

KELLAHIN, KELLAHIN AND AUBREY

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

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OF COUNSEL

TELEPHONE (505) 982-4285  
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March 26, 1991

Mr. William J. LeMay  
Oil Conservation Division  
Post Office Box 2088  
Santa Fe, New Mexico 87504

RECEIVED  
MAR 26 1991  
OIL CONSERVATION DIVISION

Re: Application of Phillips Petroleum  
Company for Approval of a Pressure  
Maintenance Project, Including the  
Drilling of One Injection Well at an  
Unorthodox Well Location, And A Special  
Project Allowable, Eddy County,  
New Mexico

Dear Mr. LeMay:

On behalf of Phillips Petroleum Company, please  
find enclosed our application and accompanying Division  
Form C-108 seeking authority to institute a pressure  
maintenance operation on its James "A" State lease,  
Eddy County, New Mexico.

By copy of this letter and application, sent  
certified mail, we are notifying all interested parties  
of their right to appear at the hearing and participate  
in this case, including the right to present evidence  
either in support of or in opposition to the  
application.

Very truly yours,



W. Thomas Kellahin

WTK/tic  
Enclosures

William J. LeMay  
March 25, 1991  
Page 2

cc: Jack E. Pickett  
Phillips Petroleum Company  
4001 Penbrook  
Odessa, Texas 79762

Certified mail return-receipt  
All parties listed on Exhibit "B"  
of application

1276/appt312.038

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES  
OIL CONSERVATION DIVISION

RECEIVED

IN THE MATTER OF THE APPLICATION  
OF PHILLIPS PETROLEUM COMPANY FOR  
APPROVAL OF A PRESSURE MAINTENANCE  
PROJECT, INCLUDING A SPECIAL PROJECT  
ALLOWABLE AND THE DRILLING OF  
ONE INJECTION WELL AT AN UNORTHODOX  
WELL LOCATION, EDDY COUNTY, NEW MEXICO.

OIL CONSERVATION DIVISION

CASE NO. 10288

A P P L I C A T I O N

COMES NOW PHILLIPS PETROLEUM COMPANY, by and  
through its attorneys, KELLAHIN, KELLAHIN & AUBREY, and  
applies to the New Mexico Oil Conservation Division for  
authority to institute a leasehold pressure maintenance  
project including a special project allowable on its  
James "A" State lease consisting of 600 acres, more or  
less, and comprising the E/2, NW/4, N/2SW/4 and  
SE/4SW/4 of Section 2, T22S, R30E, Eddy County, New  
Mexico by the injection of water into the Cabin Lake  
Delaware Pool through the perforated interval from  
approximately 5600 feet to approximately 7400 feet in  
one injection well located 1250 feet from the South  
line and 1150 feet from the East line of said Section  
2.

In support thereof applicant would show:

1. Phillips Petroleum Company ("Phillips") is the current operator of the James "A" State lease located in the E/2, NW/4, N/2SW/4 and SE/4SW/4 of Section 2, T22S, R30E, Eddy County, New Mexico as shown on Exhibit "A".

2. Phillips currently operates the James "A" State lease in which development began in 1986 in the Delaware formation. By 1991, ten Delaware oil producers had been completed on the lease.

3. Pressure maintenance project status is requested for this project to inject water into the producing horizon in an effort to build up and maintain the reservoir pressure in an area which has not reached the advanced or "stripper" state of depletion.

4. The project area should be all of the lease and the allowable for the pressure maintenance project should be at the capacity of any oil well in the unit to produce.

5. Applicant seeks an administrative procedure for additional injection and production wells at standard and unorthodox locations.

6. Applicant further seeks an exception to the hearing requirements of Rule 701-A for the conversion

to injection of additional wells within the project area provided that any such well is necessary to develop or maintain efficient pressure maintenance within such project and provided that no objections are received pursuant to Rule 701-B(3).

7. The pressure maintenance project plan of operations includes an initial pilot project area in the SE/4 of Section 2 on 40-acre inverted five-spot pattern with one injection well and four oil producing wells.

8. Phillips seeks approval of the project which includes the utilization of one injection well, to be drilled at an unorthodox well location, 1250 feet from the South line and 1150 feet from the East line of said Section 2.

9. Phillips requests an administrative procedure be established for the waterflood project area to allow for the amendment of the location of either injection or producing wells in the event such changes in location are deemed necessary by the operator.

