explain that exhibit?

A. Exhibit Five is a water analysis taken from the Santa Fe Pacific salt water disposal system. It's

1
2 just an indication of the water, produced water, being Devon-
3 ian water.

4 Q The system presently operates on pro-
5 duced Devonian water?

6 A It operates on produced Devonian water
7 with a small percentage of Pennsylvanian water.

8 Q Would you now refer, please, to Exhibit
9 Six and Seven and Eight, while you're at it, and ---

10 A The exhibits marked Exhibit Six are the
11 waiver forms from the surface owner, which is presently Bobby
12 Lewis. His warranty deed is also shown, and also we have ob-
13 tained waivers from the other producers in the field.

14 Q They being?

15 A Texaco, Sun, and Santa Fe Energy Com-
16 pany.

17 And Exhibit Seven shows the current
18 status of Santa Fe Pacific No. 3. The well is presently
19 temporarily abandoned in the Pennsylvanian. It was -- a
20 recompletion was attempted in '79 unsuccessfully. Prior to
21 that it was produced from Devonian open hole and through
22 Devonian perforations.

23 After production was uneconomic it was
24 plugged back and the recompletion attempted.

25 Q Would you identify Exhibit Eight?

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

A. Exhibit Eight shows the proposed --
the well after the proposed conversion.

We're proposing to squeeze the Pennsylvanian perforations at 11,445 feet to 11,538 feet; to come in and drill up the cement cap to the bridge plug; drill up the bridge plug; clean up the hole and drill an additional 315 feet into the lower Siluro-Devonian, and we propose to set a permanent style packer on 4-1/2 inch tubing with a seal assembly, setting the packer at 12,100 feet.

Q. What would the total depth of the well as -- with the new hole be?

A. The total depth, including the drilling deeper, would be 12,555 feet.

Q. Okay. How would you propose to treat the annulus?

A. We propose to treat the annulus with fresh water with flow-free corrosion protective fluids.

Q. And would you also propose to install leak detection devices, and if so, in what fashion?

A. Yes. We'd propose to put a pressure monitor on the casing-tubing annulus for leak detection.

Q. Would you now refer to what is marked as Exhibit Nine and describe that exhibit?

A. Exhibit Nine is a structure map of the

1

2

Crossroads Siluro-Devonian Field.

3

4

5

The blue portion of this particular map indicates the areas that are presently below the oil/water contact.

6

7

The heavy lines indicate faults that are in this field.

8

9

10

As can be shown by this exhibit, Well No. 3 is below the present oil/water contact, as are -- as is No. 9, the present salt water disposal well.

11

12

13

And it also can be seen that the No. 3 is down dip of a fault; therefor isolating it from the northern part of the producing formation.

14

15

Q The exhibit contains a number of indications of P&A. I presume that's plugged and abandoned?

16

17

A Yes, sir, P&A is plugged and abandoned wells.

18

19

20

Q And that is the way you identified, or one of the ways you identified the original oil/water contact and the present oil/water contact?

21

22

23

A Yes, sir. Plugged and abandoned, or dry holes, were used, along with watered out wells to determine oil/water contact.

24

25

Q Please refer to what's been marked as Exhibit Ten and identify that exhibit.

1
2 A Exhibit Ten is a compensated neutron log
3 of this well.

4 This log shows the total logged depth
5 of the well to be 12,211 feet with the top of the Devonian
6 marked at 12 186 feet.

7 Q Now this is the log of the well which
8 you propose to convert to the disposal well, is that correct?

9 A Yes, sir. This is a compensated neutron
10 log on Santa Fe Pacific No. 3.

11 Q Okay. Do you have any other comments
12 with respect to the proposed conversion of this well?

13 A Yes. We believe that Crossroads Siluro-
14 Devonian Field has a strong water drive and that disposal of
15 produced water below the present oil/water contact is essen-
16 tially cycling the water; therefor not causing any detriment
17 to the oil or gas production.

18 And further, that any reduction in the
19 disposal capacity in this field causes -- causes production
20 curtailments, such as we're experiencing now. Our water cut
21 has risen from approximately 87 percent prior to loss of
22 disposal capacity, to 95 percent at present.

23 Q Okay, do you have anything further?

24 A Yes. We feel that in this reservoir,
25 being under such a strong water drive, and since the production

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

is thereby curtailed when disposal capacity is lost, we would request that administrative approval procedures for a salt water disposal well applications in the future be provided to the New Mexico Oil Conservation Division Director for future use, in this Crossroads Siluro-Devonian Field.

Q. Mr. Bloodworth, do you feel that the granting of this application will be in the best interest of conservation and operate to prevent waste?

A. Yes, sir, I do.

Q. Were the exhibits identified as One through Ten prepared by you, collected by you, or prepared under your supervision?

A. They were prepared by and collected under my supervision.

Q. Okay.

MR. SPERLING: I'd like to offer Exhibits One through Ten at this time, Mr. Examiner.

MR. NUTTER: Mobil Exhibits One through Ten will be admitted in evidence.

MR. SPERLING: That's all I have of this witness on direct.

CROSS EXAMINATION

BY MR. NUTTER:

Q. Mr. Bloodworth, now there are a number of operators in the pool.

A. Yes, sir.

Q. But is Mobil operating a community disposal system for all the operators in the pool?

A. We operate a system for Sun Oil Company, Santa Fe Energy, and ourselves.

Q. I see. And at the present time you're disposing 37,000 barrels of water per day into these two wells that you've got.

A. Yes, sir.

Q. But because of their limited capacity, some of the production on those leases that are operated by those companies you mentioned is curtailed so you can get all the water in the ground.

A. Yes, sir.

Q. And the conversion of this third well, then, to disposal system will give you a new capacity. You said you'll probably go as high as 65,000 ?

A. In the future, but we're anticipating 55,000 at present.

Q. Now, was this well -- it was originally

1
2 drilled as a Devonian well. Did it produce from the Devonian
3 originally?

4 A. Yes, sir.

5 Q. And when was it plugged back to the
6 Pennsylvanian?

7 A. It was plugged back in '78, I believe.

8 Q. Is it presently producing from the Penn?

9 A. No, sir, it's currently temporarily
10 abandoned.

11 Q. How long has it been TA'd in the Penn?

12 A. Since '79.

13 Q. Now, you mentioned that you'd like an
14 administrative procedure for conversion of additional wells.
15 I don't believe that's within the call of this particular
16 hearing, Mr. Bloodworth. We can consider this one well and
17 that's about it, but perhaps if you were interested in another
18 case, we could docket another case at some other time for
19 consideration of administrative procedure for additional
20 wells.

21 MR. NUTTER: Are there any other ques-
22 tions of the witness? He may be excused.

23 Do you have anything further, Mr. Sperling?

24 MR. SPERLING: No, sir.

25 MR. NUTTER: Does anyone have anything

1
2 they wish to offer in Case Number 7206?

3 We'll take the case under advisement.
4

5 (Hearing concluded.)
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREPY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is
a correct and true transcript of the hearing in
the case of 720A
held on 3/25 1981.

Chen Examiner
Oil Conservation Division

SALLY W. BOYD, C.S.R.

Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
25 March 1981

EXAMINER HEARING

IN THE MATTER OF:

Application of Mobil Producing, Inc.,
for salt water disposal, Lea County,
New Mexico.

CASE
7206

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation
Division:

Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

James E. Sperling, Esq.
MODRALL, SPERLING, ROEHL,
HARRIS & SISK
P. O. Box 2618
Albuquerque, New Mexico 87103

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

2

I N D E X

MARTY BLOODWORTH

Direct Examination by Mr. Sperling	3
Cross Examination by Mr. Nutter	14

E X H I B I T S

Applicant Exhibit One, Map	5
Applicant Exhibit Two, Tabulation	7
Applicant Exhibit Three, Diagrammatic Sketches	7
Applicant Exhibit Four, NMOCC C-108	8
Applicant Exhibit Five, Data	8
Applicant Exhibit Six, Waiver	9
Applicant Exhibit Seven, Well Diagram	9
Applicant Exhibit Eight, Well Diagram	10
Applicant Exhibit Nine, Structure Map	11
Applicant Exhibit Ten, Log	

1
2 MR. NUTTER: The hearing will come to
3 order.

4 We'll call next Case Number 7206.

5 MR. PADILLA: Application of Mobil
6 Producing, Inc., for salt water disposal, Lea County, New
7 Mexico.

8 MR. SPERLING: James E. Sperling. I'm
9 with Modrall, Sperling, Roehl, Harris, and Sisk, Albuquerque,
10 appearing for the applicant.

11 We have one witness.

12
13 (Witness sworn.)

14
15 MARTY BLOODWORTH
16 being called as a witness and being duly sworn upon his oath,
17 testified as follows, to-wit:

18
19 DIRECT EXAMINATION

20 BY MR. SPERLING:

21 Q Please state your name, your address,
22 your employer, and the capacity in which you're employed.

23 A My name is Marty Bloodworth, Hobbs,
24 New Mexico. I'm employed by Mobil Oil -- Mobil Producing
25 Texas - New Mexico as an operations engineer.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Q And you're located in Hobbs?

A Yes, sir.

Q Are you familiar with the application
filed on Mobil's behalf in this matter?

A Yes, sir.

Q Are you familiar with the area which is
the subject of the application?

A Yes, sir.

Q Have you on any previous occasion
testified before the Commission, the Division, so that your
qualifications as an expert witness are a matter of record?

A No, sir.

Q Would you then please state for us
briefly, your experience and educational background touching
upon your qualifications?

A Yes. Prior to graduation from college
I worked six months as a roustabout and six months as an
engineering assistant for Mobil.

I graduated with a Bachelor of Science
in petroleum engineering in December of '77 from Texas Tech
University, and I have been working for Mobil in the capacity
of an operations engineer for three years.

MR. SPERLING: Mr. Examiner, are the
witness' qualifications acceptable?

1
2 MR. NUTTER: Yes, they are.

3 MR. SPERLING: Thank you.

4 Q Would you please state for the record
5 Mobil's purpose in filing this application?

6 A Mobil is requesting permission of the
7 Commission for conversion of the Santa Fe Pacific No. 3,
8 currently a temporarily abandoned Pennsylvanian producer,
9 for a salt water disposal service to dispose of produced
10 salt water from the Crossroads Siluro-Devonian Field into
11 the Lower Crossroads Siluro-Devonian.

12 This well is necessary due to loss of
13 Cosden Oil Development Corporation No. 1, a salt water
14 disposal well, which was previously connected to our system.
15 This loss of disposal capacity has caused the production to
16 be curtailed.

17 Q Can you please refer now to what's been
18 marked as Exhibit One and explain what is shown by that
19 exhibit, and also, why it is Mobil is seeking the permission
20 of the Division for the establishment of salt water disposal
21 well at the location shown on the exhibit?

22 A Okay. Exhibit Number One as shown is
23 a two mile radius of the proposed conversion. Mobil is
24 seeking permission for the conversion because Mobil is the
25 operator of the Crossroads Devonian system, which serves

1
2 several wells in the area.

3 This field has a strong water drive,
4 therefor producing quite a bit of water. The water is cur-
5 rently disposed into MPTM Santa Fe Pacific No. 9 and into
6 MPTM Sawyer No. 1 at a rate of approximately 37,000 barrels
7 per day.

8 MR. NUTTER: Where are those wells,
9 please?

10 A. They are shown -- the Santa Fe No. 9 is
11 Unit E, Section 35.

12 MR. NUTTER: That's south of the sub-
13 ject well.

14 A. Yes, sir, south. And Sawyer No. 1 is
15 in Section 33, Unit A.

16 MR. NUTTER: Okay, thank you.

17 A. We estimate that the system would need
18 to have a capacity of 60,000, roughly, barrels per day in the
19 future, and for curtailment of production to cease, we would
20 need approximately 55,000 barrels capacity at present, and
21 the conversion of this well would allow us this additional
22 capacity.

23 Q. What is the current operating capacity
24 of the system?

25 A. We're operating approximately 37 000

1
2 barrels per day.

3 Q And your testimony is that by reason
4 of the limited capacity of the system, that there has been
5 curtailed production?

6 A Yes, sir. production has been curtailed.

7 Q Okay. Would you please now refer to
8 Exhibit Number Two and explain the purpose for that exhibit?

9 A Exhibit Number Two is a tabular summary
10 of all the wells showing their ownership lease name current
11 status, in an area located within a half mile radius of the
12 proposed conversion.

13 This listing also includes two P&A'd
14 wells. Sketches are also included per future exhibits.

15 This tabular summary includes location,
16 casing programs, depth, setting depths, cement, and the
17 cement tops, and casing-tubing programs. also.

18 Q Did you identify on Exhibit One the
19 Devonian wells and how they are indicated on the exhibit?

20 A The Devonian wells are indicated by
21 circles with a dot.

22 Q Okay. Would you refer now to Exhibit
23 Three and explain the purpose of that exhibit?

24 A Exhibit Three is diagrammatic wellbore
25 sketches of the two wells within the subject half mile area

1
2 that have been plugged indicating cement plugs locations,
3 amounts, and casing that is still there, and it also indicates
4 their date of plugging.

5 Q There are two schematics and the wells
6 are identified at the top of the exhibit is that right?

7 A That's correct.

8 Q Would you next refer to Exhibit Four?

9 A Exhibit Number Four is the New Mexico
10 Oil Conservation Division Form O-108. It shows the proposed
11 disposal formation being the Devonian, the depth of any fresh
12 water zones which are located above 320 feet -- this would be
13 the Ogalalla fresh water sands -- and anticipated daily dis-
14 posal volume in this particular well would be 20,000 barrels
15 per day, barrels of water per day.

16 The system is a closed system. The
17 present injection, initial injection pressure is anticipated
18 to be essentially zero, with a 200 pound per square inch
19 maximum injection pressure.

20 Also included in this exhibit is the
21 name of the surface owner and of the current offset operators.

22 Q Would you now refer to Exhibit Five and
23 explain that exhibit?

24 A Exhibit Five is a water analysis taken
25 from the Santa Fe Pacific salt water disposal system. It's

1
2 just an indication of the water, produced water, being Devon-
3 ian water.

