



REC'D 3/1/85  
MARCH 3 1985

February 2, 1994

State of New Mexico  
Energy, Minerals and Natural Resources Dept.  
Oil Conservation Division  
P.O. box 2088  
Santa Fe, NM 87504-2088

Gentlemen:

SUBJECT: APPLICATION FOR EXPANSION OF WATERFLOOD  
RHODES COOP WATERFLOOD  
RHODES YATES SEVEN RIVERS POOL  
LEA COUNTY, NM

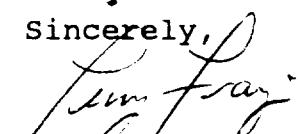
We request administrative approval to expand the waterflood on the Rhodes Yates Unit. Order No. R-2748, dated July 29, 1964, authorized Texaco to institute a waterflood project.

Six wells will be converted to injection on the W.H. Rhodes B Fed NCT-1, W.H. Rhodes B Fed NCT-2, and W.H. Rhodes A Fed leases. Form C-108 and attachments are enclosed.

Copies of this application with attachments have been sent to the offset operators.

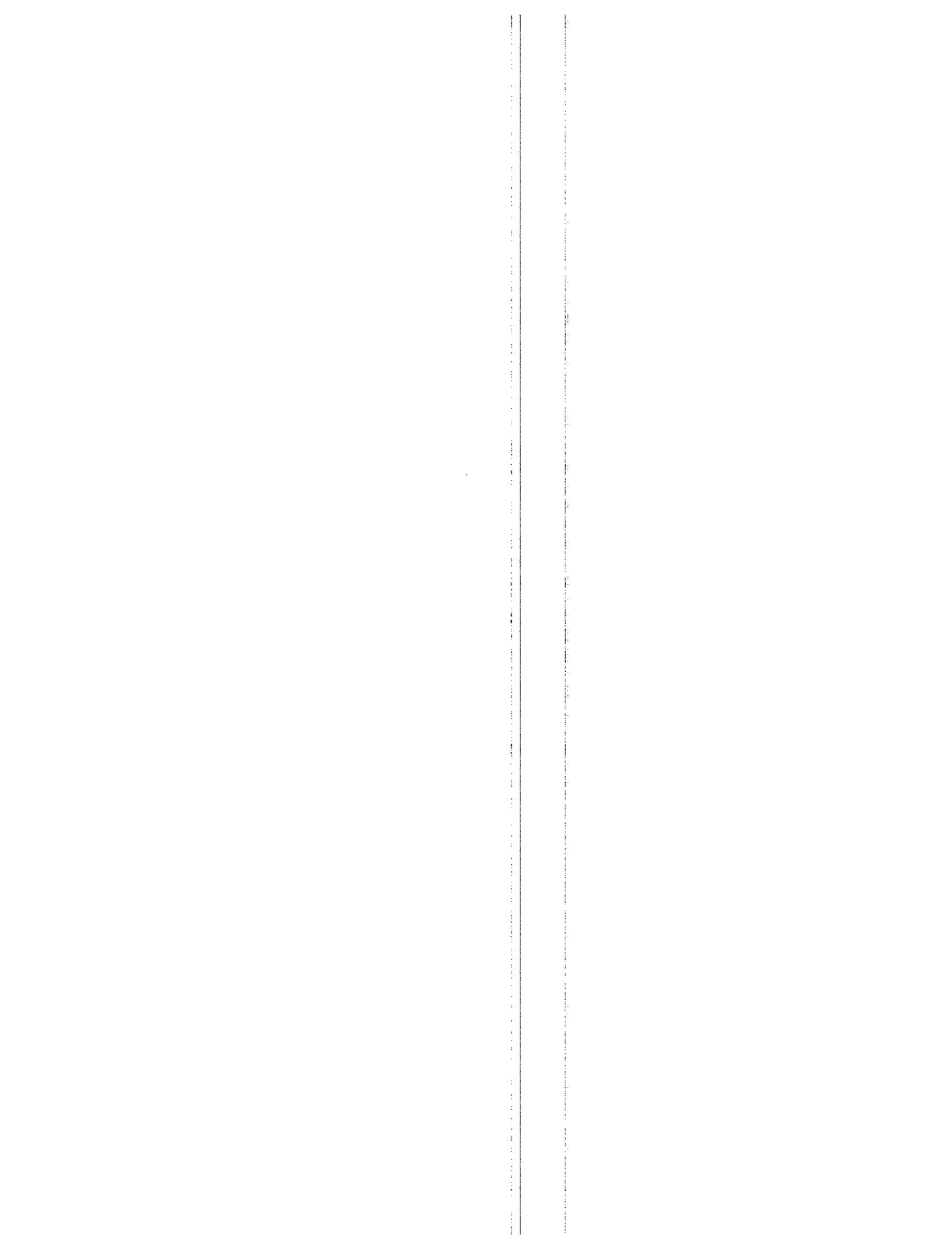
If any additional information is needed, contact Darlene de Aragao at (505) 397-0424.

