

# Union Oil Company of California

205 EAST WASHINGTON AVENUE



LOVINGTON, NEW MEXICO 88260

March 2, 1965

*WEX-201*

*Due Mar 27*

100-100000-12-100000

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 two waterflood project area wells to water injection service. This request is submitted pursuant 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 4, Well 6-28 located in the SE/4 of the NW/4, Section 28, T-14-S, R-31-E, N.M.P.M.
2. Tract 52, Well 12-28 located in the NW/4 of the SW/4, Section 28, T-14-S, R-31-E, N.M.P.M.

The above wells are 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 two wells proposed for conversion to injection service.

EXHIBIT IV: Diagrammatic sketches of the two 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 seventeen times. As of February 1, 1965, 27,015,561 barrels of water have been injected into 78 wells.

Conversion of the 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,

*Lon H. Pardue*  
Lon H. Pardue  
Production Engineer

CC/ Mr. Frank Irby, State Engineer Office

LHP/jj

## NEW MEXICO OIL CONSERVATION COMMISSION

## GAS-OIL RATIO REPORT

OPERATOR Union Oil Company of California POOL South Caprock Queen Unit  
ADDRESS 205 E. Washington, Lovington, N.M. MONTH OF January-February, 19 65  
SCHEDULED TEST \_\_\_\_\_ COMPLETION TEST \_\_\_\_\_ SPECIAL TEST \_\_\_\_\_ (Check One)

(See Instructions on Reverse Side)

(Tests To Verify Waterflood Stimulation)

Lease	Well No.	Date of Test 1965	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 4	3-28	1-8	P	-	24	18	1	14	TSTM	-
Tract 4	3-28	2-13	P	-	24	18	3	22	TSTM	-
2. Tract 55-A	9-29	1-10	P	-	24	1	0	1	TSTM	-
Tract 55-A	9-29	2-20	P	-	24	1	0	50	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 March 2, 1965Union Oil Company of California  
Company

By

Lon H. Pardue  
Lon H. Pardue

Production Engineer

Title

## EXHIBIT III

SOUTH CAPROCK QUEEN UNIT

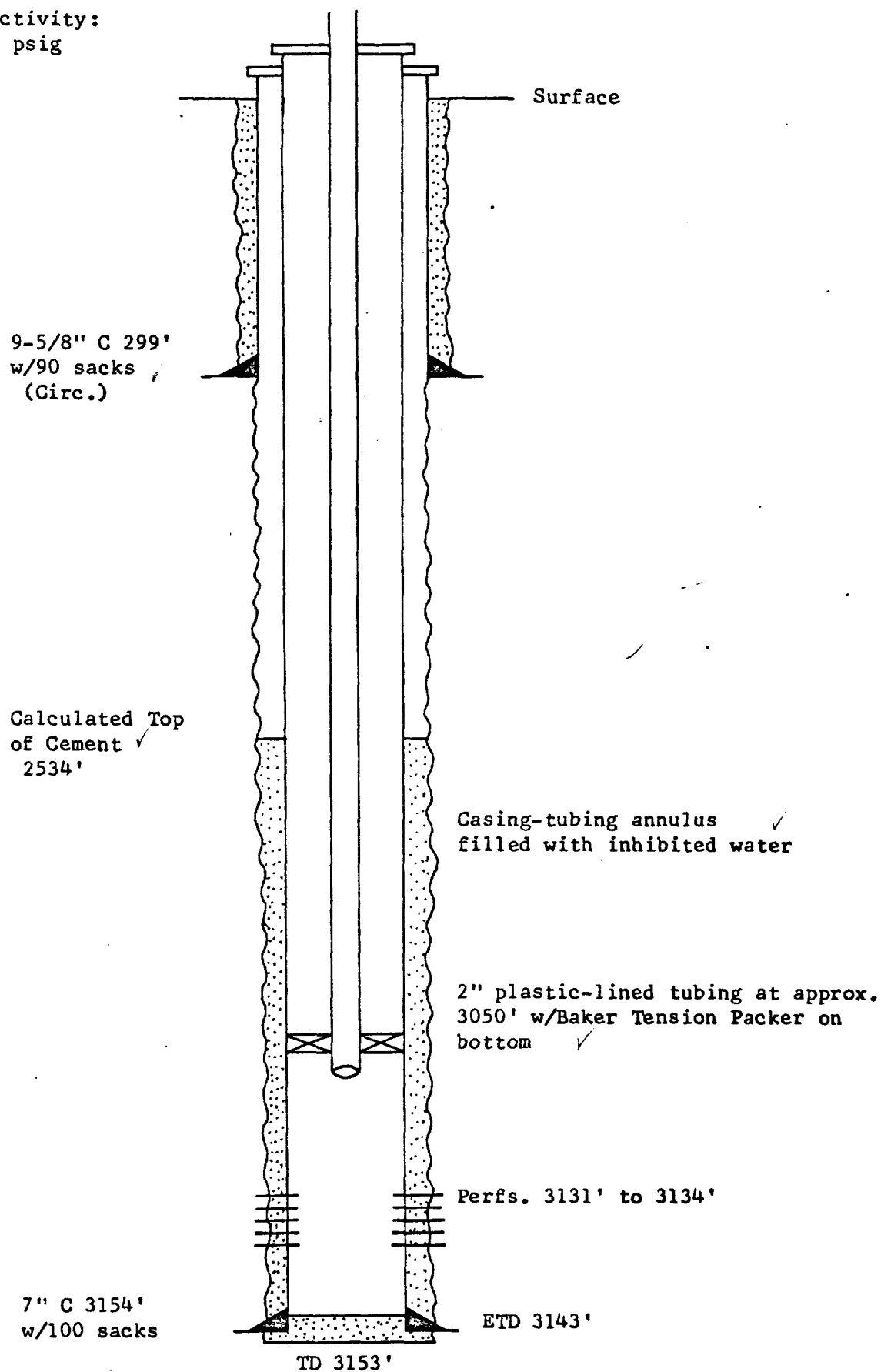
Casing programs for proposed injection wells.

