

AtlanticRichfieldCompany

North American Producing Division  
New Mexico-Arizona District  
Post Office Box 1978  
Roswell, New Mexico 88201  
Telephone 505 622 4041

W. P. Tomlinson  
District Engineer

April 8, 1970

New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Attention: Mr. A. L. Porter, Jr.

Re: Application for Salt Water Disposal Well  
Cities Service State "AW" No. 4  
Unit I, Section 35, T-15-S, R-36-E  
Lea County, New Mexico

Gentlemen:

Atlantic Richfield Company, as operator of the Dean Pool Salt Water Disposal System, respectfully requests administrative approval under the provisions of Rule 701-C to dispose of produced Devonian and Permo-Pennsylvanian water into the San Andres and Glorieta zones of the subject well.

In support of this application the following are submitted:

- (1) Form C-108 listing pertinent data on the proposed disposal well.
- (2) Lease plat showing all wells within a two mile radius of the proposed disposal well.
- (3) A plat showing the present and past producing horizons of all wells in the Dean Pool. These are the only wells within a two mile radius of the proposed disposal well which have produced hydrocarbons.
- (4) A gamma ray-neutron log of the proposed injection well.
- (5) A diagrammatic sketch of the proposed injection well showing all casing and tubing strings with diameters and setting depths, quantities used and tops of cement, perforated and open hole intervals and location of packers.
- (6) Waivers of objection were sent to all the offset operators and to the surface lessee. Two of the offset operators responded and their waivers are attached. One offset operator (Mobil Oil Corporation) and the surface lessee did not answer. No objections have been received.



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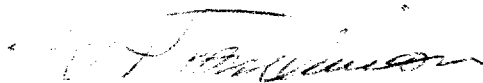
SWD-113

due Apr 28

April 8, 1970  
Page 2

- (7) Authority to use the State "AW" Well No. 4 to dispose of produced salt water into the Wolfcamp formation was authorized by Commission Order R-3433. The Wolfcamp zone is unable to dispose of the produced water and it is necessary to find a new disposal zone.
- (8) The San Andres and Glorieta zones are non-productive of oil or gas within a two mile radius of the proposed disposal well. The formation water of these two zones and the water to be disposed of is mineralized to such a degree as to be unfit for general use.
- (9) Injection will be down internally plastic-coated tubing, the casing-tubing annulus will be filled with an inert fluid, and a pressure gauge will be attached to the annulus to determine leakage in the tubing or packer.
- (10) The approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.
- (11) A copy of this application has been sent to all offset operators and the surface lessee of the land upon which the well is located.

Respectfully yours,



W. P. Tomlinson

WPT:jcb

cc: Mr. C. E. Alexander & Sons  
Mobil Oil Corporation  
Humble Oil & Refining Company  
Cities Service Oil Company

NEW MEXICO OIL CONSERVATION COMMISSION  
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR <b>ATLANTIC RICHFIELD COMPANY for the Dean Pool Salt Water Disposal System</b>		ADDRESS <b>P. O. Box 1978, Roswell, New Mexico 88201</b>	
LEASE NAME <b>State "AW"</b>	WELL NO. <b>4</b>	FIELD <b>Dean Permo Pennsylvanian</b>	COUNTY <b>Lea</b>
LOCATION UNIT LETTER <b>I</b> ; WELL IS LOCATED <b>1980</b> FEET FROM THE <b>South</b> LINE AND <b>660</b> FEET FROM THE <b>East</b> LINE, SECTION <b>35</b> TOWNSHIP <b>15-S</b> RANGE <b>36-E</b> NMPM.			