10. Enclosed with this application is the completed Division Form C-108 with attachments for this project.

11. In accordance with Division notice requirements copies of the application have been sent to those parties listed on Exhibit "B" notifying them that the Applicant requests that this matter be set for hearing on the Division Examiner docket now set for April 18, 1991.

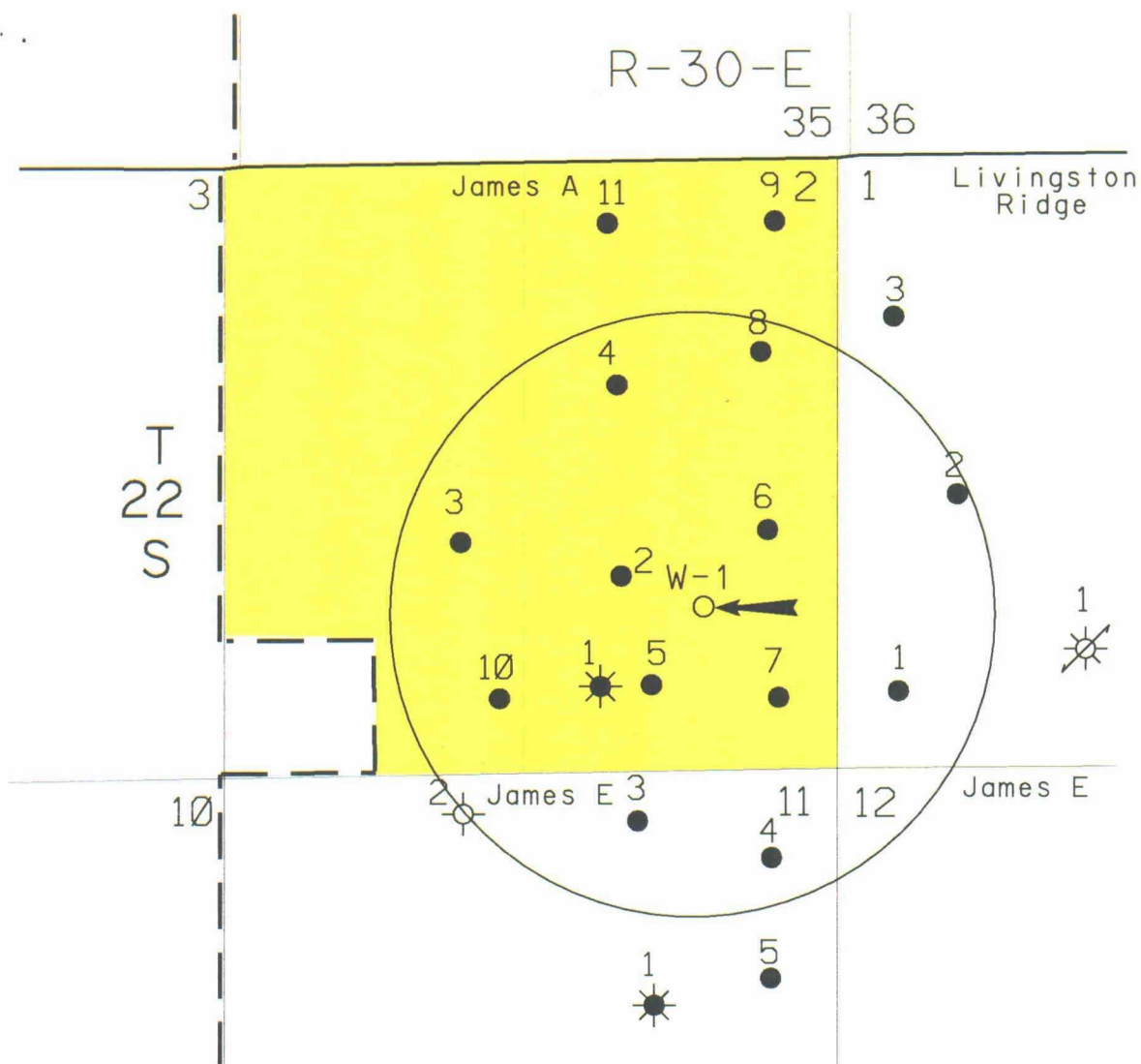
WHEREFORE, Phillips requests that this matter be set on the Division Examiner docket and that after hearing the application be approved as requested.