4 Q The system presently operates on pro-
5 duced Devonian water?

6 A It operates on produced Devonian water
7 with a small percentage of Pennsylvanian water.

8 Q Would you now refer, please, to Exhibit
9 Six and Seven and Eight, while you're at it and --

10 A The exhibits marked Exhibit Six are the
11 waiver forms from the surface owner, which is presently Bobby
12 Lewis. His warranty deed is also shown, and also we have ob-
13 tained waivers from the other producers in the field.

14 Q They being?

15 A Texaco Sun, and Santa Fe Energy Com-
16 pany.

17 And Exhibit Seven shows the current
18 status of Santa Fe Pacific No. 3. The well is presently
19 temporarily abandoned in the Pennsylvanian. It was -- a
20 recompletion was attempted in '79 unsuccessfully. Prior to
21 that it was produced from Devonian open hole and through
22 Devonian perforations.

23 After production was uneconomic it was
24 plugged back and the recompletion attempted.

25 Q Would you identify Exhibit Eight?

1
2 A Exhibit Eight shows the proposed --
3 the well after the proposed conversion.

4 We're proposing to squeeze the Pennsyl-
5 vanian perforations at 11,445 feet to 11,538 feet; to come in
6 and drill up the cement cap to the bridge plug; drill up the
7 bridge plug; clean up the hole and drill an additional 315
8 feet into the lower Siluro-Devonian, and we propose to set
9 a permanent style packer on 4-1/2 inch tubing with a seal
10 assembly, setting the packer at 12,100 feet.

11 Q What would the total depth of the well
12 as -- with the new hole be?

13 A The total depth, including the drilling
14 deeper, would be 12,555 feet.

15 Q Okay. How would you propose to treat
16 the annulus?

17 A We propose to treat the annulus with
18 fresh water with flow-free corrosion protective fluids.

19 Q And would you also propose to install
20 leak detection devices, and if so, in what fashion?

21 A Yes. We'd propose to put a pressure
22 monitor on the casing-tubing annulus for leak detection.

23 Q Would you now refer to what is marked
24 as Exhibit Nine and describe that exhibit?

25 A Exhibit Nine is a structure map of the

Crossroads Siluro-Devonian Field.

The blue portion of this particular map indicates the areas that are presently below the oil/water contact.

The heavy lines indicate faults that are in this field.

As can be shown by this exhibit, Well No. 3 is below the present oil/water contact, as are -- as is No. 9, the present salt water disposal well.

And it also can be seen that the No. 3 is down dip of a fault; therefor isolating it from the northern part of the producing formation.

Q The exhibit contains a number of indications of P&A. I presume that's plugged and abandoned?

A Yes, sir, P&A is plugged and abandoned wells.

Q And that is the way you identified, or one of the ways you identified the original oil/water contact and the present oil/water contact?

A Yes, sir. Plugged and abandoned, or dry holes, were used, along with watered out wells to determine oil/water contact.

Q Please refer to what's been marked as Exhibit Ten and identify that exhibit.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

A Exhibit Ten is a compensated neutron log of this well.

This log shows the total logged depth of the well to be 12,211 feet with the top of the Devonian marked at 12 186 feet.

Q Now this is the log of the well which you propose to convert to the disposal well, is that correct?

A Yes, sir. This is a compensated neutron log on Santa Fe Pacific No. 3.

Q Okay. Do you have any other comments with respect to the proposed conversion of this well?

A Yes. We believe that Crossroads Siluro-Devonian Field has a strong water drive and that disposal of produced water below the present oil/water contact is essentially cycling the water; therefor not causing any detriment to the oil or gas production.

And further, that any reduction in the disposal capacity in this field causes -- causes production curtailments, such as we're experiencing now. Our water cut has risen from approximately 87 percent prior to loss of disposal capacity, to 95 percent at present.

Q Okay, do you have anything further?

A Yes. We feel that in this reservoir, being under such a strong water drive, and since the production

1
2 is thereby curtailed when disposal capacity is lost, we would
3 request that administrative approval procedures for a salt
4 water disposal well applications in the future be provided to
5 the New Mexico Oil Conservation Division Director for future
6 use. in this Crossroads Siluro-Devonian Field.

7 Q Mr. Bloodworth, do you feel that the
8 granting of this application will be in the best interest of
9 conservation and operate to prevent waste?

10 A Yes, sir, I do.

11 Q Were the exhibits identified as One
12 through Ten prepared by you, collected by you, or prepared
13 under your supervision?

14 A They were prepared by and collected
15 under my supervision.

16 Q Okay.

17 MR. SPERLING: I'd like to offer Exhibits
18 One through Ten at this time, Mr. Examiner.

19 MR. NUTTER: Mobil Exhibits One through
20 Ten will be admitted in evidence.

21 MR. SPERLING: That's all I have of
22 this witness on direct.
23
24
25

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Bloodworth, now there are a number of operators in the pool.

A Yes, sir.

Q But is Mobil operating a community disposal system for all the operators in the pool?

A We operate a system for Sun Oil Company, Santa Fe Energy, and ourselves.

Q I see. And at the present time you're disposing 37,000 barrels of water per day into these two wells that you've got.

A Yes, sir.

Q But because of their limited capacity, some of the production on those leases that are operated by those companies you mentioned is curtailed so you can get all the water in the ground.

A Yes, sir.

Q And the conversion of this third well, then, to disposal system will give you a new capacity. You said you'll probably go as high as 65,000 ?

A In the future, but we're anticipating 55,000 at present.

Q Now, was this well -- it was originally

1 drilled as a Devonian well. Did it produce from the Devonian
2 originally?
3

4 A. Yes, sir.

5 Q. And when was it plugged back to the
6 Pennsylvanian?

7 A. It was plugged back in '78, I believe.

8 Q. Is it presently producing from the Penn?

9 A. No, sir, it's currently temporarily
10 abandoned.

11 Q. How long has it been TA'd in the Penn?

12 A. Since '79.

13 Q. Now, you mentioned that you'd like an
14 administrative procedure for conversion of additional wells.
15 I don't believe that's within the call of this particular
16 hearing, Mr. Bloodworth. We can consider this one well and
17 that's about it, but perhaps if you were interested in another
18 case, we could docket another case at some other time for
19 consideration of administrative procedure for additional
20 wells.

21 MR. NUTTER: Are there any other ques-
22 tions of the witness? He may be excused.

23 Do you have anything further, Mr. Sperling?

24 MR. SPERLING: No, sir.

25 MR. NUTTER: Does anyone have anything

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

they wish to offer in Case Number 7206?

We'll take the case under advisement.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that
the foregoing Transcript of Hearing before the Oil Conserva-
tion Division was reported by me; that the said transcript
is a full, true, and correct record of the hearing, prepared
by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is
a true and correct copy of the transcript
filed in the case of 72-06
heard on 3/25 19 71.
[Signature], Examiner
Oil Conservation Division

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

April 14, 1981

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87301
(505) 827-2434

Mr. James Sperling R
Modrall, Sperling, Roehl,
Harris & Sisk
Attorneys at Law
Post Office Box 2168
Albuquerque, New Mexico 87103

Re: CASE NO. 7206
ORDER NO. R-6647

Applicant:

Mobil Producing Inc.

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other

BEFORE EXAMINER MUTTER

OIL CONSERVATION DIVISION

EXHIBIT NO. 2

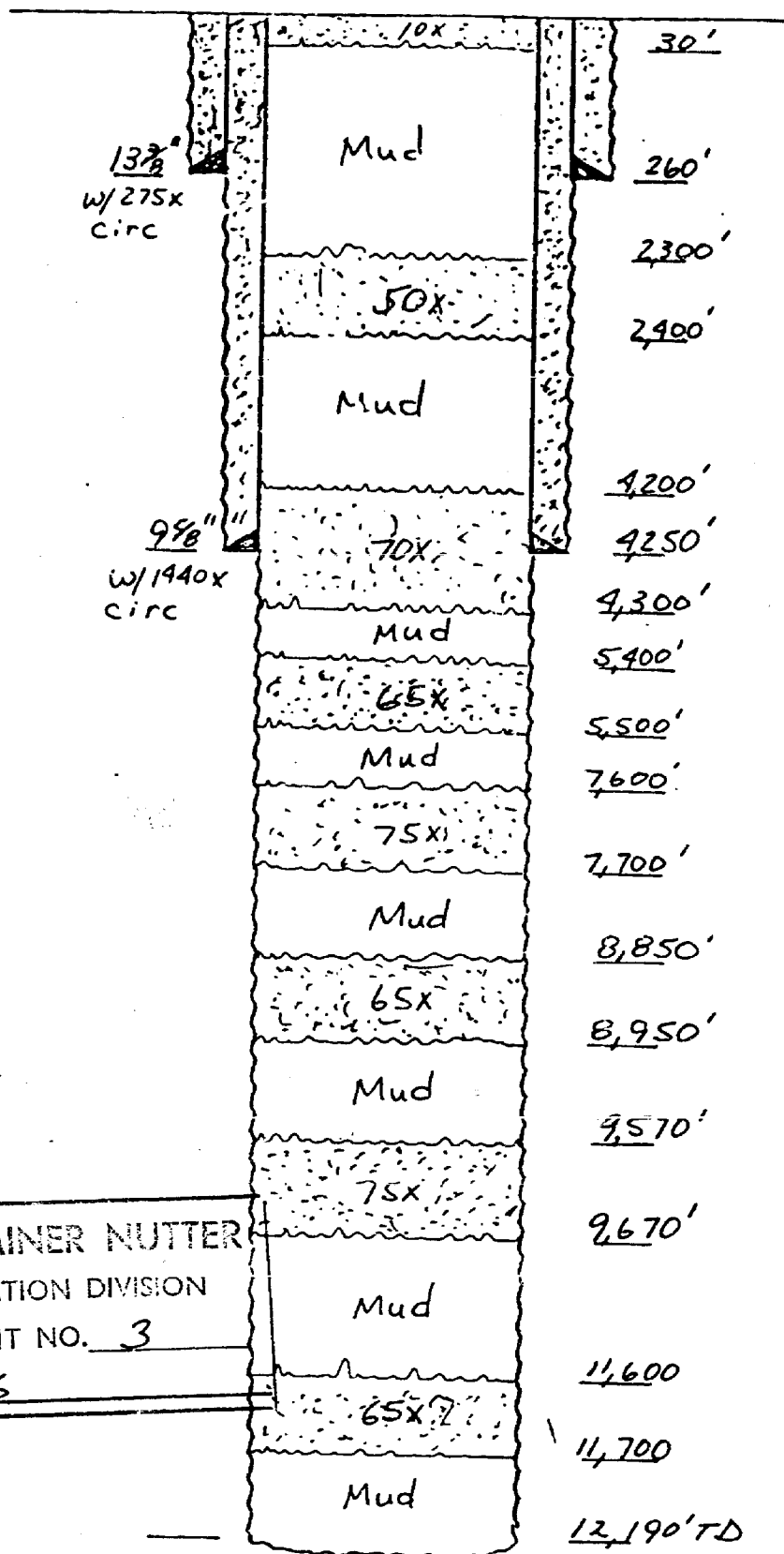
CASE NO. 7206

WELLS WITHIN 1/2 MILE OF SANTA FE PACIFIC #1 PROPOSED SWD
CROSSROADS DEVONIAN FIELD, LEA COUNTY, NEW MEXICO

Company Lease Well No.	Status	Location	Csg. Program	Top of Cement	Tubing Program
<u>MPTM</u> Santa Fe Pacific #1	Prod.	E-26 T9S R36#	13 3/8" @ 393' w/400x 9 5/8" @ 4273' w/2200x 7" @ 12130' w/310x	Surf. Surf. 3170'	2 7/8" @ 3000'
Santa Fe Pacific #9	SWD	E-35 T9S R36E	10 3/4" @ 432' w/400x 7 5/8" @ 5000' w/ 5 1/2" liner @ 12525' w/300x	Surf. 1520' 9350'	4 1/2" @ 4840'
Santa Fe Pacific #12	Prod.	L26 T9S R36E	13 3/8" @ 360' w/400x 9 5/8" @ 5000' w/2600x 7" liner @ 12119' w/1800x	Surf. Surf. 4810'	3 1/2" @ 4125'
<u>TEXACO</u> U.D. Sawyer #1	Prod.	A-34 T9S R36E	13 3/8" @ 323' w/400x 9 5/8" @ 4180' w/3000x 5 1/2" @ 12187' w/700x	Surf. Surf. 8529'	2 3/8" @ 1800'
<u>SUN</u> U. D. Sawyer #1	Prod. (Penn)	O-27 T9S R36E	13 3/8" @ 214' w/300x 9 5/8" @ 3706' w/2800x 5 1/2" @ 12255' w/700x	Surf. Surf. Surf.	2 7/8" @ 11000'
U. D. Sawyer #2	Prod.	I-27 T9S R36E	13 3/8" @ 258' w/300x 9 5/8" @ 4625' w/2700x 5 1/2" @ 12097' w/1178x	Surf. Surf. 1900'	2 7/8" @ 5812'
U. D. Sawyer #6	Prod.	O-27 T9S R36E	13 3/8" @ 240' w/250x 8 5/8" @ 4194' w/1000x 5 1/2" @ 12164' w/325'x	Surf. Surf. 10670'	2 3/8" @ 4867'
<u>SUN OIL CO.</u> U. D. Sawyer #10 P & A'ed 2/14/73	PA	P-27 T9S R36E	13 3/8" @ 260' w/275x 9 5/8" @ 4250' w/1440x	Surf. Surf.	NA
<u>MPTM</u> Santa Fe Pacific 2-C SWD P & A'ed 6/16/72	PA	K-26 T9S R36E	13 3/8" @ 454' w/500x 8 5/8" @ 4706' w/2300x 5 1/2" @ 12,250 w/600x	Surf. Surf. 7044'	NA

Sun Oil Co. U.D. Sawyer Well No. 10
Crossroads Devonian Field
Lea County, New Mexico
P 527 T9S R36E 1000' FESL & 986' FSSL

