

9646

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: Secondary Recovery Pressure Maintenance Disposal Storage
Application qualifies for administrative approval? yes no

II. Operator: Sun Exploration & Production Company

Address: P.O. Box 1861, Midland, Texas 79702

Contact party: Dee Ann Kemp Phone: (915) 688-0374

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.
Attachment #1

VII. Attach data on the proposed operation, including:
Attachment #2
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.
Attachment #3

IX. Describe the proposed stimulation program, if any.
Attachment #2

* 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.
Attachment #4

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: Dee Ann Kemp Title Accountant

Signature: Dee Ann Kemp Date: 1-23-89

* 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:

Attachment #5

- (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.

Attachment #5

- (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

Attachment

#8

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.

Wells within 1/2 mile radius for the Mobil Federal "22" #5

Lease Name	Type	Spud Date	Location	Depth	Zone
Sec. 22, T-26-S, R-29-E					
J. Glen Bennett #1	P&A	8-6-58	1980 FSL/1980 FWL	3050	Wildcat
* Worth Federal #1	Oil	8-18-84	2310 FNL/330 FEL	5175	Brushy Draw
Mobil "22" Fed #1	Oil	9-23-84	330 FSL/330 FEL	6081	Brushy Draw
* Worth Federal #2	Oil	2-19-85	990 FNL/2280 FEL	5140	Brushy Draw
Mobil "22" Fed #2	Oil	12-23-84	2310 FSL/330 FEL	6048	Brushy Draw
Mobil "22" Fed #3	Oil	3-18-85	990 FSL/1650 FEL	6170	Brushy Draw
Mobil "22" Fed #4	Oil	4-10-85	2310 FWL/1650 FEL	6179	Brushy Draw
* Worth Federal #4	Oil	3-27-85	2265 FNL/1550 FEL	5147	Brushy Draw
Worth Federal #3	Oil	4-28-85	990 FSL/2310 FWL	5110	Brushy Draw
Mobil "22" Fed #6	Oil	12-1-85	2260 FWL/2310 FWL	6213	Brushy Draw
Mobil "22" Fed #9	Oil	7-13-86	330 FSL/990 FWL	6128	Brushy Draw
Mobil "22" Fed #7	Oil	2-26-88	1905 FNL/1780 FWL	5505	Brushy Draw
* Mobil "22" Fed #8	Oil	7-3-87	890 FNL/2160 FWL	5241	Brushy Draw
Mobil "22" Fed #10	Oil	9-19-88	1775 FSL/790 FWL	6192	Brushy Draw
Sec. 27, T-26-S, R-29-E					
* Red Bluff Fed #1	Oil	11-15-74	1980 FNL/1980 FEL	2991	Pecos
* Amoco Fed #5	Oil	6-4-84	990 FNL & 330 FEL	5125	Brushy Draw
Amoco Fed #6	Oil	12-2-84	990 FNL & 1650 FEL	5070	Brushy Draw
Amoco Fed #7	Oil	2-20-85	330 FNL & 2310 FWL	5130	Brushy Draw
Amoco Fed #8	Oil	5-12-85	1650 FNL/2310 FWL	5200	Brushy Draw
Pecos Fed #2	Oil	11-13-85	1980 FNL & 2030 FEL	5509	Brushy Draw
Amoco Fed #11	Oil	12-1-86	330 FNL/990 FWL	6200	Brushy Draw
Amoco Fed #10	oil	2-27-87	1650 FNL/990 FWL	5073	Brushy Draw
Sec. 28, T-26-S, R-29-E					
* Amoco Fed. #13	Oil	12-8-87	760 FNL/660 FEL	5103	Brushy Draw

*Wells not included within the 1/2 mile radius as shown on plat, but included on above list.

Application to Inject
Mobil 22 Federal No. 5
VII.

1. Max. injection rate 400 BWPD
Average injection rate 300 BWPD
Estimated ultimate Volume injected 1,000,000 BW
2. System is closed.
3. Max. inject pres 2000#
Average inject press 1500#
4. Will be reinjecting produced water.
5. Injection is into productive oil and gas zone.

VIII. See Attachment

IX.

Proposed stimulation program:
Acidz perfs 4938' to 5010' w/2000 gals 7-1/2% NEFEHCL w/134-
1.3 SG RCNBS spaced evenly thruout. Flush to BTM perf
w/produced water.

X.

Logs have been submitted previously.