Respectfully submitted:

KELLAHIN, KELLAHIN & AUBREY

By: 

W. Thomas Kellahin  
Post Office Box 2265  
Santa Fe, New Mexico 87504  
(505) 982-4285



# **AREA OF REVIEW DETAIL MAP**

**.5 MILE RADIUS OF INVESTIGATION**

## **PHILLIPS PETROLEUM COMPANY**

**PROPOSED WATER INJECTION WELL**

**JAMES "A" WELL NO. W-1**

**1250' FSL AND 1150' FEL**

**SECTION 2, T-22-S, R-30-E**

**EDDY COUNTY, NEW MEXICO**



**4000**

**EXHIBIT A TO APPLICATION**

Exhibit B

Commissioner of Public Lands  
P. O. Box 1148  
Santa Fe, New Mexico  
Attn: Mr. Floyd Prondo

(all offsetting properties within  
one-half mile are operated by  
the applicant.)



RECEIVED MAR 5 1991

Case 10288

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  
Address: 4001 Penbrook Odessa, TX 79762  
Contact party: Larry M. Sanders Phone: (915) 368-1488
- 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: Jack E. Pickett Title: Reservoir Engineering Supervisor  
Signature: [Signature] Date: 2/26/91
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

## III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (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.

## Application for Authorization to Inject

### PHILLIPS PETROLEUM COMPANY JAMES "A" WELL NO. W-1

#### III. WELL DATA (proposed)

##### A. Name, Location, and Wellbore Data

1. Name and Location: James "A" Well No. W-1  
1250' FSL & 1150' FEL  
Sec. 2, T-22-S, R-30-E  
Eddy County, New Mexico
2. Casing:            Surface    13-3/8", 48 lb/ft, H-40, ST&C  
set at 475'. (17-1/2" hole).  
Cement with 800 sx Class "C"  
w/2% CaCl<sub>2</sub>. Cement to surface.  
  
                         Intermediate    8-5/8", 24 lb/ft, J-55, ST&C  
set at 3500'. (12-1/4" hole).  
Lead stage: Run fluid caliper  
from casing point and add 20%  
excess. Class "C" + 65/35  
Poz + 6% Bentonite + 15 lb/sx  
Salt. Tail stage: 200 sx Class  
"C" + 10 lb/sx Salt. Cement to  
surface.  
  
                         Production    5-1/2", 15.5 lb/ft, J-55, ST&C  
set at 7500'. (7-7/8" hole).  
Stage tool at ±6000'. 1st  
stage: Run fluid caliper and  
add 20% excess to circulate to  
6000'. Class "C" Neat. 2nd  
stage: Run fluid caliper and  
add 30% excess to circulate to  
3000'. 2nd stage lead: Class  
"C" + 20% Diacel "D". 2nd stage  
tail: Class "C" Neat.
3. Injection Tubing: 2-7/8", 6.5 lb/ft, J-55 (inter-  
nally plastic coated) set at  
±5500'.
4. Injection Packer: Baker Loc-Set Retrievable packer  
with Baker Model "FL" On/Off  
tool set at ±5500'.

##### B. Reservoir Data

1. Injection Formation: Cherry Canyon (Delaware) and

B. Reservoir Data Cont'd. Brushy Canyon (Delaware).

Field Name: Cabin Lake (Delaware)

2. Proposed Injection Interval:  $\pm 5600'$  -  $\pm 7400'$

3. Original Intent: water injection

4. Other Perforated Zones: none

5. Productive Zones:

Next Higher none

Next Lower Strawn at  $\pm 12,150'$

VII. PROPOSED INJECTIONS OPERATIONS

1. Injection Rate: Average = 1000 bwpd  
Maximum = 2000 bwpd

2. Injection System: Closed

3. Injection Pressure: Average = 500 psi  
Maximum = 1100 psi

4. Injection Fluid: Produced water from Phillips' James "A", James "E", and Livingston Ridge leases.

VIII. Geologic Data

A. Injection Zone

1. Name: Cherry Canyon (Delaware)  
Brushy Canyon (Delaware)

2. Description: Injection will be into the productive members of the Cherry Canyon and Brushy Canyon Formations. These productive intervals are stratigraphically-trapped, very fine grained sandstones. These sandstone channels are overlain by dense dolomites and

pinch out laterally into siltstones and shales. Net pay is 230'. Gross thickness is 1850'. Top of the Cherry Canyon is at 5600'. Bottom of the Brushy Canyon is at 7500'. Average porosity is 17%. Average permeability is .5 md.

