

Union Oil Company of California

205 EAST WASHINGTON AVENUE

LOVINGTON, NEW MEXICO

UNIT OPERATOR
SOUTH CAPROCK QUEEN UNIT

24

April 16, 1963

MEX-136

see May 2

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

Re: Expansion of Waterflood Project Area,
South Caprock Queen Unit, Chaves Co.,
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 for the expansion of the waterflood project area and approval to place a recently completed well in the project area in 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.

The description and location of this proposed injection well is as follows:

Tract 25, Well No. 3-20 located in NE $\frac{1}{4}$ of NW $\frac{1}{4}$, Section 20,
T-15-S, R-31-E, NMPM.

The subject well was first drilled by the Late Oil Company as State A No. 2 in 1955 for a Queen Sand test. The well was drilled to the present total depth and no commercial production was obtained. The well was satisfactorily plugged and abandoned that same year. This tract is now included within the boundaries of the South Caprock Queen Unit. In April the Union Oil Company of California, as Operator of the South Caprock Queen Unit, re-entered this abandoned well, cased the hole and completed the well in the Queen Sand. The well is a part of the master plan of operation for the project as presented at the hearing on Case No. 2032. This was Union's application for authority to institute a waterflood project in the South Caprock Queen Unit.

Stimulation from the water injection program has recently been observed in the direct offset to this well, Tract 25, Well No. 4-20. The location of the subject wells is shown on the attached plat (Exhibit No. 1).

Water injection commenced in the South Caprock Queen Unit on May 23, 1961, into ten wells situated along the contact between the gas cap and the oil zone. The purpose of this initial pattern was to prevent the migration and loss of recoverable secondary oil into the gas cap. Since May, 1961, the project area has been

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expanded five times. These expansion orders are listed below:

1. April, 1962 - Administrative Order WFX-102 (Seven injection wells)
2. August, 1962 - Administrative Order WFX-116 (Five injection Wells)
3. December, 1962 - Administrative Order WFX-124 (Six injection wells)
4. January, 1963 - Administrative Order WFX-127 (Three injection wells)
5. March, 1963 - Administrative Order WFX-134 (Three injection wells)

As of April 1, 1963, 6,951,443 barrels of water have been injected into 31 wells in the project.

In support of this application, the following are attached:

Exhibit I - A plat of the South Caprock Queen Unit showing the present project area, the proposed expansion of the project area and the location of all injection and producing wells. The recently stimulated well and the well proposed for completion as an injector 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 of the stimulated well both before and after being affected by the water-flood.

Exhibit III - A table showing the casing program and completion data on the proposed injection well.

The completion of this well as a water injector 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 the project area.

By copy of this application, the State Engineer is being advised of the proposed injection well. Attached is a copy of our transmittal letter to the State Engineer's Office.