Subject APPLICATION FOR AUTHORIZATION TO INJECT
ON MOBIL "22" FED. LEASE

Interoffice
Correspondence

Date December 13, 1988
Location Southwest Region
From David Rojas
To Dee Ann Kemp

The information below corresponds to specific sections of the application form for authorization to inject produced fluids on the subject lease.

SECTION VIII

The zone here considered for injection is within the Cherry Canyon formation. This portion of the Cherry Canyon is a blanket type sand ranging in gross thickness from 70' to 105' in the area of the subject lease. It is a white to tan, very fine grained, well rounded sandstone. The average porosity is 17.5% and the average water saturation is 52%. Using a 14% porosity cutoff, the net pay ranges from 25' to 80' with an average of 48'. The estimated average permeability is 35 to 40 md. The approximate depth to the top of the producing zone within the Cherry Canyon formation is 5000'.

The top of the Rustler formation lies approximately 300' from the surface. Any aquifer below this formation would not be considered a source of drinking water.

SECTION III WELL DATA

B. The Formation immediately above the Cherry Canyon which is a productive zone in the area is the Bell Canyon. The top of this formation is approximately 2800' below the surface under the subject lease. The formation immediately below the Cherry Canyon which is a productive zone in the area is the Brushy Canyon. The top of this formation is approximately 5350' below the surface under the subject lease.


David R. Rojas

DRR/ba

cc: Joe Haskell
Ricardo Munoz



SOUTHWESTERN LABORATORIES

Materials, environmental and geotechnical engineering, nondestructive, metallurgical and analytical services

1703 W. Industrial Avenue [915-683-3348] • P.O. Box 2150 • Midland, Texas 79702

File No. 6822201

Report No. 41155

Report Date 12-16-88

Date Received 12-15-88

Delivered By J. Suarez

Report of tests on: Water

Client: Sun Exploration & Production

Identification: Mobil 22 Federal Lease, Fresh Water Well

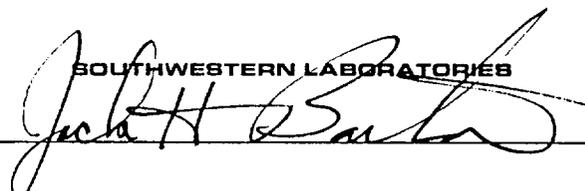
	<u>mg/L</u>
Calcium -----	464
Magnesium -----	104
Sodium & Potassium (Calc. as Na) -----	753
Carbonate -----	None
Bicarbonate -----	188
Sulfate -----	1165
Chloride -----	1319
Total Dissolved Solids @ 180°C -----	3856
Total Hardness (as CaCO ₃) -----	1590
pH -----	6.87

Standard Methods, 16th Edition

Technician: LLC

Copies Sun E&P
P. O. Box 1861, Midland, Texas
Attn: Ricardo Munoz

SOUTHWESTERN LABORATORIES



Application to inject
Mobil 22 Federal No. 5

III. Well Data

A.

1. Mobil 22 Federal Lease, well no. 5
Sec. 22, T-26-S, R-29-E, Eddy County
Unit Letter N, 990' FSL & 2310' FWL
2. See attachment 6 & 7
3. See attachment 6 & 7
4. See attachment 6 & 7

B.

1. Injection formation Delaware formation, Brushy Draw-Delaware zone.
2. Injection interval-perfs 4938'-5010'.
3. The original purpose of the well was as a producing oil well.
4. Depths of other perfs and cement to plug off-None
5. See attachment 3

XIV.