#### B. Fresh Water Sources

1. There are no underground sources of drinking water above or below the Cherry Canyon and Brushy Canyon formations.

#### IX. PROPOSED STIMULATION PROGRAM

The Brushy Canyon perforated intervals will be treated with 7,500 gallons 7-1/2% NEFe HCl acid containing fines suspension agents, clay stabilizers, and LST agents. The Cherry Canyon perforated intervals will be treated with 5,000 gallons 7-1/2% NEFe HCl acid containing fines suspension agents, clay stabilizers, and LST agents.

#### X. LOGGING DATA

Two copies of all open hole logs will be sent to the NMOCD.

#### XI. FRESH WATER ANALYSIS

There are no underground sources of fresh water within 1 mile of the proposed location for the James "A" W-1.

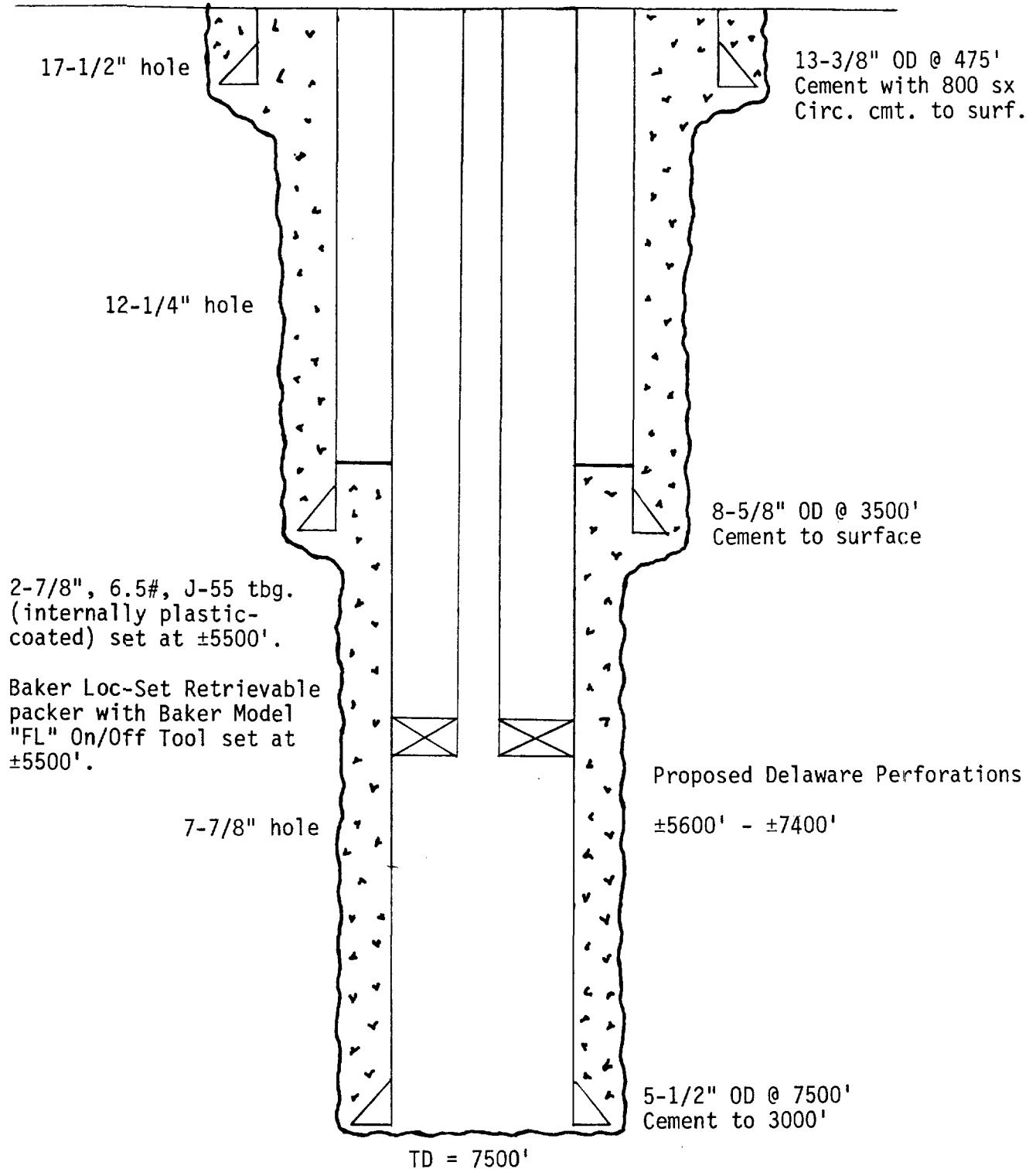
#### XII. PROOF OF NOTICE

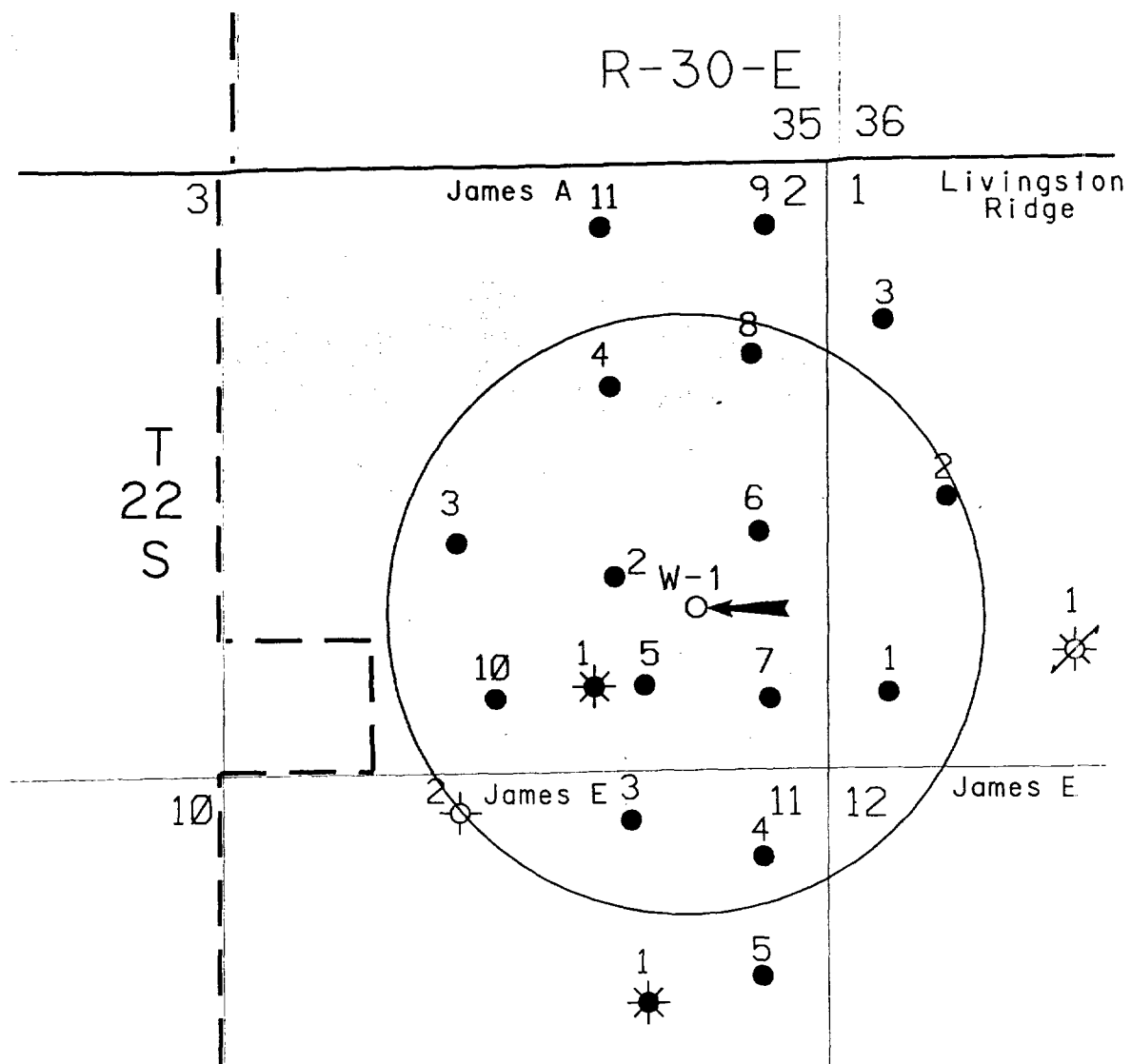
A copy of this application has been furnished to the land owner (State of New Mexico Land Department) of the land on which the James "A" No. W-1 is to be located.

