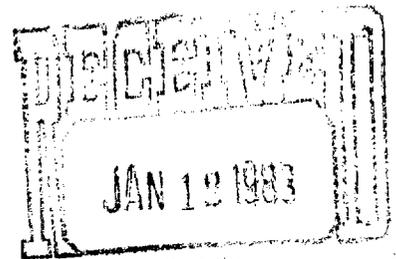




PETROLEUM PRODUCTS



OIL CONSERVATION DIVISION  
SANTA FE  
U.S.A.  
A DIVISION OF TEXACO INC.  
P. O. BOX 728  
HOBBS, NEW MEXICO 88240  
(505) 393-7191

January 5, 1983

APPLICATION FOR WATER INJECTION  
WEST VACUUM UNIT WELL NO. 55  
LEA COUNTY, NEW MEXICO

State of New Mexico  
Department of Energy & Minerals  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico, 88501

Attention: Mr. Joe D. Ramey

Gentlemen:

Texaco Inc. respectfully requests Administrative approval for expansion of waterflood injection well pattern, as provided by Order No. R-4234 for the West Vacuum Unit to inject water into the West Vacuum Unit Well No. 55 upon completion.

The following data are submitted in support of this request:

- 1.) A Unit Plat is attached reflecting the respective injection well and its project area.
- 2.) Attached is a Diagrammatic Sketch of the proposed well, showing injection tubing, packer, and identifying the San Andres perforated injection interval.
- 3.) The Ogallala fresh water will be used as the injectant into the Vacuum Grayburg San Andres formation. The Ogallala fresh water has been successfully used as an injectant into the Vacuum Grayburg San Andres pool for over 16 years with no evidence of formation plugging, and, therefore, is considered to be compatible with the Vacuum Grayburg San Andres formation. A water analysis of the Ogallala fresh water is attached.

January 5, 1983

- 4.) The name of the injection formation is Vacuum Grayburg San Andres, with injection to be from 4530' to 4710'. The lithology of this formation is Dolomite and the geological name is the Grayburg San Andres. The average pay thickness is about 400'. The geological name of the underground source of drinking water is the Ogallala at 300' maximum depth. The maximum anticipated injection pressure will be no greater than 0.2 psi per foot to the top of the perforations, with a maximum daily volume anticipated at 1500 barrels of water per day per well.
- 5.) Proposed stimulation will consist of 8000 gallons of 15% acid using ball sealers.
- 6.) Attached is a Certified copy of Public Notice by newspaper.
- 7.) Attached is a list of affected Offset Operators and Surface Tenant.
- 8.) Attached is evidence that notice has been given to those entities in Item 7.

Interested parties must file objections or request for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico, 87501, within fifteen (15) days following newspaper publication. Your consideration and early approval will be appreciated.

Yours very truly,

TEXACO INC.  
PRODUCING DEPARTMENT-UNITED STATES



V. G. Johnston  
Assistant District Manager

GDD:JEB

Attachments

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: TEXACO Inc.

Address: P. O. Box 728, Hobbs, New Mexico, 88240

Contact party: J. V. Gannon Phone: (505) 393-7191

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-4234.

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; 1,000 1,500
2. Whether the system is open or closed
3. Proposed average and maximum injection pressure; 900 psi
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: V. G. Johnston Title Assistant District Manager

Signature: *V. G. Johnston* Date: December 28, 1982

\* 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. Logs will be filed with New Mexico Oil Conservation

Division upon completion of well.

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 footace 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.

INJECTION WELL DATA SHEET

OPERATOR		LEASE		
TEXACO Inc.		West Vacuum Unit		
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
55	170' FNL & 110' FEL	3	18-S	34-E

Schematic

Tabular Data

Surface Casing

Size 13-3/8 " Cemented with 450 sx.  
 TOC Circulate feet determined by Visual  
 Hole size 17"

Intermediate Casing

Size 9-5/8 " Cemented with 750 sx.  
 TOC Circulate feet determined by Visual  
 Hole size 12-1/4"

Long string

Size 5-1/2 " Cemented with 3250 sx.  
 TOC Circulate feet determined by Visual  
 Hole size 7-7/8"

Total depth 4800'

