

# PENROC

SWD 11-27-95

CERTIFIED MAIL NO. Z 106 681 468

November 9, 1995

Mr. David Catanach  
NEW MEXICO OIL CONSERVATION DIVISION  
2040 S. Pacheco St.  
Santa Fe, New Mexico 87505-5472

Re: Application for Administrative Approval for Salt Water  
Disposal  
State "E" Tract 18 Well No. 23  
Unit D, Section 1, T-17-S, R-36-E  
Lea County, New Mexico

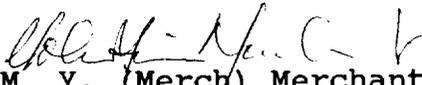
Dear Mr. Catanach:

PENROC OIL CORPORATION is requesting administrative approval to convert the captioned well to salt water disposal. This well will be utilized to dispose produced water from PENROC operated wells in the Lovington Abo field. There are currently three (3) other wells disposing in the same zone and were approved by NMOCD via Order Nos. R-5855 and R-6461.

PENROC has 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.

An early approval of this application will be greatly appreciated. Without a relative in-expensive disposal, the producing wells will have to be plugged and will result in loss of precious reserves. Thank you.

Sincerely,

  
M. Y. (Merch) Merchant  
President

MYM/ddm  
attch.

cc: Surface Owner - Certified Mail (Copy Attached)  
Offset Operators - Certified Mail (Copy Attached)

FN: SWDAPPR

MAILING ADDRESS:  
PO Box 5970  
Hobbs, NM  
88241-5970

DELIVERY ADDRESS:  
5014 Carlsbad Hwy.  
Hobbs, NM  
88240-1118

(505) 397-3596 Phone  
(505) 393-7051 FAX

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: PENROC OIL CORPORATION

Address: P.O. BOX 5970, HOBBS, NM 88241-5970

Contact party: M. Y. (MERCH) MERCHANT Phone: 505-397-3596

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. Y. (MERCH) MERCHANT

Title PRESIDENT

Signature: [Handwritten Signature]

Date: 11/9/95

\* 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. N/A

## 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.

FORM C-108 (ATTACHMENTS)

III.

A. WELL DATA:

1. State "E" Tract 18 Well No. 23  
Unit D, Section 1, T-17-S, R-36-E  
Lea County, New Mexico.
2. Well was drilled and completed in the Abo with the following casing configuration:  
  
11 3/4", 32# @ 336' w/635 sxs. (circ. 15 sx)  
8 5/8", 32# @ 5116' w/2800 sxs.  
5 1/2", 14 - 17# @ 8356' w/1000 sxs.  
OH 8356 - 8442'  
BP @ 8350'  
Perf 8234 - 8243', 8250' - 8268'
3. Will use 2 7/8", plastic coated tubing to be set at 8350'.
4. Will use Model AD-1 plastic coated packer set at 8350'.

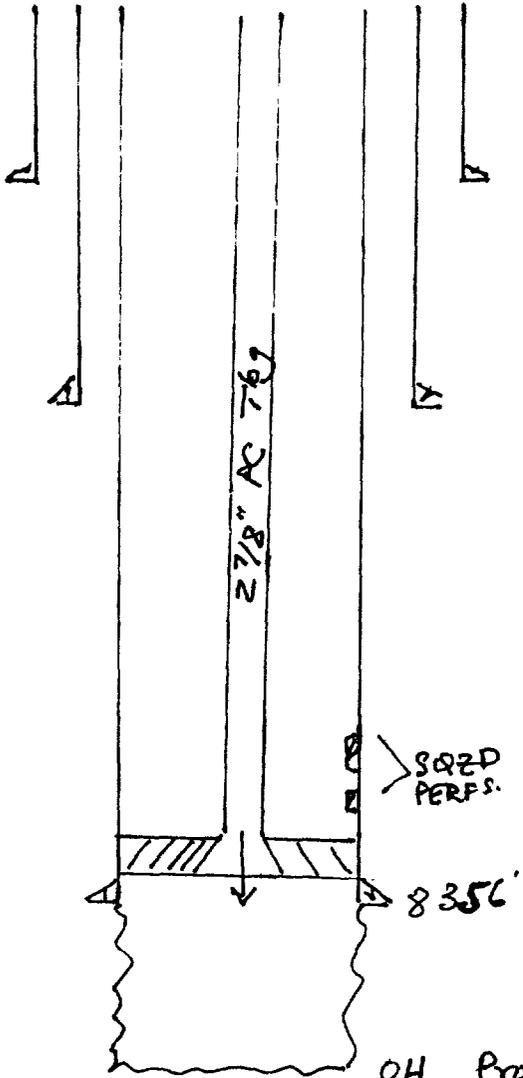
INJECTION WELL DATA SHEET

PENROC OIL CORPORATION

STATE 'E' TRACT '18'