# ATTACHMENT NO. 1

PHILLIPS PETROLEUM COMPANY

James "A" No. W-1  
Proposed WI Well  
1250' FSL & 1150' FEL  
Section 2, T22S, R30E  
Eddy County, New Mexico





## AREA OF REVIEW DETAIL MAP

.5 MILE RADIUS OF INVESTIGATION

### PHILLIPS PETROLEUM COMPANY

PROPOSED WATER INJECTION WELL

JAMES "A" WELL NO. W-1

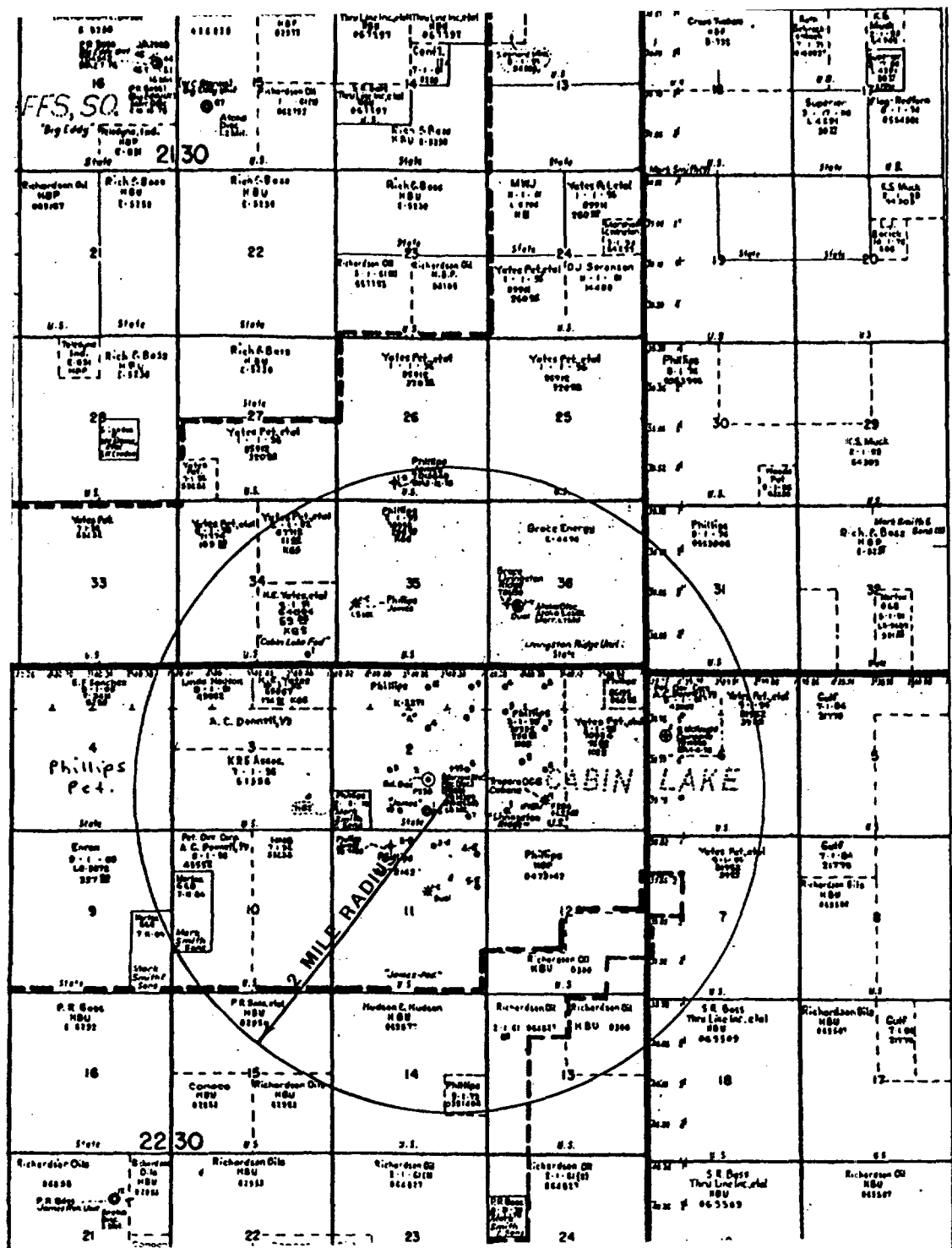
1250' FSL AND 1150' FEL

SECTION 2, T-22-S, R-30-E

EDDY COUNTY, NEW MEXICO



ATTACHMENT NO. 2



## 2 MILE RADIUS OF PROPOSED INJECTION

PHILLIPS PETROLEUM COMPANY

James "A" No. W-1  
1250' FSL & 1150' FEL  
Section 2, T22S, R30E  
Eddy County, New Mexico



PHILLIPS PETROLEUM COMPANY  
JAMES "A" WELL NO. W-1

VI. WELLS WITHIN THE AREA OF REVIEW

| OPERATOR                      | WELL NAME   | LOCATION   | DATE SPUDDED<br>(ORIG. INTENT) | PRESENT TD<br>ORIGINAL TD | SURFACE CASING |       |        | PRODUCTION CASING |                                    | PRODUCING<br>PERFORATIONS<br>(ZONE) |
|-------------------------------|-------------|--|--------------------------------|---------------------------|----------------|-------|--------|-------------------|------------------------------------|-------------------------------------|
|                               |             |  |                                |                           | SIZE           | DEPTH | CEMENT | SIZE              | DEPTH                              |                                     |
| Phillips Petroleum<br>Company | James "A" 1 | 665' FSL & 2006' FEL<br>Sec. 2, T-22-S, R-30-E<br>Eddy County, NM  | 06-13-66<br>(011)              | 13,530'<br>14,923'        | 20"            | 405'  | 650 SX | 5-1/2"            | 14,570' 600 SX<br>(TOC @ 3200' TS) | 12,155'-12,167'<br>(Strawn)         |
|                               | James "A" 2 | 1652' FSL & 1980' FEL<br>Sec. 2, T-22-S, R-30-E<br>Eddy County, NM | 12-20-86<br>(011)              | 5,954'<br>6,000'          | 13-3/8"        | 400'  | 600 SX | 5-1/2"            | 6,000' 550 SX<br>(TOC @ 3126' TS)  | 5625'-5940'<br>(Delaware)           |