Injection interval

4530 feet to 4710 feet  
 (perforated or open-hole, indicate which)

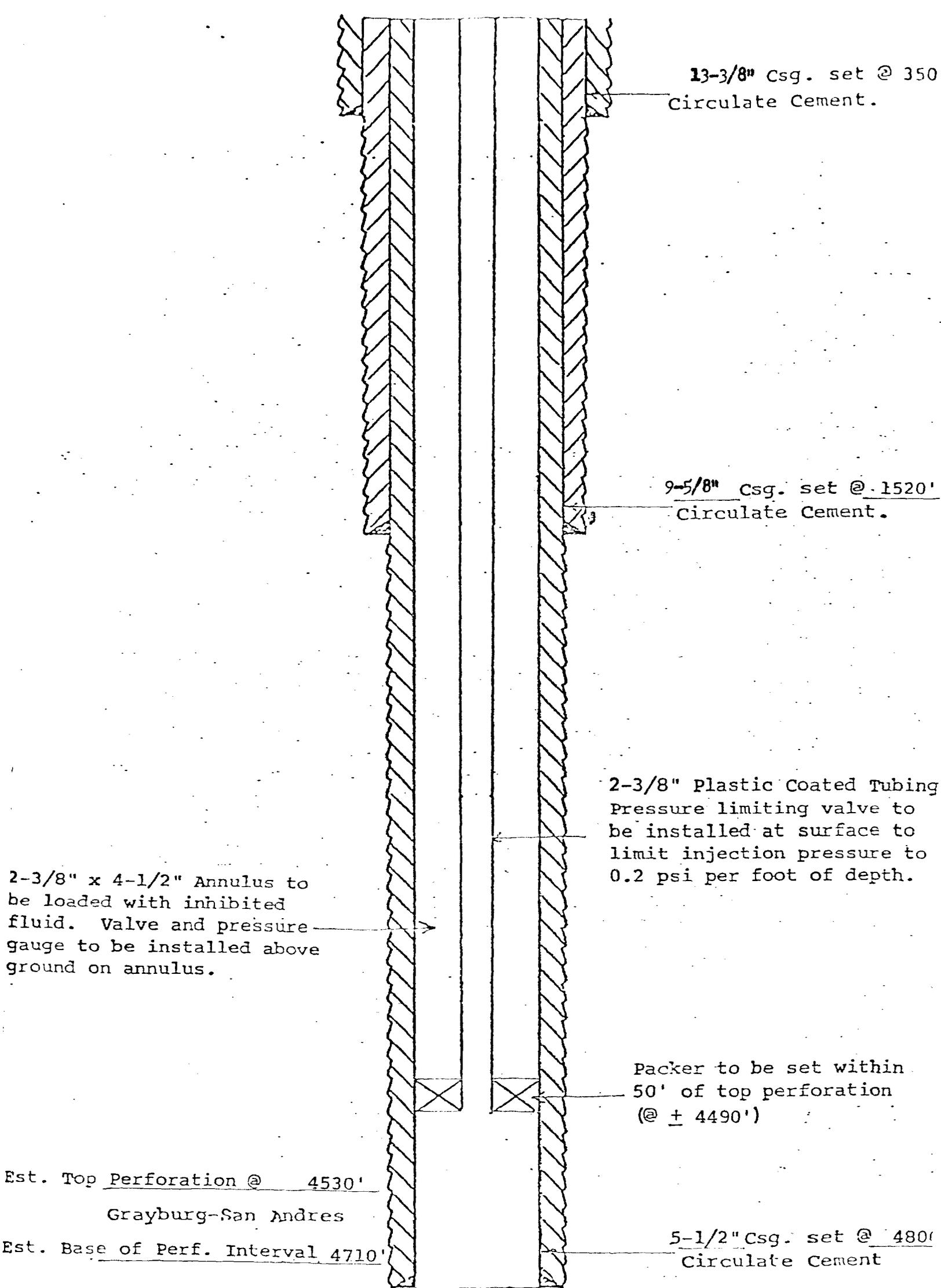
*See attached  
 Diagram*

Tubing size 2-3/8" lined with Plastic Coating set in a  
(material)  
Baker Lok-Set Nickel Plated packer at + 4490 feet  
(brand and model)

(or describe any other casing-tubing seal).