3

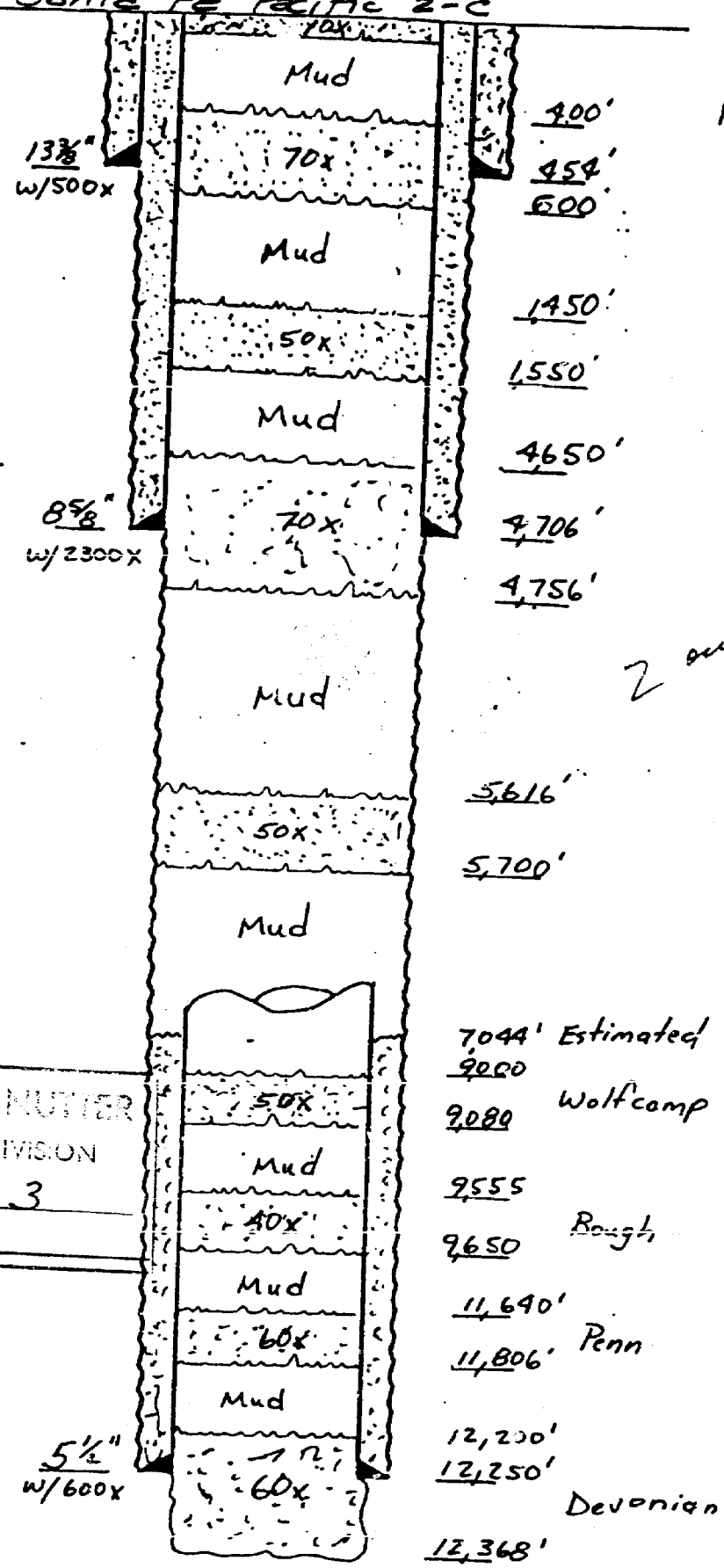


Elevation: 4023' G.L.
PA'd 2/14/73

① but
5x 1

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION
EXHIBIT NO. 3
CASE NO. 7206

Crossroads Devonian Field
Lea County, New Mexico
K 52.6 T9S R36E 1980' FSSL & 1650' FWSL
MPTA Santa Fe Pacific 2-C



Elevation:
P#A 6/16/72

2 on 8x1

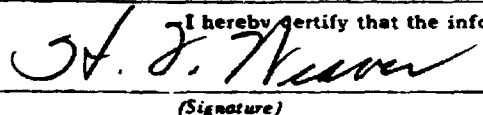
BEFORE EXAMINER MUTTER
OIL CONSERVATION DIVISION
EXHIBIT NO. 3
CASE NO. 7206

CMB 3/9/81

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Mobil Producing Texas & New Mexico, Inc.		ADDRESS 9 Greenway Plaza, Suite 2700, Houston, Tx. 77046			
LEASE NAME Santa Fe Pacific	WELL NO. 3	FIELD Crossroads Devonian	COUNTY Lea		
LOCATION UNIT LETTER <u>M</u> : WELL IS LOCATED <u>660</u> FEET FROM THE <u>South</u> LINE AND <u>660</u> FEET FROM THE <u>West</u> LINE, SECTION <u>26</u> TOWNSHIP <u>9-S</u> RANGE <u>36-E</u> NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	13 3/8"	320	300	Circ.	
INTERMEDIATE	9 5/8"	6,198	4,000	1,810'	Temp. Survey
LONG STRING	7 "	12,240	1,750	6,390'	Temp. Survey
TUBING	4 1/2"	12,100	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Model FA-1 @ 12,100'		
NAME OF PROPOSED INJECTION FORMATION Devonian		TOP OF FORMATION 12,187		BOTTOM OF FORMATION T.D. 12,555	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Perfs. & Open Hole		PROPOSED INTERVAL(S) OF INJECTION 12,212'-12,218' Perf. 12,240'-12,555' O.H.	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Producer		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? Yes	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH					
11,445' - 11,538' Penn. Perfs. Propose to squeeze					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 320'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 12,000 (Miss. Ls.)		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA None	
ANTICIPATED DAILY INJECTION VOLUME (BBL/DAY) 20,000	MINIMUM 15,000	MAXIMUM 30,000	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 200
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -			WATER TO BE DISPOSED OF Yes	NATURAL WATER IN DISPOSAL ZONE Yes	ARE WATER ANALYSES ATTACHED? Yes
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Mr. Bobby Lewis - Crossroads, New Mexico					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL					
Santa Fe Energy Co., One Security Park 7200 1-40 West, Amarillo, Texas 79106					
Sun Oil Company, Box 1861, Midland, Texas 79702					
Texaco Inc., Box 1270, Midland, Texas 79702					
BEFORE EXAMINED BY OIL CONSERVATION COMMISSION EXHIBIT 4 CASE NO. 7206					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)?		PLAY OF AREA Yes		ELECTRICAL LOG Yes	
				DIAGRAMMATIC SKETCH OF WELL Yes	

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



Associate Regulatory Engineer

March 18, 1981

(Signature)

(Title)

(Date)

NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

Martin Water Laboratories

P. O. Box 1488, Phone 945-3234
Midland, Texas 79701

RESULT OF WATER ANALYSES

404 W. ILLINOIS, Phone 603-0001
Midland, Texas 79701

TO: Mr. I. S. Reavis LABORATORY NO. 770152
P. O. Box 633, Midland, Texas SAMPLE RECEIVED 7-24-70
RESULTS REPORTED 7-31-70

COMPANY Mobil Oil Corp. LEASE _____

FIELD OR POOL _____

SECTION _____ BLOCK _____ SURVEY _____ COUNTY _____ STATE _____

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Produced water - taken from Santa Fe Pacific SWD. 7-22-70

NO. 2 _____

NO. 3 _____

NO. 4 _____

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0450			
pH When Sampled				
pH When Received	6.9			
Bicarbonate as HCO ₃	547			
Supersaturation as CaCO ₃	44			
Undersaturation as CaCO ₃	-			
Total Hardness as CaCO ₃	7,200			
Calcium as Ca	2,260			
Magnesium as Mg	377			
Sodium and/or Potassium	21,000			
Sulfate as SO ₄	1,296			
Chloride as Cl	36,220			
Iron as Fe	1.0			
Barium as Ba	0			
Turbidity, Electric	24.2			
Color as Pt	14			
Total Solids, Calculated	61,700			
Temperature °F.	140			
Carbon Dioxide, Calculated	112			
Dissolved Oxygen, Winkler	0.0			
Hydrogen Sulfide	14.0			
Resistivity, ohm/cm at 77° F.	0.128			
Suspended Oil				
Filterable Solids as mg/l	22.6			
Volume Filtered, ml	1,430			

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

Contact us for any details or discussions concerning the above results.

Form No. 3

By _____

Waylan C. Martin, M. A.

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION
EXHIBIT NO. 5
CASE NO. 7206

6

Mobil Producing Texas & New Mexico Inc.

NINE GREENWAY PLAZA—SUITE 2700
HOUSTON, TEXAS 77046

February 20, 1981

Mrs. Dessie Sawyer
Crossroads, New Mexico

7.01 SALT WATER DISPOSAL APPLICATION
MOBIL PRODUCING TX. & N.M., INC.
SANTA FE PACIFIC WELL #3
CROSSROADS DEVONIAN FIELD
LEA COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing Texas & New Mexico, Inc. (MPTM) is applying to the New Mexico Oil Conservation Division (NMOCD) for permission to dispose of salt water into the subject well through perforations in a productive zone. The (NMOCD) requires a waiver or a waiting period of two weeks. Attached are copies of Form C-108 (Disposal Application) and an area plat.

If you, as the surface owner of land on which the above well is located, have no objection to this application, please sign the waiver on three copies of this letter and return in the enclosed, stamped envelope. The fourth copy is for your file.

Yours very truly,

J. A. Morris

HFWeaver/lcc

J. A. Morris
Regulatory Engineering Supervisor

I, Bobby Lewis, as surface owner of land on which the subject well is located, has no objection to MPTM's application.

Date MARCH 2, 1981

Name _____

Signature Bobby Lewis

BEFORE EXAMINER NUTTER

OIL CONSERVATION DIVISION

EXHIBIT NO. 6

CASE NO. 7206

6

Mobil Producing Texas & New Mexico Inc.

February 20, 1981

NINE GREENWAY PLAZA - SUITE 2700
HOUSTON TEXAS 77046

Sun Oil Company
Box 1661
Midland, Texas 79702

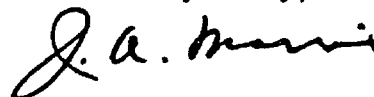
7.01 SALT WATER DISPOSAL APPLICATION
MOBIL PRODUCING TX. & N.M., INC.
SANTA FE PACIFIC WELL #3
CROSSROADS DEVONIAN FIELD
LEA COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing Texas & New Mexico, Inc. (MPTM) is applying to the New Mexico Oil Conservation Division (NMOCD) for permission to dispose of salt water into the subject well through perforations in a porous zone from 12,212' to 12,555'. Attached are copies of Form C-108 (disposal application) and an area plat.

If you, as an offset operator to MPTM's Santa Fe Pacific Lease, have no objection to this application, please sign the waiver on three copies of this letter and return in the enclosed, stamped envelope. The fourth copy is for your file.

Yours very truly,

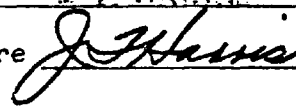


HFWeaver/lcc

J. A. Morris
Regulatory Engineering Supervisor

Attachments

_____, as an offset operator to the subject lease, has no objection to MPTM's application.

Date 3-10-81 Name I. T. HARRIS
Title SR. CONSERVATION REPRESENTATIVE Signature 

BEFORE EXAMINER NUTTER	
OIL CONSERVATION DIVISION	
EXHIBIT NO.	<u>6</u>
CASE NO.	<u>7206</u>



PETROLEUM PRODUCTS

PRODUCING DEPARTMENT

March 5, 1981

6
TEXACO
U.S.A.
A DIVISION OF TEXACO INC.
P. O. BOX 3109
MIDLAND, TEXAS 79702

SALT WATER DISPOSAL APPLICATION
MOBIL PRODUCING TX & NM, INC.
SANTA FE PACIFIC WELL NO. 3
CROSSROADS DEVONIAN FIELD
LEA COUNTY, NEW MEXICO

The State of New Mexico
Department of Energy & Minerals
Oil Conservation Commission
P. O. Box 2068
Santa Fe, NM 87501

Gentlemen:

Texaco Inc. has been advised by Mobil Producing TX & NM, Inc. of their application to dispose of salt water into the subject well through perforations in a porous zone from 12,212' to 12,555'.

Texaco Inc. as an offset operator, waives objection to the application.

Yours very truly,

Alan R. McDaniel
Division Manager

By 
R. D. Tomberlin
Petroleum Engineering Manager

CRW/lc

cc: Mobil Producing TX & NM, Inc.
Nine Greenway Plaza
Suite 2700
Houston, TX 77046

RECEIVED
ENVIRONMENTAL
& REGULATORY

MAR 9 '81

BEFORE EXAMINER NUT
OIL CONSERVATION DIVISION

EXHIBIT NO. 6

FILE NO. 7206

RJS	ADB	REG STENO
JDC	LSH	REG STENO
JRM	EAM	ENV FILE
WBS	SGH	REG FILE
HEW	ENV SEC	DISCARD

6

Mobil Producing Texas & New Mexico Inc.

February 20, 1981

NINE GREENWAY PLAZA—SUITE 2700
HOUSTON TEXAS 77046

Oil Development Co. of Texas
900 Polk Street
Amarillo, Texas 79101

7.01 SALT WATER DISPOSAL APPLICATION
MOBIL PRODUCING TX. & N.M., INC.
SANTA FE PACIFIC WELL #3
CROSSROADS DEVONIAN FIELD
LEA COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing Texas & New Mexico, Inc. (MPTM) is applying to the New Mexico Oil Conservation Division (NMOCD) for permission to dispose of salt water into the subject well through perforations in a porous zone from 12,212' to 12,555'. Attached are copies of Form C-108 (disposal application) and an area plat.

If you, as an offset operator to MPTM's Santa Fe Pacific Lease, have no objection to this application, please sign the waiver on three copies of this letter and return in the enclosed, stamped envelope. The fourth copy is for your file.

Yours very truly,

J. A. Morris

HFWeaver/lcc

J. A. Morris
Regulatory Engineering Supervisor

Attachments

Santa Fe Energy Company, as an offset operator to the subject lease, has no objection to MPTM's application.