CASING AND TUBING DATA

NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	13-3/8"	367'	350	Unknown	-----
INTERMEDIATE	8-5/8"	4,924'	1983	Circulated	to Surface
LONG STRING To be cut off at about 9650'	5-1/2"	11,595'	350	9975'	Temperature Survey
TUBING <b>Proposed</b>		<b>2-7/8"</b>	<b>4900'</b>	NAME, MODEL AND DEPTH OF TUBING PACKER <b>Baker Model AD-1 Tension Packer</b>	
NAME OF PROPOSED INJECTION FORMATION <b>San Andres and Glorieta</b>			TOP OF FORMATION <b>4892'</b>		BOTTOM OF FORMATION <b>8417'</b>
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? <b>Tubing</b>		PERFORATIONS OR OPEN HOLE? <b>Open Hole</b>	PROPOSED INTERVAL(S) OF INJECTION <b>4924'-8400'</b>		
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? <b>Permo Penn. Producer - Now Depleted</b>			HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? <b>Yes</b>	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH <b>10,685'-94' and 11,518'-37' sealed with CIBP and 1-1/2 sacks cement at 10,650'. 10,434'-44' and 10,468'-88' sealed with Model D Packer w/plug and 30 sacks cement at 10,360'.</b>					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA <b>Approximately 300 feet</b>		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA <b>None</b>		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA <b>Wolfcamp at 9680' (Proposed)</b>	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) <b>900</b>	MINIMUM <b>1200</b>	OPEN OR CLOSED TYPE SYSTEM <b>Closed</b>		IS INJECTION TO BE BY GRAVITY OR PRESSURE? <b>Pressure</b>	APPROX. PRESSURE (PSI) <b>1950</b>
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - <b>Yes</b>		WATER TO BE DISPOSED OF <b>Yes</b>		NATURAL WATER IN DISPOSAL ZONE <b>Yes</b>	ARE WATER ANALYSES ATTACHED? <b>No</b>
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>Mr. C. E. Alexander &amp; Sons, McDonald, New Mexico 88262</b>					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL <b>Mobil Oil Corporation, P. O. Box 633, Midland, Texas 79701</b>					
<b>Humble Oil &amp; Refining Company, P. O. Box 1600, Midland, Texas 79701</b>					
<b>Cities Service Oil Company, P. O. Box 4906, Midland, Texas 79701</b>					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? <b>Yes</b>		SURFACE OWNER <b>Yes</b>		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL <b>Yes</b>	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) <b>Yes</b>		PLAT OF AREA <b>Yes</b>		ELECTRICAL LOG <b>Yes</b>	
				THE NEW MEXICO STATE ENGINEER <b>No</b>	
				DIAGRAMMATIC SKETCH OF WELL <b>Yes</b>	

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

*W. J. Henderson*  
(Signature)

District Engineer  
(Title)

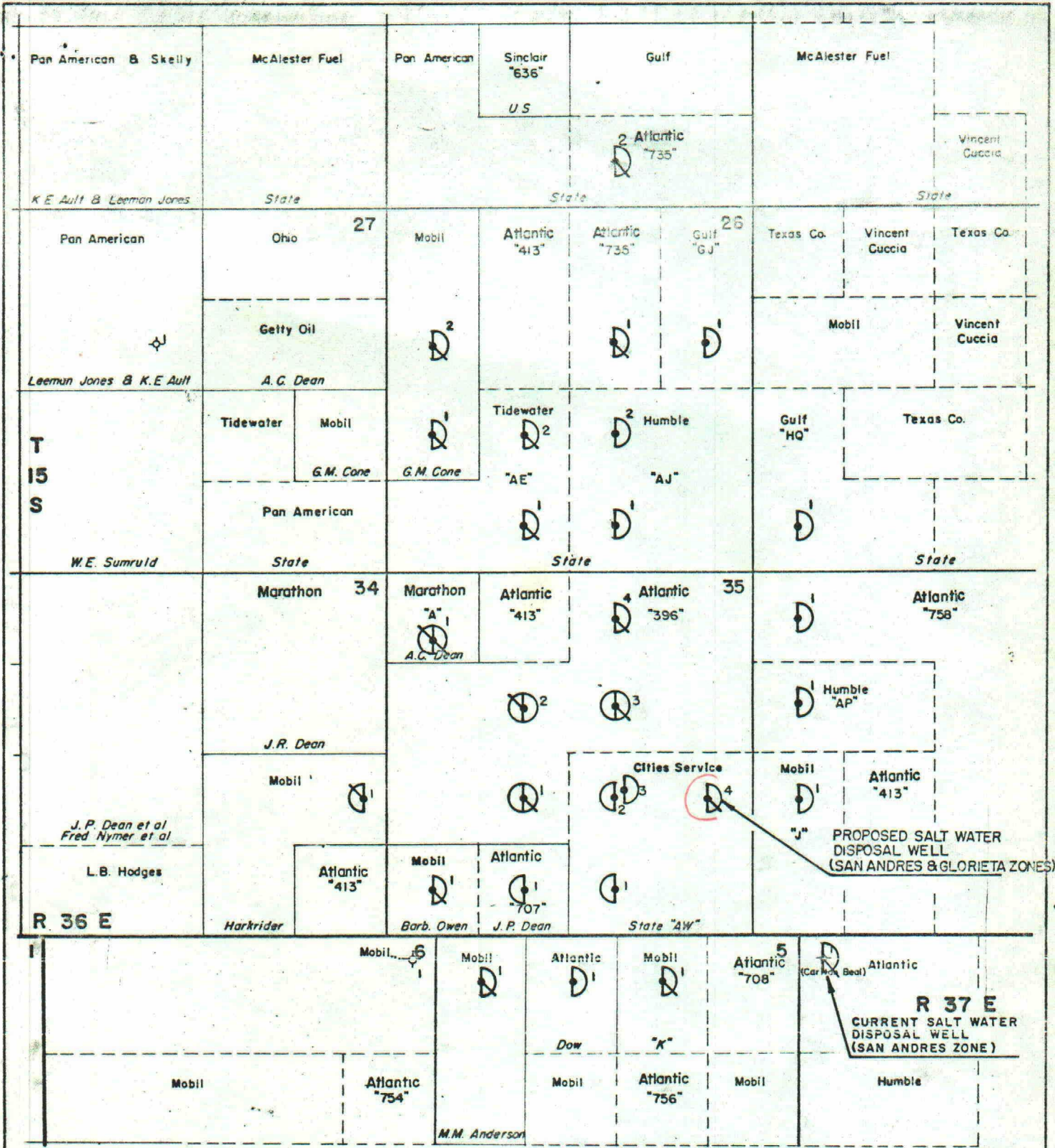
April 9, 1970  
(Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.