Sincerely,

  
T.L. Frazier  
Hobbs Area Manager

ddd

Attachments



APPLICATION FOR AUTHORIZATION TO INJECT

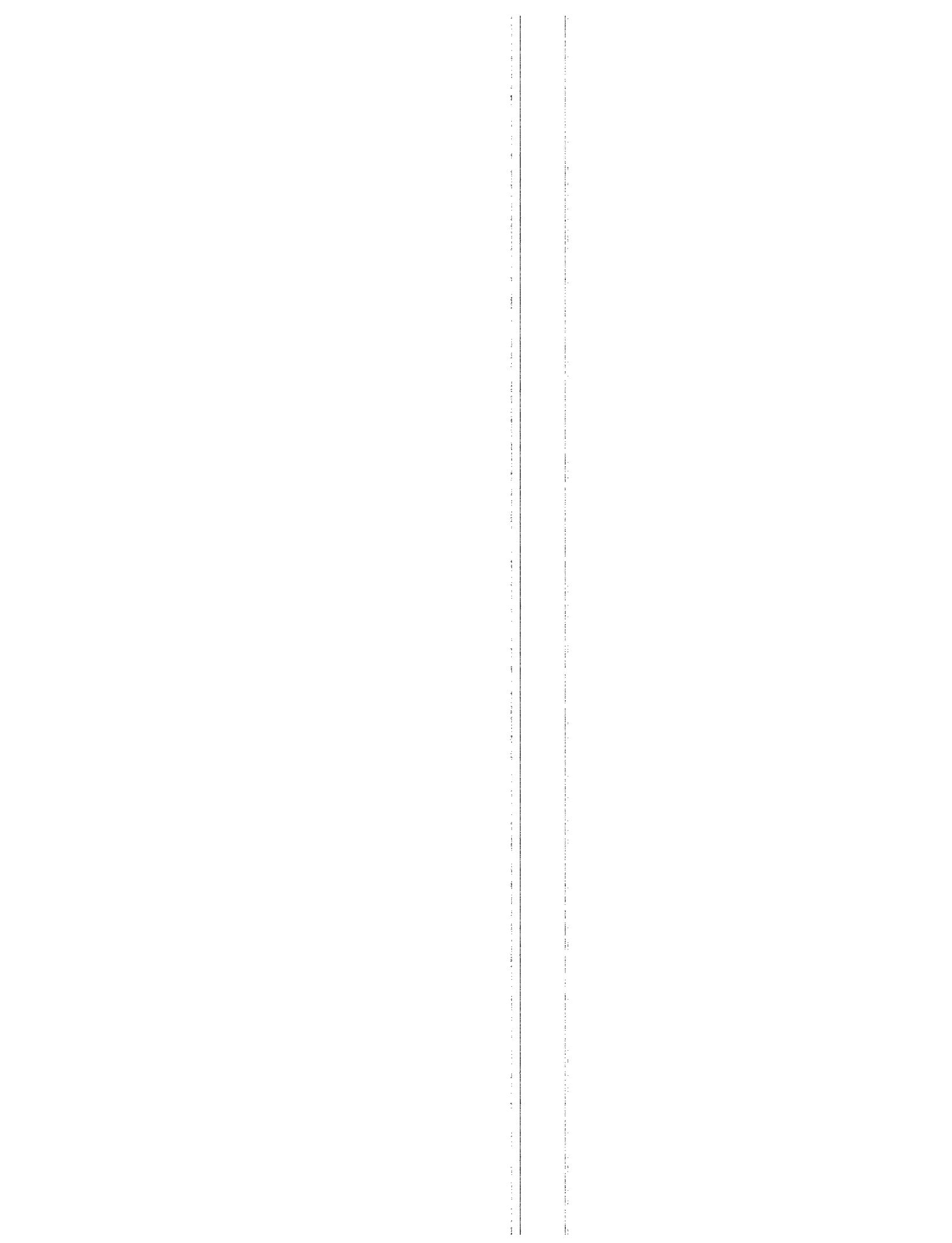
- I. Purpose:  Secondary Recovery  Pressure Maintenance  Disposal  Storage  
Application qualifies for administrative approval?  yes  no
- II. Operator: Texaco Exploration & Production Inc.
- Address: P.O. Box 730, Hobbs, New Mexico 88240
- Contact party: Darlene de Aragao Phone: 505-397-0424
- III. 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 see attachment.  
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: Terry L. Frazier Title Area Manager