Date February 26, 1981

Name F. Wayne Kelly

Title Manager-Operations & Engineering

Signature *F. Wayne Kelly*

BEFORE EXAMINER MUTTER
OIL CONSERVATION DIVISION
EXHIBIT NO. 6
CASE NO. 7206

31569 *Deed* BOOK 337 PAGE 257
WARRANTY DEED

DESSIE SAWYER, a widow and single woman, for consideration paid, grants to CLARENCE LAVERGN LEWIS, also known as BOBBY LEWIS, a married man dealing in his sole and separate estate, the surface estate only of the following described lands in Lea County, New Mexico:

TOWNSHIP 9 SOUTH, RANGE 36 EAST:

Section 21:	S½
Section 22:	S½
Section 23:	S½
Section 26:	All
Section 27:	All
Section 28:	All
Section 33:	All
Section 34:	All
Section 35:	N½, N½S½

together with all improvements, including fences, attached and appurtenant thereto, containing 4,640 acres, more or less; subject to reservations, restrictions and easements of record.

Grantor reserves unto herself all of the oil, gas, potash, sulphur and other minerals lying in and under the above described lands not heretofore reserved.

with warranty covenants.

WITNESS my hand and seal this 22 day of October 1973.

Dessie Sawyer
Dessie Sawyer

STATE OF NEW MEXICO:

COUNTY OF LEA :

The foregoing instrument was acknowledged before me this 22 day of October 1973 by Dessie Sawyer, a widow and single woman.

My Commission Expires:

5-7-77

J. W. Forster
Notary Public

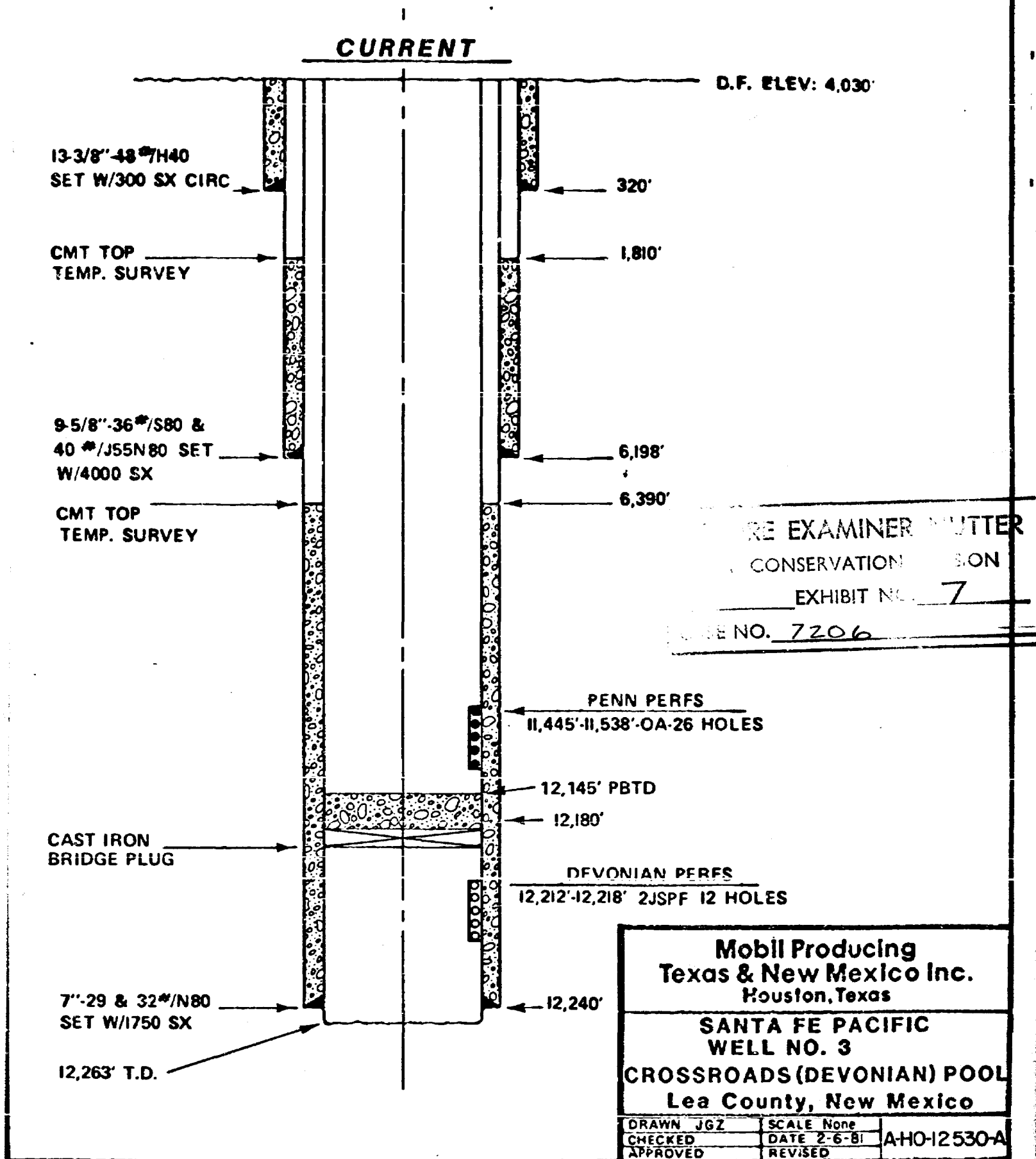
BEFORE	NOTARY NUTTER
OIL	DIVISION
NO.	<u>6</u>
CASE	<u>4206</u>

STATE OF NEW MEXICO
COUNTY OF LEA
FILED

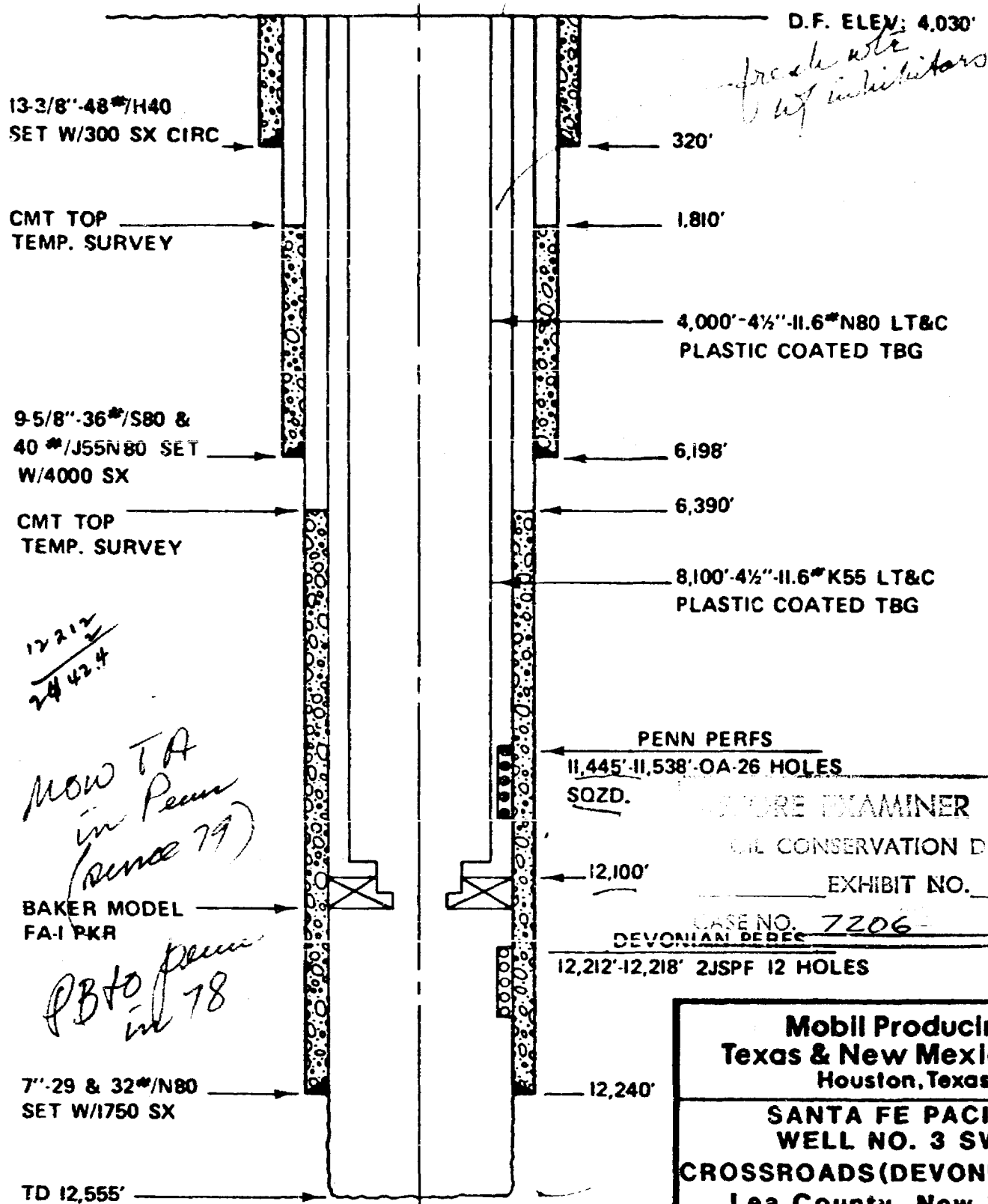
OCT 24 1973

12:45
and recorded to Book
By *[Signature]* County Clerk
By *[Signature]* Deputy

31569



PROPOSED



Mobil Producing Texas & New Mexico Inc. Houston, Texas	
SANTA FE PACIFIC WELL NO. 3 SWD CROSSROADS (DEVONIAN) POOL Lea County, New Mexico	
DRAWN JGZ	SCALE None
CHECKED	DATE 2-6-81
APPROVED	REVISED

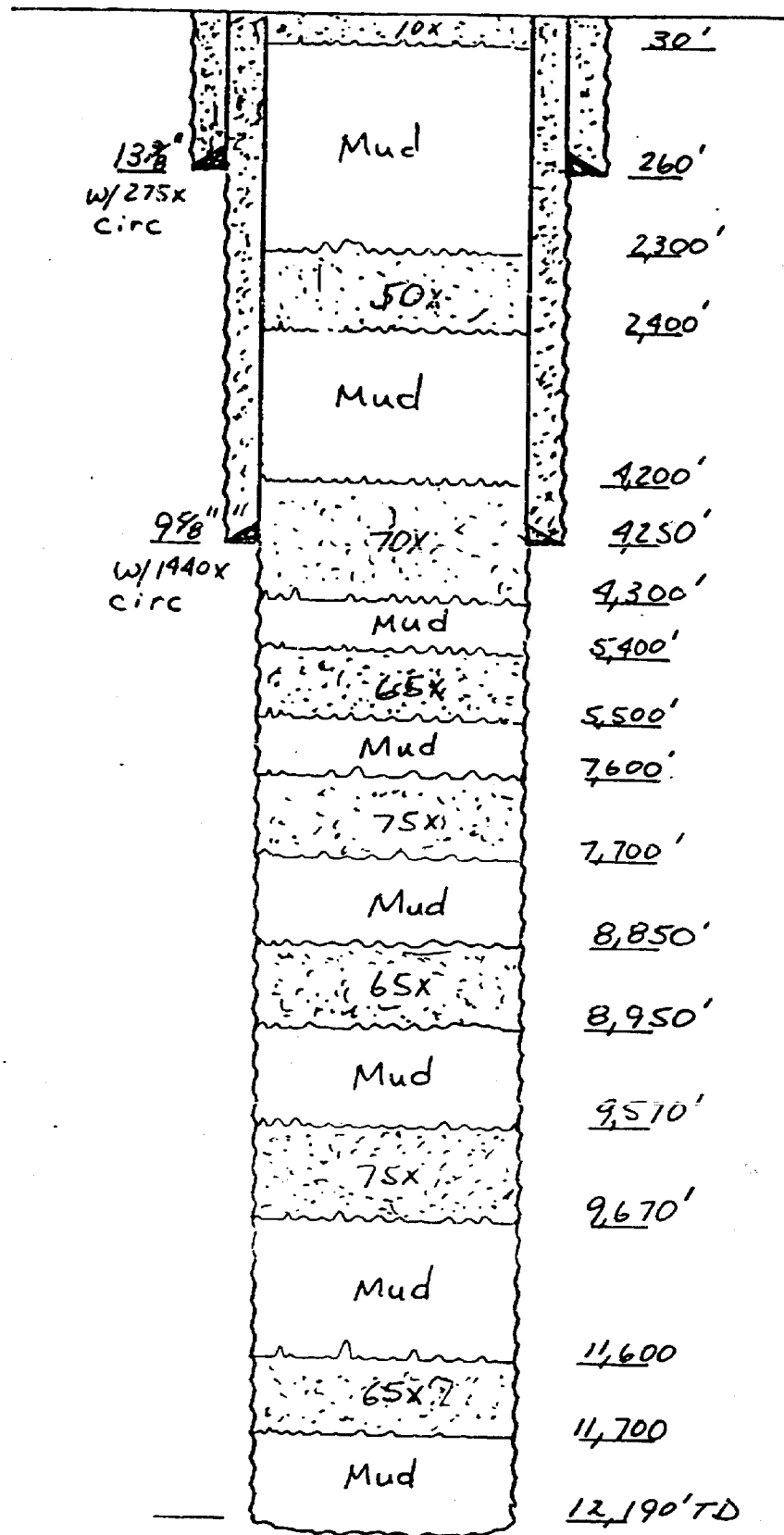
B-HO-12,530

WELLS WITHIN ½ MILE OF SANTA FE PACIFIC #3 PROPOSED SWD
CROSSROADS DEVONIAN FIELD, LEA COUNTY, NEW MEXICO

Company Lease Well No.	Status	Location	Csg. Program	Top of Cement	Tubing Program
<u>MPTM</u> Santa Fe Pacific #1	Prod.	E-26 T9S R36#	13 3/8" @ 393' w/400x 9 5/8" @ 4273' w/2200x 7" @ 12130' w/310x	Surf. Surf. 3170'	2 7/8" @3000'
Santa Fe Pacific #9	SWD	E-35 T9S R36E	10 3/4"@ 432 w/400x 7 5/8" @ 5000' w/ 5½"liner @ 12525' w/300x	Surf. 1520' 9350'	4½" @ 4840'
Santa Fe Pacific #12	Prod.	L26 T9S R36E	13 3/8" @ 360' w/400x 9 5/8" @ 5000' w/2600x 7" liner @ 12119'w1800x	Surf. Surf. 4810'	3½" @ 4125'
<u>TEXACO</u> U.D. Sawyer #1	Prod.	A-34 T9S R36E	13 3/8 @ 323' w/400x 9 5/8" @ 4180' w/3000x 5½" @ 12187' w/700x	Surf. Surf. 8529'	2 3/8" @1800'
<u>SUN</u> U. D. Sawyer #1	Prod. (Penn)	0-27 T9S R36E	13 3/8" @ 214' w/300x 9 5/8" @ 3706' w/2800x 5 ½" @ 12255' w/700x	Surf. Surf. Surf.	2 7/8" @ 11000'
U. D. Sawyer #2	Prod.	I-27 T9S R36E	13 3/8" @ 258' w/300x 9 5/8" @ 4625' w/2700x 5½" @ 12097' w/1178x	Surf. Surf. 1900'	2 7/8" @ 5812'
U. D. Sawyer #6	Prod.	0-27 T9S R36E	13 3/8" @ 240' w/250x 8 5/8" @ 4194' w/1000x 5½" @ 12164' w/325'x	Surf. Surf. 10670'	2 3/8" @ 4867'
<u>SUN OIL CO.</u> U. D. Sawyer #10 P & A'ed 2/14/73	PA	P-27 T9S R36E	13 3/8" @ 260' w/275x 9 5/8" @4250' w/1440x	Surf. Surf.	NA
<u>MPTM</u> Santa Fe Pacific 2-C SWD P & A'ed 6/16/72	PA	K-26 T9S R36E	13 3/8" @ 454' w/500x 8 5/8" @ 4706' w/2300x 5½" @ 12,250 w/600x	Surf. Surf. 7044'	NA

