**PHILLIPS PETROLEUM COMPANY**
ODESSA, TEXAS 79762
4001 PENBROOK

EXPLORATION AND PRODUCTION GROUP



October 29, 1981

Conversion to Water Injection Service--
East Vacuum Grayburg-San Andres Unit,
Lea County, New Mexico

New Mexico Dept. of Energy & Minerals (3)
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. Joe D. Ramey
Division Director

Gentlemen:

We respectfully request administrative approval of expansion of waterflood injection well pattern, as provided by Order No. R-5897, Rule No. 9, for the East Vacuum Unit pressure maintenance project, to convert the following well to water injection service:

| TRACT | WELL NO. |
|---|---|
| 1952 | 002 |

The following data is submitted in support of this request:

1. Unit plat reflecting the respective injection well and its project area.

2. Diagrammatic sketch of the proposed well, injection tubing, packer, pressure control elements, and identifying the San Andres perforated injection interval.

3. The name of the injection formation is San Andres with injection to be into an approximate well interval. The maximum anticipated injection pressure will be no more than 0.2 psi per foot to the top of the perforations with a maximum daily volume anticipated at 2000 barrels water per day per well.

4. Certified copy of Public Notice by newspaper.

5. List of affected offset operators and surface tenants. (Surface ownership on all tracts is held by the State of New Mexico.)

P01 2672914

**RECEIPT FOR CERTIFIED MAIL**

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Office of Land Commissioner

SENT TO
State of New Mexico
STREET AND NO.
Box 1148
P.O., STATE AND ZIP CODE
Santa Fe, N.M. 87501

| | |
|---|---|
| POSTAGE | $ |
| CERTIFIED FEE | ¢ |
| SPECIAL DELIVERY | ¢ |
| RESTRICTED DELIVERY | ¢ |
| CONSULT POSTMASTER FOR FEES — OPTIONAL SERVICES — RETURN RECEIPT SERVICE: SHOW TO WHOM AND DATE DELIVERED | ¢ |
| SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY | ¢ |
| SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY | ¢ |
| SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY | ¢ |
| TOTAL POSTAGE AND FEES | $ |

POSTMARK OR DATE

Mclemore

PS Form 3800, Apr. 1976

P01 2672905

**RECEIPT FOR CERTIFIED MAIL**

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
Scharber Cattle Co.
STREET AND NO.
Box 1471
P.O., STATE AND ZIP CODE
Midland, Tx. 79702

| | |
|---|---|
| POSTAGE | $ |
| CERTIFIED FEE | ¢ |
| SPECIAL DELIVERY | ¢ |
| RESTRICTED DELIVERY | ¢ |
| CONSULT POSTMASTER FOR FEES — OPTIONAL SERVICES — RETURN RECEIPT SERVICE: SHOW TO WHOM AND DATE DELIVERED | ¢ |
| SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY | ¢ |
| SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY | ¢ |
| SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY | ¢ |
| TOTAL POSTAGE AND FEES | $ |

POSTMARK OR DATE

Mclemore

PS Form 3800, Apr. 1976

P01 2672913

**RECEIPT FOR CERTIFIED MAIL**

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
Shell Oil Co
STREET AND NO.
Box 991
P.O., STATE AND ZIP CODE
Houston, Tx. 7700

| | |
|---|---|
| POSTAGE | $ |
| CERTIFIED FEE | ¢ |
| SPECIAL DELIVERY | ¢ |
| RESTRICTED DELIVERY | ¢ |
| CONSULT POSTMASTER FOR FEES — OPTIONAL SERVICES — RETURN RECEIPT SERVICE: SHOW TO WHOM AND DATE DELIVERED | ¢ |
| SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY | ¢ |
| SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY | ¢ |
| SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY | ¢ |
| TOTAL POSTAGE AND FEES | $ |

POSTMARK OR DATE

Mclemore

PS Form 3800, Apr. 1976

P01 2672904

**RECEIPT FOR CERTIFIED MAIL**

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
[illegible]
STREET AND NO.
[illegible]
P.O., STATE AND ZIP CODE
[illegible]

| | |
|---|---|
| POSTAGE | $ |
| CERTIFIED FEE | ¢ |
| SPECIAL DELIVERY | ¢ |
| RESTRICTED DELIVERY | ¢ |
| CONSULT POSTMASTER FOR FEES — OPTIONAL SERVICES — RETURN RECEIPT SERVICE: SHOW TO WHOM AND DATE DELIVERED | ¢ |
| SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY | ¢ |
| SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY | ¢ |
| SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY | ¢ |
| TOTAL POSTAGE AND FEES | $ |

