

Union Oil Company of California

205 EAST WASHINGTON AVENUE



LOVINGTON, NEW MEXICO 88260

66 SEP 29

September 27, 1966

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 2032, Orders R-1729 and R-1729-A)

Dear Mr. Proter:

Union Oil Company of California, as operator of the South Caprock Queen Unit in Chaves County, hereby requests administrative approval to convert one 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:

1. Tract 64, Well 9-18, located in the NE/4 of SE/4 of Section 18,
T-15-S, R-31-E, N.M.P.M.

This well is offset to the South and East by producing wells. Well #9-18 has reached its secondary limit (2 BOPD). Conversion of this well should improve the areal sweep efficiency around wells #12-17 and #16-18. The location of the proposed injection well and the offset stimulated wells is 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. The proposed injection well is identified on the plat. 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 stimulated 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: Diagrammatic sketches of the proposed injection well showing casing string details, cement tops and perforations. Also shown are the proposed tubing string details.

The proposed injection well is perforated entirely in the Queen Sand. Injection water is produced Queen Sand brine, occasionally supplemented by fresh water from the Ogallala Sand. Anticipated injectivity for this well 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. Since that time, the project has been expanded twenty-two times. As of September 1, 1966, 46,725,462 barrels of water have been injected into 88 wells.

Conversion of this well is recommended in order to improve pattern sweep efficiency in this portion of the reservoir.

By copy of this application, Mr. Irby of the State Engineer Office is being advised of the proposed well conversion. A copy of the 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 data is required in support of this application.

Very truly yours,



D. R. Bell
Area Superintendent

DRB/jj

Attachments

cc: Mr. Frank Irby
State Engineer Office

NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTSC-116
Revised 1-1-65

Operator		Pool		County												
Union Oil Company of California		South Caprock Queen		Chaves												
Address		TYPE OF TEST - (X)		Completion <input type="checkbox"/>		Special <input type="checkbox"/>										
210 E. Ave. 0, Lovington, New Mexico		TEST - (X)		Scheduled <input checked="" type="checkbox"/>												
LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS - OIL RATIO CU. FT./BBL.
		U	S	T	R							WATER BBLs.	GRAV. OIL	OIL BBLs.	GAS M.C.F.	
#1 - Tract 64 (Test Prior To Stimulation)	16-18 P		18	155	31E	7-10-62	P	-	30#	60	24	1	34	1	15	15,000
#1 - Tract 64 (Test @ Peak Stimulated Rate)	16-18 P		18	155	31E	7-25-64	P	-	"	30	24	50	"	210		TSTM
#1 - Tract 64 (Current Test - On Decline)	16-18 P		18	155	31E	8-15-66	P	-	"	48	"	73	34	12		TSTM
#2 - Tract 6 (Test Just Prior To Stimulation)	12-17 P		17	155	31E	10-11-62	P	-	30#	20	24	1	33	7	11	1,570
#2 - Tract 6 (Test @ Peak Stimulated Rate)	12-17 P		17	155	31E	11-16-64	P	-	"	123	"	80	33	70	-	TSTM
#2 - Tract 6 (Current Test)	12-17 P		17	155	31E	8-29-66	P	-	"	123	"	600	"	12		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.

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

D.R. Bell
Area Superintendent

September 27, 1966

(Date)

EXHIBIT III
SOUTH CAPROCK QUEEN UNIT
CASING PROGRAM OF PROPOSED INJECTION WELL

Tract 64
Well 9-18

TD	3122'
ETD	3120'
Open Hole Sections	-
Perforations	3087'-3100'

Surface Casing

Size	8 5/8
Setting Depth	300'
Cement, sacks	200
Circulated?	Yes
Grade Pipe	J-55
Weight, Lbs/Ft.	28
Age, years	10
Condition	New

Oil String

Size	5 1/2
Setting Depth	3122'
Cement, sacks	125
Grade Pipe	J-55
Weight, Lbs/Ft.	14
Age, years	10
Condition	New