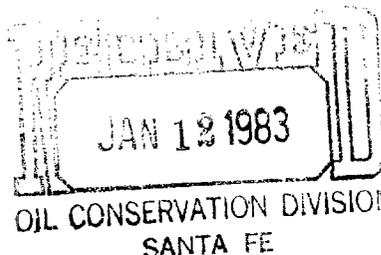
Other Data

- Name of the injection formation Vacuum Grayburg San Andres
- Name of Field or Pool (if applicable) Vacuum
- Is this a new well drilled for injection?  Yes  No  
 If no, for what purpose was the well originally drilled? \_\_\_\_\_
- 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) NO
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Glorieta - 5815'; Blinbry Marker - 6585'; Abo North - 7896';  
 Wolfcamp - 9260'; Pennsylvanian - 10,088'; Devonian - 11,926'.



PROPOSED INJECTION WELLS  
WEST VACUUM UNIT

WELL NO. 55  
VACUUM GRAYBURG-SAN ANDRES FIELD  
LEA COUNTY, NEW MEXICO



TEXACO  
U.S.A.  
A DIVISION OF TEXACO INC.  
P. O. BOX 728  
HOBBS, NEW MEXICO 88240  
(505) 393-7191

January 5, 1983

NOTIFICATION OF INTENT TO INJECT  
WATER INTO A RESERVOIR PRODUCTIVE  
OF OIL OR GAS  
WEST VACUUM UNIT WELL NO. 55  
LEA COUNTY, NEW MEXICO

Offset Operators  
(Address List Attached)

Gentlemen:

This is to notify you, as Offset Operator, that Texaco is requesting the New Mexico Oil Conservation Division to approve injection of water into the Vacuum Grayburg San Andres formation at a depth of 4710' in the subject well. The subject lease consists of 2043 acres, and is located in Sections 3, 4, 5, 28, 33, and 34, Townships 17 and 18 South, and Range 34 East, Lea County, New Mexico.

If there are any questions, please do not hesitate to call this office.

Yours very truly,

TEXACO INC.  
PRODUCING DEPARTMENT-UNITED STATES

A handwritten signature in cursive script, appearing to read "V. G. Johnston".

V. G. Johnston  
Assistant District Manager

GDD:JEB

Attachment

DATA FOR WELLS WITHIN 2640'  
 OF PROPOSED INJECTION WELLS  
WEST VACUUM UNIT WELL NO. 55

<u>WELL NAME &amp; NUMBER</u>	<u>FORMATION NAME</u>	<u>TOTAL DEPTH</u>	<u>DATE DRILLED</u>	<u>CURRENT STATUS</u>
<u>TEXACO OPERATED</u>				
West Vacuum Unit				
#29	San Andres	4710'	11-20-38	Oil - Active
#36	San Andres	4685'	4-24-39	Injection-Active
#37	San Andres	4675'	2-10-39	Oil - Active
#45	San Andres	4775'	11-11-39	Oil - Active
#46	San Andres	4773'	4-23-39	Oil - Active
#48	San Andres	4778'	2-04-73	Injection-Active
#49	San Andres	4800'	9-17-51	Oil - Active
Vacuum Grayburg				
San Andres Unit				
#36	San Andres	4710'	10-26-40	Oil - Active
#44	San Andres	4788'	3-22-73	Injection-Active
#51	San Andres	4700'	5-29-39	Oil - Active
#52	San Andres	4696'	9-11-39	Oil - Active
#59	San Andres	4800'	4-03-79	Injection-Active
#60	San Andres	4800'	4-13-79	Injection-Active
#64	San Andres	4675'	4-19-39	Oil - Active
#66	San Andres	4675'	9-18-38	Oil - Active
<u>Phillips Operated</u>				
M. E. Hale #4	San Andres	4744'	7-08-39	Oil - Active

**AFFIDAVIT OF PUBLICATION**

State of New Mexico,

County of Lea.

1, \_\_\_\_\_

ROBERT L. SUMMERS

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 in a supplement thereof for a period

of \_\_\_\_\_

ONE \_\_\_\_\_ weeks.