Ex. 2

Sun Oil Co. U.D. Sawyer Well No. 10
 Crossroads Devonian Field
 Lea County, New Mexico
 P 527 T9S R36E 1000' FESL & 986' FSSL



Elevation: 4023' G.L.
 PA'd 2/14/73

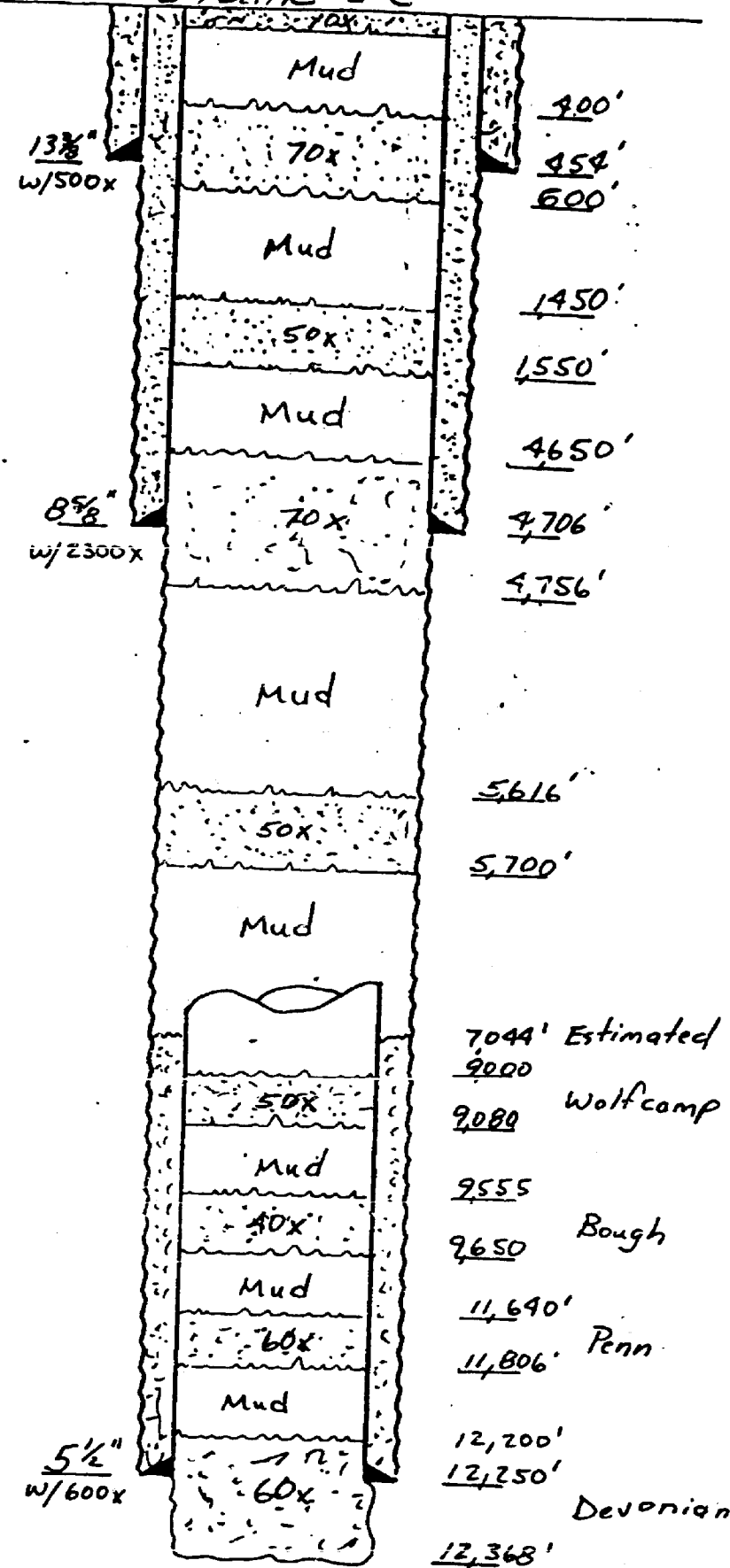
Ex 3

Crossroads Devonian Field

Lea County, New Mexico

K 526 T9S R36E 1980' FSSN E 1650' FWSN

Santa Fe Pacific 2-C



Elevation:
PFA 6/16/72

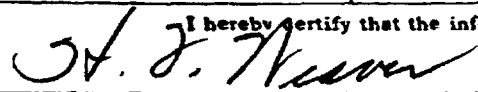
CNR 3/9/81

Ex 3

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Mobil Producing Texas & New Mexico, Inc.		ADDRESS 9 Greenway Plaza, Suite 2700, Houston, Tx. 77046			
LEASE NAME Santa Fe Pacific	WELL NO. 3	FIELD Crossroads Devonian	COUNTY Lea		
LOCATION UNIT LETTER <u>M</u> ; WELL IS LOCATED <u>660</u> FEET FROM THE <u>South</u> LINE AND <u>660</u> FEET FROM THE <u>West</u> LINE. SECTION <u>26</u> TOWNSHIP <u>9-S</u> RANGE <u>36-E</u> NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	13 3/8"	320	300	Circ.	
INTERMEDIATE	9 5/8"	6,198	4,000	1,810'	Temp. Survey
LONG STRING	7 "	12,240	1,750	6,390'	Temp. Survey
TUBING	4 1/2"	12,100	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Model FA-1 @ 12,100'		
NAME OF PROPOSED INJECTION FORMATION Devonian		TOP OF FORMATION 12,187		BOTTOM OF FORMATION T.D. 12,555	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS?		PERFORATIONS OR OPEN HOLES		PROPOSED INTERVAL(S) OF INJECTION	
Tubing		Perfs. & Open Hole		12,212'-12,218' Perf. 12,240'-12,555' O.H.	
IS THIS A NEW WELL DRILLED FOR DISPOSAL?		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED?		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE?	
No		Producer		Yes	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH					
11,445' - 11,538' Penn. Perfs. Propose to squeeze					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA	
320'		12,000 (Miss. Ls.)		None	
ANTICIPATED DAILY INJECTION VOLUME (BBL/DAY)	MINIMUM	MAXIMUM	OPEN OR CLOSED TYPE SYSTEM	IS INJECTION TO BE BY GRAVITY OR PRESSURE?	APPROX. PRESSURE (PSI)
20,000	15,000	30,000	Closed	Pressure	200
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -			WATER TO BE DISPOSED OF	NATURAL WATER IN DISPOSAL ZONE	ARE WATER ANALYSES ATTACHED?
			Yes	Yes	Yes
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND)					
Mr. Bobby Lewis - Crossroads, New Mexico					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL					
Santa Fe Energy Co., One Security Park 7200 1-40 West, Amarillo, Texas 79106					
Sun Oil Company, Box 1861, Midland, Texas 79702					
Texaco Inc., Box 1270, Midland, Texas 79702					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?					
SURFACE OWNER		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL			
Yes		Yes			
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)?		ELECTRICAL LOG		DIAGRAMMATIC SKETCH OF WELL	
Yes		Yes		Yes	

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


(Signature)

Associate Regulatory Engineer

March 18, 1981

(Title)

(Date)

NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

Ex 4

P. O. BOX 1466 PHONE 862-8236
MONAHANS, TEXAS 79706

RESULT OF WATER ANALYSES

406 W. ILLINOIS PHONE 688-0821
MIDLAND, TEXAS 79701

LABORATORY NO. 770152
SAMPLE RECEIVED 7-24-70
RESULTS REPORTED 7-31-70

COMPANY Mobil Oil Corp. LEASE _____
FIELD OR POOL _____
SECTION _____ BLOCK _____ SURVEY _____ COUNTY _____ STATE _____
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Produced water - taken from Santa Fe Pacific SWD. 7-22-70
NO. 2 _____
NO. 3 _____
NO. 4 _____

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0450			
pH When Sampled				
pH When Received	6.9			
Bicarbonate as HCO ₃	547			
Supersaturation as CaCO ₃	44			
Undersaturation as CaCO ₃	-			
Total Hardness as CaCO ₃	7.200			
Calcium as Ca	2.260			
Magnesium as Mg	377			
Sodium and/or Potassium	21.008			
Sulfate as SO ₄	1.296			
Chloride as Cl	36.220			
Iron as Fe	1.0			
Barium as Ba	0			
Turbidity, Electric	24.2			
Color as Pt	16			
Total Solids, Calculated	61.708			
Temperature °F.	140			
Carbon Dioxide, Calculated	117			
Dissolved Oxygen, Winkler	0.0			
Hydrogen Sulfide	1/0			
Resistivity, ohms/cm at 77° F.	0.126			
Suspended Oil				
Filtrable Solids as mg/l	22.6			
Volume Filtered, ml	1,430			

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

~~Contact us for any details or discussions concerning the above results.~~

Form No. 3

By _____

Waylan C. Martin, M. A.

Ex 5

31569
WARRANTY DEED

Deed BOOK 337 PAGE 257

DESSIE SAWYER, a widow and single woman, for consideration paid, grants to CLARENCE LAVERGN LEWIS, also known as BOBBY LEWIS, a married man dealing in his sole and separate estate, the surface estate only of the following described lands in Lea County, New Mexico:

TOWNSHIP 9 SOUTH, RANGE 36 EAST:

Section 21:	S½
Section 22:	S½
Section 23:	S½
Section 26:	All
Section 27:	All
Section 28:	All
Section 33:	All
Section 34:	All
Section 35:	N½, N½S½

together with all improvements, including fences, attached and appurtenant thereto, containing 4,640 acres, more or less; subject to reservations, restrictions and easements of record.

Grantor reserves unto herself all of the oil, gas, potash, sulphur and other minerals lying in and under the above described lands not heretofore reserved.

with warranty covenants.

WITNESS my hand and seal this 22 day of October 1973.

Dessie Sawyer
Dessie Sawyer

STATE OF NEW MEXICO:

COUNTY OF LEA

The foregoing instrument was acknowledged before me this 22 day of October 1973 by Dessie Sawyer, a widow and single woman.

John W. Forster
Notary Public

My Commission Expires:

5-7-77

STATE OF NEW MEXICO
COUNTY OF LEA
FILED

OCT 24 1973

12:45 PM
Notary Public
M. Conroy Clerk
Deputy

Ex 6

31569

Mobil Producing Texas & New Mexico Inc.

NINE GREENWAY PLAZA—SUITE 2700
HOUSTON TEXAS 77046

February 20, 1981

Mrs. Dessie Sawyer
Crossroads, New Mexico

7.01 SALT WATER DISPOSAL APPLICATION
MOBIL PRODUCING TX. & N.M., INC.
SANTA FE PACIFIC WELL #3
CROSSROADS DEVONIAN FIELD
LEA COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing Texas & New Mexico, Inc. (MPTM) is applying to the New Mexico Oil Conservation Division (NMOCD) for permission to dispose of salt water into the subject well through perforations in a productive zone. The (NMOCD) requires a waiver or a waiting period of two weeks. Attached are copies of Form C-108 (Disposal Application) and an area plat.

If you, as the surface owner of land on which the above well is located, have no objection to this application, please sign the waiver on three copies of this letter and return in the enclosed, stamped envelope. The fourth copy is for your file.

Yours very truly,

J. A. Morris

HFWeaver/lcc

J. A. Morris
Regulatory Engineering Supervisor

I, Bobby Lewis, as surface owner of land on which the subject well is located, has no objection to MPTM's application.

Date MARCH 2, 1981

Name _____
Signature Bobby Lewis

Ex 6

Mobil Producing Texas & New Mexico Inc.

February 20, 1981

NINE GREENWAY PLAZA—SUITE 2700
HOUSTON TEXAS 77046

Sun Oil Company
Box 1861
Midland, Texas 79702

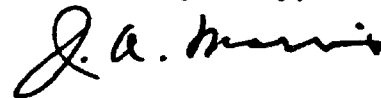
7.01 SALT WATER DISPOSAL APPLICATION
MOBIL PRODUCING TX. & N.M., INC.
SANTA FE PACIFIC WELL #3
CROSSROADS DEVONIAN FIELD
LEA COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing Texas & New Mexico, Inc. (MPTM) is applying to the New Mexico Oil Conservation Division (NMOCD) for permission to dispose of salt water into the subject well through perforations in a porous zone from 12,212' to 12,555'. Attached are copies of Form C-108 (disposal application) and an area plat.

If you, as an offset operator to MPTM's Santa Fe Pacific Lease, have no objection to this application, please sign the waiver on three copies of this letter and return in the enclosed, stamped envelope. The fourth copy is for your file.

Yours very truly,



HFWeaver/lcc

J. A. Morris
Regulatory Engineering Supervisor

Attachments

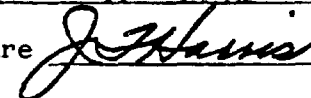
_____, as an offset operator to the subject lease, has no objection to MPTM's application.

