Union Oil Company of California

500 N. Marienfeld, Midland, Texas 79701
Telephone (915) MU 2-9731

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union

Midland District

August 20, 1968

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

Dear Mr. Porter:

Expansion of Waterflood Project
South Caprock Queen Unit
Chaves County, New Mexico
(Case 2032, Orders R-1729 and R-1729-A)

Union Oil Company of California, as operator of the South Caprock Queen Unit in Chaves County, hereby requests administrative approval to convert an additional waterflood project area well 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 well is as follows:

Tract 44a, Well 16-32, located in the SE/4 of the SE/4 (Unit P), Section 32, T-14S, R-31E, N.M.P.M.

The proposed injection well is offset by stimulated producing wells. The proposed injector has reached its secondary economic limit. Three offsetting injectors have been shut-in with mechanical problems and it is our intent to plug and abandon these wells prior to conversion of the subject well. The location of the proposed injection well, the offset stimulated wells and the offset injectors to be abandoned are shown on the attached plat (Figure 1).

In support of this application, the following are attached:

Exhibit I : A plat of the South Caprock Queen Unit showing the location of all injection and producing wells. There are no offset operators who will be affected by the conversion since this is a unit operation.

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

Exhibit III: A table showing the casing program of the proposed injection well.

Exhibit IV : Diagramatic sketch of the injection well showing casing string details, cement tops, and open hole section.

The proposed injection well is an open hole completion in the Queen sand. Injection water is either fresh water produced from the Ogallala or produced Queen sand brine. Anticipated injectivity is shown on Exhibit IV.

Water injection at the South Caprock Queen Unit commenced on May 23, 1961, into ten wells located along the gas-oil contact in the central portion of the unit. As of July 1, 1968, 60,878,937 barrels of water have been injected into 92 wells. Conversion of the subject well is recommended to improve pattern sweep efficiency in the reservoir.

By copy of this application, Mr. Gray of the State Engineer Office is being advised of the proposed well conversion. A copy of the transmittal letter to Mr. Gray is attached. Three copies of this letter and supporting data are transmitted herewith, as outlined in Rule 701. Please contact me if any additional data is required in support of this application.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