Attachment See proof of publication and copy of notice.
Attachment 8

Wells within ½ mile radius for the Mobil Federal "22" #5

LEASE NAME	CSG SIZE @ CSG SEAT W/SX CMT	DATE	LOCATION	DEPTH	ZONE
Sec. 22, T-26-S, R-29-E					
J. Glen Bennett #1	10-3/4 @ 352 w/?	8/6/58	1980 FSL/1980 FWL	3050	Wildcat
*Worth Federal #1	5½ @ 5173 w/450	8/18/84	2310 FNL/330 FEL	5175	Brushy Draw
Mobil "22" Fed #1	5½ @ 6081 w/655	9/23/84	330 FSL/330 FEL	6081	Brushy Draw
*Worth Federal #2	5½ @ 5140 w/450	2/19/85	990 FNL/2280 FEL	5140	Brushy Draw
Mobil "22" Fed #2	5½ @ 6048 w/675	12/23/84	2310 FSL/330 FEL	6048	Brushy Draw
Mobil "22" Fed #3	5½ @ 6170 w/790	3/18/85	990 FSL/1650 FEL	6170	Brushy Draw
Mobil "22" Fed #4	5½ @ 6179 w/775	4/10/85	2310 FWL/1650 FEL	6179	Brushy Draw
*Worth Federal #4	5½ @ 5147 w/350	3/27/85	2265 FNL/1550 FEL	5147	Brushy Draw
Worth Federal #3	5½ @ 5110 w/350	4/28/85	990 FSL/2310 FWL	5110	Brushy Draw
Mobil "22" Fed #6	5½ @ 6213 w/950	12/1/85	2260 FWL/2310 FWL	6213	Brushy Draw
Mobil "22" Fed #9	5½ @ 6128 w/715	7/13/86	330 FSL/990 FWL	6128	Brushy Draw
Mobil "22" Fed #7	5½ @ 5174 w/200	2/26/88	1905 FNL/1780 FWL	5505	Brushy Draw
*Mobil "22" Fed #8	5½ @ 5241 w/725	7/3/87	890 FNL/2160 FWL	5241	Brushy Draw
Mobil "22" Fed #10	5½ @ 6192 w/1815	9/19/88	1775 FSL/790 FWL	6192	Brushy Draw

Sec. 27, T-26-S, R-29-E					
*Red Bluff Fed #1	5½ @ 2982 w/250	11/15/74	1980 FNL/1980 FEL	2991	Pecos
*Amoco Fed #5	5½ @ 5096 w/350	6/4/84	990 FNL & 330 FEL	5125	Brushy Draw
Amoco Fed #6	4½ @ 5069 w/400	12/2/84	990 FNL & 1650 FEL	5070	Brushy Draw
Amoco Fed #7	5½ @ 5130 w/350	2/20/85	330 FNL & 2310 FWL	5130	Brushy Draw
Amoco Fed #8	5½ @ 5197 w/350	5/12/85	1650 FNL/2310 FWL	5200	Brushy Draw
Pecos Fed #2	4½ @ 5509 w/3500	11/13/85	1980 FNL & 2030 FEL	5509	Brushy Draw
Amoco Fed #11	5½ @ 6199 w/725	12/1/86	330 FNL/990 FWL	6200	Brushy Draw
Amoco Fed #10	5½ @ 5067 w/480	2/27/87	1650 FNL/990 FWL	5073	Brushy Draw

Sec. 28, T-26-S, R-29-E					
*Amoco Fed. #13		12/8/87	760 FNL/660 FEL	5103	Brushy Draw

*Wells not included within the ½ mile radius as shown on plat, but included on above list.

MOBIL -22- FEDERAL #5
WELL HISTORY

LOCATION: 990' FSL, 2310' FWL, SEC 22, T26S, R29E, EDDY COUNTY,
NEW MEXICO, BRUSHY DRAW (DELAWARE)

ELEVATION: KB - 2900
GL - 2892

SPUD DATE: 7-30-85

CSG DATA: SURFACE - 8-5/8", 24# SET @ 376 W/275 SX
PROD - 5-1/2", 15.5# SET @ 6167 W/825 SX (TOC - 3000' BY CBL)

TD - 6167 PBD - 6094

INITIAL POTENTIAL: 8-15-85 F 121 BO, 485 BW, 79 MCF

COMPLETION: 8-14-85 PERF 4938, 45, 50, 53, 59, 65, 72, 76, 81, 86, 90, 93,
5001, 03, 08, & 10 W/1 JSPF (16 HOLES)
ACDZ W/2000 GALS 7-1/2% HCL, BDP - 3000 PSI, AIR - 3.5 BPM
RAN TS, SHOWED TREATMENT INTO UPPER PERFS ONLY.
RAN PPI TOOL & BROKE BTM PERFS W/300 GALS 15% HCL.
ACDZ 4986-5010 W/500 GALS 15% HCL & 1700 GALS 7-1/2% HCL.

FRACED W/63,000 GALS 2% KCL W/120,000# 20/40 SD & 20,000#
12/20 SD, AIR - 48 BPM, MP - 2000#.
TS SHOWED TRTMNT @ 4926-5040.