OPERATOR <b>23</b>	LEASE <b>860' FNL, 790' FNL, 1</b>		<b>17 S</b>	<b>36E</b>
WELL NO.	FOOTAGE LOCATION <b>Lea County, New Mexico</b>	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 11 3/4 " Cemented with 635 sx.  
 TOC Surface feet determined by circ. 15 S&S.  
 Hole size 13 3/8"

Intermediate Casing

Size 8 5/8 " Cemented with 2800 sx.  
 TOC \_\_\_\_\_ feet determined by \_\_\_\_\_  
 Hole size \_\_\_\_\_

Long string

Size 5 1/2 " Cemented with 1000 sx.  
 TOC \_\_\_\_\_ feet determined by \_\_\_\_\_  
 Hole size \_\_\_\_\_

Total depth 8356

Injection interval

8356 feet to 9100 feet  
 (perforated or open-hole, indicate which)

Tubing size 2 7/8" lined with Plastic Coated set in a  
Baker Model AD, plastic coated (material) packer at 8300' feet  
 (brand and model)  
 (or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Lower A60
- Name of Field or Pool (if applicable) Lovington A60
- Is this a new well drilled for injection?  Yes  No  
 If no, for what purpose was the well originally drilled? as a producer
- 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)  
It was perforated 8234-43, 8250-8268', which will be squeezed off before drilling out to open hole.
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.  
None in the area

LOVINGTON, N.J.

Map of Lovington, NJ, showing streets, landmarks, and various business listings. Key locations include 'GREENHILL (OPER. LOVINGTON) U.I.', 'MIDLAND WELL #23', and 'LOVINGTON (PADDJUT. GREENHILL PET. (OPER.))'. Numerous small text boxes contain names and addresses of local businesses and residents.

16 36  
Santa Fe Ener.  
H.D. Roberts  
et al

Bi-State Loans  
M.A. Hannigan  
et al

Headington Mins.  
10-1-90  
Surf. Div.  
State

American Cometa  
11-1-94  
F120  
DG 4715

Howkins Meclin  
Brodie  
Meclin  
Th. 1/2 (S)

16 36  
Bonnville Fuels  
11-1-92  
VA-243  
99 52

Union Tex.  
12-1-92  
VA-252  
120 E2

Mobil  
M.B.P.  
B-1527

Texaco  
11-1-92  
VA-243  
99 52

Penzoil  
K-5187

483  
Cal-Mon  
12-1-92  
VA-251  
78 52

Union Tex.  
10-1-94  
VA-25  
154 52

Mobil  
M.B.P.  
B-1527

GREENHILL (OPER. LOVINGTON) U.I.

Penzoil  
K-5187

LOVINGTON (PADDJUT. GREENHILL PET. (OPER.))

