Union Oil Company of California

205 EAST WASHINGTON AVENUE LOVINGTON, NEW MEXICO 88260

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December 21, 1964

Mr. A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

Re: Expansion of Waterflood Project,
South Caprock Queen Unit, Chaves
County, New Mexico
(Case No. 2032, Orders R-1729 and
R-1729-A)

Dear Mr. Porter:

The Union Oil Company of California, as Operator of the South Caprock Queen Unit in Chaves County, hereby requests administrative approval to convert three waterflood project area wells to water injection service. This request is submitted persuant to the provisions of Rule 701 of the Rules and Regulations of the New Mexico Oil Conservation Commission.

The proposed injection wells are as follows:

1. Tract 7-B, Well 8-29 located in the SE/4 of the NE/4, Section 29, T-14-S, R-31-E, N.M.P.M.

2. Tract 54, Well 15-28 located in the SW/4 of the SE/4, Section 28, T-14-S, R-31-E, N.M.P.M.

3. Tract 65, Well 7-3 located in the SW/4 of the NE/4, Section 3, T-15-S, R-31-E, N.M.P.M.

All of the above wells are either stimulated by the waterflood or directly offset by stimulated producing wells. The location of the proposed injectors and stimulated wells is shown on the attached plat (Figure 1).

In support of this application, the following are attached:

EXHIBIT 1: A plat of the South Caprock Queen Unit showing the present project area and the location of all injection and producing wells. The proposed injection wells are identified on the plat. Because this is a Unit operation, there are no offset operators who will be affected by this proposed expansion.

EXHIBIT II: Commission Form C-116 showing production tests for the stimulated wells both before and after being affected by the waterflood.

EXHIBIT III: A table showing the casing program of the three wells proposed for conversion to injection service.

EXHIBIT IV: Diagrammatic sketches of the three proposed injection wells showing casing strings, casing diameters, setting depths, tops of cement and perforations. Also shown in the sketches are proposed tubing strings including diameters, depths, and packers. All of the proposed injection wells are perforated in the Queen Sand. The water used for injection is either fresh water produced from the Ogalalla Sand or a mixture of this fresh water and produced Queen Sand brine. Anticipated injection rates and pressures are shown on the diagrams.

Water injection at the South Caprock Queen Unit commenced on May 23, 1961, into ten wells located along the gas-oil contact. Since May, 1961 the project has been expanded sixteen times. As of December 1, 1964, 24,660,214 barrels of water have been injected into 76 wells.

Conversion of the three wells is recommended in order to continue to maintain proper control of the advancing flood front. This will permit a more efficient sweep of the reservoir in this project.

By copy of this application, Mr. Irby of the State Engineer Office is being advised of the proposed well conversions. A copy of our transmittal letter to Mr. Irby is attached.

Three copies of this letter and supporting data are transmitted herewith, as outlined in Rule 701. Please contact me if any additional information is required for this application.

Very truly yours,

Richard H. Butler

Richard H. Butler
Unit Engineer

cc/ Mr. Frank Irby, State Engineer Office

Form C-116
Revised (12/1/55

NEW MEXICO OIL CONSERVATION COMMISSION

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GAS-OIL RATIO REPORT

EXHIBIT 11

OPERATOR Union Oil Company of California POOL South Caprock Queen Unit

ADDRESS 205 E. Washington, Lovington, N.M. MONTH OF November and December 64, 19

SCHEDULED TEST ..... COMPLETION TEST ..... SPECIAL TEST XXXXXX (Check One)

(See Instructions on Reverse Side)

(Tests To Verify Waterflood Stimulation)

Lease	Well No.	Date of Test 1964	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
1. Tract 7-B	8-29	10-7	P		24	3	2	3	TSTM	-
Tract 7-B	8-29	11-22	P		24	3	0	11	TSTM	-
2. Tract 7-A	2-33	10-7	P		24	8	0	3	TSTM	-
Tract 7-A	2-33	11-26	P		24	8	2	45	TSTM	-
3. Tract 54	16-28	11-4	P		24	12	2	14	TSTM	-
Tract 54	16-28	12-12	P		24	12	6	60	TSTM	-
4. Tract 65	2-3	11-24	P		24	3	4	4	TSTM	-
Tract 65	2-3	12-16	P		24	3	0	42	TSTM	-

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 degrees F. Specific gravity base will be 0.60.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission. In accordance with Rule 301 and Appropriate Pool Rules.

(I certify that the information given is true and complete to the best of my knowledge.)