WELL COMPLETION SKETCHES SUN-5036-4-A

WELL: Mobil-22-FEDERAL #5 FIELD: BRUSHY DRAW (DELAWARE) DATE:

PRESENT COMPLETION SUGGESTED COMPLETION

PERMANENT WELL BORE DATA

ELEV: KB-2900

GL-2892

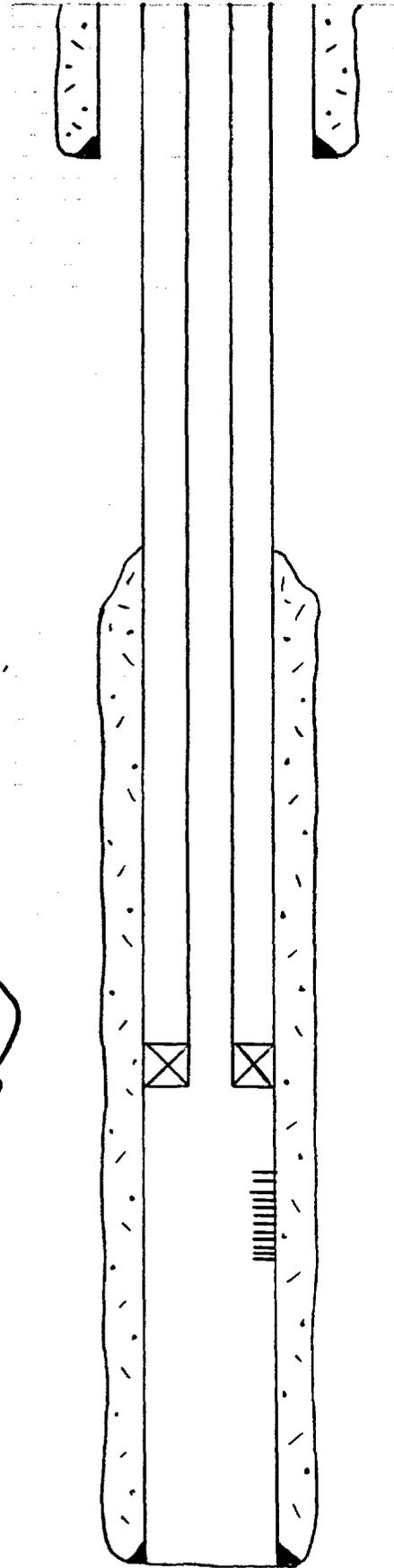
SURF CSG - 8 5/8", 24# SET @ 376'
w/275 SX

PROD CSG - 5 1/2", 15.5# SET @ 6167'
w/825 SX
TOL-3000'

PERFS: 4938, 45, 50, 53, 59, 65,
72, 76, 81, 86, 90, 93, 5001,
03, 08 & 10.

PBD-6094

TD-6167



DATA ON THIS COMPLETION

TUBG: 2 7/8" CMT LINED (4850')
PKR: OTIS LOCK-SET (4850')

PERFS: 4938'-5010' ADDED
15SPF. (TOTAL 89 HOLES)

Affidavit of Publication

Copy of Publication

No. 12613

STATE OF NEW MEXICO,
County of Eddy:

Gary D. Scott being duly sworn, says: That he is the Publisher of The Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and state, and that the hereto attached Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for 1 consecutive weeks on the same day as follows:

First Publication January 5, 1989

Second Publication

Third Publication

Fourth Publication

and that payment therefore in the amount of \$

has been made.

Subscribed and sworn to before me this 12th day

of January, 1989

Barbara Ann ...
Notary Public, Eddy County, New Mexico

My Commission expires September 23, 1991

LEGAL NOTICE

Notice of Application for Fluid Injection Well Permit

Sun Exploration & Production Company, P.O. Box 1861, Midland, Texas 79702, Attn: Dee Ann Kemp (915)688-0374 has applied to the New Mexico Oil Conservation Division for a permit to inject fluid into a formation which is productive of oil and gas.

The applicant proposes to inject fluid into the Delaware zone, Brushy Draw-Delaware pool, Mobil 22 Federal Lease, well no. 5. The proposed injection well is located in Sec. 22, T-26-S, R-29-E, Unit Ltr. N, 990' FSL & 2310' FWL, in Eddy County. Fluid will be injected into strata in the subsurface depth interval from 4938 to 5010 feet. Expected maximum injection rate will be 400 BWPD and the maximum injection pressure will be 2000#. Interested parties must file objections or requests for hearing with the Oil Conservation Division, 310 Old Santa Fe Trail, Santa Fe, New Mexico 87501.

Published in the Artesia Daily Press, Artesia, N.M. January 5, 1989.