POSTMARK OR DATE

PS Form 3800, Apr. 1976

2672903

**RECEIPT FOR CERTIFIED MAIL**

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

N. Mex. Dept. of Energy, Min.

SENT TO
Oil Conservation Div.
STREET AND NO.
Box 1980
P.O., STATE AND ZIP CODE
Hobbs, New Mex. 88240

| | |
|---|---|
| POSTAGE | $ |
| CERTIFIED FEE | ¢ |
| SPECIAL DELIVERY | ¢ |
| RESTRICTED DELIVERY | ¢ |
| CONSULT POSTMASTER FOR FEES — OPTIONAL SERVICES — RETURN RECEIPT SERVICE: SHOW TO WHOM AND DATE DELIVERED | ¢ |
| SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY | ¢ |
| SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY | ¢ |
| SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY | ¢ |
| TOTAL POSTAGE AND FEES | $ |

POSTMARK OR DATE

Mclemore

PS Form 3800, Apr. 1976

6. Notice has been given by certified mail to those entities in Item Five. (Copies of certified receipts are attached)

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.

Your consideration and early advice will be appreciated.

Very truly yours,

T. Harold McLemore
Regulation and Proration Supervisor

THM:pda
Attachments

cc: Oil Conservation Division
Box 1980,
Hobbs, New Mexico 88240

Office of Land Commissioner, State of New Mexico
Box 1148,
Santa Fe, New Mexico 87501

Surface Tenent: Scharbauer Cattle Company
Box 1471,
Midland, Texas 79702

Offset Operators: Mobil Producing Texas & New Mexico
Nine Greenway Plaza,
Houston, Texas 77046

Shell Oil Company
Box 991,
Houston, Texas 77001

Attachments

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

RECEIVED
NOV 16 1981
OIL CONSERVATION DIVISION
SANTA FE

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Phillips Petroleum Company --663680

Address: Room 401, 4001 Penbrook Street, Odessa, Texas, 79762

Contact party: T. Harold McLemore Phone: (915) 367-1257

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-5897.

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; 500 2000
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure: 900
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: W. J. Mueller Title Sr. Engineering Specialist

Signature: W. J. Mueller Date: October 29, 1981

** 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. Examiner Hearing, October 25, 1978.
Case No. 6367, Order R-5897

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 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.

The standard stimulation procedure will be applied in general, to all injection wells:
(1) Acidize with approximately 200 bbls. acid per foot of perforations.
(2) Fracture with approximately 1500# sand for every foot of perforations.

**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 DAY weeks.

Beginning with the issue dated

NOVEMBER 4, 1981

and ending with the issue dated

NOVEMBER 4, 1981

Robert L. Summers
Publisher.

Sworn and subscribed to before me this 4th day of

NOVEMBER, 1981

_____
Notary Public.

My Commission expires_____

_____, 19____
(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.

OFFICIAL SEAL
JESSIE LUNA
NOTARY PUBLIC-STATE OF NEW MEXICO
BOND FILED WITH SECRETARY OF STATE

RECEIVED
NOV 16 1981
OIL CONSERVATION DIVISION
SANTA FE

**LEGAL NOTICE**
**NOVEMBER 4, 1981**

**NOTICE is hereby given of the application of Phillips Petroleum Company, Attention: B.Z. Parker, Manager of Operations, 4001 Penbrook Street, Odessa, Texas 79762-telephone (915) 367-1260, to the Oil Conservation Division, New Mexico Energy & Minerals Department, for approval of the following injection well(s) for the purpose of pressure maintenance and enhancement recovery.**

**Well(s) No (s).: Track 1952 No. 002**

**Lease/Unit Name: East Vacuum Grayburg/San Andrews Unit**

**Location: Sec. 19, T-17-S, R-35-E NMPM, Lea County, New Mexico.**

**The injection formation is Grayburg-San Andres at a depth of 4655 feet below the surface of the ground. Expected maximum injection rate is 500 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.**