G. W. Coombes
District Operations Superintendent

JHM:rb
Attachments

cc: Mr. D. E. Gray
State Engineer Office

EXHIBIT I

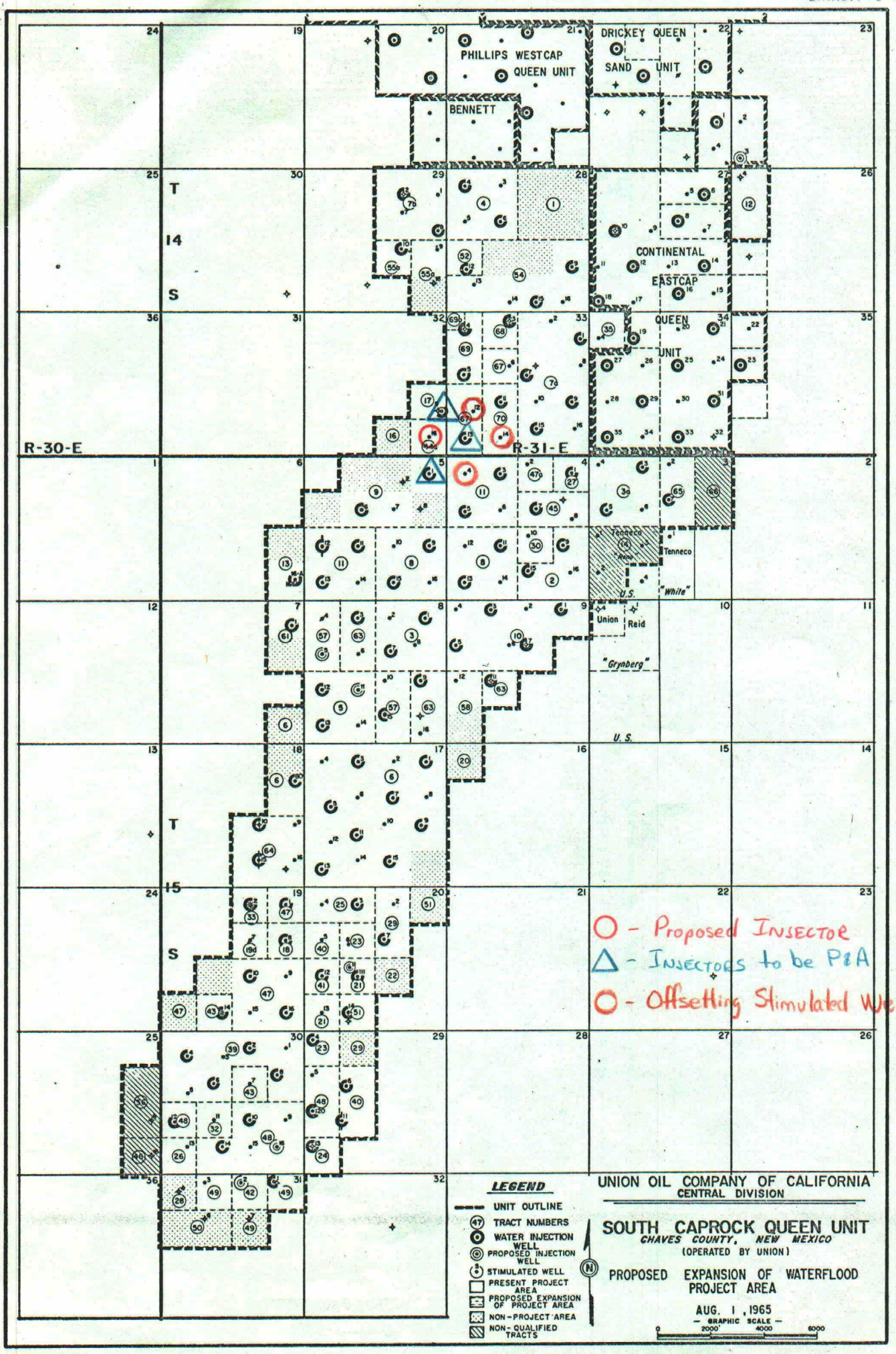

PHILLIPS WESTCAP
QUEEN UNIT
BENNETT
DRICKEY QUEEN
SAND UNIT
CONTINENTAL
EASTCAP
QUEEN
UNIT
R-30-E
R-31-E
T
14
S
T
15
S
Tenneco
"Rone"
"White"
U.S.
Union
Reid
"Grynberg"
U.S.
○ - Proposed Insector
△ - Insectors to be P&A
○ - Offsetting Stimulated Wells
LEGEND
UNIT OUTLINE
TRACT NUMBERS
WATER INJECTION WELL
PROPOSED INJECTION WELL
STIMULATED WELL
PRESENT PROJECT AREA
PROPOSED EXPANSION OF PROJECT AREA
NON-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
AUG. 1, 1965
GRAPHIC SCALE
0 2000' 4000 6000

EXHIBIT II

C-116

Revised 1-1-65

NEW MEXICO OIL CONSERVATION COMMISSION

GAS – OIL RATIO TESTS

Operator	Pool	County
Union Oil Company of California	South Caprock Queen Unit	Chaves County

Address	TYPE OF TEST – (X)	
P. O. Box 671, Midland, Texas	Scheduled [ ]	Tests to Verify Waterflood Stimulation Completion [ ] Special [X]

LEASE NAME		WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS – OIL RATIO CU.FT./BBL.
1. Tract 67	*	12-33	L	33	14S	31E	1-6-63	P	-	-		24	0	-	2	TSTM	-
	**	12-33	L	33	14S	31E	10-8-67	P	-	-		24	4	-	51	TSTM	-
	***	12-33	L	33	14S	31E	6-23-68	P	-	-		24	3	-	20	TSTM	-
2. Tract 70	*	14-33	N	33	14S	31E	11-8-62	P	-	-		24	0	-	3	TSTM	-
	**	14-33	N	33	14S	31E	3-15-66	P	-	-		24	26	-	120	TSTM	-
	***	14-33	N	33	14S	31E	6-22-68	P	-	-		24	100	-	61	TSTM	-
3. Tract 11	*	4-4	D	4	15S	31E	12-10-62	P	-	-		24	0	-	3	TSTM	-
	**	4-4	D	4	15S	31E	7-15-64	P	-	-		24	190	-	355	TSTM	-
	***	4-4	D	4	15S	31E	6-26-68	P	-	-		24	184	-	9	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° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

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.