Date 2-10-81

Name I. T. HARRIS

Title SR. CONSERVATION REPRESENTATIVE

Signature



Ex 6



PETROLEUM PRODUCTS

PRODUCING DEPARTMENT

March 5, 1981

TEXACO
U.S.A.
A DIVISION OF TEXACO INC.
P. O. BOX 3108
MIDLAND, TEXAS 79702

SALT WATER DISPOSAL APPLICATION
MOBIL PRODUCING TX & NM, INC.
SANTA FE PACIFIC WELL NO. 3
CROSSROADS DEVONIAN FIELD
LEA COUNTY, NEW MEXICO

The State of New Mexico
Department of Energy & Minerals
Oil Conservation Commission
P. O. Box 2088
Santa Fe, NM 87501

Gentlemen:

Texaco Inc. has been advised by Mobil Producing TX & NM, Inc. of their application to dispose of salt water into the subject well through perforations in a porous zone from 12,212' to 12,555'.

Texaco Inc. as an offset operator, waives objection to the application.

Yours very truly,

Alan R. McDaniel
Division Manager

By R. D. Tomberlin
R. D. Tomberlin
Petroleum Engineering Manager

CRW/lc

cc: Mobil Producing TX & NM, Inc. ~~TX~~
Nine Greenway Plaza
Suite 2700
Houston, TX 77046

RECEIVED ENVIRONMENTAL & REGULATORY		
MAR 9 '81		
RJS	ADB	FED STENO
JDC	LSH	REG STENO
JAM	EAM	ENV FILE
WBS	SCH	REG FILE
MFV	ENV SEC	DISCARD

Ex. 6

Mobil Producing Texas & New Mexico Inc.

February 20, 1981

NINE GREENWAY PLAZA—SUITE 2700
HOUSTON TEXAS 77046

Oil Development Co. of Texas
900 Polk Street
Amarillo, Texas 79101

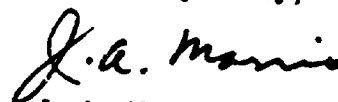
7.01 SALT WATER DISPOSAL APPLICATION
MOBIL PRODUCING TX. & N.M., INC.
SANTA FE PACIFIC WELL #3
CROSSROADS DEVONIAN FIELD
LEA COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing Texas & New Mexico, Inc. (MPTM) is applying to the New Mexico Oil Conservation Division (NMOCD) for permission to dispose of salt water into the subject well through perforations in a porous zone from 12,212' to 12,555'. Attached are copies of Form C-108 (disposal application) and an area plat.

If you, as an offset operator to MPTM's Santa Fe Pacific Lease, have no objection to this application, please sign the waiver on three copies of this letter and return in the enclosed, stamped envelope. The fourth copy is for your file.

Yours very truly,



J. A. Morris
Regulatory Engineering Supervisor

HFWeaver/lcc

Attachments

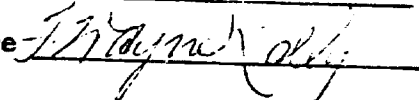
Santa Fe Energy Company, as an offset operator to the subject lease, has no objection to MPTM's application.

Date February 26, 1981

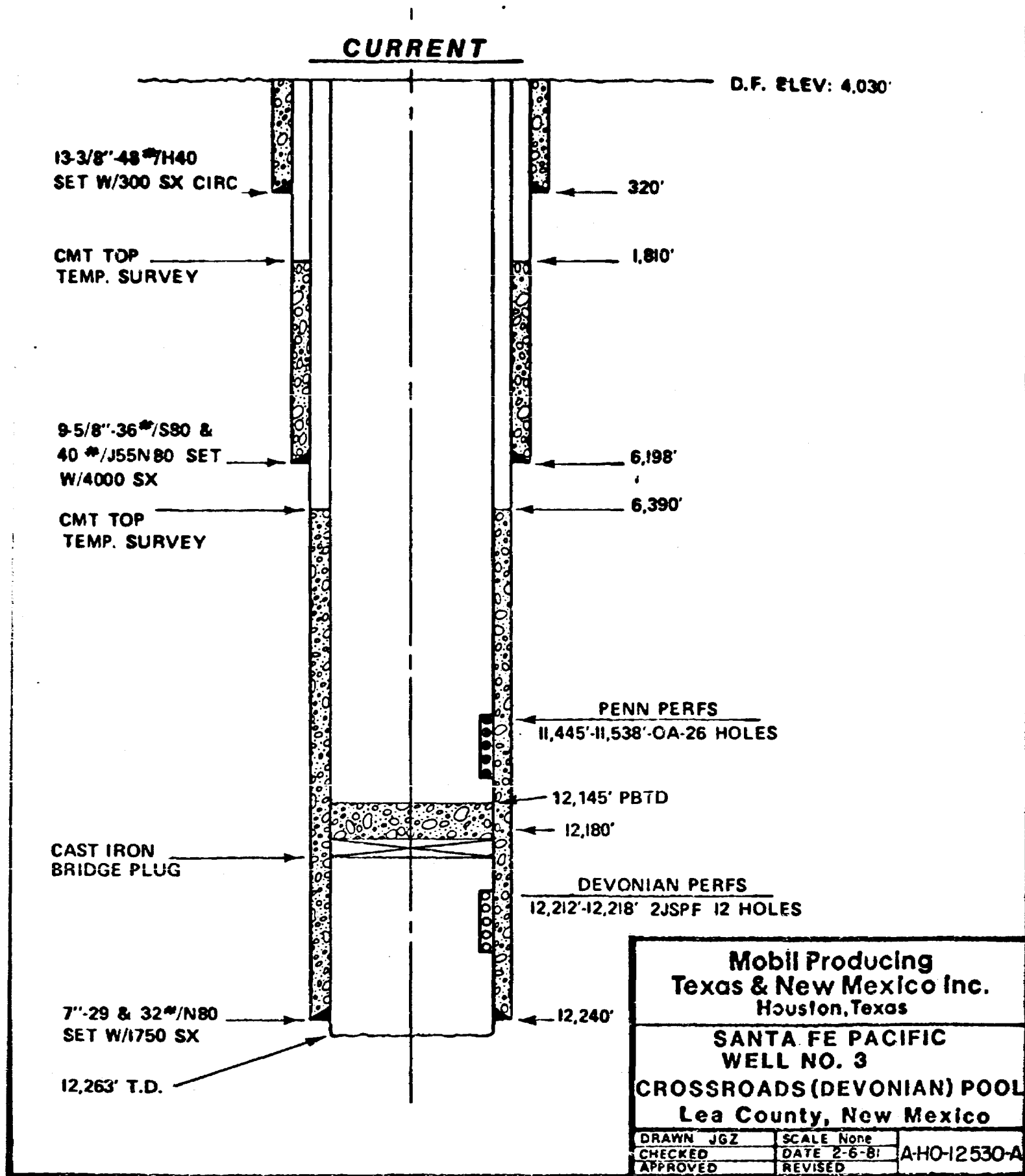
Name F. Wayne Kelly

Title Manager-Operations & Engineering

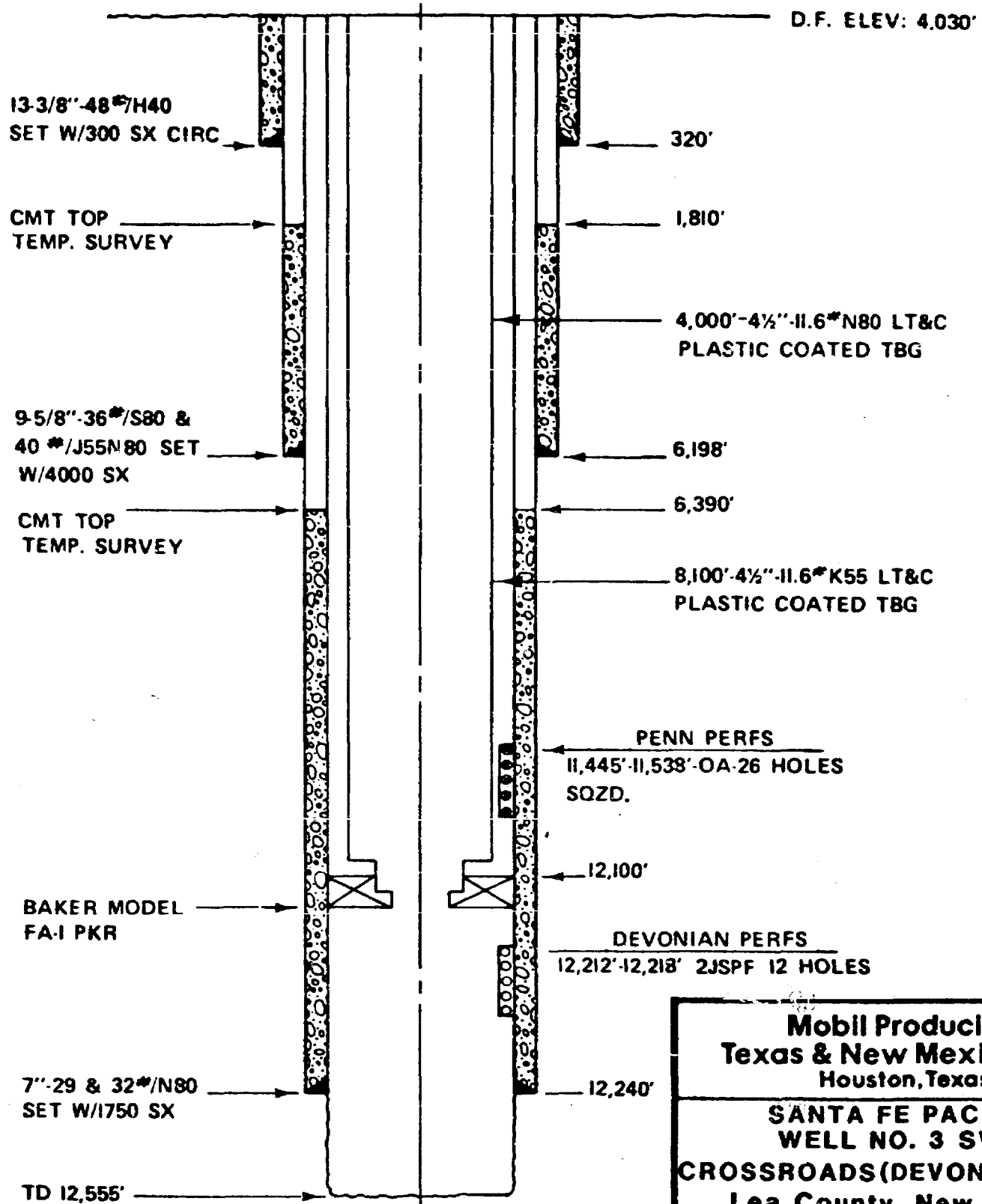
Signature



Ex 6



PROPOSED



**Mobil Producing
Texas & New Mexico Inc.**
Houston, Texas

**SANTA FE PACIFIC
WELL NO. 3 SWD
CROSSROADS (DEVONIAN) POOL
Lea County, New Mexico**

DRAWN JGZ	SCALE None	B-HO-12,530
CHECKED	DATE 2-6-81	
APPROVED	REVISED	

Ex 8

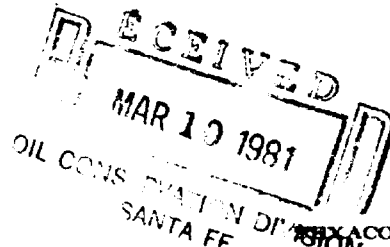
- CASE 7200: Application of Estoril Producing Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its Belco Fed. Well No. 1 located in Unit O of Section 15, Township 23 South, Range 34 East, to produce gas and gas liquids from the Strawn and Morrow formations, Antelope Ridge Field, thru parallel strings of tubing.
- CASE 7201: Application of Layton Enterprises, Inc. for a unit agreement, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Todd Lower San Andres Unit Area, comprising 3256 acres, more or less, of Federal and State lands in Township 7 South, Ranges 35 and 36 East.
- CASE 7202: Application of Layton Enterprises, Inc. for a waterflood project, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the San Andres formation thru 4 injection wells located in Sections 30, 31 and 32 of its Todd Lower San Andres Unit in Township 7 South, Range 36 East.
- CASE 7203: Application of Southern Union Exploration Co. of Texas for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Susco Bough "C" Unit Area, comprising 2560 acres, more or less, of State lands in Township 10 South, Range 33 East.
- CASE 7204: Application of Bass Enterprises Production Company for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Delaware formation in the interval from 3820 feet to 3915 feet in its Federal Legg Well No. 1 in Unit B of Section 27, Township 22 South, Range 30 East, Quahada Ridge Field.
- CASE 7205: Application of Supron Energy Corporation for a non-standard gas proration unit, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 160-acre non-standard Blanco Mesaverde gas proration unit comprising the NE/4 of Section 35, Township 31 North, Range 12 West, to be dedicated to a well to be drilled at a standard location thereon.
- CASE 7183: (Continued from March 11, 1981, Examiner Hearing)
- Application of Flag-Redfern Oil Company for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its Osudo St. Com Well No. 2 at an unorthodox location 990 feet from the North and East lines of Section 18, Township 20 South, Range 36 East, North Osudo-Morrow Gas Pool.
- CASE 7206: Application of Mobil Producing Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation through perforations from 12,212 feet to 12,218 feet and the open hole interval from 12,240 feet to 12,555 feet in its Santa Fe Pacific Well No. 3 in Unit M of Section 26, Township 9 South, Range 36 East, Crossroads Field.
- CASE 7207: Application of Mobil Producing Inc. for lease commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the commingling of Vacuum Grayburg-San Andres production from the State J and State II leases in Section 22, Township 17 South, Range 34 East.
- CASE 7208: Application of Gulf Oil Corporation for the amendment of pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of the White City-Pennsylvanian Gas Pool Rules to provide for 320-acre spacing rather than 640 acres with well locations specified as being at least 1650 feet from the end boundary and 660 feet from the side boundary of the proration unit.
- CASE 7129: (Continued from February 25, 1981, Examiner Hearing)
- Application of Koch Exploration Company for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Dakota formation underlying the N/2 of Section 28, Township 28 North, Range 8 West, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.
- CASE 7169: (Continued from February 25, 1981, Examiner Hearing)
- Application of Koch Exploration Company for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Dakota formation underlying the S/2 of Section 22, Township 28 North, Range 8 West, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

PRODUCING DEPARTMENT



PETROLEUM PRODUCTS

March 5, 1981



A DIVISION OF TEXACO INC.
P. O. BOX 3109
MIDLAND, TEXAS 79702

Waiver

Case 2206

SALT WATER DISPOSAL APPLICATION
MOBIL PRODUCING TX & NM, INC.
SANTA FE PACIFIC WELL NO. 3
CROSSROADS DEVONIAN FIELD
LEA COUNTY, NEW MEXICO

The State of New Mexico
Department of Energy & Minerals
Oil Conservation Commission
P. O. Box 2088
Santa Fe, NM 87501

Gentlemen:

Texaco Inc. has been advised by Mobil Producing TX & NM, Inc. of their application to dispose of salt water into the subject well through perforations in a porous zone from 12,212' to 12,555'.

