

# Mobil Producing Texas & New Mexico Inc.

P.O. BOX 633  
MIDLAND, TEXAS 79702

January 21, 1987

MIDLAND DIVISION

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

Attention: Mr. Charles E. Roybal  
Acting Director

*Case 9072*

RECEIVED

OIL CONSERVATION DIVISION

7.01  
Application for Authorization to Inject  
Mobil Producing TX. & N.M. Inc.  
State N Well No. 2  
735' FNL, 840' FWL, Unit D  
Section 10, T-17-S, R-34-E  
North Vacuum-Abo Field  
Lea County, New Mexico

Dear Mr. Roybal:

Mobil Producing TX. & N.M. Inc. is requesting authority to commence secondary recovery operations on the State N Lease in the North Vacuum-Abo Field. Injection will be through perforations from 8714' to 8762' in the State N Well No. 2. The flooding will increase the ultimate production and prolong the expected life of the field.

Fresh water from the Ogalalla water table will be used for injection. The water will be produced from four of Mobil's water source wells in Section 14, T-17-S, R-34-E, Lea County. Water from the Ogalalla will be injected because of the adverse affects of produced water on the tight formation of the Abo injection zone.

The surface owner and all offset operators within one-half mile of the injection well have been furnished a copy of this application. Notice was by certified mail. Attached is proof of that notice and a copy of those letters with a list of operators.

Attached, in support of this application, is the data required per form C-108. The information is compiled according to the instructions on that form.

Yours very truly,



M. E. Sweeney  
Environmental & Regulatory Manager

LLMaroney/dw

Attachments

xc: Mr. Jerry Sexton  
NMOCD, Hobbs, NM

Mr. Perry Pearce, Attorney  
P. O. Box 2307  
325 Paseo De Peralta  
Santa Fe, NM 87504-2307

Offset Operators

Surface Owner

Case 9072

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: P. O. Box 633, Midland, Texas 79702

Contact party: Lorraine Maroney Phone: (915) 688-1773

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 \_\_\_\_\_.

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: M. E. Sweeney Title Env. & Reg. Manager

Signature:  Date: January 21, 1987

\* 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. \_\_\_\_\_

## 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.**

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**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.

7.01

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 State N Well No. 2  
 735' FNL, 840' FWL, Unit D  
 Section 10, T-17-S, R-34-E  
 North Vacuum-Abo Field  
 Lea County, New Mexico

III. Well Data:

- A. (1) State N Well No. 2 is proposed injector  
 735' FNL, 840' FWL  
 Section 10, T-17-S, R-34-E  
 North Vacuum-Abo Field  
 Lea County, New Mexico

(2) Casing Detail:

<u>Hole Size</u>	<u>Casing Size</u>	<u>Depth</u>	<u>Sx Cmt</u>	<u>TOC</u>	<u>Method</u>
15"	11-3/4"	250'	350	Surface	Circ.
11"	8-5/8"	3072'	1000	425'	Calculations
7-7/8"	5-1/2"	8970'	1435	1800'	Calculations

- (3) 2-7/8" N-80 tubing to be hung at 8650'

- (4) Permanent type packer with seal assembly to be hung at 8650'

- B. (1) Injection is the Abo formation of the North Vacuum-Abo Field

- (2) Injection will be through perforations from 8714'-8762'

- (3) The well was drilled as an oil producer and was completed in April 17, 1972

- (4) No other intervals have been perforated in the subject well bore

- (5) The next higher oil/gas zone is the Glorieta at 6090' which is more than 1 mile from the subject well  
 The next lower oil/gas zone is the Wolfcamp at 9800' which is more than 1/2 mile from the subject well

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 Lea County, New Mexico

VI: TABULATION OF DATA OF WELLS WITHIN AREA OF REVIEW

<u>Operator Name</u> <u>Lease Name</u>	<u>Well No.</u>	<u>Location</u>	<u>Unit</u> <u>Letter</u>	<u>Type</u> <u>Well</u>	<u>Depth</u> <u>(ft.)</u>	<u>Completion</u> <u>Interval/ft</u>	<u>Date</u> <u>Drilled</u>	<u>Current</u> <u>Status</u>
Mobil Producing TX. & N.M. Inc. State N, Sec. 10, T-17-S, R-34-E	1	1780' FNL 1980' FWL	F	Oil	8810	8702-8771	2-18-72	Producing
	3	800' FNL 2010' FWL	C	Oil	8950	8706--8752	June 87	Testing
	4	1980' FNL 850' FWL	E	Oil	N/A	N/A	N/A	Drilling
North Vacuum Abo Unit Sec. 10, T-17-S, R-34-E	131	770' FNL 1980' FEL	B	WIW	8850	8663-8721	9-26-71	App WIW
	229	660' FWL 2000' FSL	L	WIW	8987	8745-8803	1976	Inj.
	271	1980' FNL 1980' FEL	G	Oil	8734	8704-8730	11-26-84	Producing
Koch Exploration Co. Miller "B" State Sec. 3, T-17-S, R-34-E	2	660' FSL 2105' FWL	N	Oil	8877	8687-8742	8-30-72	Producing