Date December 21, 1964

Union Oil Company of California
Company

By Lon H. Pardue
Lon H. Pardue
Production Engineer
Title

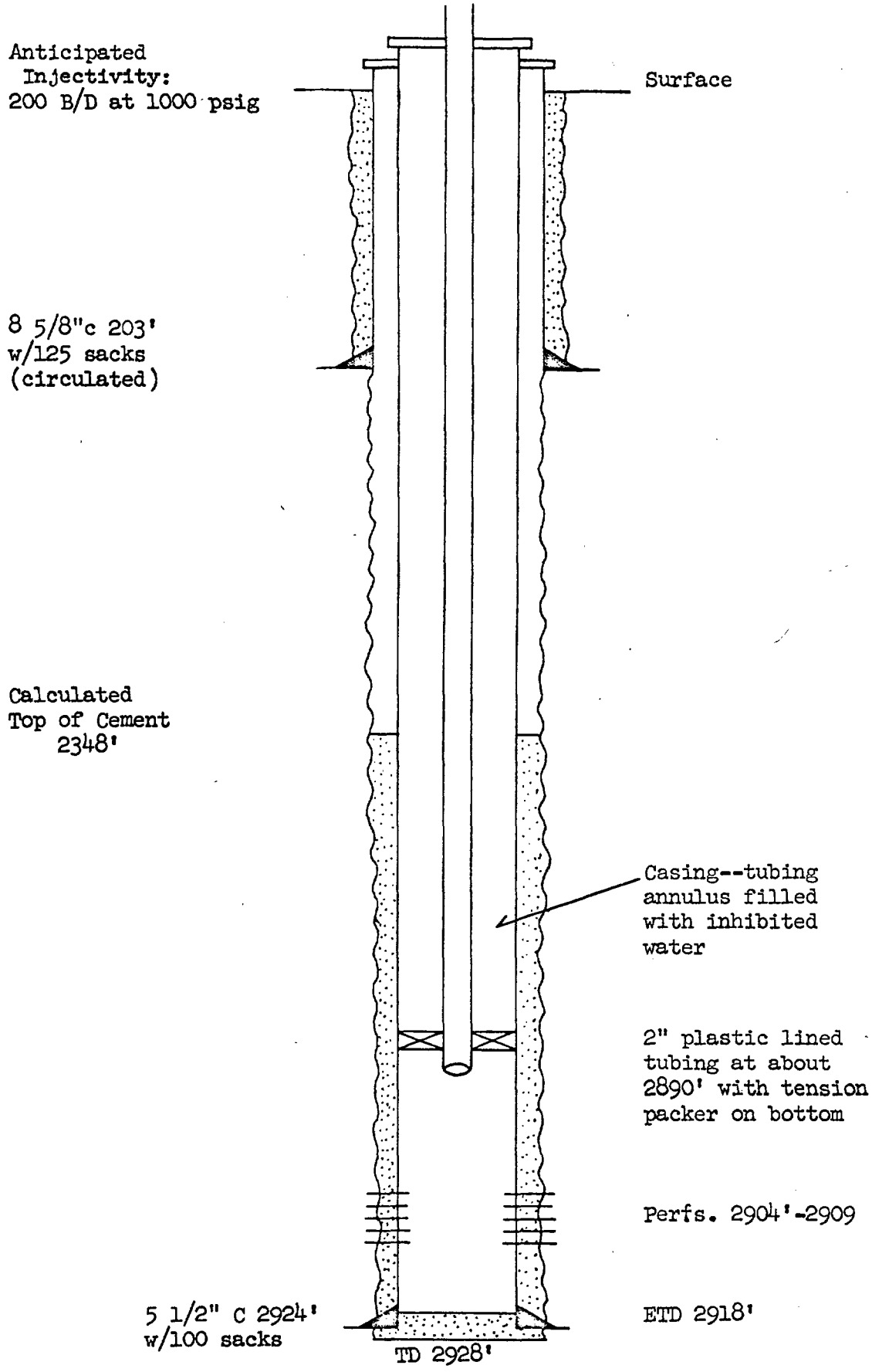
EXHIBIT III

SOUTH CAPROCK QUEEN UNIT

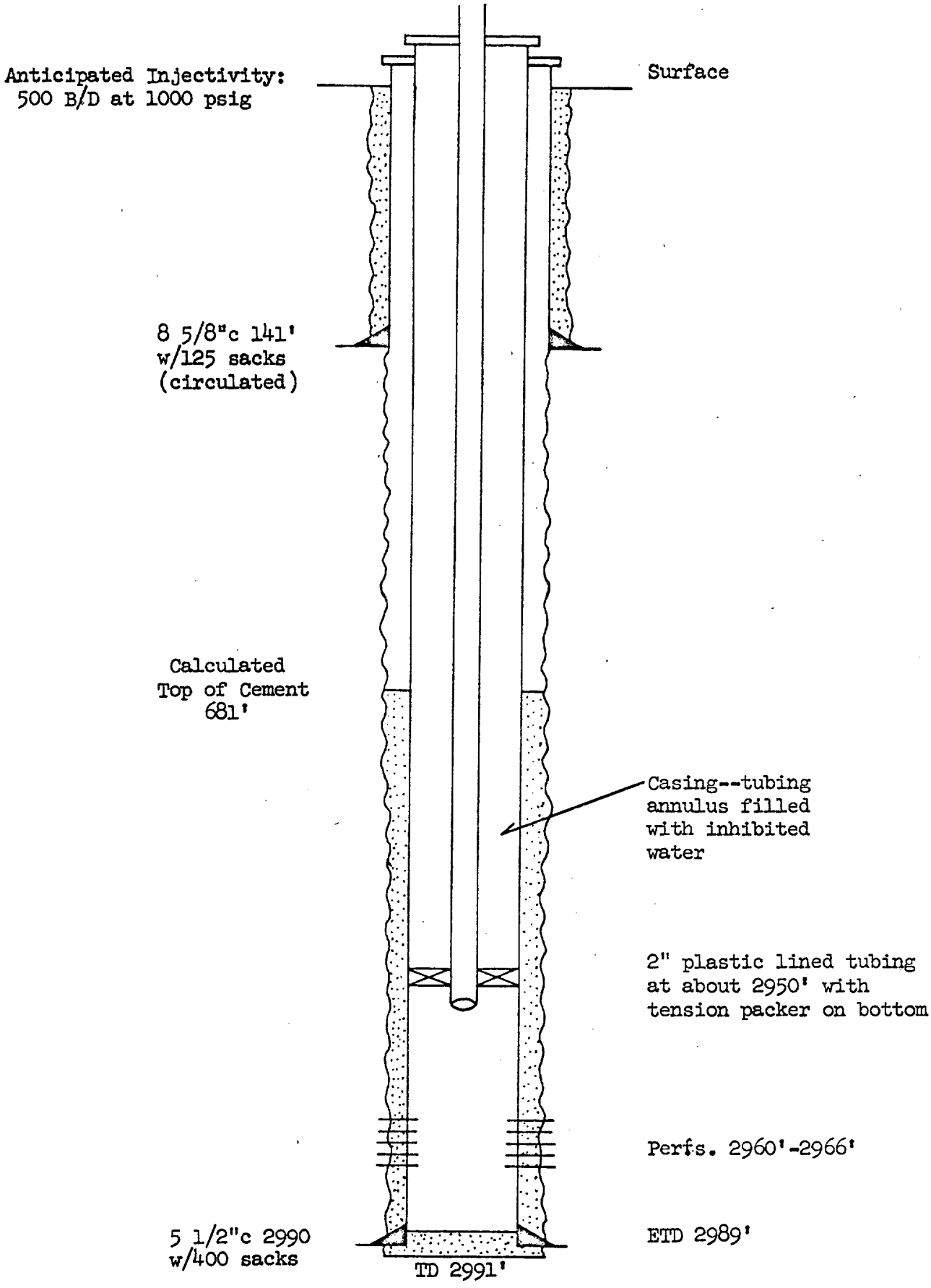
CASING PROGRAMS FOR PROPOSED INJECTION WELLS

WELL:	Tract 7-B, Well 8-29	Tract 54, Well 15-28	Tract 65, Well 7-3
TD:	2928'	2991'	3158'
ETD:	2918'	2989'	3153'
PERFORATIONS:	2904-2909	2960-2966	3140-3148
SURFACE CASING			
SIZE	8 5/8"	8 5/8"	9 5/8"
SETTING DEPTH	203	141	294
CEMENT, SACKS	125	125	200
CIRCULATED?	Yes	Yes	Yes
GRADE PIPE	J-55	J-55	H-40
WEIGHT, LBS/FT.	28	24	36
AGE, YEARS	10	8	8
CONDITION	Used	New	New
OIL STRING			
SIZE	5½"	5½"	7"
SETTING DEPTH	2924	2990	3155
CEMENT, SACKS	100	400	175
GRADE PIPE	J-55	J-55	J-55
WEIGHT, LBS/FT.	17 and 14	14	16
AGE, YEARS	10	8	8
CONDITION	Used	New	New