OFFSET OPERATORS
Mobil
Shell

# PHILLIPS PETROLEUM COMPANY

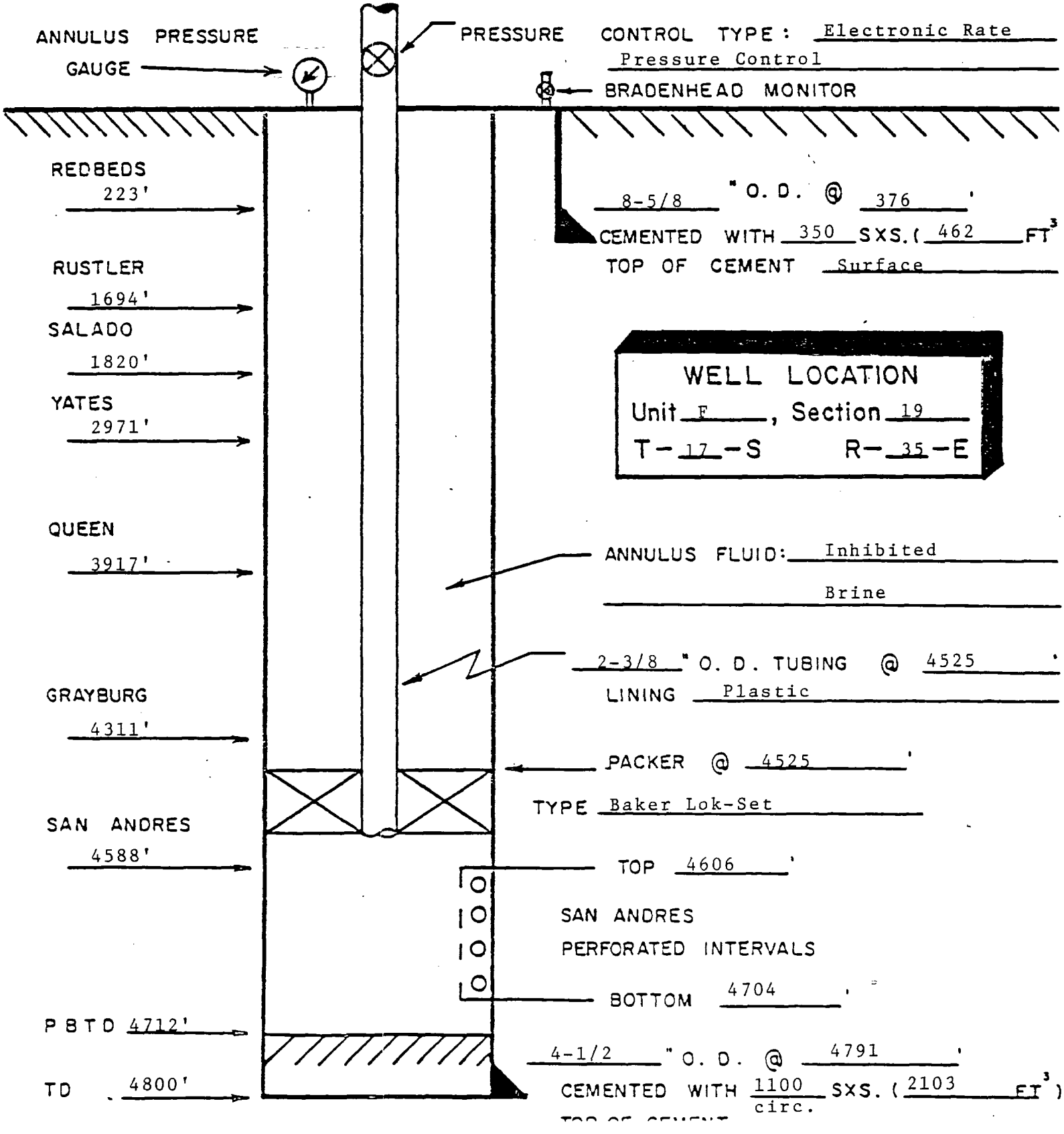
## EAST VACUUM UNIT PRESSURE MAINTENANCE PROJECT

N. M. O. C. D. R - 5897

VACUUM GRAYBURG - SAN ANDRES POOL, LEA COUNTY, NEW MEXICO

TRACT 1952 WELL 002

CONVERSION TO WATER INJECTION STATUS



OIL CONSERVATION DIVISION
DISTRICT I

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

DATE November 16, 1981

RE: Proposed MC _____
Proposed DHC _____
Proposed NSL _____
Proposed NSP _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX X

Gentlemen:

I have examined the application for the:

Phillips Pet. Co. East Vacuum G/SA Unit Tr. 1952 No. 2-F 19-17-35
Operator Lease and Well No. Unit, S - T - R

and my recommendations are as follows:

O.K.----J.S.