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

Very truly yours,

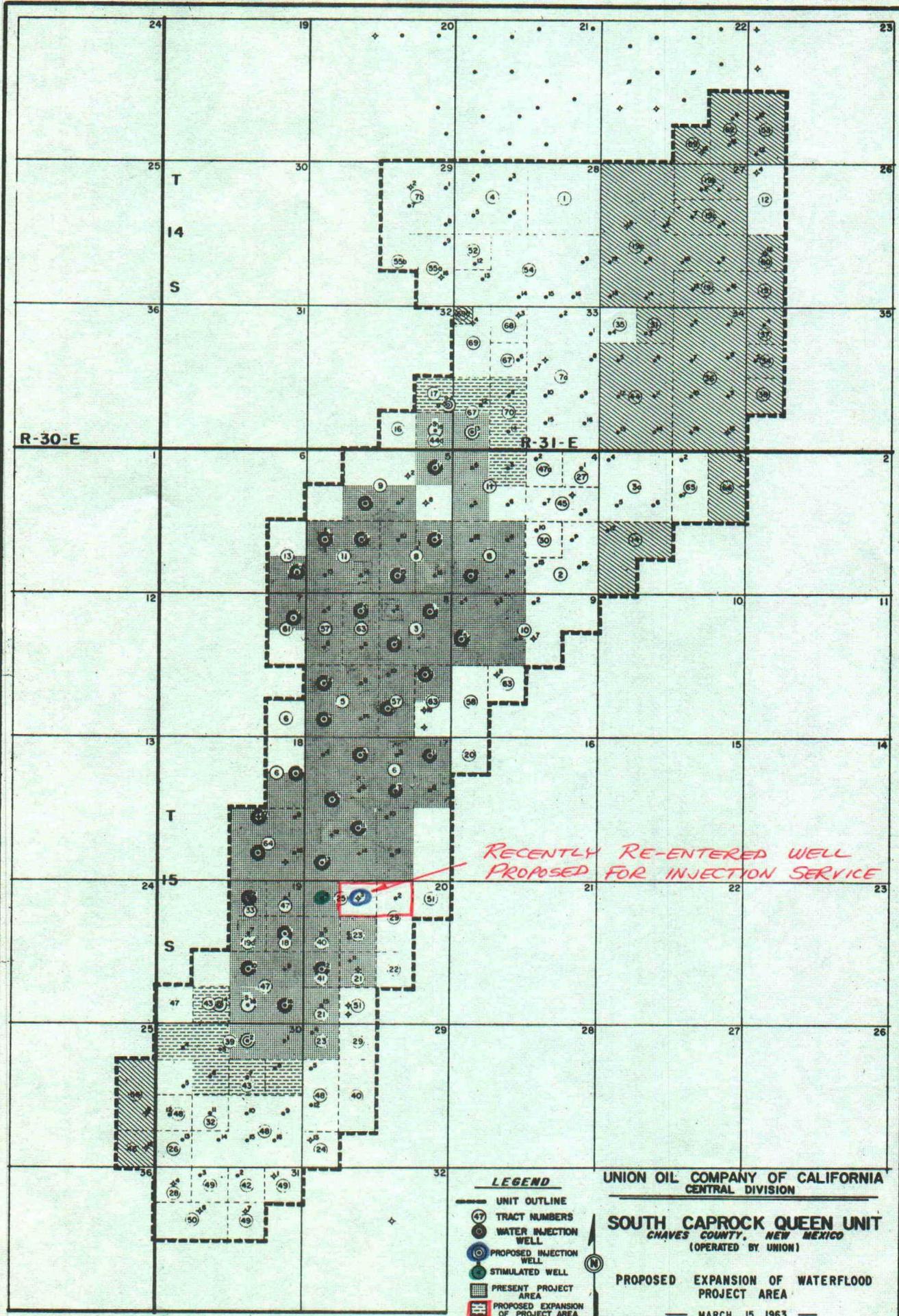


Richard H. Butler
Unit Engineer

Attachments (3)

cc: Mr. Frank Irby,
State Engineer's Office

RHB:am



*RECENTLY RE-ENTERED WELL
PROPOSED FOR INJECTION SERVICE*

- LEGEND**
- UNIT OUTLINE
 - 47 TRACT NUMBERS
 - WATER INJECTION WELL
 - PROPOSED INJECTION WELL
 - STIMULATED WELL
 - ▨ PRESENT PROJECT AREA
 - ▭ PROPOSED EXPANSION OF PROJECT AREA
 - ▩ NON-QUALIFIED TRACTS

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 15, 1963

NEW MEXICO OIL CONSERVATION COMMISSION

EXHIBIT II

GAS-OIL RATIO REPORT

OPERATOR Union Oil Company of California POOL Caprock Queen (South Caprock Queen Unit)
 ADDRESS 205 E. Washington, Lovington, N.M. MONTH OF March, 19 63
 SCHEDULED TEST..... COMPLETION TEST..... SPECIAL TEST XX..... (Check One)
 (See Instructions on Reverse Side) **(Tests to verify waterflood stimulation)**

Lease	Well No.	Date of Test 1963	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
Tract 25	4-20	2-21	P	-	24	15	0	5	TSTM	-
Tract 25	4-20	3-25	P	-	24	15	0	33	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 April 16, 1963

Union Oil Company of California
Company

By Richard H. Butler
Richard H. Butler
Unit Engineer

Title

EXHIBIT III

COMPLETION DATA ON PROPOSED INJECTION WELL

Tract 25, Well 3-20 (Ex-Late Oil Co. - State A No. 2)

Location: 660 FNL & 1980 FWL, Sec. 20, T-15-S, R-31-E.

Total Depth: 3195'

ETD: 3164'

Casing: (1) 13 3/8" C 205' with 225 sacks.
Cement circulated to surface.
(This casing is 40#, H-40, 7 year old pipe in good condition)

(2) 4 1/2" C 3195' with 300 sacks.
(This casing is 9.5#, J-55 new pipe)

Proposed Perforations: 3152' - 3160'

Proposed Tubing String: 2" plastic lined tubing to about 3145'
with tension packer on bottom. Casing-
tubing annulus to be filled with inhibited
water.

Union Oil Company of California

205 EAST WASHINGTON AVENUE



LOVINGTON, NEW MEXICO

UNIT OPERATOR
SOUTH CAPROCK QUEEN UNIT

April 16, 1963

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

Re: Completion Program for Proposed
Water Injection Well, South Caprock
Queen Unit, Chaves Co., 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 expand our waterflood project in the South Caprock Queen Unit. This expansion includes the re-entry and completion of one well for water injection purposes. The application is in accordance with the provisions of Rule 701-E of the Rules and Regulations of the New Mexico Oil Conservation Commission.

Exhibit III of the attached application shows the completion data on the proposed injection well. The well will be completed with plastic-lined tubing and a tension packer set just above the perforations in the Queen Sand. The annulus between the casing (oil string) and the tubing will be filled with an inhibited water for protection against corrosion. The maximum anticipated surface injection pressure for the well will be 1000 PSIG.

Data on the age, grade and condition of the casing strings in the well to be placed on injection are shown 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
Unit Engineer

Attachment

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

RHB:am



STATE OF NEW MEXICO
STATE ENGINEER OFFICE
SANTA FE

S. E. REYNOLDS
STATE ENGINEER

April 25, 1963

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 submitted on April 16, 1963 which seeks administrative approval to expand their waterflood project in the South Caprock Queen Unit, Chaves County, New Mexico.

In view of the statement in the second paragraph of Mr. Butler's letter to me, a copy of which was sent to you, "The well will be completed with plastic-lined tubing and a tension packer just above the perforations in the Queen Sand. The annulus between the casing (oil string) and the tubing will be filled with an inhibited water for protection against corrosion," this office offers no objection to the granting of this application.

Yours truly,

S. E. Reynolds
State Engineer

By

Frank E. Irby
Frank E. Irby

Chief

Water Rights Division

ma

cc-R. H. Butler
F. H. Hennighausen