

WFX - 102
New Date Mar 27

Union Oil Company of California

M I D L A N 1962 11: 21 A S

March 9, 1962

7 wells in

Sec 8, 17, 19, T15S, R30E

Mr. A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Re: Case No. 2032, Order No. R-1729 and R-1729-A
Expansion of Water Flood Project
South Caprock Queen Unit
Chaves County, New Mexico

Dear Sirs:

Union Oil Company of California, as Unit Operator, hereby requests administrative approval for the expansion of its water flood project in the South Caprock Queen Unit, Chaves County, and for approval to convert an additional seven wells in said unit to water injection service. This request is submitted pursuant to the provisions of Rule 701-E, Paragraph 5, of the Rules and Regulations of the New Mexico Oil Conservation Commission.

Water injection in the South Caprock Queen Unit began on May 23, 1961. Water is being injected into ten wells situated along the contact between the gas cap and the pool's oil zone, the purpose of this initial pattern being to prevent the migration and loss of recoverable secondary oil into the gas cap. As of March 1, 1962, a total of 2,202,044 barrels of water had been injected into the ten wells.

Stimulation from water injection has now been observed in five producing wells. Of the seven wells proposed for conversion to input service, one is a stimulated producer and six are offsets to stimulated producers. These seven injectors are a part of the lifetime plan of operation for the project as presented at the hearing on Case No. 2032, Union's application for authority to institute a water flood project in the South Caprock Queen Unit.

In support of this application, the following are attached:

- Exhibit I A plat of the South Caprock Queen Unit showing the original project area, the proposed expanded project area, and the location of all injection and producing wells. The five stimulated wells and the seven wells to be converted are identified on the plat. Because this is a unit operation, there are no other offset operators who will be affected by this proposed expansion.

Mr. A. L. Porter, Jr.

-2-

March 9, 1962

Exhibit II Commission Form C-116, showing production tests of the five stimulated wells both before and after being affected by the flood.

Exhibit III A table showing the casing program of the seven proposed injectors.

Conversion of the proposed seven wells to input duty is recommended so that proper control of the advancing flood front can be obtained, thus permitting efficient sweep of the project area.

By copy of this application, the State Engineer is being advised of the proposed expansion, and attached is a copy of our transmittal letter to the State Engineer.

As requested in Rule 701, three copies of this letter and supporting data are transmitted herewith.