Texaco Inc. as an offset operator, waives objection to the application.

Yours very truly,

Alan R. McDaniel
Division Manager

By

R. D. Tomberlin
R. D. Tomberlin
Petroleum Engineering Manager

CRW/lt

cc: Mobil Producing TX & NM, Inc.
Nine Greenway Plaza
Suite 2700
Houston, TX 77046

Mobil Producing Texas & New Mexico Inc.

RECEIVED
FEB 24 1981

February 20, 1981

DEVONIAN DIVISION
NINE GREENWAY PLAZA - SUITE 2700
HOUSTON, TEXAS 77046

State of New Mexico
Energy & Minerals Dept.
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. Joe D. Ramey, Director

*Set For Hearing
Joe Morris
is notified.
Case 7206*

7.01 APPLICATION TO DISPOSE OF
SALT WATER - SANTA FE
PACIFIC WELL NO. 3,
CROSSROADS DEVONIAN FIELD,
LEA COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing Texas & New Mexico, Inc. (MPTM) seeks administrative approval to dispose of produced water into the subject well. MPTM submits with this application information required by Rule 701B. No. 1 - A plat showing all wells within a 2 mile radius of the subject well. No. 2 - A Compensated Neutron Log of the well from 10,600' to 12,211'. No. 3 - A diagrammatic sketch of the well as it will be when completed for disposal and on which all other pertinent data is recorded. No. 4 - Disposal will be into the Devonian Porous Zone, which has been depleted in this well, through perforations from 12,212' to 12,218' and open hole from 12,240' to 12,555'. Fluid to be disposed of into this well will be produced primarily from the Devonian Zone with possibly a very minor amount from the Pennsylvanian Zone. An analysis of the Devonian produced water is attached, and neither it nor the Pennsylvanian water production is fit for domestic, stock, irrigation nor other general use. The Devonian formation is older than the Triassic.

The disposal zone in this well is below the present oil water contact, and as previously stated the subject well has produced to depletion from the Devonian Zone. MPTM operates two additional Salt Water wells in the field, each of which disposes water into the Devonian Porous Zone.

MPTM is of the opinion it has submitted sufficient data to obtain your approval, however if additional data is required please advise.

If you are unable to approve this application administratively, please set the matter for hearing.

Yours very truly,

J. A. Morris

J. A. Morris
Regulatory Engineering Supervisor

HFWEaver/lcc

Form C-108
REVISED 1-1-81
FEB 21 1981

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Mobil Producing Texas & New Mexico, Inc.		ADDRESS 9 Greenway Plaza, Suite 2700, Houston, Tx. 77046	
LEASE NAME Santa Fe Pacific	WELL NO. 3	FIELD Crossroads Devonian	COUNTY Lea
LOCATION UNIT LETTER <u>M</u> : WELL IS LOCATED <u>660</u> FEET FROM THE <u>South</u> LINE AND <u>660</u> FEET FROM THE <u>West</u> LINE, SECTION <u>26</u> TOWNSHIP <u>9-S</u> RANGE <u>36-E</u> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	13 3/8"	320	300
INTERMEDIATE	9 5/8"	6,198	4,000
LONG STRING	7 "	12,240	1,750
TUBING	4 1/2"	12,100	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Model FA-1 @ 12,100'
NAME OF PROPOSED INJECTION FORMATION Devonian		TOP OF FORMATION 12,187	BOTTOM OF FORMATION T.D. 12,555
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Perfs. & Open Hole	PROPOSED INTERVAL(S) OF INJECTION 12,212'-12,218' Perf. 12,240'-12,555' O.H.
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Producer		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? Yes
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH 11,445' - 11,538' Penn. Perfs. Propose to squeeze			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 320'	DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 12,000 (Miss. Ls.)	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA None	
ANTICIPATED DAILY INJECTION VOLUME (BBLS.) 20,000	MINIMUM 15,000	MAXIMUM 30,000	OPEN OR CLOSED TYPE SYSTEM Closed
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - Yes		IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 200
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Mrs. Dessie Sawyer - Crossroads, New Mexico		LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Oil Development Co. of Texas, 900 Polk Street, Amarillo, Texas 79101 Sun Oil Company, Box 1861, Midland, Texas 79702 Texaco Inc., Box 1270, Midland, Texas 79702	
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?	SURFACE OWNER Yes	EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)	PLAT OF AREA Yes	ELECTRICAL LOG Yes	DIAGRAMMATIC SKETCH OF WELL Yes

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

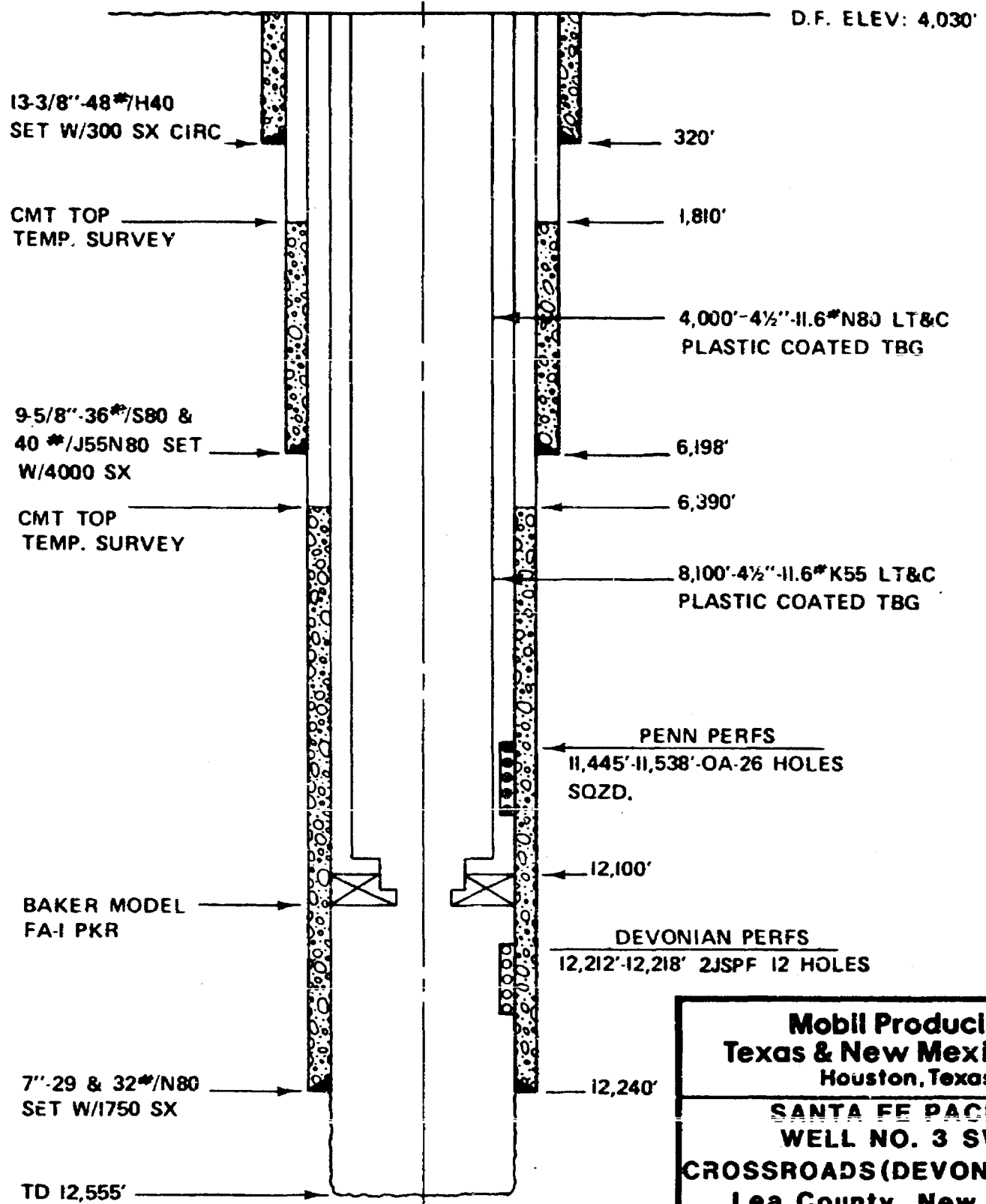
H. J. Weaver
(Signature)

Associate Regulatory Engineer
(Title)

February 20, 1981
(Date)

NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

PROPOSED



**Mobil Producing
Texas & New Mexico Inc.**
Houston, Texas

**SANTA FE PACIFIC
WELL NO. 3 SWD
CROSSROADS (DEVONIAN) POOL
Lea County, New Mexico**

DRAWN JGZ	SCALE None	B-HO-12,530
CHECKED	DATE 2-6-81	
APPROVED	REVISED	

Mobil Producing Texas & New Mexico Inc.

RECEIVED
FEB 24 1981
OIL CONSERVATION DIVISION
SANTA FE

February 20, 1981

NINE GREENWAY PLAZA—SUITE 2700
HOUSTON TEXAS 77046

State of New Mexico
Energy & Minerals Dept.
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Case 7206

Attention: Mr. Joe D. Ramey, Director

7.01 APPLICATION TO DISPOSE OF
SALT WATER - SANTA FE
PACIFIC WELL NO. 1,
CROSSROADS DEVONIAN FIELD,
LEA COUNTY, NEW MEXICO

Gentlemen:

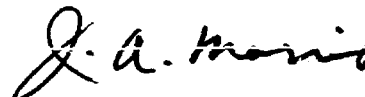
Mobil Producing Texas & New Mexico, Inc. (MPTM) seeks administrative approval to dispose of produced water into the subject well. MPTM submits with this application information required by Rule 701B. No. 1 - A plat showing all wells within a 2 mile radius of the subject well. No. 2 - A Compensated Neutron Log of the well from 10,600' to 12,211'. No. 3 - A diagrammatic sketch of the well as it will be when completed for disposal and on which all other pertinent data is recorded. No. 4 - Disposal will be into the Devonian Porous Zone, which has been depleted in this well, through perforations from 12,212' to 12,218' and open hole from 12,240' to 12,555'. Fluid to be disposed of into this well will be produced primarily from the Devonian Zone with possibly a very minor amount from the Pennsylvanian Zone. An analysis of the Devonian produced water is attached, and neither it nor the Pennsylvanian water production is fit for domestic, stock, irrigation nor other general use. The Devonian formation is older than the Triassic.

The disposal zone in this well is below the present oil water contact, and as previously stated the subject well has produced to depletion from the Devonian Zone. MPTM operates two additional Salt Water wells in the field, each of which disposes water into the Devonian Porous Zone.

MPTM is of the opinion it has submitted sufficient data to obtain your approval, however if additional data is required please advise.

If you are unable to approve this application administratively, please set the matter for hearing.

Yours very truly,



J. A. Morris
Regulatory Engineering Supervisor

HFWEaver/lcc

Form C-108
Revised 3-1-68

NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

FEB 21 1981

OPERATOR Mobil Producing Texas & New Mexico, Inc.		ADDRESS 9 Greenway Plaza, Suite 2700, Houston, Tx. 77046	
LEASE NAME Santa Fe Pacific	WELL NO. 3	FIELD Crossroads Devonian	COUNTY Lea
LOCATION UNIT LETTER M ; WELL IS LOCATED 660 FEET FROM THE South LINE AND 660 FEET FROM THE West LINE, SECTION 26 TOWNSHIP 9-S RANGE 36-E NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	13 3/8"	320	300
INTERMEDIATE	9 5/8"	6,198	4,000
LONG STRING	7 "	12,240	1,750
TUBING	4 1/2"	12,100	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Model FA-1 @ 12,100'
NAME OF PROPOSED INJECTION FORMATION Devonian		TOP OF FORMATION 12,187	BOTTOM OF FORMATION T.D. 12,555
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Perfs. & Open Hole	PROPOSED INTERVAL(S) OF INJECTION 12,212'-12,218' Perf. 12,240'-12,555' O.H.
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Producer		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? Yes
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH 11,445' - 11,538' Penn. Perfs. Propose to squeeze			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 320'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 12,000 (Miss. Ls.)	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA None
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 20,000	MINIMUM 15,000	MAXIMUM 30,000	OPEN OR CLOSED TYPE SYSTEM Closed
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - Yes		IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 200
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Mrs. Dessie Sawyer - Crossroads, New Mexico		WATER TO BE DISPOSED OF Yes	NATURAL WATER IN DISPOSAL ZONE Yes
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL		ARE WATER ANALYSES ATTACHED? Yes	
Oil Development Co. of Texas, 900 Polk Street, Amarillo, Texas 79101			
Sun Oil Company, Box 1861, Midland, Texas 79702			
Texaco Inc., Box 1270, Midland, Texas 79702			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes		ELECTRICAL LOG Yes	DIAGRAMMATIC SKETCH OF WELL Yes