Yours very truly,

/mc

R-34-E

R-35-E

T 17 S

T 18 S

TEXACO CENTRAL VACUUM UNIT

PHILLIPS EAST VACUUM UNIT

Proposed Injection Well
Tract, 1952 Well 002

Injection Well Project Area
Tract 1952 Well 002

EAST VACUUM GRAYBURG – SAN ANDRES UNIT
VACUUM GRAYBURG – SAN ANDRES FIELD
LEA COUNTY, NEW MEXICO
SCALE

0' 2000' 4000' 6000'

(3333) Tract Numbers

Phase I ------ 10 Wells
Phase II ------ 49 Wells
Phase III ------ 56 Wells
Phase IV ------ 34 Wells
Line Injection ------ 10 Wells

△--- Water Injection Well
□ Water Supply Well

May, 1981

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 6367
Order No. R-5897

APPLICATION OF PHILLIPS PETROLEUM COMPANY FOR A PRESSURE MAINTENANCE PROJECT, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on October 25, 1978, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 16th day of January, 1979, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That by Division Order No. R-5871 dated November 27, 1978, statutory unitization was approved for the East Vacuum Grayburg-San Andres Unit Area, Lea County, New Mexico.

(3) That the applicant herein, Phillips Petroleum Company, seeks authority to institute a pressure maintenance project on the aforesaid East Vacuum Grayburg-San Andres Unit Area, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico, by the injection of water into the San Andres formation through 59 wells, 31 of which would be drilled in 1979 during Phase II of the Project Development Program and 28 of which would be drilled in 1980 during Phase III of the Development Program.

(4) Applicant further seeks the designation of a project area for said pressure maintenance project and the promulgation of special rules and regulations governing said project including special allowable provisions.

(5) That for Phase I of the Project Development Program, applicant proposes to drill during 1979 ten producing wells at unorthodox locations as specified below:

| TRACT NO. | WELL NO. | LOCATION | UNIT | SECTION |
|---|---|---|---|---|
| 3229 | 005 | 1310' FSL and 1310' FWL | M | 32 |
| 3202 | 001 | 1310' FSL and 1330' FEL | O | 32 |
| 3202 | 003 | 1330' FNL and 1330' FEL | G | 32 |
| 3328 | 002 | 1310' FSL and 1310' FWL | M | 33 |
| 3366 | 001 | 1330' FNL and 1310' FWL | E | 33 |
| 3333 | 004 | 1330' FNL and 1330' FEL | G | 33 |
| 3456 | 005 | 1330' FNL and 1310' FWL | E | 34 |
| 2801 | 002 | 1310' FSL and 1310' FWL | M | 28 |
| 2801 | 004 | 1310' FSL and 1330' FEL | O | 28 |
| 2721 | 001 | 1310' FSL and 1310' FWL | M | 27 |

all in Township 17 South, Range 35 East, NMPM, Lea County, New Mexico.

(6) That during Phase II of the Development Program applicant proposes to drill 18 additional producing wells, all at unorthodox locations, and during Phase III of the Program applicant proposes to drill 26 additional producing wells, also at unorthodox locations.

(7) That all of the wells referred to in Findings Nos. (3), (5) and (6) above, being 59 injection wells at unorthodox locations and 54 producing wells at unorthodox locations, together with the currently completed producing wells in the Unit Area, will provide a thorough and efficient sweep of hydrocarbons throughout the unitized area, and will result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(8) That the above-described injection and producing wells, some of which would be at unorthodox locations along the unit boundaries in accordance with lease-line agreements with operators of offsetting lands, will not impair but will protect correlative rights.

(9) That the applicant's request for the designation of a Pressure Maintenance Project for the East Vacuum Grayburg-San Andres Unit Area, and for the promulgation of special rules and regulations governing said project, is in the interest of conservation and should be approved, subject to certain provisions.

