Union Oil Company of California

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

November 28, 1962

W[illegible] 124

Due Dec 14

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 County, New Mexico
(Case No. 2032, Orders No. R-1729
and No. 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 convert an additional six wells in the project area 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 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. In April, 1962, the project area was expanded for the first time and seven more wells were placed on injection (Administrative Order WFX-102). Then, in August, 1962, the area was again expanded and five more wells were placed on injection (Administrative Order WFX-116). One of the five new wells was to replace a well with damaged casing. As of November 1, 1962, 4,742,232 barrels of water have been injected into 22 wells.

Stimulation from the water injection program has recently been observed in four additional wells. The six proposed injection wells are all offsets to the four stimulated producers. These wells are all 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.

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 expanded project area, and the location of all injection and producing wells. The four newly stimulated wells and the six wells to be converted to injection service 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.

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

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

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

By copy of this application, the State Engineer is being advised of the proposed conversions. 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 let me know if any additional information is required for this application.

Very truly yours,

R. H. Butler

R. H. Butler
Unit Engineer

RHB:bn
Enclosures (4)
cc: Mr. Frank Irby,
State Engineer's Office

EXHIBIT I

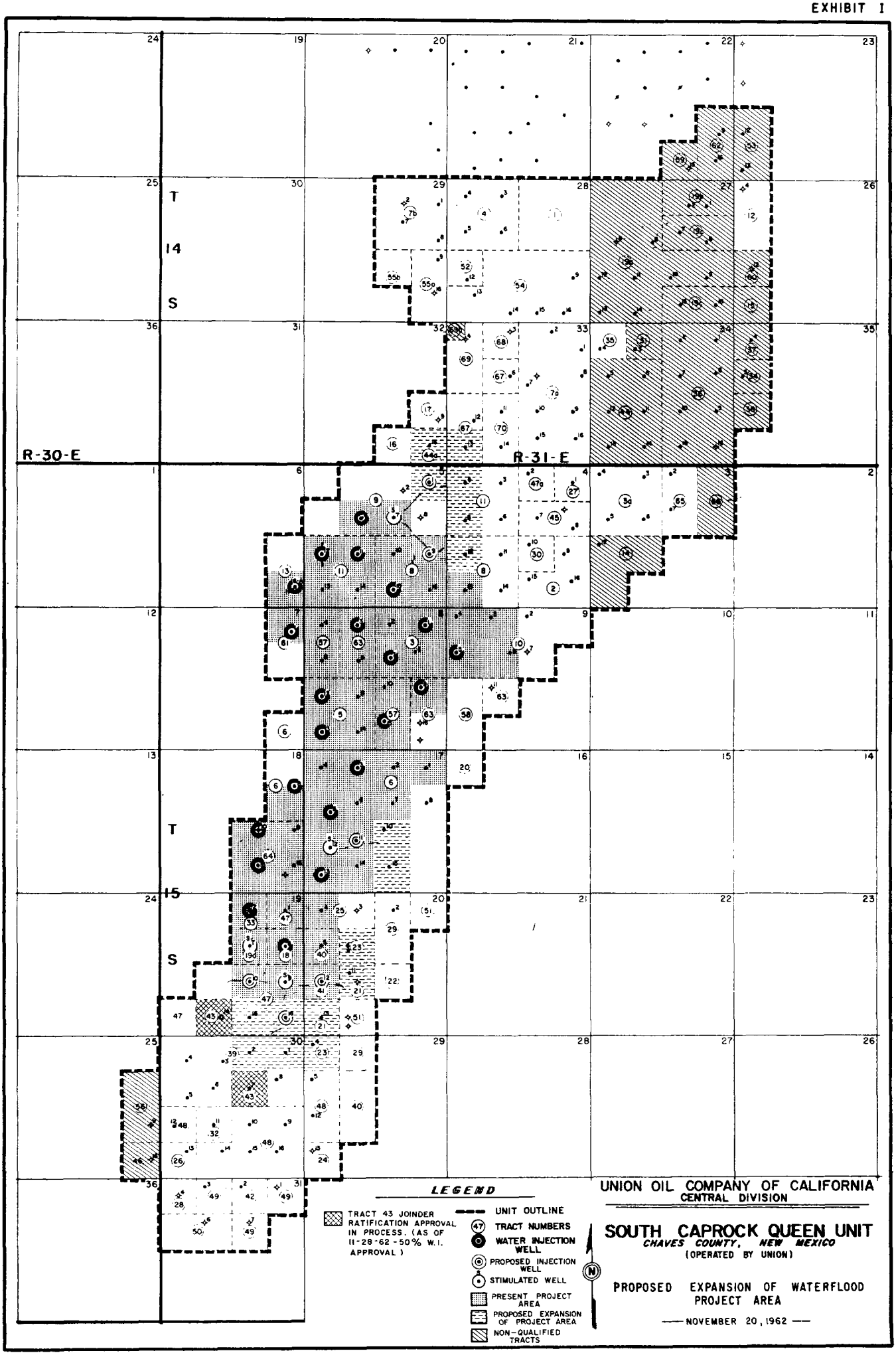
T 14 S
T 15 S
R-30-E
R-31-E
LEGEND
TRACT 43 JOINDER RATIFICATION APPROVAL IN PROCESS. (AS OF 11-28-62 - 50% W.I. APPROVAL)
UNIT OUTLINE
TRACT NUMBERS
WATER INJECTION WELL
PROPOSED INJECTION WELL
STIMULATED WELL
PRESENT PROJECT AREA
PROPOSED EXPANSION OF PROJECT AREA
NON-QUALIFIED TRACTS
N
UNION OIL COMPANY OF CALIFORNIA
CENTRAL DIVISION
SOUTH CAPROCK QUEEN UNIT
CHAVES COUNTY, NEW MEXICO
(OPERATED BY UNION)
PROPOSED EXPANSION OF WATERFLOOD PROJECT AREA
NOVEMBER 20, 1962