|                               | James "A" 3 | 1980' FSL & 1980' FWL<br>Sec. 2, T-22-S, R-30-E<br>Eddy County, NM | 06-20-87<br>(011)              | 7,449'<br>7,490'          | 13-3/8"        | 405'  | 650 SX | 5-1/2"            | 7,490' 900 SX<br>(TOC @ 3700' TS)  | 4724'-7264'<br>(Delaware)           |
|                               | James "A" 4 | 1980' FNL & 1980' FEL<br>Sec. 2, T-22-S, R-30-E<br>Eddy County, NM | 07-09-87<br>(011)              | 7,286'<br>7,480'          | 13-3/8"        | 410'  | 650 SX | 5-1/2"            | 7,480' 1000 SX<br>(TOC @ 3750' TS) | 5529'-6241'<br>(Delaware)           |
|                               | James "A" 5 | 660' FSL & 1800' FEL<br>Sec. 2, T-22-S, R-30-E<br>Eddy County, NM  | 08-20-88<br>(011)              | 6,238'<br>6,258'          | 13-3/8"        | 410'  | 600 SX | 5-1/2"            | 6,258' 675 SX<br>(TOC @ 2200' TS)  | 5627'-5666'<br>(Delaware)           |
|                               | James "A" 6 | 1980' FSL & 660' FEL<br>Sec. 2, T-22-S, R-30-E<br>Eddy County, NM  | 12-17-88<br>(011)              | 7,557'<br>7,600'          | 13-3/8"        | 410'  | 725 SX | 5-1/2"            | 7,600' 1300 SX<br>(TOC @ 1490' TS) | 5679'-7330'<br>(Delaware)           |
|                               | James "A" 7 | 500' FSL & 660' FEL<br>Sec. 2, T-22-S, R-30-E<br>Eddy County, NM   | 12-11-89<br>(011)              | 7,512'<br>7,557'          | 13-3/8"        | 390'  | 800 SX | 5-1/2"            | 7,557' 950 SX<br>(TOC @ 2430' TS)  | 6910'-7316'<br>(Delaware)           |
|                               | James "A" 8 | 1650' FNL & 660' FEL<br>Sec. 2, T-22-S, R-30-E<br>Eddy County, NM  | 04-16-90<br>(011)              | 7,460'<br>7,500'          | 13-3/8"        | 398'  | 700 SX | 5-1/2"            | 7,500' 1000 SX<br>(TOC @ 3650' TS) | 6414'-7445'<br>(Delaware)           |