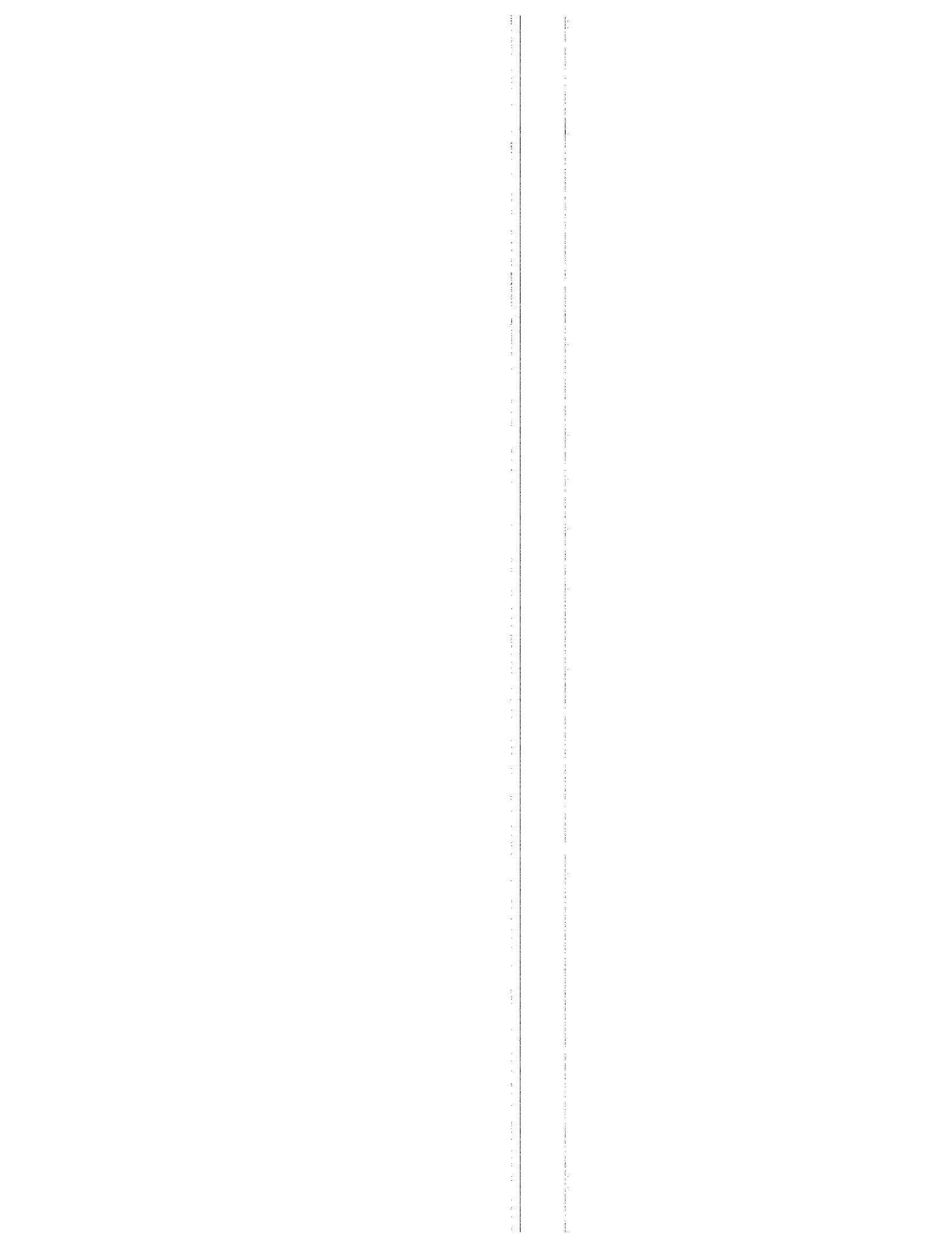
Signature: Terry Frazier Date: 1/27/94

\* 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. see attachment



**SUMMARY OF ORDER NUMBERS FOR  
RHODES COOP**

R-2748	07-29-64	INSTITUTE THE COOP WATERFLOOD
R-2748-A	02-18-93	EXPANSION
WFX-454	08-02-77	EXPANSION
R-9847	02-17-93	EXPANSION
WFX-645	06-17-93	EXPANSION