Legal 12613



January 23, 1989

**Sun Exploration and
Production Company**
No 24 Smith Road
ClayDesta Plaza
PO Box 1861
Midland TX 79702 9970
915 688 0300

Offset Operator Notification
Offset List Attached

Re: Mobil 22 Federal Lease
Well No. 5

Dear Gentlemen:

Sun Exploration and Production Company has submitted to the New Mexico Oil Conservation Commission an application to convert the referenced well to a water injection well. Attached for your records is a copy of the application.

If you have any questions concerning our application, please contact me at (915) 688-0374.

Very truly yours,

Dee Ann Kemp
Accountant

*(Offset operator notification
mailed 1-23-89 by certified mail.
Dee Ann Kemp)*

OFFSET OPERATORS

MOBIL 22 FEDERAL LEASE

Exxon Company, U.S.A.
Box 1600
Midland, Texas 79702-1600

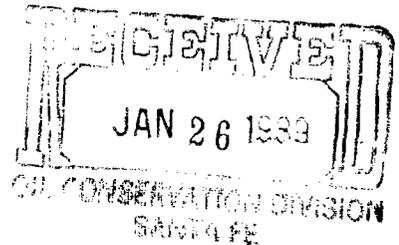
Mallow Oil Company
1099 18th Street, Str. 2750
Devnver, CO 80202-1927

Pogo Producing Company
Box 61289, 600 Travis Ste. 6600
Houston, Tx 77208-1289

J.C. Williams
890 One First City Center
Midland, Texas 79707

January 25, 1989

de



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

Case 9646

Re: Sun Exploration and Production Company
Application for Authorization to Inject
Mobil 22 Federal Lease Well No. 5
Township 26 South, Range 29 East, NMPM
Section 22: SE/4 SW/4
Eddy County, New Mexico

Gentlemen:

The undersigned enters his appearance in the captioned case on behalf of J. C. Williamson and Ralph E. Williamson. Please advise of the date of hearing.

Thank you.

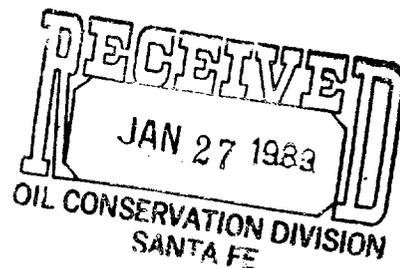
DICKERSON, FISK & VANDIVER

Chad Dickerson
Chad Dickerson

CD:pvw

cc: Sun Exploration and Production Company
Mr. Ralph E. Williamson

J. C. WILLIAMSON
ONE FIRST CITY CENTER SUITE 890
MIDLAND, TEXAS 79701



January 24, 1989

DC
Case 9646

State of New Mexico
Department of Energy and Minerals
Oil Conservation Division
PO Box 2088
Santa Fe, NM 87504-2088

Attn: Mr. David Catanach

Re: Conversion to Salt Water Disposal
of the Mobil 22 Federal #5
990' FSL & 2310' FWL of
Section 22, T-26S, R-29E
Eddy County, New Mexico
Return Receipt Requested P 911 644 125

Dear Mr. Catanach,

In response to the January 23, 1989 "Application To Inject", received by certified mail at this office on January 24, 1989, by Sun Exploration & Production Company to convert the referenced well to salt water disposal, I would like to register a the strongest protest possible to this conversion. The proposed injection zones are actively producing in the immediate area and are considered to have major oil and gas reserves that would suffer irrevocable damage if water was injected in the manner proposed by Sun Exploration & Production Company.

I respectfully request that the New Mexico Oil Conservation Commission schedule a hearing so that we may present evidence to substantiate our claims and prevent a gross waste of precious natural resources.

Yours very sincerely,

J. C. Williamson
J.C. Williamson

cc: NMOCC - P 911 644 156
Artesia, New Mexico
Sun Exploration & Production Company - P 911 644 157
Midland, Texas



March 13, 1989

**Sun Exploration and
Production Company**
No 24 Smith Road
ClayDesta Plaza
PO Box 1861
Midland TX 79702 9970
915 688 0300

State of New Mexico
Energy and Minerals Dept
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Case 9646

RE: Additional Information
Mobil Fed. "22" #5 application

Attached is a 1/2 mile radius listing with additional information listed (Csg. size & Csg. seat W/sx cmt). If you need more information concerning our Mobil Fed. "22" #5, application to inject please contact me at (915) 688-0374.

Very truly yours

Dee Ann Kemp
Dee Ann Kemp
Accountant

