

RECEIVED MAR 5 1991

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 work.
- 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.

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:	±5600' - ±7400'
3. Original Intent:	water injection
4. Other Perforated Zones:	none
5. Productive Zones:	
Next Higher	none
Next Lower	Strawn at ±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.

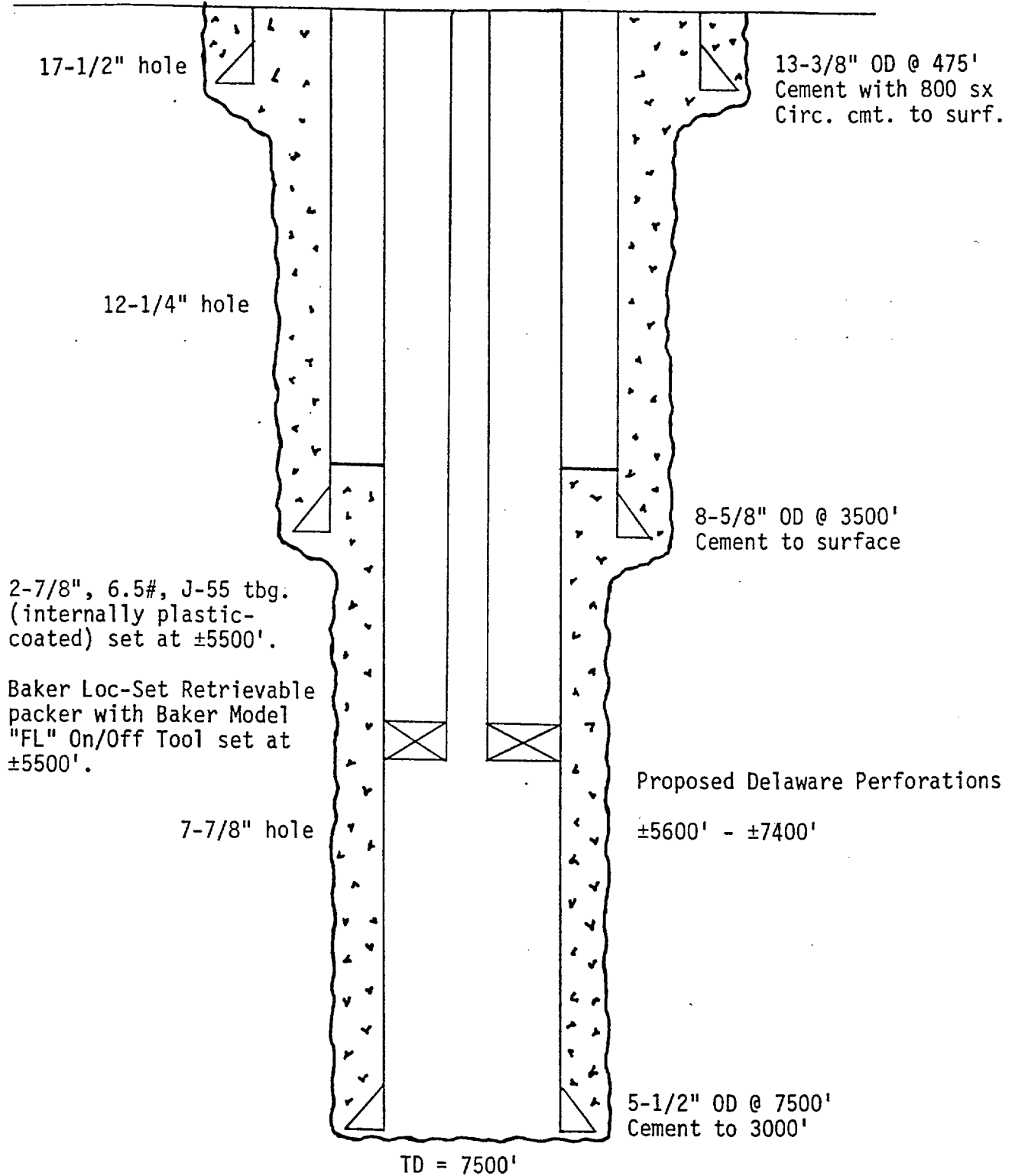
#### XII. PROOF OF NOTICE

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



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

ATTACHMENT NO. 4

VI. WELLS WITHIN THE AREA OF REVIEW

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

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

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

RESV:JHARG:jamesaw1

# ATTACHMENT NO. 5

PHILLIPS PETROLEUM COMPANY

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