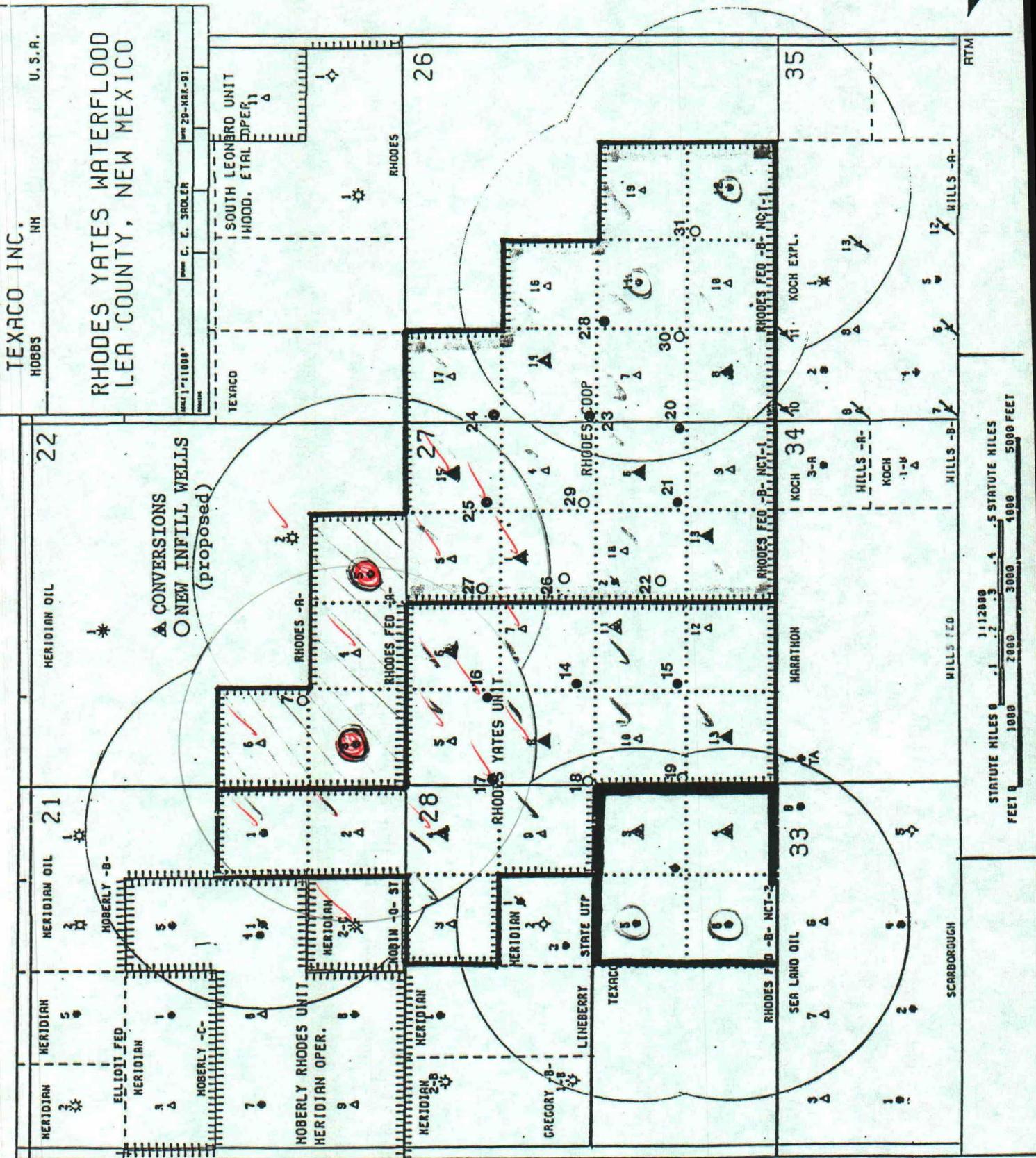
TEXACO INC.  
HOBBS

11

HOURS

RHODES YATES WATERFLOOD  
LEA COUNTY, NEW MEXICO

ONE NEW INFILL WELLS  
(proposed)



**NEW MEXICO OIL CONSERVATION DIVISION - Form c-108, cont'd**

**Conversion of the following wells to injection  
Rhodes Yates Seven Rivers**

**W.H. Rhodes B Fed NCT-1**  
#11 1980' FSL, 1980' FWL, 26-26S-37E, UNIT E  
#12 660' FSL, 1980' FEL, 26-26S-37E, UNIT O

**W.H. Rhodes B Fed NCT-2**  
#5 1980' FSL, 1980' FEL, 28-26S-37E, UNIT J  
#6 660' FSL, 1880' FEL, 28-26S-37E, UNIT O

**W.H. Rhodes A Fed**  
#3 660' FSL, 660' FWL, 22-26S-37E, UNIT M  
#5 555' FSL, 2085' FWL, 22-26S-37E, UNIT O

**III. See attached injection well data sheets.**

**IV. Expansion of existing project order No. R-2748**

**V. See attached map.**

**VI. See attached well information and schematics.**

**VII. 1). Average injection rate - 400 BWPD  
Maximum injection rate - 600 BWPD**

**2). Closed injection system**

**3). Average injection pressure 1100 psi  
Initial maximum injection pressure - 600 psi (0.2  
psi/ft).  
Maximum injection pressure - 2000 psi (possible after  
step rate tests).**

**4). Yates Seven Rivers produced water  
Santa Rosa and Ogallala fresh water for make-up.**

**IX. 15% HCL NEFE acid and fracturing.**

**XII. N/A**

PRODUCER MEETING WELL

TEAGUE EXP.  
RHODES, W.H., B.F.D. MDT-1 #1  
APN# 300251257

Cmt. Circ.

0 - 1204' 2.625" OD TUBING

0 - 1203' 11" OD HOLE

0 - 3040' 2.375" OD TBS

Cmt. Top Calc

1980 FLL & 1980 FWL K  
SEC 26, TWN 26 S, RANGE 37 E  
ELEVATION: 3200' BP  
COMPLETION DATE: 03-16-45

0 - 3089' 5.5" OD PROD CSG

1208 - 3093' 7.875" OD HOLE

PKR SET @ 3040'  
Baker Loc. Set

3093 - 3280' 4.75" OD HOLE

KB ELEV: 31.5'  
FBTD: 3240'  
TD: 3240'

DETERMINED BY:

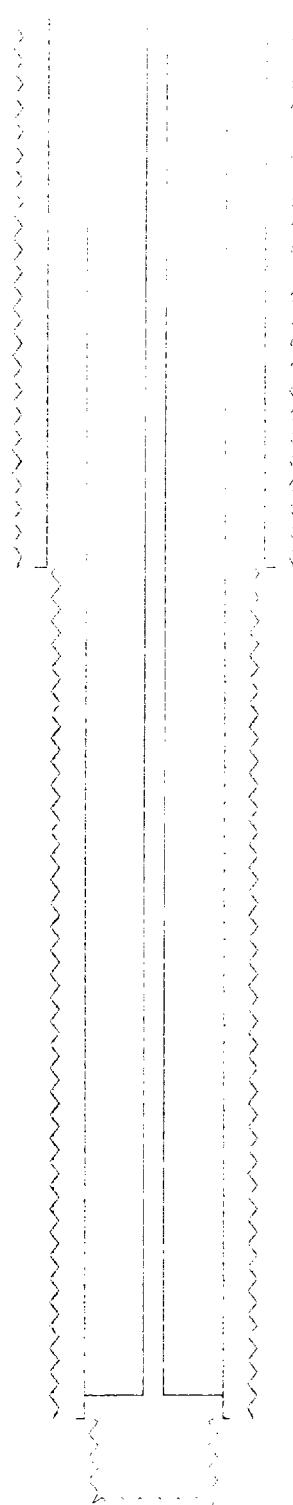
THE DMR  
PDRS, INC.  
PDRS, INC. FEL C  
1203 - 3030 4.75' 00 HOLE

CNT. CIRC

0 = 1203 4.75' 00 HOLE

CNT. TOP Calc

0 = 3030 4.75' 00 HOLE



660 FEL & '980 FEL C  
SEC 26, Twn 26 S, Range 37 E  
ELEVATION: 3006 CF  
COMPLETION DATE: 04-13-45

1203 - 3030 4.75' 00 HOLE

PDR SET @ 3040'  
Baker Loc-set

3030 - 3230 4.75' 00 HOLE

H3 ELEV. 115

PDRS 3230

TOP 3380

PROPOSED MEETING WELL

TRACI EXP  
BRIDGES W.R. & FEED ACT - 2 M.L.  
API# 3002226892

amt. circ.

0 - 650 3.625' OD 100F 300

0 - 650 12.5' OD 400F

cont. circ

3330 - 3330' OIBP  
0 - 3450 5.5" OD PROG 300

1980 FGL & 1980 FEL  
SEC 28, TWM 26 S, RANGE 37 E  
ELEVATION: 2966 GR  
COMPLETION DATE: 02-24-78

2357 - 1957' PACKER Baker Loc-set

3307 - 1952' PERFS

3353 - 3373' ABANDONED PERFS

650 - 3450 7.875' OD HOLE

K3 ELEV: 14'

PBD: 3320'

TB: 3450

12-1000-4-000-A-B

WTR

12-1000-A-B

S = 2000-2000-10-10-20

650 FT & 1350 FT LMT 3

SEC 18, TAN 26 3, RANGE 37 E

ELAVATION 1265 FT

COMPLETION DATE: 11-07-94

CME 94C

BAKER 600-SET PBR SET # 077

650 - 3450 7375 100 - 1E

PBT0: 5140

T: 3450

DRILLING RECORD

DRILLING RECORD

cont. circ

C - 1207' 11" 3D HOLE

C - 1207' 11" 3D HOLE

0 - 3050' 2.375" 3D TBC

660 FS & 660 FWL  
SEC 22, TWN 26 S, RANGE 37 E  
ELEVATION: 2964 GR  
COMPLETION DATE: 02-26-44

Cdc

C - 3138' 6.75" 3D PHMS 650

1207 - 3138' 7.375" 3D HOLE

3103 - 3120' PERFS

3138 - 3300' 6.75" 3D HOLE

PETRO 3300'