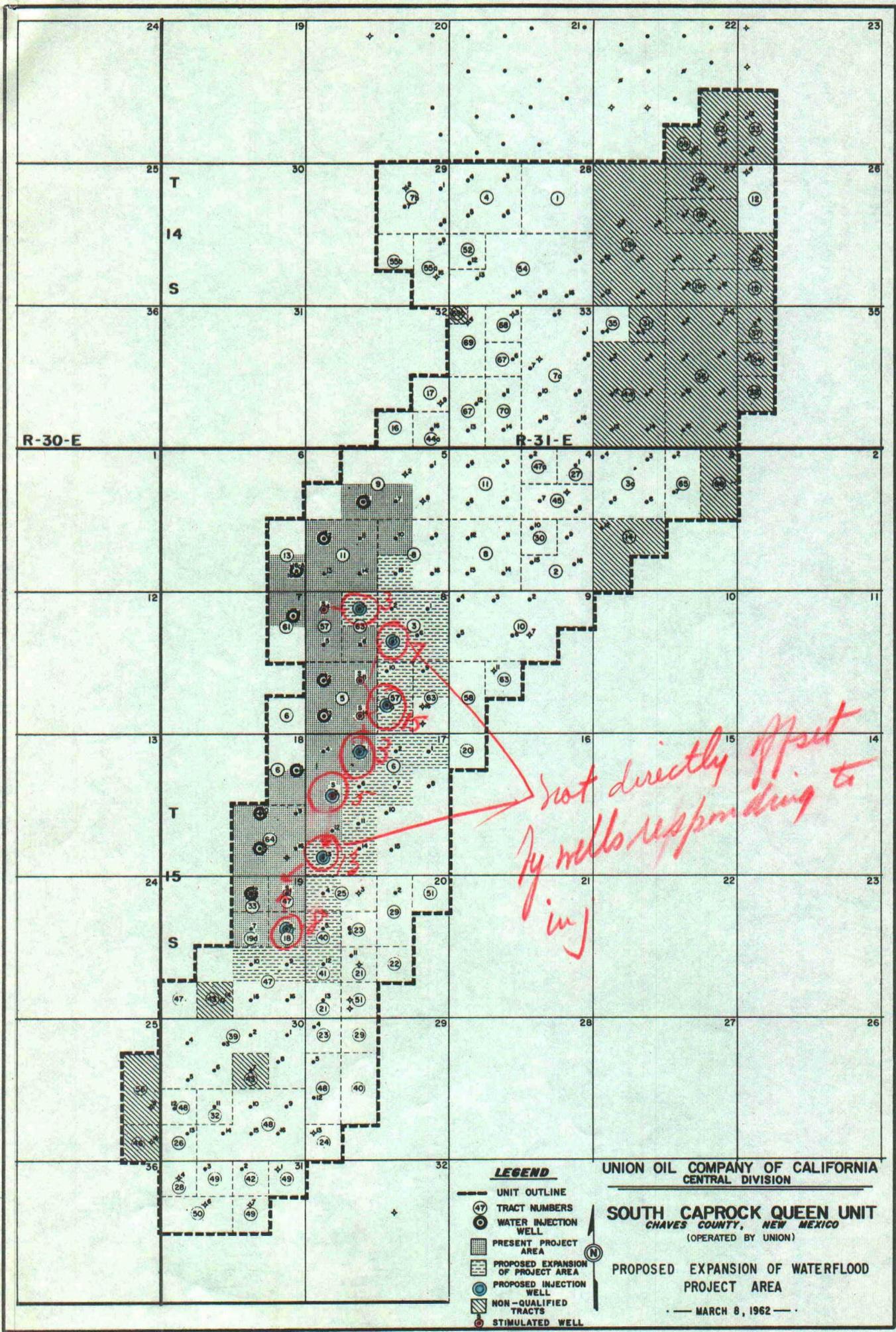
Very truly yours,



R. S. Cooke
Division Engineer

RSC:bn
Enclosures

cc: Mr. Frank Irby, State Engineer



LEGEND

- UNIT OUTLINE
- ④ TRACT NUMBERS
- WATER INJECTION WELL
- PRESENT PROJECT AREA
- ▨ PROPOSED EXPANSION OF PROJECT AREA
- ⊙ PROPOSED INJECTION WELL
- ⊗ NON-QUALIFIED TRACTS
- ⊕ STIMULATED WELL

UNION OIL COMPANY OF CALIFORNIA
CENTRAL DIVISION

SOUTH CAPROCK QUEEN UNIT
CHAVES COUNTY, NEW MEXICO
(OPERATED BY UNION)

PROPOSED EXPANSION OF WATERFLOOD
PROJECT AREA

MARCH 8, 1962

*not directly offset
by wells responding to
inj*

NEW MEXICO OIL CONSERVATION COMMISSION

TABLET NO. II

GAS-OIL RATIO REPORT

OPERATOR UNION OIL CO. OF CALIFORNIA POOL CAPROCK QUEEN POOL,
SOUTH CAPROCK QUEEN UNIT
 ADDRESS 205 East Washington MONTH OF December, 1961 through March, 19 62
Lovington, New Mexico
 SCHEDULED TEST _____ COMPLETION TEST _____ SPECIAL TEST * X (Check One)
 (See Instructions on Reverse Side) *Tests to verify waterflood stimulation

Lease	Well No.	Date of Test	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 5	11-8	11-2-61	P	"	24	15	0	11	TSTM	TSTM
Tract 5	11-8	3-4-62	P	"	24	270	0	52	TSTM	TSTM
2. Tract 5	11-8	12-22-61	P	"	24	6	0	5	16.05	"
Tract 5	11-8	2-11-62	P	"	24	150	0	14	TSTM	TSTM
3. Tract 5	5-17	12-24-61	P	"	24	12	0	8	"	"
Tract 6	5-17	2-13-62	P	"	24	150	0	15	"	"
4. Tract 47	1-19	1-2-62	P	"	24	35	0	10	"	"
Tract 47	1-19	2-24-62	P	"	24	35	0.3	24	"	"
5. Tract 57	1-3	12-27-61	P	"	24	8	0	5	"	"
Tract 57	1-3	2-15-62	P	"	24	60	0	12	"	"