(10) That the project area should consist of those proration units within the boundary of the East Vacuum Grayburg-San Andres Unit upon which is located an injection well and any directly or diagonally offsetting proration unit which contains a producing well.

(11) That the total project area allowable should be equal to the sum of the basic project area allowable plus the water injection credit allowable.

(12) That the basic project area allowable should be equal to 80 barrels of oil per day times the number of developed 40-acre proration units in the project area.

(13) That the water injection credit allowable should be based on the following formula:

$$\text{Water Injection Credit Allowable} = \left[\frac{\text{net water injected}}{\text{basic project area allowable voidage}}\right] \times \text{basic project area allowable}$$

and should be calculated in accordance with Exhibits "A" and "B" attached hereto and by reference made a part hereof.

(14) That the project area allowable should be produced from the wells within the project area in any proportion provided that any proration unit situated on the boundary of said East Vacuum Unit which proration unit is not directly or diagonally offset by a San Andres injection well outside the Unit or on the Unit boundary should not be permitted to produce in excess of 80 barrels of oil per day.

(15) That each of the newly drilled production or injection wells in the project should be equipped with surface casing set at approximately 350 feet and cemented to the surface and with "production" casing set at total depth, approximately 4900 feet.

(16) That the "production" casing on each of said newly drilled wells should be cemented to the surface, except that in any well in which an intermediate casing string has been run to below the top of the Yates formation and cemented to the surface, the "production" casing may be cemented back into the base of the intermediate casing string.

(17) That injection should be accomplished through tubing installed in a packer set within 100 feet of the uppermost perforation. The injection tubing should be corrosion protected by a non-reactive internal lining or coating. The casing-tubing

annulus in each injection well should be filled with an inert fluid and a surface pressure gauge or approved leak detection device should be attached to the annulus.

(18) The injection wells or system should be equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 0.2 psi per foot of depth to the uppermost perforation. Provision should be made for the Division Director to administratively authorize a pressure limitation in excess of the above upon showing by the Unit Operator that such higher pressure will not result in fracturing of the confining strata.

(19) All wells within the project area should be equipped with risers or in some other acceptable manner as to facilitate the periodic testing of the bradenhead for pressure or fluid production.

(20) That provision should be made for the Division Director to authorize placing wells on injection and the drilling of injection wells and additional producing wells at orthodox and unorthodox locations anywhere within the Unit Area without notice and hearing, provided that no unorthodox location is closer than ten feet to a quarter-quarter section line nor closer than 330 feet to the unit boundary, unless such well located closer than 330 feet to the unit boundary is covered by a lease-line agreement with the operator of the lands offsetting such well or the owner of the offsetting lands has waived objection to such location in writing.

(21) That there are a number of wells within the East Vacuum Grayburg-San Andres Unit Area and on lands offsetting the unit area which have previously been plugged and abandoned in a manner which may permit waters injected into the San Andres formation to escape into other formations, including the Salado formation and the shallow fresh water-bearing formations unless remedial action is taken on said wells prior to injection in their near vicinity.

(22) That there are a number of wells within the East Vacuum Grayburg-San Andres Unit Area and on lands offsetting the unit area which penetrate the Vacuum Grayburg-San Andres Pool and are completed in deeper pay zones, but which are cased and cemented in such a manner as may permit the escape of waters injected into the San Andres formation into other formations as described above.

(23) That those wells referred to in Findings Nos. (21) and (22) above which are inadequately plugged and abandoned or are inadequately cased and cemented, or are suspected of being so, include, but are not necessarily limited to, the wells listed in Exhibit "C" attached hereto and by reference made a part hereof.

(24) That no injection at greater than hydrostatic pressure should be made into the Grayburg or San Andres formation in any well in the East Vacuum Grayburg-San Andres Unit Area within one-half mile of any well listed on Exhibit "C" attached hereto until remedial action has been taken on such well to ensure that it will not serve as an avenue of escape for injected waters or until tests have been conducted on such well or other evidence concerning such well has been presented, all establishing to the satisfaction of the Supervisor of the Hobbs District Office of the Division that remedial work on such well is unnecessary.