Exxon  
H.B.P.  
A-1320

Exxon  
H.B.P.  
A-1320

Texaco  
H.B.P.  
B-2330

Penzoil  
K-5187

LOVINGTON, SW

Exxon  
H.B.P.  
B-4119

Exxon  
H.B.P.  
B-4119

Exxon  
H.B.P.  
B-4119

Penzoil  
K-5187

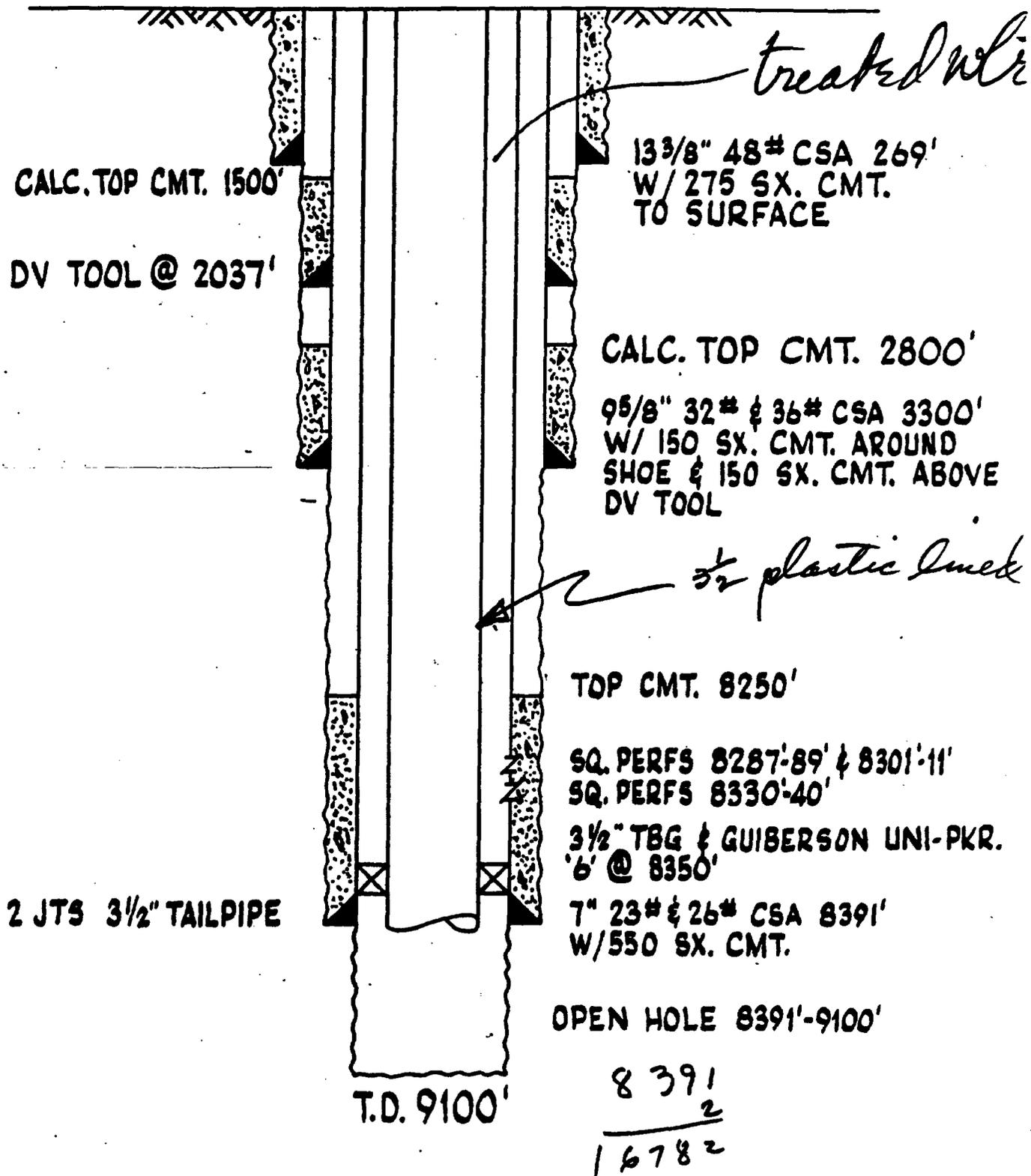
Meridian Oil  
6-1-99  
VA-113  
500 23

17 36  
Meridian Oil  
6-1-99  
VA-113  
500 23

# LOVINGTON ABO FIELD

LEA COUNTY, NEW MEXICO  
STATE "E" TRACT 18 NO. 21

## WELLBORE ARRANGEMENT FOR DISPOSAL



SUBJECT STATE "E" TRACT 18 WELL No. 22  
WELLBORE ARRANGEMENT

FILE \_\_\_\_\_  
APPN \_\_\_\_\_  
DATE \_\_\_\_\_  
BY \_\_\_\_\_

Loc: 1650' FNL & 1650' FEL, SEC. 2, T-17-S, R-36-E,  
LEA Co., NM

13 7/8" CSA 270'  
w/275 SXS CMT  
CMT Circ. To SURF.