Beginning with the issue dated

DECEMBER 17, 19 82

and ending with the issue dated

DECEMBER 17, 19 82

Robert L. Summers  
Publisher.

Sworn and subscribed to before

me this 17TH day of

DECEMBER, 19 82

Symette Hargreave  
Notary Public.

My Commission expires \_\_\_\_\_

March 29, 19 86  
(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  
DECEMBER 17, 1982**

Notice is hereby given of the application of Texaco Inc., Attention: V. G. Johnston, Assistant District Manager of Operations, P. O. Box 728, Hobbs, New Mexico, 88240, Telephone (505) 393-7191, to the Oil Conservation Division, New Mexico Energy & Minerals Department, for approval of the following injection well(s) for the purpose of pressure maintenance.

Well(s) No(s): 55

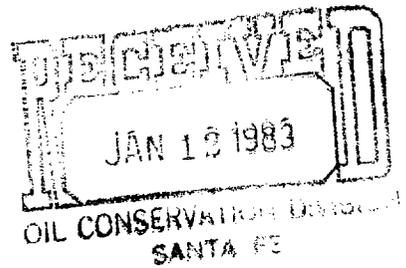
Lease/Unit Name: West Vacuum Unit

Location: Sec. 3, T-18-S, R-34E, Lea County, New Mexico.

The injection formation is Grayburg San Andres at a depth of 4710 feet below the surface of the ground. Expected maximum injection rate is 1,000 barrels per day, and expected maximum injection pressure is 900 pounds per square inch. 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 (15) days of this publication.



PETROLEUM PRODUCTS



TEXACO  
U.S.A.

A DIVISION OF TEXACO INC.  
P. O. BOX 728  
HOBBS, NEW MEXICO 88240  
(505) 393-7191

January 5, 1983

NOTIFICATION OF INTENT TO INJECT  
WATER INTO A RESERVOIR PRODUCTIVE  
OF OIL OR GAS  
WEST VACUUM UNIT WELL NO. 55  
LEA COUNTY, NEW MEXICO

Scharbauer Cattle Company  
P. O. Box 1471  
Midland, Texas, 79702

Gentlemen:

This is to notify you, as Surface Owner, that Texaco is requesting the New Mexico Oil Conservation Division to approve injection of water into the Vacuum Grayburg San Andres formation at a depth of 4710' in the subject well. The subject lease consists of 2043 acres, and is located in Sections 3, 4, 5, 28, 33, and 34, Townships 17 and 18 South, and Range 34 East, Lea County, New Mexico.

As stipulated in the Lease Agreement, only that surface area absolutely required will be used in operating the injection well. The proposed injection well will be cased and cemented in such a way that all surface and subsurface fresh waters will be protected.

If there are any questions, please do not hesitate to call this office.

Yours very truly,

TEXACO INC.  
PRODUCING DEPARTMENT-UNITED STATES

V. G. Johnston  
Assistant District Manager

GDD:JEB

OFFSET OPERATORS  
WEST VACUUM UNIT

✓ Gulf Oil Exploration & Production Co.  
P. O. Box 670  
Hobbs, New Mexico, 88240

✓ Tenneco Oil Exploration & Production  
6800 Park Ten Blvd.  
Suite 200 North  
San Antonio, Texas, 78213

✓ Tripor Resources Oil & Gas  
P. O. Box 61585  
Houston, Texas, 77208

✓ Phillips Petroleum Company  
4001 Penbrook  
Odessa, Texas, 79762

✓ Arco Oil & Gas  
P. O. Box 1610  
Midland, Texas, 79702

✓ Marathon Oil Company  
P. O. Box 552  
Midland, Texas, 79702

✓ Amoco Production Company  
P. O. Box 68  
Hobbs, New Mexico, 88240

✓ BTA Oil Producers  
104 S. Pecos  
Midland, Texas, 79701

Cities Service Oil Co.  
Box 1919  
Midland, Texas, 79701

✓ Conoco Inc.  
P. O. Box 460  
Hobbs, New Mexico, 88240

SURFACE TENANT

✓ Scharbauer Cattle Company  
P. O. Box 1471  
Midland, Texas, 79702