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

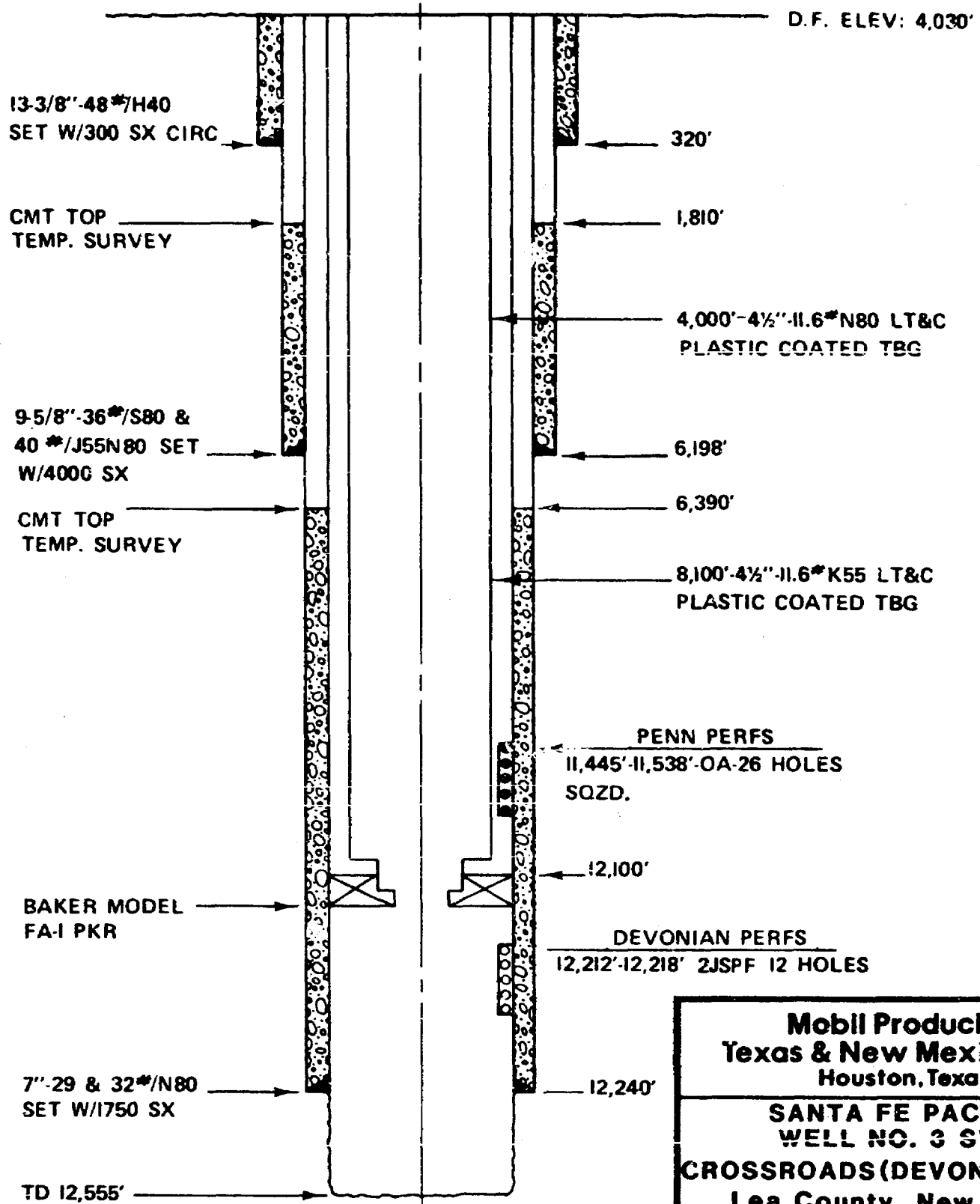
H. J. Thacker
(Signature)

Associate Regulatory Engineer
(Title)

February 20, 1981
(Date)

NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

PROPOSED



**Mobil Producing
Texas & New Mexico Inc.
Houston, Texas**

**SANTA FE PACIFIC
WELL NO. 3 SWD
CROSSROADS (DEVONIAN) POOL
Lea County, New Mexico**

DRAWN JGZ	SCALE None	B-HO-12,530
CHECKED	DATE 2-6-81	
APPROVED	REVISED	

Mobil Producing Texas & New Mexico Inc.

RECEIVED
FEB 24 1981
OIL CONSERVATION DIVISION
SANTA FE

February 20, 1981

NINE GREENWAY PLAZA—SUITE 2700
HOUSTON TEXAS 77046

State of New Mexico
Energy & Minerals Dept.
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Case 7206

Attention: Mr. Jce D. Ramey, Director

7.01 APPLICATION TO DISPOSE OF
SALT WATER - SANTA FE
PACIFIC WELL NO. 3,
CROSSROADS DEVONIAN FIELD,
LEA COUNTY, NEW MEXICO

Gentlemen:

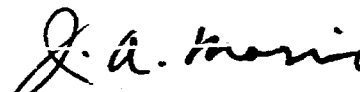
Mobil Producing Texas & New Mexico, Inc. (MPTM) seeks administrative approval to dispose of produced water into the subject well. MPTM submits with this application information required by Rule 701B. No. 1 - A plat showing all wells within a 2 mile radius of the subject well. No. 2 - A Compensated Neutron Log of the well from 10,600' to 12,211'. No. 3 - A diagrammatic sketch of the well as it will be when completed for disposal and on which all other pertinent data is recorded. No. 4 - Disposal will be into the Devonian Porous Zone, which has been depleted in this well, through perforations from 12,212' to 12,218' and open hole from 12,240' to 12,555'. Fluid to be disposed of into this well will be produced primarily from the Devonian Zone with possibly a very minor amount from the Pennsylvanian Zone. An analysis of the Devonian produced water is attached, and neither it nor the Pennsylvanian water production is fit for domestic, stock, irrigation nor other general use. The Devonian formation is older than the Triassic.

The disposal zone in this well is below the present oil water contact, and as previously stated the subject well has produced to depletion from the Devonian Zone. MPTM operates two additional Salt Water wells in the field, each of which disposes water into the Devonian Porous Zone.

MPTM is of the opinion it has submitted sufficient data to obtain your approval, however if additional data is required please advise.

If you are unable to approve this application administratively, please set the matter for hearing.

Yours very truly,



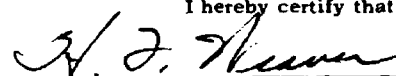
J. A. Morris
Regulatory Engineering Supervisor

HFWEaver/lcc

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

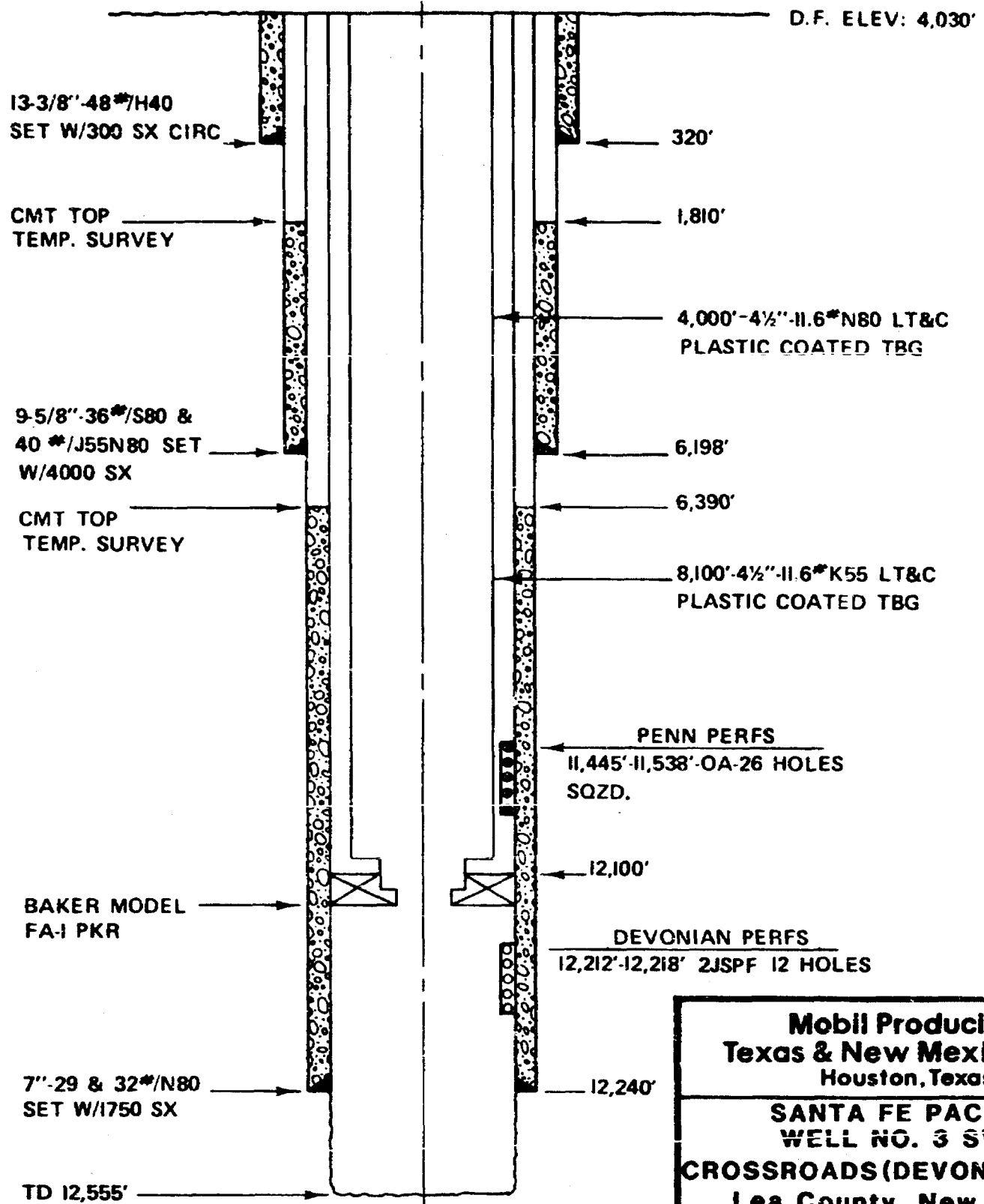
OPERATOR Mobil Producing Texas & New Mexico, Inc.		ADDRESS 9 Greenway Plaza, Suite 2700, Houston, Tx. 77046			
LEASE NAME Santa Fe Pacific	WELL NO. 3	FIELD Crossroads Devonian	COUNTY Lea		
LOCATION UNIT LETTER <u>M</u> ; WELL IS LOCATED <u>660</u> FEET FROM THE <u>South</u> LINE AND <u>660</u> FEET FROM THE <u>West</u> LINE. SECTION <u>26</u> TOWNSHIP <u>9-S</u> RANGE <u>36-E</u> NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	13 3/8"	320	300	Circ.	
INTERMEDIATE	9 5/8"	6,198	4,000	1,810'	Temp. Survey
LONG STRING	7 "	12,240	1,750	6,390'	Temp. Survey
TUBING	4 1/2"	12,100	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Model FA-1 @ 12,100'		
NAME OF PROPOSED INJECTION FORMATION Devonian		TOP OF FORMATION 12,187		BOTTOM OF FORMATION T.D. 12,555	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES Perfs. & Open Hole		PROPOSED INTERVAL(S) OF INJECTION 12,212'-12,218' Perf. 12,240'-12,555' O.H.	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Producer		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? Yes	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH 11,445' - 11,538' Penn. Perfs. Propose to squeeze					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 320'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 12,000 (Miss. Ls.)		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA None	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 20,000	MINIMUM 15,000	MAXIMUM 30,000	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 200
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - Yes			WATER TO BE DISPOSED OF Yes		NATURAL WATER IN DISPOSAL ZONE Yes
ARE WATER ANALYSES ATTACHED? Yes					
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Mrs. Dessie Sawyer - Crossroads, New Mexico					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL					
Oil Development Co. of Texas, 900 Polk Street, Amarillo, Texas 79101					
Sun Oil Company, Box 1861, Midland, Texas 79702					
Texaco Inc., Box 1270, Midland, Texas 79702					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		PLAT OF AREA Yes		ELECTRICAL LOG Yes	
				DIAGRAMMATIC SKETCH OF WELL Yes	

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


(Signature)Associate Regulatory Engineer
(Title)February 20, 1981
(Date)

NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

PROPOSED



**Mobil Producing
Texas & New Mexico Inc.**
Houston, Texas

**SANTA FE PACIFIC
WELL NO. 3 SWD
CROSSROADS (DEVONIAN) POOL
Lea County, New Mexico**

DRAWN JGZ	SCALE None	B-HO-12,530
CHECKED	DATE 2-6-81	
APPROVED	REVISED	

ROUGH
dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7206

Order No. R- 6647

APPLICATION OF MOBIL PRODUCING INC.
FOR SALT WATER DISPOSAL, LEA COUNTY,
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on March 25
19 81, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter
NOW, on this day of April, 1981, the Division
Director, having considered the testimony, the record, and the
recommendations of the Examiner, and being fully advised in the
premises,

FINDS:

(1) That due public notice having been given as required by
law, the Division has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Mobil Producing Inc.,
is the owner and operator of the Santa Fe Pacific Well No. 3,
located in Unit M of Section 26, Township 9 South,
Range 36 East, NMPM, Crossroads Field,
Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to
dispose of produced salt water into the Devonian
formation, with injection into the perforated interval from 12,212
feet to 12,218 feet and the open hole interval from 12,240 feet to
interval from approximately 12,555 feet to 12,555 feet.

(4) That the injection should be accomplished through 4 1/2
-inch plastic lined tubing installed in a packer set at approxi-
mately 12,100 feet; that the casing-tubing annulus should be
filled with an inert fluid; and that a pressure gauge or approved
leak detection device should be attached to the annulus in order

to determine leakage in the casing, tubing, or packer.

(5) That the injection well or system should be equipped with a ~~pop-off valve~~ ^{pressure limiting device} or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 2442 psi.

~~(6) That the Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the Devonian formation.~~

(6) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(7) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(8) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Mobil Producing Inc., is hereby authorized to utilize its Santa Fe Pacific Well No. 3 located in Unit M of Section 26, Township 9 South Range 36 East, NMPM, ~~Reese Field~~ Crossroads Field, Lea County, New Mexico, to dispose of produced salt water into the Devonian formation, injection to be accomplished through 4 1/2-inch tubing installed in a packer set at approximately 12,100 feet, with injection into the perforated interval from approximately 12,212 feet to 12,218 feet and the open hole interval from 12,240 feet to 12,555 feet.

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer.

(2) That the injection well or system shall be equipped with a ~~pop-off valve~~ *pressure limiting device* or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 2442 psi.

~~(3) That the Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Devonian formation.~~

(3) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(4) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(5) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.

(6) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.