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 8, 1962

UNION OIL COMPANY OF CALIFORNIA

Richard H. Butler

Richard H. Butler

Unit Engineer

Title

ILLEGIBLE

SOUTH CAPROCK QUEEN UNIT

Chaves County, New Mexico

COMPLETION DATA ON PROPOSED INJECTION WELLS

<u>Tract</u>	<u>Well</u>	<u>TD</u>	<u>ETD</u>	<u>Surface Casing</u>	<u>Oil String</u>	<u>Perforations</u>
63	3-8	3134 ⁰	3134 ⁰	8-5/8" C319 ⁰ w/345 sacks, cmt. circ.	5-1/2" C3119 ⁰ w/175 sacks	Open Hole 3119 ⁰ - 3134 ⁰
3	7-8	3150 ⁰	3144 ⁰	8-5/8" C308 ⁰ w/225 sacks, cmt. circ.	5-1/2" C3144 ⁰ w/200 sacks	3131 ⁰ - 3139 ⁰
57	15-8	3150 ⁰	3146 ⁰	9" C317 ⁰ w/150 sacks, cmt. circ.	6" C3150 ⁰ w/100 sacks	3124 ⁰ - 3132 ⁰
6	3-17	3124 ⁰	3122 ⁰	8-5/8" C318 ⁰ w/175 sacks, cmt. circ.	5-1/2" C3123 ⁰ w/200 sacks	3104 ⁰ - 3118 ⁰
6	5-17	3132 ⁰	3130 ⁰	8-5/8" C307 ⁰ w/175 sacks, cmt. circ.	5-1/2" C3132 ⁰ w/400 sacks	3108 ⁰ - 3118 ⁰
6	13-17	3134 ⁰	3125 ⁰	8-5/8" C331 ⁰ w/200 sacks, cmt. circ.	5-1/2" C3126 ⁰ w/200 sacks	3111 ⁰ - 3121 ⁰
18	8-19	3133 ⁰	3133 ⁰	7-5/8" C304 ⁰ w/200 sacks, cmt. circ.	4-1/2" C3109 ⁰ w/75 sacks	Open Hole 3109 ⁰ - 3133 ⁰

Union Oil Company of California

M I D L A N D  T E X A S

March 9, 1962

Mr. Frank Inby
State Engineer
P. O. Box 1059
Santa Fe, New Mexico

Re: Expansion of Water Flood Project
South Caprock Queen Unit
Chaves County, New Mexico

Dear Sir:

Attached please find a copy of our application to the New Mexico Oil Conservation Commission requesting administrative approval to expand our water flood project in the South Caprock Queen Unit by converting an additional seven producing wells to water injection service. This application is in accordance with Rule 701-E of the Rules and Regulations of the New Mexico Oil Conservation Commission.

Of particular interest to you, I believe, will be Exhibit III of our application, which is a table showing the casing program in the seven wells proposed for conversion to water injection service.

If you are in agreement with our proposal, we would appreciate your so notifying the Secretary-Director of the Oil Conservation Commission as soon as possible.

Very truly yours,



R. S. Cooke
Division Engineer

RSC:im
Attachment

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

Irby

Union Oil Company of California

205 EAST WASHINGTON AVENUE

LOVINGTON, NEW MEXICO

1962 MAR 20 PM 1:42

STATE ENGINEER OFFICE
SANTA FE, N. M.

UNIT OPERATOR
SOUTH CAPROCK QUEEN UNIT

March 19, 1962

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

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

Dear Mr. Irby:

This is in answer to your letter of last week to Mr. R. S. Cooke of Union's Midland office regarding additional information on the casing programs of seven (7) wells that are proposed to be converted to water injection service in the South Caprock Queen Unit, Chaves County.

All seven (7) injection wells will be completed with plastic lined or cement lined tubing and tension type packers set just above the perforations. The annulus between the casing (oil string) and tubing will then be filled with an inhibited water for protection against corrosion. The maximum anticipated surface injection pressure for the seven (7) wells will be 1300 P.S.I.G.