Exhibit 11
Form C- 116
Revised (12/1/55)

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

OPERATOR Union Oil Company of California POOL Caprock Queen Pool, S. Caprock Queen Unit

ADDRESS 205 E. Washington, Lovington, N. Mex. MONTH OF November, 1962

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 1962	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 9	7-5	8-9	P	-	24	25	0	12	TSTM	-
Tract 9	7-5	11-14	P	-	24	40	0	32	TSTM	-
2. Tract 19-d	7-19	10-16	P	-	24	30	1	1	9	9074
Tract 19-d	7-19	11-23	P	-	24	30	1	39	N.R.	-
3. Tract 47	9-19	10-19	P	-	24	30	0	7	9	1330
Tract 47	9-19	10-28	P	-	24	30	0	25	N.R.	-
4. Tract 6	12-17	10-15	P	-	24	20	0	10	TSTM	-
Tract 6	12-17	11-5	P	-	24	40	0	30	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 November 28, 1962

Union Oil Company of California
Company

By Richard H. Butler
Unit Engineer
Title

Union Oil Company of California

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

November 28, 1962

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

Re: Casing Data on Proposed 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 expand our waterflood project in the South Caprock Queen Unit. This expansion will include the conversion of an additional six producing wells to water injection service. The application is in accordance with Rule 701-E 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 six proposed injection wells. All six wells will be completed with plastic-lined tubing and tension packers set just above the perforations or open hole in the Queen Sand. The annulus between the casing (oil string) and the tubing will then be filled with an inhibited water for protection against corrosion. The maximum anticipated surface injection pressure for the six new wells will be 1000 psig.

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

R. H. Butler

R. H. Butler
Unit Engineer

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

FORM 401 MT 6M 3-62

Exhibit
11-28-62

SOUTH CAPROCK QUEEN UNIT
Chaves County

CASING DATA FOR PROPOSED INJECTION WELLS

Tract	Well	T.D.	E.T.D.	Perforations
9	1-5	3124'	3124'	Open Hole 3106-3124'
8	9-5	3161'	3161'	Open Hole 3139-3161'
47	10-19	3140'	3138'	3109-3126'
47	16-19	3164'	3160'	3128-3144'
41	12-20	3138'	3138'	Open Hole 3127-3138'
6	11-17	3143'	3142'	3131-3137'

SURFACE CASING

Tract	Well	Size	Setting Depth	Cement, Sacks	Circ.	Grade Pipe	Weight Lbs/Ft.	Age Years	Condit
9	1-5	8-5/8"	273'	135	Yes	J-55	24	7	New
8	9-5	8-5/8"	344'	275	Yes	J-55	24	7.5	New
47	10-19	9-5/8"	321'	200	Yes	J-55	36	7.5	New
47	16-19	9-5/8"	307'	200	Yes	J-55	36	10	Goo
41	12-20	13-3/8"	314'	300	Yes	H-40	48	7.5	New
6	11-17	8-5/8"	302'	175	Yes	J-55	24	7	New

OIL STRINGS

Tract	Well	Size	Setting Depth	Cement, Sacks	Grade Pipe	Weight Lbs/Ft.	Age Years	Condit
9	1-5	5-1/2"	3106'	115	J-55	14	7	New
8	9-5	5-1/2"	3139'	275	J-55	14	7.5	New
47	10-19	5-1/2"	3140'	175	J-55	14	7.5	New
47	16-19	5-1/2"	3163'	175	J-55	14	7.5	New
41	12-20	5-1/2"	3127'	100	J-55	14	7.5	New
6	11-17	5-1/2"	3143'	400	J-55	14	7	New

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

January 9, 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 January 4, 1963 which seeks administrative approval for their expansion of their waterflood project in the South Caprock Queen Unit.

In view of the statement in Mr. Butler's letter to me "The wells will be completed with plastic-lined tubing and tension packers set just above the perforations or open hole in the Queen Sand. The annulus between the casing (oil string) and the tubing will then be filled with an inhibited water for protection against corrosion. The maximum anticipated surface injection pressure for the three wells will be 1000 psig," it appears that the threat of contamination to any fresh waters existing in the area will be eliminated. Therefore, this office offers no objection to the granting of this application.

Very truly yours,

S. E. Reynolds
State Engineer

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

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

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

November 29, 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:

Reference is made to the application of Union Oil Company submitted on November 28, 1962 which seeks administrative approval for their expansion of their waterflood project in the South Caprock Queen Unit. Reference is also made to Mr. Butler's letter addressed to me on the same date, a copy of which was designated for you.

In view of the statement in Mr. Butler's letter to me "All six wells will be completed with plastic-lined tubing and tension packers set just above the perforations or open hole in the Queen Sand. The annulus between the casing (oil string) and the tubing will then be filled with an inhibited water for protection against corrosion. The maximum anticipated surface injection pressure for the six new wells will be 1000 psig," it appears that the threat of contamination to any fresh waters existing in the area will be eliminated. Therefore, this office offers no objection to the granting of this application.

Very truly yours,

S. E. Reynolds
State Engineer

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

FEI/ma
cc-Mr. R. H. Butler
Mr. F. H. Hennighausen