PKR SET @ 3050'  
Baker Loc-set

EDWARD M. GORE

EDWARD M. GORE

EDWARD M. GORE  
EDWARD M. GORE  
EDWARD M. GORE

Cmt. circ

( = 1000 2215 10 125 100

( = 1000 2215 10 125 100

( = 3000 2225 10 125

555 FSL & 2055 RWL 0  
SEC 21, TMA 16, 2 RANGE ST E  
ELEVATION 2224 FT  
COMPLETION DATE 07-17-44

Cmt Top Cade

( = 3000 15 10 125 100

1000 = 3000 15 10 125 100

3000 = 3000 15 10 125 100

BAR SET # 100  
Baker Loc-set

DATE: 07/17/01  
PAGE: 100

WELLS WITHIN AREA OF REVIEW THAT HAVE NOT BEEN SUBMITTED IN PAST

LEASE NAME	WELL TYPE	STATUS	OPERATOR
MOBERLY RHODES WATERFLOOD #4	OIL		MERIDIAN OIL INC
MOBERLY RHODES WATERFLOOD #5	OIL		MERIDIAN OIL INC
MOBERLY #1	OIL	P&A	KRUPP & FLAHERLY
WILLS FEDERAL #4	OIL		SEA LAND OIL CO.
WILLS FEDERAL #7	INJ		SEA LAND OIL CO.
RHODES, W.H. A FEDERAL #6	INJ		TEXACO E&P

1.  $\frac{1}{2} \left( \frac{1}{2} - \frac{1}{2} \right) = 0$   
2.  $\frac{1}{2} \left( \frac{1}{2} + \frac{1}{2} \right) = 1$   
3.  $\frac{1}{2} \left( \frac{1}{2} \cdot \frac{1}{2} \right) = \frac{1}{4}$   
4.  $\frac{1}{2} \left( \frac{1}{2} \div \frac{1}{2} \right) = 1$

1998-01-24 15:22  
1998-01-24 15:22  
1998-01-24 15:22  
1998-01-24 15:22

$$550 = \frac{550}{100} \cdot 100\%$$

2010  
2011

14-112-15 10-1972 AF

14-112-15  
10-1972

14-112-15 10-1972 AF  
14-112-15 10-1972 AF

14-112-15  
10-1972 AF  
14-112-15 10-1972 AF  
14-112-15 10-1972 AF



1      2      3      4      5      6      7      8      9      10

1962-1963-1964-1965-1966-1967

300 FBI 100 FBI  
77-266-777-1  
JULY 1968

卷之三

$$\frac{633}{35} = \frac{147}{7} + \frac{7}{35} = 21 + \frac{1}{5}$$

$$S = \frac{1}{2} \int_{-\pi}^{\pi} \int_{-\pi}^{\pi} \left| \frac{\partial f}{\partial x}(x,y) \right|^2 dx dy$$

1988-FAC-105-FM  
1988-037-005  
COMPLETED 17-10-88  
TREATMENT: PRAGUE  
1988-037-005-FM  
1988-037-005-FM

1958 = 1000000

卷之三

Cmt. circ.

1995-05-10

12.  $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

$$e^{i\theta} = \frac{1 - i\sqrt{3}}{2}$$

Cnt Top Calc

1. 14100 2 2000 1000

111-111111 Baker L.C.-Set

1932 - 21-12-225 - 105 105

$$120 = 120 \cdot 4^{15} + 12 \cdot 4^{14}$$

卷之三

Z 004 855 462



### Receipt for Certified Mail

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

Sent to	Bureau of Land Management	
Street and No.	PO Box 27115	
P.O. State and ZIP Code	Santa Fe, NM 87502-0115	
Postage	\$	
Certified Fee		
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	\$	16
Postmark or Date	11/12/93	

PS Form 3800, March 1993

Z 004 855 459



### Receipt for Certified Mail

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

Sent to	Amerada Hess Corp	
Street and No.	PO Box 2040	
P.O. State and ZIP Code	Tulsa, OK 74102	
Postage	\$	
Certified Fee		
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	\$	16
Postmark or Date	11/12/93	

PS Form 3800, March 1993

Z 004 855 461



### Receipt for Certified Mail

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

Sent to	Tom & Evelyn Lineberry	
Street and No.	802 S Main	
P.O. State and ZIP Code	Midland, TX 79701	
Postage	\$	
Certified Fee		
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	\$	16
Postmark or Date	11/12/93	