VII. Data of Proposed Operation:

1. Proposed average injection rate is 100 BFWPD  
Proposed maximum injection rate is 300 BFWPD
2. System will be closed
3. Proposed average pressure is 1700#  
Proposed maximum pressure is 4300#
4. Source of injected water is from four Mobil water source wells in Section 14, T-17-S, R-34-E
5. Injection is for secondary recovery only  
The injection of Ogalalla water into the North Vacuum-Abo East Unit and into the North Vacuum-Abo Unit, which abuts the subject lease, proves the compatability of the injected water

VIII. Geological Data:

Zone of injection is Abo  
Lithology is carbonate  
Thickness is 50 to 100'  
Depth is 8600-8750'  
Zone of source water is Ogalalla from 250' (top) to 500' (bottom)  
No known source underlying the injection interval

IX. Proposed Stimulation Program:

Well will be treated with 6000 gals 15% HCl (not to exceed 5000#)

X. Logs filed with completion report on 4-24-72

XI. No water source wells within one mile of subject injection well

XII. Affirmative Statement by Mobil's W. E. Hermance, Geologist

"The examination of available geological and engineering data revealed no evidence of open faults or any other hydrologic connections between the injection zone and any underground source of drinking water."

XIII. Proof of Notice:

See attached letters with Certified Mail labels

# Mobil Producing Texas & New Mexico Inc.

P.O. BOX 633  
MIDLAND, TEXAS 79702

January 21, 1987

MIDLAND DIVISION

Eidson Ranch  
P. O. Box 1286  
Lovington, NM 88260

## CERTIFIED MAIL

## RETURN RECEIPT REQUESTED

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State N Well No. 2  
Unit D, 735' FNL, 840' FWL  
Section 10, T-17-S, R-34-E  
North Vacuum-Abo Field  
Lea County, New Mexico

Gentlemen:

Mobil Producing TX. & N.M. Inc. is applying to the New Mexico Oil Conservation Division for authority to inject fresh water into the Abo formation of the North Vacuum-Abo Field. Injection will be down the State N Well No. 2

Attached, per Statewide Rule 701.B (2), is a copy of the application. A hearing has been set for February 4, 1987 in Santa Fe, New Mexico.

Yours very truly,



M. E. Sweeney

LLMaroney/dw

Attachments

xc: NMOCD, Santa Fe & Hobbs, NM

# Mobil Producing Texas & New Mexico Inc.

P.O. BOX 633  
MIDLAND, TEXAS 79702

January 21, 1987

MIDLAND DIVISION

Koch Exploration  
P. O. Box 2256  
Wichita, Kansas 67201

Attn: Mr. Vernon J. Lowe

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Lea County, New Mexico

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Yours very truly,



M. E. Sweeney

LLMaroney/dw

Attachments

xc: NMOCD, Santa Fe & Hobbs, NM

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P.O. BOX 633  
MIDLAND, TEXAS 79702

January 21, 1987

MIDLAND DIVISION

Yates & Yates  
c/o John A. Yates  
207 South 4th Street  
Artesia, NM 88210

CERTIFIED MAIL

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Application for Authority to Inject  
Mobil Producing TX. & N.M. Inc.  
State N Well No. 2  
Unit D, 735' FNL, 840' FWL  
Section 10, T-17-S, R-34-E  
North Vacuum-Abo Field  
Lea County, New Mexico

Dear Mr. Yates:

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M. E. Sweeney

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xc: NMOCD, Santa Fe & Hobbs, NM

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735' FNL, 840' FWL, Unit D  
Section 10, T-17-S, R-34-E  
North Vacuum-Abo Field  
Lea County, New Mexico

Offset Operators With 1/2 Mile Radius

Koch Exploration  
P. O. Box 2256  
Wichita, Kansas 67201  
Attention: Mr. Vance J. Lowe

Yates & Yates  
c/o John A. Yates  
207 South 4th Street  
Artesia, New Mexico 88210

Surface Owner

Eidson Ranch  
P. O. Box 1286  
Lovington, New Mexico 88260