DV TOOL @ 2106'

9 5/8" CSA 3287'  
CMT w/300 SXS IN  
TWO EQUAL STAGES

3 1/2" INTERNALLY  
COATED TBS

5 1/2" CSA 8330'  
w/835 SXS CMT &  
835 ft<sup>3</sup> PERLITE

T. CMT 1598' (CALC.)

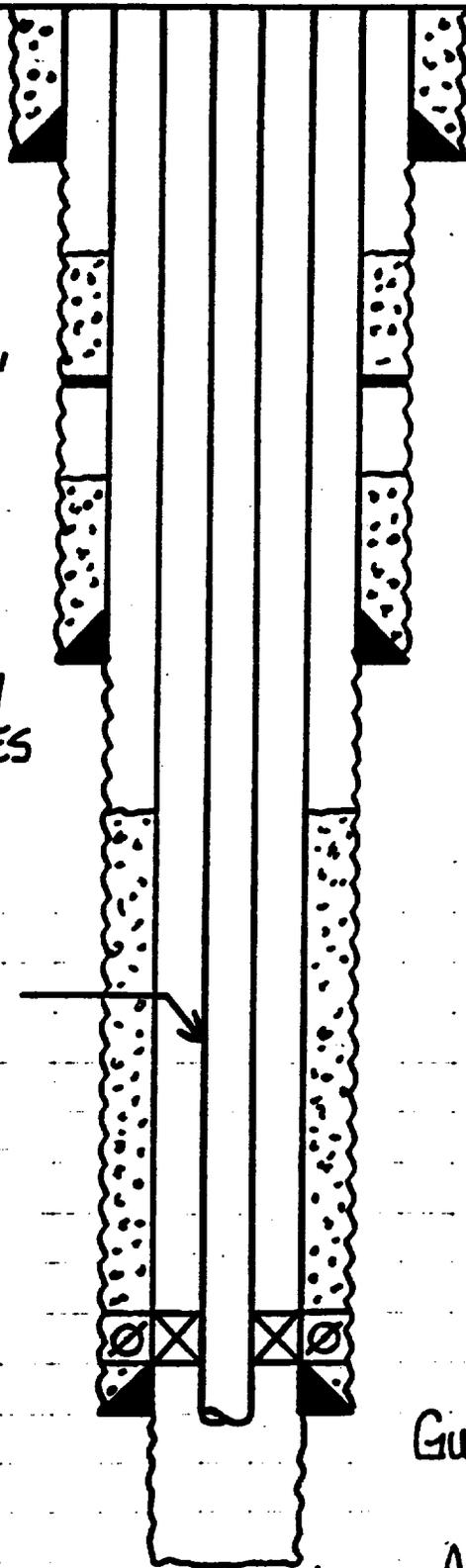
T. CMT 2779' (CALC.)

T. CMT 4150'  
(RAISED FROM 5400'  
BY DISPLACING 451  
SXS CMT INTO PFS  
@ 5000')

SQZ. ABO PFS 8292'-8316'  
w/300 SXS CMT

GUIBERSON Uni-PKR VII @ 83'  
1 JT 3 1/2" TAILPIPE

App. oil 0.220' ann'



**PENROC OIL CORPORATION**

**APPLICATION FOR AUTHORIZATION TO INJECT**

**FORM C-108**

VI. Only two (2) wells penetrated the proposed injection zone. They are PENROC operated State "E" Tract 18 Wells Nos. 21 and 22. Both were approved by NMOCD (Order # R-5855 and R-6461). Well sketches attached.

VII.

1. Average Daily Rate: 1500 BW  
Maximum Daily Rate: 2500 BW
2. Closed System
3. Vacuum most of the time 150 psig sometime.
4. Re-inject produced water from Penroc operated State "E" Tract 18 & 17 and C. S. Caylor No. 3 (Lovington Abo Field).
5. No water is available in the zone of disposal to our knowledge, therefore no analysis can be done.

VIII.

The proposed injection zone is considered to be of Pennsylvanian Age. Lithologically it is a limestone of shelf origin. The fresh water aquifer at this site is the Ogalla found 200' from the surface.

IX. None at this time.

X. Logs on file with the NMOCD.

XI. Water analysis attached.

XII. Applicant attests that a through examination has been made of all available geologic, engineering, and well data and that no hydrologic connection exists between the proposed injection interval and the overlying fresh water aquifer.