Data on the age, grade and condition of the casing strings in the seven (7) wells is tabulated on the attached sheet.

Thank you for your consideration of this matter.

Very truly yours,

Richard H. Butler

Richard H. Butler
Unit Engineer

cc: R. S. Cooke, Midland, Texas

RHB: am

SOUTH CAPROCK QUEEN UNIT

3-19-62

Chaves County

CASING DATA

for

PROPOSED WATER INJECTION WELLS

<u>Tract</u>	<u>Well</u>	<u>Size</u>	<u>Setting Depth</u>	<u>Surface String</u>		<u>Grade</u>	<u>Weight Lbs/Ft</u>	<u>Age Years</u>	<u>Condition</u>
				<u>Cement Sacks</u>	<u>Circ.?</u>				
3	7-8	8 5/8"	308'	225	Yes	J-55	24	7	Good (New)
6	3-17	8 5/8"	318'	175	Yes	J-55	24	7	Good (New)
6	5-17	8 5/8"	307	175	Yes	J-55	24	6	Good (New)
6	13-17	8 5/8"	331	200	Yes	J-55	24	7	Good (New)
18	8-19	7 5/8"	304	200	Yes	H-40	26.4	6½	Good (New)
57	15-8	9"	317	150	Yes	J-55	40	12(est)	Good
63	3-8	8 5/8"	319	345	Yes	J-55	24	7	Good (New)

Oil String

<u>Tract</u>	<u>Well</u>	<u>Size</u>	<u>Setting Depth</u>	<u>Cement Sacks</u>	<u>Grade</u>	<u>Weight Lbs/Ft</u>	<u>Age</u>	<u>Condition</u>
3	7-8	5 1/2"	3144	200	J-55	15.5 and 17	10	Good (New)
6	3-17	5 1/2"	3123	200	J-55	14	7	Good (New)
6	5-17	5 1/2"	3132	400	J-55	14	6	Good (New)
6	13-17	5 1/2"	3126	200	J-55	15.5	7	Good (New)
18	8-19	4 1/2"	3109	75	J-55	9.5	6 1/2	Good (New)
57	15-8	6"	3150	100	J-55	18	12(est)	Good
63	3-8	5 1/2"	3119	175	J-55	17	7	Good (New)

ILLEGIBLE

March 14, 1962

Mr. R. S. Cooke, Division Engineer
Union Oil Company of California
Midland, Texas

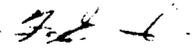
Dear Mr. Cooke:

Reference is made to your application to the Oil Conservation Commission submitted under date March 9, 1962, which seeks administrative approval for the expansion of your water flood project in the South Caprock Queen Unit and to your letter addressed to me under the same date. Please advise at your convenience the age of the casing, the grade and the general condition. Will your injection be through the casing or through tubing and packer? What is your anticipated maximum injection pressure?

I will be able to make my recommendation to the commission shortly after receiving this information.

Very truly yours,

S. E. Reynolds
State Engineer

By: 
Frank E. Irby
Chief,
Water Rights Division



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STATE ENGINEER OFFICE CCC

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

March 21, 1962

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

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

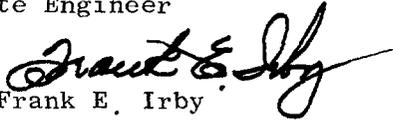
Dear Mr. Porter:

Enclosed herewith is a copy of a letter which I transmitted on March 14, 1962 to the Union Oil Company of California and a copy of their reply and the enclosure giving the information requested in my letter. This information pertains to the Union Oil Company's application for expansion of water flood project South Caprock Queen Unit, Chaves County, New Mexico which was submitted to your Commission under date of March 9, 1962.

After reviewing Mr. Butler's letter and the information set forth in the casing data tabulation, it appears that no threat of contamination to the fresh waters which may exist in the area will occur as a result of the approval of this application. Therefore, this office offers no objection to the granting of this application.

Very truly yours,

S. E. Reynolds
State Engineer

By: 
Frank E. Irby
Chief
Water Rights Division

FEI/ma
cc-Mr. R. S. Cooke
Mr. R. H. Butler