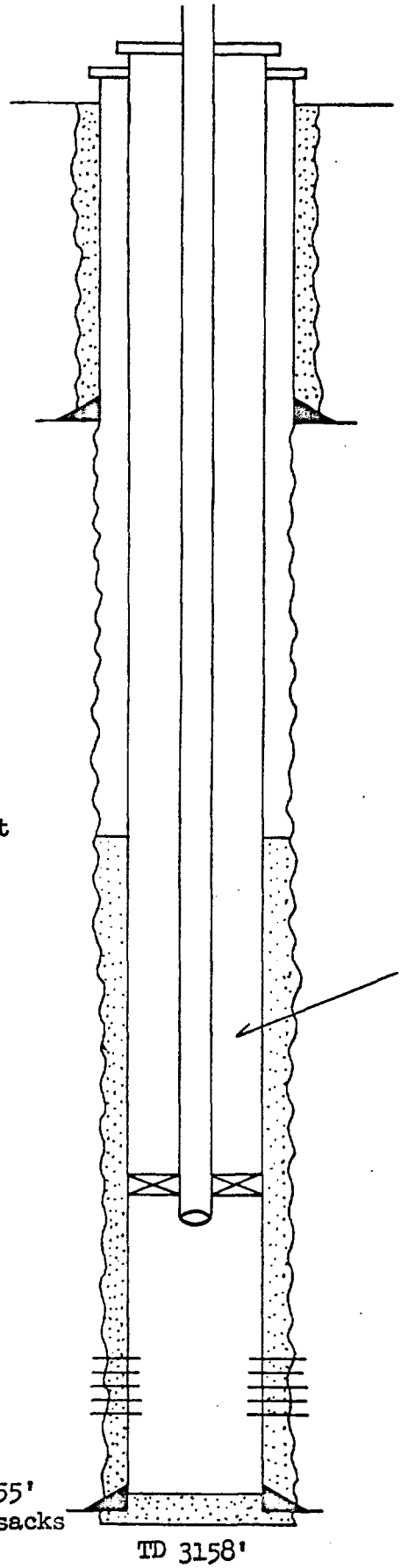
SOUTH CAPROCK QUEEN UNIT
PROPOSED INJECTION WELL
Tract 7-b, Well 8-29



SOUTH CAPROCK QUEEN UNIT
PROPOSED INJECTION WELL
Tract 54, Well 15-28



SOUTH CAPROCK QUEEN UNIT
PROPOSED INJECTION WELL
Tract 65, Well 7-3



Anticipated Injectivity:
500 B/D at 1000 psig

Surface

9 5/8"c 294'
w/200 sacks
(circulated)

Calculated
Top of Cement
1998'

Casing--tubing
annulus filled
with inhibited water

2" plastic lined tubing
at about 3130' with
tension packer on bottom

Perfs 3140'-3148'

7" C 3155'
w/ 175 sacks

ETD 3153'

TD 3158'

Union Oil Company of California

205 EAST WASHINGTON AVENUE LOVINGTON, NEW MEXICO 88260

December 21, 1964

Mr. Frank Irby
Chief of Water Rights Division
State Engineer Office
State Capitol Building
Santa Fe, New Mexico

Re: Casing Data on Proposed Water Injection Wells, South Caprock Queen Unit, Chaves County, New Mexico

Dear Mr. Irby:

Attached please find a copy of an application submitted by the Union Oil Company of California to the New Mexico Oil Conservation Commission requesting administrative approval to convert three wells to injection service in the South Caprock Queen Unit. The application is submitted in accordance with the provisions of Rule 701 of the Rules and Regulations of the New Mexico Oil Conservation Commission.

Exhibit III of the attached application is a table of casing information on the three wells to be converted to injection service. The three wells will be completed with plastic lined tubing and tension packers set just above the perforations in the Queen Sand. The annulus between the casing (oilstring) and the tubing will be filled with an inhibited water for protection against corrosion. The maximum anticipated surface injection pressure for the three wells will be 1000 psig.

Data on the age, grade and condition of the various casing strings in the three wells to be converted are tabulated in Exhibit III.

If you are in agreement with this proposal, we would appreciate your so notifying the Secretary-Director of the New Mexico Oil Conservation Commission as soon as possible. Thank you for your consideration of this matter.

Very truly yours,

Richard H. Butler

Richard H. Butler
Unit Engineer

Attachments

cc/ Mr. A. L. Porter, Jr. (3)

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

December 30, 1964

ADDRESS CORRESPONDENCE TO:
STATE CAPITOL
SANTA FE, N. M.

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Union Oil Company of California dated December 21, 1964 which seeks administrative approval to convert three wells to water injection service in the South Caprock Queen Unit.

A review of the information contained in the application and particularly pages 1, 2 and 3 of Exhibit 4, it appears that no threat of contamination to the fresh waters which may exist in the area will occur. Therefore, this office offers no objection to the granting of the application provided the wells are completed in the manner indicated on the diagrammatic sketch pertaining to the specific wells.

Yours truly,

S. E. Reynolds
State Engineer

By: Frank E. Irby
Frank E. Irby
Chief
Water Rights Division

FEI/ma
cc-Union Oil Co. of Calif.
F. H. Hennighausen

LARGE FORMAT EXHIBIT HAS BEEN REMOVED AND IS LOCATED IN THE NEXT FILE