SOUTH CAPROCK QUEEN UNIT

Tract 64, Well 9-18

Anticipated Injectivity:
500 B/D at 1300 psig

Surface

8-5/8" c 300'
w/200 sacks
(circulated)

Calculated Top of Cement
2402'

Casing-tubing annulus
filled with inhibited
water

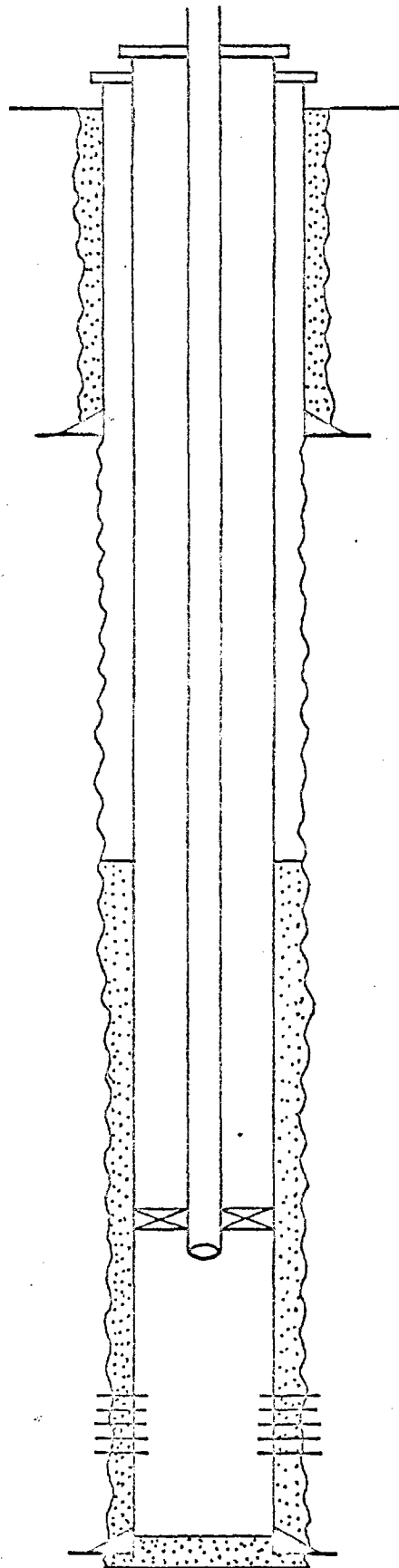
2" EUE, 8 rt, J-55
plastic-lined tubing
set at about 3050' with
tension packer on bottom.

Perforations
3087'-3100'

5 1/2" c 3122'
w/125 sacks

ETD 3120'

TD 3122'



Union Oil Company of California

205 EAST WASHINGTON AVENUE



LOVINGTON, NEW MEXICO 88260

September 22, 1966

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
Well, 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 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 packers on bottom. The packers will be set just above the perforations or 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 various casing string in this well.

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,

D. R. Bell
Area Superintendent

DRB/jj
Attachments

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



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

ADDRESS CORRESPONDENCE TO:
STATE CAPITOL
SANTA FE, NEW MEXICO 87501

October 11, 1966

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

274-241

Dear Mr. Porter:

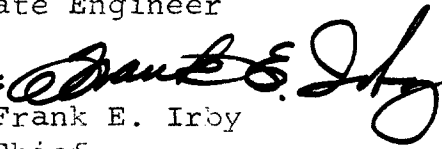
Reference is made to the application of Union Oil Company of California dated September 22, 1966 which seeks administrative approval for the expansion of their South Caprock Queen Unit by converting their well 9-18 located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 18, T. 15 S., R. 31 E., to water injection.

This office offers no objection to the granting of the application, provided the tubing and packer are set well below the top of the cement surrounding the 5 $\frac{1}{2}$ " casing.

FEI/ma
cc-Union Oil Co.
F. H. Hennighausen

Yours truly,

S. E. Reynolds
State Engineer

By: 
Frank E. Irby
Chief
Water Rights Div.

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