To Penroc Oil

Sample Number 230

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or persons and employees thereof receiving such report from Halliburton Company.

Submitted by Rice Eng.

Date Received November 9, 1991

Well No. Lovington City #17

Depth \_\_\_\_\_ Formation Water Sand

County Lea

Field Sec 1; Twn 17S; Rng 36E Source \_\_\_\_\_

Resistivity..... 11.2 @ 70F

Specific Gr..... 1.005

pH..... 7.01

Calcium\*..... 227

Ca

Magnesium\*..... 145

Mg

Chlorides\*..... 150

Cl

Sulfates\*..... 189

SO<sub>4</sub>

Bicarbonates\*..... 195

HCO<sub>3</sub>

Soluble Iron\*..... nil

Fe

TDS 1527

Sodium Cl (Calc) 245

Remarks:

\*milligrams per liter

Respectfully submitted,

Analyst: JLEUBANK

HALLIBURTON COMPANY

By \_\_\_\_\_

CHEMIST

NOTICE

THIS REPORT IS LIMITED TO THE DESCRIBED SAMPLES TESTED. ANY USER OF THIS REPORT AGREES THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER IT BE TO ACT OR OMISSION, RESULTING FROM SUCH REPORT OR ITS USE.

XIII. Off-Set Operators and Surface Owners for PENROC Operated State "E" Tract 18 Well No. 23

Surface Owner:

Mr. Bob Carter  
City of Lovington  
214 South Love  
Lovington, New Mexico 88260  
(505) 396-2884

Off-Set Operators:

Greenhill Petroleum Corporation  
Attn: SE New Mexico Operations  
11490 Westheimer, Suite 200  
Houston, Texas 77077  
(713) 589-8484

Amerada Hess Corporation  
Attn: Rob Williams  
7000 South Highway 322  
Monument, New Mexico 88267  
(505) 393-2144

Samson Resources  
Attn: Mr. Jeff Ross  
Samson Plaza  
2 West Second Street  
Oklahoma City, Oklahoma 74103

Hawkins Oil and Gas  
Attn: Mr. Butch Smith  
400 S. Boston, Suite 800  
Tulsa, Oklahoma 74103  
(918) 585-3121

Oxy USA Inc.  
Attn: Land Department  
P.O. Box 50250  
Midland, Texas 79710  
(915) 685-5600

Rice Engineering  
Attn: Mr. Dave Abott  
122 W. Taylor  
Hobbs, New Mexico 88240  
(505) 393-9174

AFFIDAVIT OF PUBLICATION

State of New Mexico,  
County of Lea.

I, Kathi Bearden

General Manager

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period.

of \_\_\_\_\_

1

weeks.

Beginning with the issue dated

November 5, 1995

and ending with the issue dated

November 5, 1995

Kathi Bearden

General Manager

Sworn and subscribed to before

me this 8<sup>th</sup> day of

November, 1995

Madelyn J. Puffino  
Notary Public.

My Commission expires

March 24, 1998

(Seal)

**LEGAL NOTICE**

**November 5, 1995**

PENROC OIL CORPORATION, P.O. Box 5970, Hobbs, New Mexico 88241-5970, is filing an application to convert its State "E" Tract 18 Well No. 23 to water disposal. This well is located in the NW/4 of NW/4, Section 23, Township 17 South, Range 36 East, Lea County, New Mexico

The intention of the applicant is to inject produced water from the Abo formation at its producing wells in the Lovington Abo Field into the Lower Abo formation in this well which is depleted.

Maximum injection rates will be 2500 barrels of water per day at pressures not to exceed 500 psig. The depth of the injection zone will be 8356' to 9100'.

All interested parties must file any objections or requests for hearing with the Oil Conservation Division, 2040 S. Pacheco Street, Santa Fe, New Mexico 87505-5472 within 15 days of this notice. M. Y. (Merch) Merchant, President, (505) 397-3596.

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

# **PENROC**

CERTIFIED MAIL NO. Z 106 681 467

November 9, 1995

**RICE ENGINEERING**

Attn: Dave Abott  
122 W. Taylor  
Hobbs, New Mexico 88240

Re: State "E" Tract 18 Well No. 23  
Unit D, Section 1, T-17-S, R-36-E  
Lea County, New Mexico

Dear Mr. Abott:

PENROC OIL CORPORATION is filing an application with the State of New Mexico Oil Conservation Division to convert the captioned well which it currently operates. This well has been depleted for a long time in the Abo formation. The well is needed to dispose produced water from the Abo formation from three (3) other PENROC wells in the Lovington Abo Field.