* Test prior to waterflood stimulation

** Test at peak stimulated rate

*** Test showing current performance

I hereby certify that the above information is true and complete to the best of my knowledge and belief.

James H Morris
(Signature)

Petroleum Engineer
(Title)

August 20, 1968
(Date)

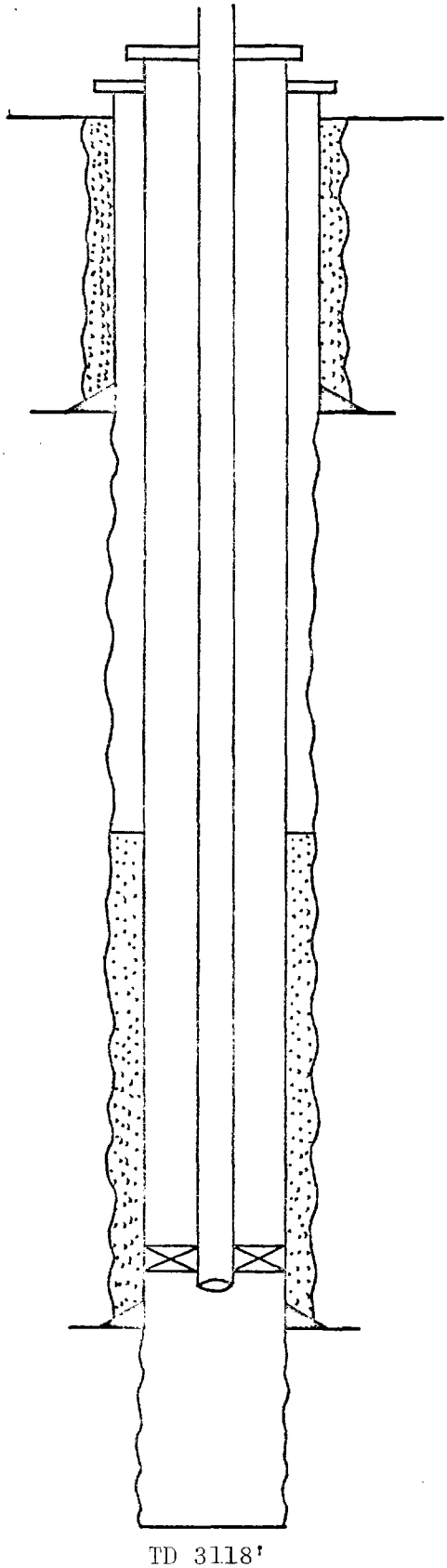
EXHIBIT III

South Caprock Queen Unit
Casing Program of Proposed Injection Well

TD	3118'
ETD	3103'
Open Hole Section	3103-18' (Queen)
Surface Casing	
Size	8 5/8"
Setting Depth	280'
Cement, sacks	175
Circulated	Yes
Grade Pipe	J-55
Weight, Lbs/Ft.	26.40
Age, Years	13
Condition	New
Oil String	
Size	5 1/2"
Setting Depth	3103'
Cement, sacks	75
Grade Pipe	J-5
Weight, Lbs/Ft.	14.0
Age, years	13
Condition	New

EXHIBIT IV

SOUTH CAPROCK QUEEN UNIT
Tract 44a, Well 16-32



Anticipated Injectivity
= 250 B/D at 1300 psig

Surface

8 5/8" @ 280' w/175 sacks
(circulated)

Calculated Top of Cement @ 2041'

Casing-Tubing Annulus
filled with inhibited
water.

2" EUE, 8 Rt J-55
plastic-lined tubing
at about 3080' with
tension packer on bottom.

5 1/2" @ 3103' w/75 sacks

Open Hole 3101'-3118'

TD 3118'

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union

Midland District

August 20, 1968

Mr. D. E. Gray
Chief of Water Rights Division
State Engineer Office
State Capitol Building
Santa Fe, New Mexico

Dear Mr. Gray:

Casing Data on Proposed Water Injection Well, South Caprock Queen Unit, Chaves County, New Mexico.

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 one well in the South Caprock Queen Unit to water injection service. This 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 proposed injection well. The well will be completed with plastic lined tubing with tension packer on bottom. The packer will be set just above the open hole section in the Queen Sand. The annulus between the 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 about 1300 psig. Included in Exhibit III are data on the age, grade, and condition of the casing strings in these wells.

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,

O. W. Coombes
District Operations Superintendent

JHM:rb
Attachments

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