CURRENT PRODUCERS  
SEPTEMBER 1969

- D PERMO-PENN
- G DEVONIAN
- ⊗ PLUGGED OR DEPLETED

DEAN POOL  
LEA COUNTY,  
NEW MEXICO

Figure II



FIGURE IV.  
 DEAN SALT WATER DISPOSAL SYSTEM  
 ATLANTIC RICHFIELD COMPANY OPERATOR  
 PROPOSED SALT WATER DISPOSAL WELL  
 (CITIES SERVICE STATE "AW" WELL NO. 4)  
 660' FEL & 1980' FSL Section 35, T-15-S, R-36-E

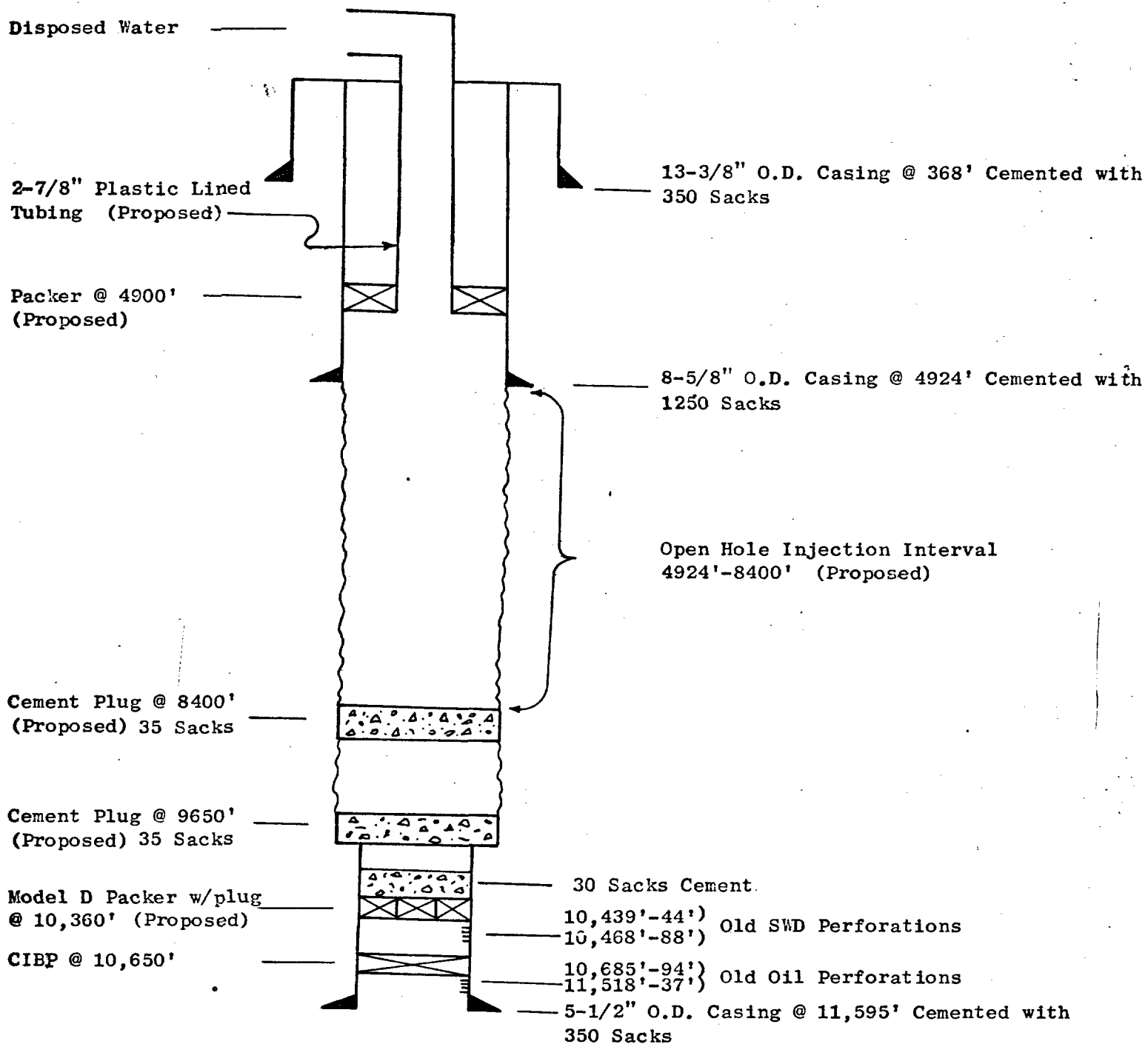


FIGURE III  
DEAN SALT WATER DISPOSAL SYSTEM  
ATLANTIC RICHFIELD COMPANY OPERATOR  
PROPOSED SALT WATER DISPOSAL WELL  
(CITIES SERVICE STATE "AW" WELL NO. 4)  
660' FEL & 1980' FSL Section 35, T-15-S, R-36-E

[illegible]

Atlantic Richfield Company North American Producing Division  
New Mexico-Arizona District  
Post Office Box 1973  
Roswell, New Mexico 88201  
Telephone 505 622 4041

W. P. Tomlinson  
District Engineer



February 12, 1970

Cities Service Oil Company  
P. O. Box 4906  
Midland, Texas 79701

Re: Cities Service State "AW" Well No. 4  
Dean Salt Water Disposal Well  
660' FEL and 1980' FSL, Section 35  
T-15-S, R-36-E, Lea County, New Mexico

Gentlemen:

Atlantic Richfield Company, as operator of the Dean Pool Salt Water Disposal System, is proposing to recomplate the above described well in the San Andres and Glorieta zones as a salt water disposal well (see attached map). As shown in the attached wellbore diagram we plan to set a plug in the Model D packer at 10,360' and cap with 30 sacks of cement. We then propose to cut off the 5-1/2" casing at approximately 9650' and cap with 35 sacks of cement. Another 35 sack cement plug is to be set at 8400' just above the top of the Abo formation. Injection will be into the San Andres and Glorieta zones from the base of the 8-5/8" casing at 4924' to the plug at 8400'. We hope to dispose of approximately 1000 barrels of produced Devonian and Permo-Pennsylvanian water per day at a surface pressure of approximately 1950 psig.