IT IS THEREFORE ORDERED:

(1) That the applicant, Phillips Petroleum Company, is hereby authorized to institute and operate a pressure maintenance project in the East Vacuum Grayburg-San Andres Unit Area, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico, by the injection of water into the San Andres formation through certain wells which will be administratively approved for water injection at some later date by the Division Director.

(2) That said project shall be designated the East Vacuum Unit Pressure Maintenance Project.

(3) That the following unorthodox locations are hereby approved for new producing wells which are to be drilled by the unit operator during Phase I of the Project Development Program:

| TRACT NO. | WELL NO. | LOCATION | UNIT | SECTION |
|---|---|---|---|---|
| 3229 | 005 | 1310' FSL and 1310' FWL | M | 32 |
| 3202 | 001 | 1310' FSL and 1330' FEL | O | 32 |
| 3202 | 003 | 1330' FNL and 1330' FEL | G | 32 |
| 3328 | 002 | 1310' FSL and 1310' FWL | M | 33 |
| 3366 | 001 | 1330' FNL and 1310' FWL | E | 33 |
| 3333 | 004 | 1330' FNL and 1330' FEL | G | 33 |
| 3456 | 005 | 1330' FNL and 1310' FWL | E | 34 |
| 2801 | 002 | 1310' FSL and 1310' FWL | M | 28 |
| 2801 | 004 | 1310' FSL and 1330' FEL | O | 28 |
| 2721 | 001 | 1310' FSL and 1310' FWL | M | 27 |

all in Township 17 South, Range 35 East, NMPM, Lea County, New Mexico.

(4) That Special Rules and Regulations governing the East Vacuum Unit Pressure Maintenance Project are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
EAST VACUUM UNIT PRESSURE MAINTENANCE PROJECT

RULE 1. The project area of the East Vacuum Unit Pressure Maintenance Project shall consist of those proration units within the boundaries of the East Vacuum Grayburg-San Andres Unit upon which is located an injection well and any directly or diagonally offsetting proration unit which contains a producing well.

RULE 2. The project area shall receive a project area allowable, and said project area allowable shall be the sum of the basic project area allowable plus the water injection credit allowable.

RULE 3. The basic project area allowable shall be equal to 80 barrels of oil per day times the number of developed 40-acre proration units in the project area.

RULE 4. The water injection credit allowable shall be contingent upon full reservoir voidage replacement of all produced fluids and shall be based upon the following formula:

$$\text{Water Injection Credit Allowable} = \left[\frac{\text{Net Water Injected}}{\text{Basic Project Area Allowable Reservoir Voidage}}\right]^{-1} \times \text{Basic Project Area Allowable}$$

The water injection credit allowable shall be calculated in accordance with the procedures and parameters depicted on Exhibits "A" and "B" to Order No. R-5897.

In no event shall the water injection credit allowable be less than zero, i.e., negative numbers derived from application of the above formula shall be ignored.

RULE 5. The weighted average project area reservoir pressure shall be determined prior to commencement of injection of water into the reservoir and at least annually thereafter. The weighted average project area pressure shall be determined from the pressures in at least ten representative wells selected by the unit operator and the Supervisor of the Hobbs District Office of the Division.

RULE 6. The project area allowable may be produced from the wells within the project area in any proportion provided, however, that any proration unit situated on the boundary of the East Vacuum Unit which proration unit is not directly or diagonally offset by a San Andres injection well outside said East Vacuum Unit or on the East Vacuum Unit boundary shall not be permitted to produce in excess of 80 barrels of oil per day.

RULE 7. Those wells within the East Vacuum Unit Area that are not included within the project area as defined above shall be prorated in accordance with the Rules and Regulations of the Division.

RULE 8. The Division Director shall have authority to approve, without notice and hearing, the drilling of wells at unorthodox locations anywhere within the unit boundary, provided however, no unorthodox location shall be closer than ten feet to any quarter-quarter section line, and provided further, that no such unorthodox location shall be closer than 330 feet to the outer boundary of the unit area, unless such well is covered by a lease-line agreement with the operator of the lands offsetting such well, and a copy of the lease-line agreement accompanies the application for such unorthodox location, or unless such offset operator has waived objection to the proposed unorthodox location in writing, and his waiver accompanies the application.