As required by the New Mexico Oil Conservation Division we have advertized our intent in the Hobbs News Sun on November 8, 1995. We would appreciate your comments at an early date.

Please call the undersigned or write and discuss the matter if you have any questions. Your cooperation in this matter is greatly appreciated.

Sincerely,



D. Denise Mohar  
Assistant to the President  
M. Y. (Merch) Merchant

ddm

cc: Copy of Map

**COPY**

FN: SWDAPPR

MAILING ADDRESS:  
PO Box 5970  
Hobbs, NM  
88241-5970  
DELIVERY ADDRESS:  
5014 Carlsbad Hwy  
Hobbs, NM  
88240-1118  
(505) 397-3596 Phon  
(505) 393-7051 FAX

2 106 681 464



**Receipt for Certified Mail**

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

PS Form 3800, March 1993

Sent to	SAMSON RESOURCES	
Street and ZIP Code	2198 WEST SECOND STREET OKLAHOMA CITY, OK 73105	
P.O. State and ZIP Code	OKLAHOMA CITY, OK 73105	
Postage	\$	1.32
Certified Fee		1.10
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt Showing to Whom & Date Delivered		
Return Receipt Showing to Whom, Date, and Addressee's Address		
TOTAL Postage & Fees	\$	1.42
Postmark or Date	5687 NOV 6 HOBBS 88240	

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2 106 681 463



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PS Form 3800, March 1993

Sent to	AMERADA HESS CORP.	
Street and ZIP Code	7000 S. HIGHWAY 322 MONUMENT, NM 88267	
P.O. State and ZIP Code	MONUMENT, NM 88267	
Postage	\$	.32
Certified Fee		1.10
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt Showing to Whom & Date Delivered		
Return Receipt Showing to Whom, Date, and Addressee's Address		
TOTAL Postage & Fees	\$	1.42
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PS Form 3800, March 1993

Sent to	GREENHILL PETROLEUM	
Street and ZIP Code	1190 WESTHEIMER, STE HOUSTON, TX 77077-200	
P.O. State and ZIP Code	HOUSTON, TX 77077-200	
Postage	\$	.32
Certified Fee		1.10
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt Showing to Whom & Date Delivered		
Return Receipt Showing to Whom, Date, and Addressee's Address		
TOTAL Postage & Fees	\$	1.42
Postmark or Date	5687 NOV 6 HOBBS 88240	

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PS Form 3800, March 1993

Sent to	BOB CARTER - CITY OF	
Street and ZIP Code	214 S. LOVE LOVINGTON, NM 88260	
P.O. State and ZIP Code	LOVINGTON, NM 88260	
Postage	\$	.32
Certified Fee		1.10
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt Showing to Whom & Date Delivered		
Return Receipt Showing to Whom, Date, and Addressee's Address		
TOTAL Postage & Fees	\$	1.42
Postmark or Date	5687 NOV 6 HOBBS 88240	

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2 106 681 461

Z 106 581 457



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(See Reverse)

PS Form 3800, March 1993

Sent to	
RICE ENGINEERING	
Street and No.	
122 W. TAYLOR	
P.O. State and ZIP Code	
HOBBS, NM 88240	
Postage	\$ .32
Certified Fee	1.10
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$ 1.42
Postmark or Date	NOV 6 1993

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Z 106 581 455



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PS Form 3800, March 1993

Sent to	
OXY USA INC.	
Street and No.	
P.O. BOX 50250	
P.O. State and ZIP Code	
MIDLAND, TX 79710	
Postage	\$ .32
Certified Fee	1.10
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$ 1.42
Postmark or Date	NOV 6 1993

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Z 106 581 455



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

PS Form 3800, March 1993

Sent to	
HAWKINS OIL AND GAS	
Street and No.	
400 S. BOSTON, STE 800	
P.O. State and ZIP Code	
TULSA, OK 74103	
Postage	\$ .32
Certified Fee	1.10
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$ 1.42
Postmark or Date	NOV 6 1993

Fold at top over top of envelope to the right of the return address