If you have no objections to this proposal, we would appreciate your signing and returning one copy of this waiver to the undersigned. Enclosed are stamped, addressed envelopes for your convenience. As soon as all waivers are returned we plan to file an application with the New Mexico Oil Conservation Commission for Administrative approval to dispose of Devonian and Permo-Pennsylvanian water into the San Andres and Glorieta zones of the State "AW" No. 4.

Respectfully yours,

W. P. Tomlinson

WPT:jcb

COMPANY:

CITIES SERVICE OIL CO.

BY:

MANAGER, WESTERN REGION  
PRODUCTION DIVISION

DATE:



New Mexico-Arizona District  
Post Office Box 1973  
Roswell, New Mexico 83201  
Telephone 505 622 4041

W. P. Tomlinson  
District Engineer

February 12, 1970

Humble Oil and Refining Company  
P. O. Box 1600  
Midland, Texas 79701

Re: Cities Service State "AW" Well No. 4  
Dean Salt Water Disposal Well  
660' FEL and 1980' FSL, Section 35  
T-15-S, R-36-E, Lea County, New Mexico

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Respectfully yours,

*W. P. Tomlinson*

W. P. Tomlinson

WPT:jcb

COMPANY: HUMBLE OIL & REFINING COMPANY

BY: *B. C. Laffell*

DATE: FEBRUARY 24, 1970

# Mobil Oil Corporation

P.O. BOX 633  
MIDLAND, TEXAS 79701

April 14, 1970

APR 17 AM 8 10

New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Att: Mr. A. L. Porter, Jr.

ATLANTIC RICHFIELD COMPANY'S  
APPLICATION FOR SALT WATER  
DISPOSAL WELL, CITIES SERVICE  
STATE "AW" NO. 4, UNIT I,  
SECTION 35, T-15-S, R-36-E  
LEA COUNTY, NEW MEXICO

Gentlemen:

Mobil Oil Corporation, as an offset operator, waives objection to the subject application.

It should be noted that we first received notice of this application on April 13, 1970. We did not receive Atlantic's request for waivers.

Very truly yours,



Ira B. Stitt  
Division Operations Engineer

CRKreuz/bje

cc: Atlantic Richfield Company  
P. O. Box 1978  
Roswell, New Mexico 88201  
Att: Mr. W. P. Tomlinson