RULE 9. No well shall be placed on water injection in the East Vacuum Unit Area unless the Division Director has approved such well for injection. Applications for injection approval shall be filed in accordance with Rule 701 of the Division Rules and Regulations.

RULE 10. Each newly drilled injection or producing well shall be equipped with a minimum of 350 feet of surface casing and "production" casing run to total depth (approximately 4900 feet). All casing strings shall be cemented to the surface except that in any well in which an intermediate casing string has been run to below the top of the Yates formation and cemented to the surface, the "production" string may be cemented back into the base of the intermediate casing.

RULE 11. Injection shall be accomplished through tubing installed in a packer set within 100 feet of the uppermost perforation. The injection tubing shall be corrosion protected by a non-reactive internal lining or coating. The casing-tubing annulus in each injection well shall be filled with an inert fluid and a surface pressure gauge or approved leak detection device shall be attached to the annulus.

RULE 12. The injection wells or system shall be equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 0.2 psi per foot of depth to the uppermost perforation. The Division Director may administratively authorize a pressure limitation in excess of the above upon showing by the unit operator that such higher pressure will not result in fracturing of the confining strata.

RULE 13. All wells within the project area ~~shall be~~ equipped with risers or in some other acceptable manner as to facilitate the periodic testing of the bradenhead for pressure or fluid production.

RULE 14. The unit operator shall immediately notify the Supervisor of the Hobbs District Office of the Division of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from or around any producing well, the leakage of water or oil from or around any plugged and abandoned well within the project area, or any other evidence of fluid migration from the injection zone, and shall take such timely steps as may be necessary or required to correct such failure or leakage.

RULE 15. Each month the project operator shall submit to the Division a Pressure Maintenance Project Operator's Report, on a form prescribed by the Division, outlining thereon the data required and requesting allowables for each of the several wells in the Project as well as the total project area allowable.

RULE 16. The Division shall, upon review of the report and after any adjustments deemed necessary, calculate the allowable for the wells in the Project for the next succeeding month in accordance with these rules. The sum of the allowables so calculated shall be assigned to the Project and, except as provided under Rule 6 above, may be produced from the wells in the Project in any proportion.

IT IS FURTHER ORDERED:

(1) That no injection at greater than hydrostatic pressure shall be made into the Grayburg or San Andres formation in any well in the East Vacuum Grayburg-San Andres Unit Area within one-half mile of any well listed on Exhibit "C" attached hereto until remedial action has been taken on such well to ensure that it will not serve as an avenue of escape for injected waters, or until tests have been conducted on such well or other evidence concerning such well has been presented

establishing to the satisfaction of the Supervisor of the Hobbs District Office of the Division that remedial work on such well is unnecessary.

(2) That Order No. R-3150 which authorized a pilot waterflood project in this area is hereby rescinded.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

S E A L

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Prepared May 1 1981

WELLS SUSPECTED OF BEING INADEQUATELY PLUGGED & ABANDONED OR INADEQUATELY CASED & CEMENTED IN OR NEAR PHILLIPS EVGBSAU (Exhibit C, Case 6367, Order # R5897)