| OPERATOR                      | WELL NAME                 | LOCATION   | DATE SPUNDED<br>(ORIG. INTENT) | PRESENT TD<br>ORIGINAL TD | SURFACE CASING |       |        | PRODUCTION CASING |                            |                          | PRODUCING<br>PERFORATIONS<br>(ZONE) |
|-------------------------------|---------------------------|--|--------------------------------|---------------------------|----------------|-------|--------|-------------------|----------------------------|--------------------------|-------------------------------------|
|                               |                           |  |                                |                           | SIZE           | DEPTH | CEMENT | SIZE              | DEPTH                      | CEMENT                   |                                     |
| Phillips Petroleum<br>Company | James "A" 10              | 660' FSL & 2310' FWL<br>Sec. 2, T-22-S, R-30-E<br>Eddy County, NM  | 05-08-90<br>(011)              | 7,426'<br>7,466'          | 13-3/8"        | 408'  | 900 sx | 5-1/2"            | 7,466'<br>(TOC @ 3720')    | 1000 sx<br>(Delaware)    | 5974'-7273'<br>(Delaware)           |
|                               | James "E" 2               | 535' FNL & 2080' FWL<br>Sec. 11, T-22-S, R-30-E<br>Eddy County, NM | 06-02-87<br>(011)              | 0'<br>7,500'              | 13-3/8"        | 418'  | 650 sx | 5-1/2"            | 7,456'<br>(TOC @ 3130' TS) | 1000 sx<br>(Attach No.5) | P&A'd                               |
|                               | James "E" 3               | 500' FNL & 1800' FEL<br>Sec. 11, T-22-S, R-30-E<br>Eddy County, NM | 01-08-90<br>(011)              | 7,450'<br>7,498'          | 13-3/8"        | 400'  | 800 sx | 5-1/2"            | 7,498'<br>(TOC @ 2630' TS) | 1000 sx<br>(Delaware)    | 7079'-7328'<br>(Delaware)           |
|                               | James "E" 4               | 760' FNL & 330' FEL<br>Sec. 11, T-22-S, R-30-E<br>Eddy County, NM  | 06-19-90<br>(011)              | 7,574'<br>7,620'          | 13-3/8"        | 474'  | 800 sx | 5-1/2"            | 7,620'<br>(TOC @ 1160' TS) | 1125 sx<br>(Delaware)    | 6814'-7465'<br>(Delaware)           |
|                               | Livingston<br>Ridge No. 1 | 600' FSL & 700' FWL<br>Sec. 1, T-22-S, R-30-E<br>Eddy County, NM   | 10-16-90<br>(011)              | 7,603'<br>7,655'          | 13-3/8"        | 475'  | 800 sx | 5-1/2"            | 7,655'<br>(TOC @ 3830' TS) | 1100 sx<br>(Delaware)    | 7338'-7460'<br>(Delaware)           |
|                               | Livingston<br>Ridge No. 2 | 2240' FSL & 1200' FWL<br>Sec. 1, T-22-S, R-30-E<br>Eddy County, NM | 12-11-90<br>(011)              | 7,717'<br>7,755'          | 13-3/8"        | 479'  | 800 sx | 5-1/2"            | 7,755'<br>(TOC @ surface)  | 1800 sx<br>(Delaware)    | 7448'-7580'<br>(Delaware)           |

NOTE: Phillips Petroleum Company is the ONLY leasehold operator within the Area of Review.

# ATTACHMENT NO. 5

PHILLIPS PETROLEUM COMPANY

James "E" No. 2 (P&A)  
535' FNL & 2080' FWL  
Section 11, T22S, R30E  
Eddy County, New Mexico