PS Form 3800, March 1993

Z 004 855 458



### Receipt for Certified Mail

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

Sent to	Doyle Hartman	
Street and No.	PO Box 10426	
P.O. State and ZIP Code	Midland, TX 79702	
Postage	\$	
Certified Fee		
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	\$	16
Postmark or Date		

PS Form 3800, March 1993

Z 004 855 419



### Receipt for Certified Mail

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

Sent to	Meridian Oil Inc.
Street and No	P.O. Box 51810
P.O., State and ZIP Code	Midland, TX 79710
Postage	\$
Certified Fee	
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	\$
Postmark or Date	

PS Form 3800, March 1993

Z 004 855 453



### Receipt for Certified Mail

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

Sent to	Oxy USA Inc.
Street and No	P.O. Box 300
P.O., State and ZIP Code	Tulsa, OK 74102
Postage	\$
Certified Fee	
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	\$
Postmark or Date	

PS Form 3800, March 1993

Z 004 855 454



### Receipt for Certified Mail

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

Sent to	Smith & Murr Inc.
Street and No	110 N Big Spring
P.O., State and ZIP Code	Midland, TX 79701
Postage	\$
Certified Fee	
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	\$
Postmark or Date	

PS Form 3800, March 1993

Z 004 855 455



### Receipt for Certified Mail

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

Sent to	Mack Energy Corp
Street and No	P.O. Box 276
P.O., State and ZIP Code	Artesia, NM 88211
Postage	\$
Certified Fee	
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	\$
Postmark or Date	

PS Form 3800, March 1993

Z 004 855 456



**Receipt for  
Certified Mail**

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

Sent to	Marathon Oil Co.	
Street and No.	PO Box 552	
PO State and ZIP Code	Midland, TX 79702	
Postage	\$	
Certified Fee		
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	\$	
Postmark or Date	1993	

PS Form 3800, March 1993

Z 004 855 460



**Receipt for  
Certified Mail**

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

Sent to	Sea Sand Oil Co.	
Street and No.	PO Box 101777	
PO State and ZIP Code	Ft Worth, TX 76185	
Postage	\$	
Certified Fee		
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	\$	
Postmark or Date	1993	

PS Form 3800, March 1993

# 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 \_\_\_\_\_

one \_\_\_\_\_ weeks.  
Beginning with the issue dated

January 28, 1994

and ending with the issue dated

January 28, 1994

Kathi Bearden

General Manager

Sworn and subscribed to before

31

me this 31 day of

January, 1994  
Chalene Ferrin

Notary Public.

My Commission expires  
March 15, 1997

(Seal)

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.

## LEGAL NOTICE January 28, 1994

Notice is hereby given of the application of Texaco Exploration and Production Inc., Attention: Terry L. Frazier, Area Manager, P.O. Box 730, Hobbs, New Mexico, 88240, Telephone (505) 393-7191, to the New Mexico Oil Conservation Commission, Energy and Minerals Department, for approval of the following wells to be converted to injection for the purpose of expanding waterflood.

Lease/Unit Name: Rhodes Yates Unit #1 Lea Co., NM 1980' FSL, 660' FEL 21-26S-37E UNIT I

Lease/Unit Name: W.H. Rhodes B Fed. NCT-1 Lea Co., NM #11 1980' FSL, 1980' FWL 26-26S-37E Unit K

#12 660' FSL, 1980' FEL 26-26S-37E Unit 0

Lease/Unit Name: W.H. Rhodes A Fed. Lea Co., NM #3 660' FSL, 660' FWL 22-26S-37E Unit E  
#5 555' FSL, 2085' FWL 22-26S-37E Unit 0

Lease/Unit Name: W.H. Rhodes B Fed. NCT-2 Lea Co., NM #5 1980' FSL, 1980' FEL 28-26S-37E Unit J  
#6 660' FSL, 1880' FEL 28-26S-37E Unit O

The injection formation is the Rhodes Yates Seven Rivers at a depth of 3000' below the surface of the

ground. Expected maximum injection rate is 600 BPD, and expected maximum injection pressure is 2000 psi. Interested parties must file objections or requests for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico, 87501, within fifteen days of this publication.