| | OPERATOR | LEASE | WELL # | UNIT | SEC-TWP-RGE | REMARKS |
|---|---|---|---|---|---|---|
| (1) | Mobil* | State P | 7 | P | 22-17-35 | Still to be re-entered |
| | * WILL BE REPAIRED AND UTILIZED AS A PI | | | | | |
| (2) | Penrose | State | 2 | N | 24-17-35 | Replugged 12-80 (bad) Fresh wtr protected SA open |
| (3) | Phillips | Santa Fe | 15 | A | 28-17-35 | Replugged 3-80 |
| (4) | Phillips | Santa Fe | 16 | L | 5-18-35 | Replugged 6-80 |
| (5) | Phillips | Santa Fe | 37 | F | 28-17-35 | Replugged 8-80 |
| (6) | Phillips | Santa Fe | 47 | C | 35-17-35 | Replugged 12-80 |
| (7) | Shell | State U | 1 | C | 3-18-35 | Replugged 12-80 (bad) (See schematic) |
| (8) | Shell | State VAA | 6 | K | 5-18-35 | Replugged8-80 |
| (9) | Shell | State C | 1 | I | 24-17-34 | Replugged 8-80 |
| (10) | Shell | State I | 1 | E | 29-17-35 | Replugged 6-80 |
| (11) | Shell | State S | 1 | I | 21-17-35 | Replugged 12-80 |
| (12) | Stoltz et al | Abo | 1 | O | 24-17-35 | Replugged 12-80 |
| (13) | Zapata | Shell State | 1 | O | 23-17-35 | Replugged 11-80 |
| (14) | Barnett | State B | 1 | D | 19-17=35 | Replugged 3-81 (bad) Did not get inside 8 5/8" stub |
| (15) | Jones | State | 2 | A | 35-17-35 | Intent to replug Phillips to need 103 |
| (16) | Penrose | Scarborough | 1 | C | 25-17-35 | Replugged 1-81 |
| (17) | Amoco | State CV | 1 | F | 25-17-35 | Replugged 7-80 |
| (18) | Amoco | State CV | 4 | L | 25-17-35 | Replugged 8-80 |
| (19) | Amoco | State CV | 5 | F | 25-17-35 | Replugged 2-81 |
| (20) | Chevron | State 6-34 | 4 | J | 34-17-35 | Still to be re-entered |
| (21) | Cities Service | State BJ | 2 | K | 35-17-35 | Replugged 12-80 |
| (22) | Crusader | State | 1 | E | 20-17-35 | Replugged 9-80 |
| (23) | Crusader | State | 2 | C | 19-17-35 | Replugged 10-80 |
| (24) | Crusader | State | 3 | N | 18-17-35 | Replugged 10-80 |
| (25) | Exxon | State J | 1 | M | 19-17-35 | Re-entered & converted t producer Tr.1903 #1 |
| (26) | Exxon | State J | 2 | L | 19-17-35 | Re-entered & converted to TA Prod. Tr.1903 #2 |
| (27) | Exxon | State AC | 1 | H | 22-17-35 | Replugged 11-80 |
| (28) | Great Western | State E | 2 | L | 25-17-35 | Replugged 8-80 |
| (29) | Marathon | Warn State | 1 | M | 23-17-35 | Replugged 7-80 |
| (30) | Amoco | State CV | 2 | E | 25-17-35 | Repaired 3-81 |
| (31) | Amoco | State CV | 2Y | E | 25-17-35 | Repaired 10-80 |
| (32) | Millard Deck | Carthay State | 2 | G | 20-17-35 | Exempt |
| (33) | Exxon | State K | 17 | P | 32-17-35 | Repaired 1-28-81 |
| (34) | Marathon | Staplin State | 1 | L | 20-17-35 | Exempt |
| (35) | Marathon | Warn State | 1 | B | 4-18-35 | Exempt |
| (36) | Mobil | N.Vac Abo Ut. | 207 | H | 24-17-34 | Exempt |

| | OPERATOR | LEASE | WELL# | UNIT | SEC-TWP-RGE | REMARKS |
|---|---|---|---|---|---|---|
| (37) | Pennzoil (now EVGBSAU Tr.2851 #1) | Phillips State | 1 | A | 28-17-35 | Exempt |
| (38) | Pennzoil (now EVGBSAU Tr.2865 #2) | Phillips State | 2 | F | 28-17-35 | Exempt |
| (39) | Phillips | Vac Abo Ut. | 6-68 | H | 34-17-35 | Repaired 10-79 |
| (40) | Phillips | Vac Abo Ut. | 1-9 | J | 27-17-35 | Repaired 10-79 |
| (41) | Phillips | Vac Abo Ut. | 7-3 | P | 27-17-35 | Exempt |
| (42) | Phillips | Vac Abo Ut. | 7-4 | I | 27-17-35 | Exempt |
| (43) | Phillips | Vac Abo Ut. | 9-5 | H | 33-17-35 | Exempt |
| (44) | Phillips | Vac Abo Ut | 13-2 | E | 4-18-35 | Exempt |
| (45) | Phillips | Vac Abo Ut | 14-3 | N | 5-18-35 | Exempt |
| (46) | Phillips | Vac Abo Ut | 14-4 | L | 5-18-35 | Exempt |
| (47) | Shell | State V | 6 | P | 27-17-35 | Exempt |
| (48) | Shell | State K | 1 | O | 19-17-35 | Exempt |
| (49) | Phillips | Santa Fe Bty 5 | 77 | I | 26-17-35 | Replugged Aug.1980 |