WELL:	<u>Tract 4, Well 6-28</u>	<u>Tract 52, Well 12-28</u>
TD:	3152	2943
ETD:	3143	2922
PERFORATIONS:	3131-3134	2905-2911
<u>SURFACE CASING</u>		
SIZE:	9 5/8"	8 5/8"
SETTING DEPTH:	299	<del>194</del> 210
CEMENT, SACKS	90	125
CIRCULATED?	Yes	Yes
GRADE PIPE:	H-40	H-40
WEIGHT, LBS/FT.:	32	24
AGE, YEARS	7	7
CONDITION:	New	New
<u>OIL STRING</u>		
SIZE:	7"	5½"
SETTING DEPTH:	3154	2943
CEMENT, SACKS:	100	300
GRADE PIPE:	J-55	J-55
WEIGHT, LBS/FT.:	20	14
AGE, YEARS:	7	7
CONDITION:	New	New

SOUTH CAPROCK QUEEN UNIT  
PROPOSED INJECTION WELL

Tract 4, Well 6-28

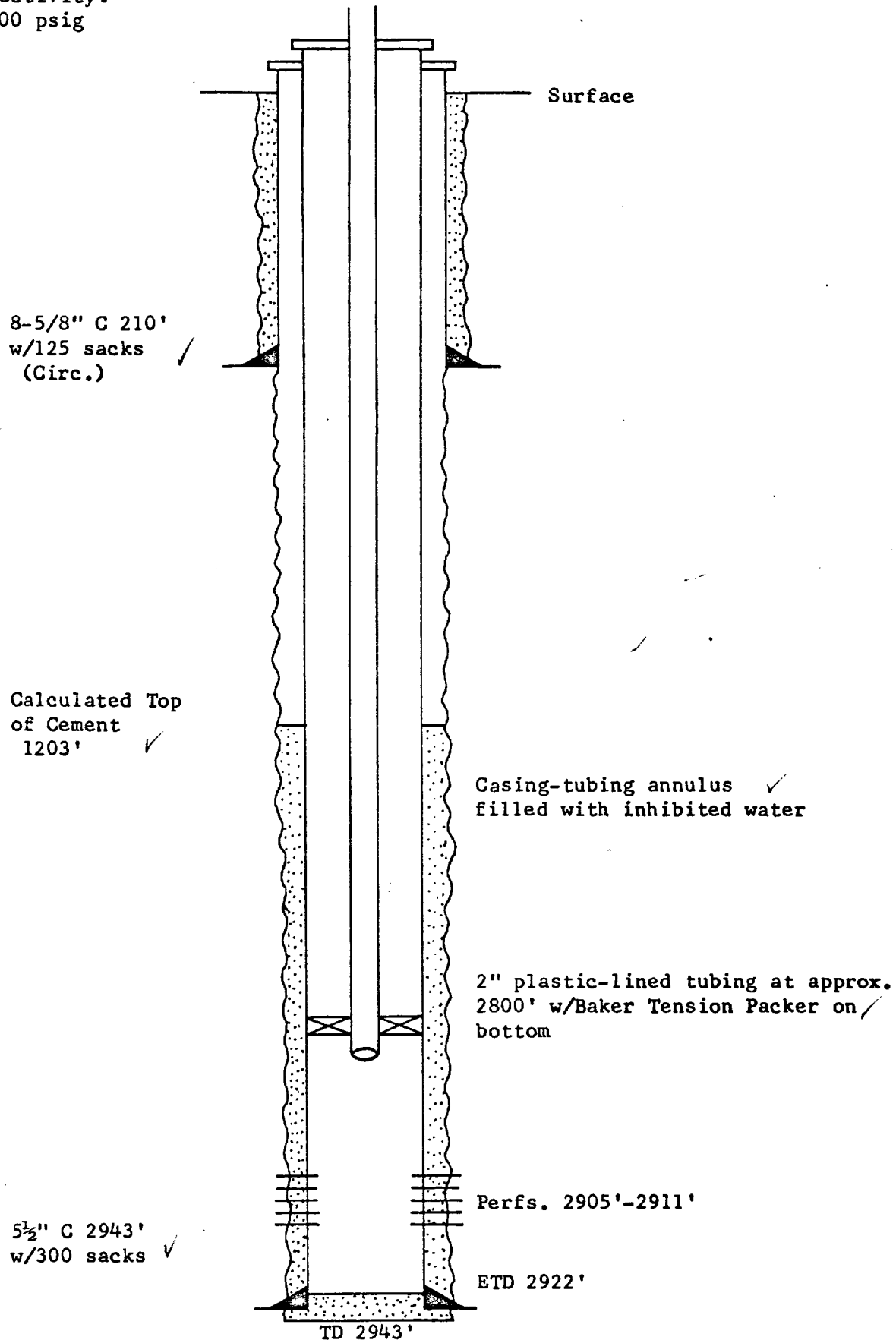
Anticipated Injectivity:  
500 B/D @ 1,200 psig



SOUTH CAPROCK QUEEN UNIT  
PROPOSED INJECTION WELL

Tract 52, Well 12-28

Anticipated injectivity:  
500 B/D @ 1,200 psig



# Union Oil Company of California

205 EAST WASHINGTON AVENUE



LOVINGTON, NEW MEXICO 88260

March 2, 1965

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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 two 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 two wells to be converted to injection service. Both 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 two wells will be 1000 psig.

Data on the age, grade and condition of the various casing strings in the 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,

*Lon H. Pardue*  
Lon H. Pardue  
Production Engineer

Attachments

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

LHP/jj



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS  
STATE ENGINEER

March 24, 1965

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

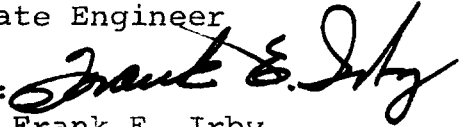
Mr. A. L. Porter, Jr.  
Secretary-Director  
Oil Conservation Commission  
Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Union Oil Company of California which seeks expansion of their South Caprock Queen Unit Water Flood Project in Chaves County. Previous orders applying to this matter are R-1729 and R-1729-A. After studying the application and the diagrammatic sketches presented in Exhibit 5 and considering the statements in Mr. Pardue's letter to me, contained in paragraphs two and three, I have concluded that the granting of this application will not pose a threat of contamination to any usable waters which may exist in the area. Therefore, this office offers no objection to the granting of the application.

Very truly yours,

S. E. Reynolds  
State Engineer

By:   
Frank E. Irby  
Chief  
Water Rights Div.

FEI/ma  
cc-L. H. Pardue  
F. H. Hennighausen



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