

# Union Oil Company of California

M I D L A N D

D I S T R I C T

AREA CODE 915  
MU 2-9731

November 17, 1967

WAC 277  
P.O. Box 671  
500 N. MARIENFELD  
MIDLAND, TEXAS 79701

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  
Hume Queen Unit  
Lea County, New Mexico

Dear Mr. Porter:

Union Oil Company of California, as operator of the Hume Queen Unit in Lea 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. Well No. 6, located in the NE/4 of SE/4 of Section 8, T-16-S, R-34-E.

This well is offset to the North and West by producing wells. Well No. 6 has reached its secondary recovery economic limit. Conversion of this well should improve the areal sweep efficiency around wells No. 5 and 7. The location of the proposed injection well and the offset stimulated wells is shown on the attached plat (Figure 1).

EXHIBIT I: A plat of the Hume Queen Unit showing the location of all injection and producing wells. The proposed injection well is identified on the plat.

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.

Mr. A. L. Porter, Jr.

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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.

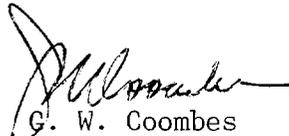
The proposed injection well is perforated entirely in the Queen Sand. Injection water is produced Queen Sand brine, occasionally supplemented by fresh water from the Ogallala Sand. Anticipated injectivity for this well is shown on Exhibit IV.

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,

UNION OIL COMPANY OF CALIFORNIA



G. W. Coombes  
District Operations Superintendent

JRH:rb

Attachments

cc: Mr. Frank Irby  
State Engineer Office

# Union Oil Company of California

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November 17, 1967

P.O. Box 671  
500 N. MARIENFELD  
MIDLAND, TEXAS 79701

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, Hume Queen Unit,  
Lea 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 Hume 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 perforations 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 2150 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,

  
G. W. Coombes

District Operations Superintendent

JRH:rb  
Attachments

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

NEW MEXICO OIL CONSERVATION COMMISSION  
GAS-OIL RATIO TESTS

Operator		Pool		County		Completion		Special								
Union Oil Company of California		Hume Queen		Lea												
Address		SCHEDULED		TEST - (X)		SCHEDULED		SPECIAL								
210 E. Ave. "O", Lovington, New Mexico		XX														
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	TYPE OF TEST	CHOKES SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST		GAS - OIL RATIO CU.FT./BBL			
		U	S	T							R	WATER BBL.		GRAV. OIL BBL.	OIL BBL.	GAS M.C.F.
Hume Queen Unit (Test Prior To Stimulation)	5	J	8	16	34	5/1/64	P	-	30#	93	24	6	33	2	700	350
Hume Queen Unit (Test @ Peak Stimulated Rate)	5	J	8	16	34	5/20/65	P	-	30#	136	24	14	33	100	TSTM	-
Hume Queen Unit (Current Test-On Decline)	5	J	8	16	34	9/24/67	P	-	30#	136	24	610	33	65	TSTM	-
Hume Queen Unit (Test Prior To Stimulation)	7	H	8	16	34	5/14/64	P	-	30#	93	24	130	33	70	952	136
Hume Queen Unit (Test @ Peak Stimulated Rate)	7	H	8	16	34	6/13/65	P	-	30#	136	24	200	33	150	TSTM	-
Hume Queen Unit (Current Test-On Decline)	7	H	8	16	34	9/30/67	P	-	30#	136	24	472	33	89	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.

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

*James H. Hays*  
(Signature)  
*Production Engineer*  
(Title)  
10-19-67  
(Date)

EXHIBIT III  
HUME QUEEN UNIT  
CASING PROGRAM OF PROPOSED INJECTION WELL

WELL #6

TD	3978'
ETD	3967'
Open Hole Sections	-
Perforations	3922' - 3942'

Surface Casing

Size	8 5/8"
Setting Depth	264'
Cement, sacks	200
Circulated?	Yes
Grade Pipe	J-55
Weight, Lbs/Ft.	24
Age, years	9
Condition	New

Oil String

Size	5 1/2"
Setting Depth	3968'
Cement, sacks	100
Grade Pipe	J-55
Weight, Lbs/Ft.	14
Age, years	9
Condition	New

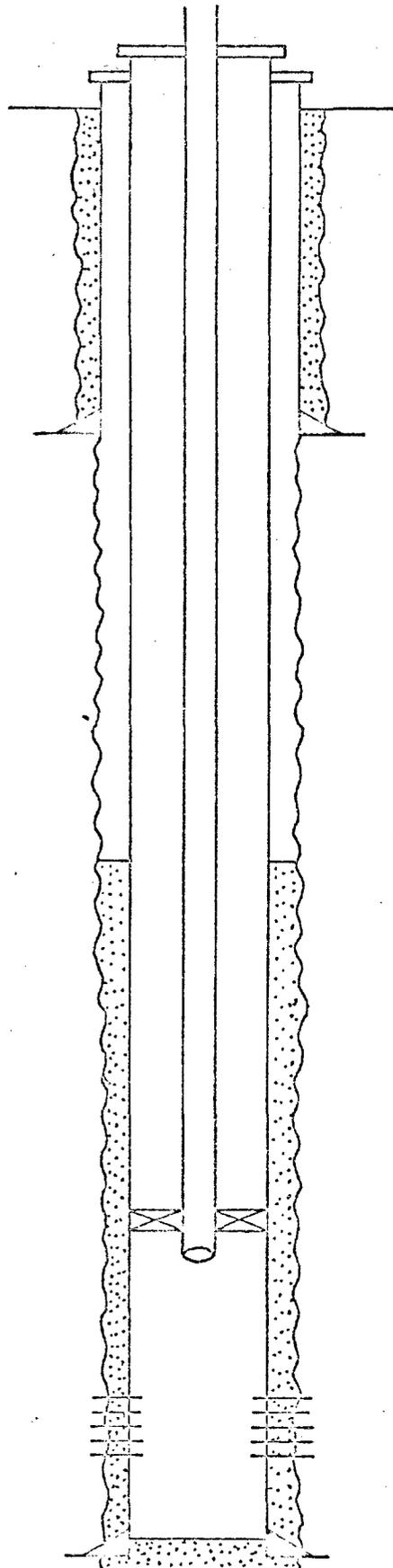
HUME QUEEN UNIT  
WELL #6  
EXHIBIT IV

Anticipated Injectivity  
400 B/D @ 2150 PSIG

8 5/8" c 264'  
w/200 sx.

Calculated Top Of Cement  
3420'

5 1/2" c 3968'  
w/100 sx.



Surface

Casing-Tubing Annulus  
Filled With Inhibited  
Water

2" EUE, 8rt, J 55  
Plastic Lined Tubing  
Set At About 3822'  
w/Tension Packer On  
Bottom

Perforations -  
3922'-3942'

ETD 3967'

TD 3978'

Union Oil Company of California

500 N. Marienfeld, Midland, Texas 79701

Telephone (915) MU 2-9731



Midland District

November 29, 1967

Mr. J. E. Kapteina  
New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico

Re: Hume Queen Unit, Lea County, N.M.  
Conversion of Well No. 6

Dear Mr. Kapteina:

Your letter dated November 21, 1967 regarding our application for administrative approval to convert well No. 6 in the above captioned waterflood project to injection service has been received. According to our records a copy of this application was mailed to the Oil Conservation Commission offices in Hobbs to the attention of Mr. Joe Ramey on November 17. If, for some reason, this copy was not received in the Hobbs office, we will be pleased to forward another copy.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

A handwritten signature in cursive script that reads "R. H. Butler".

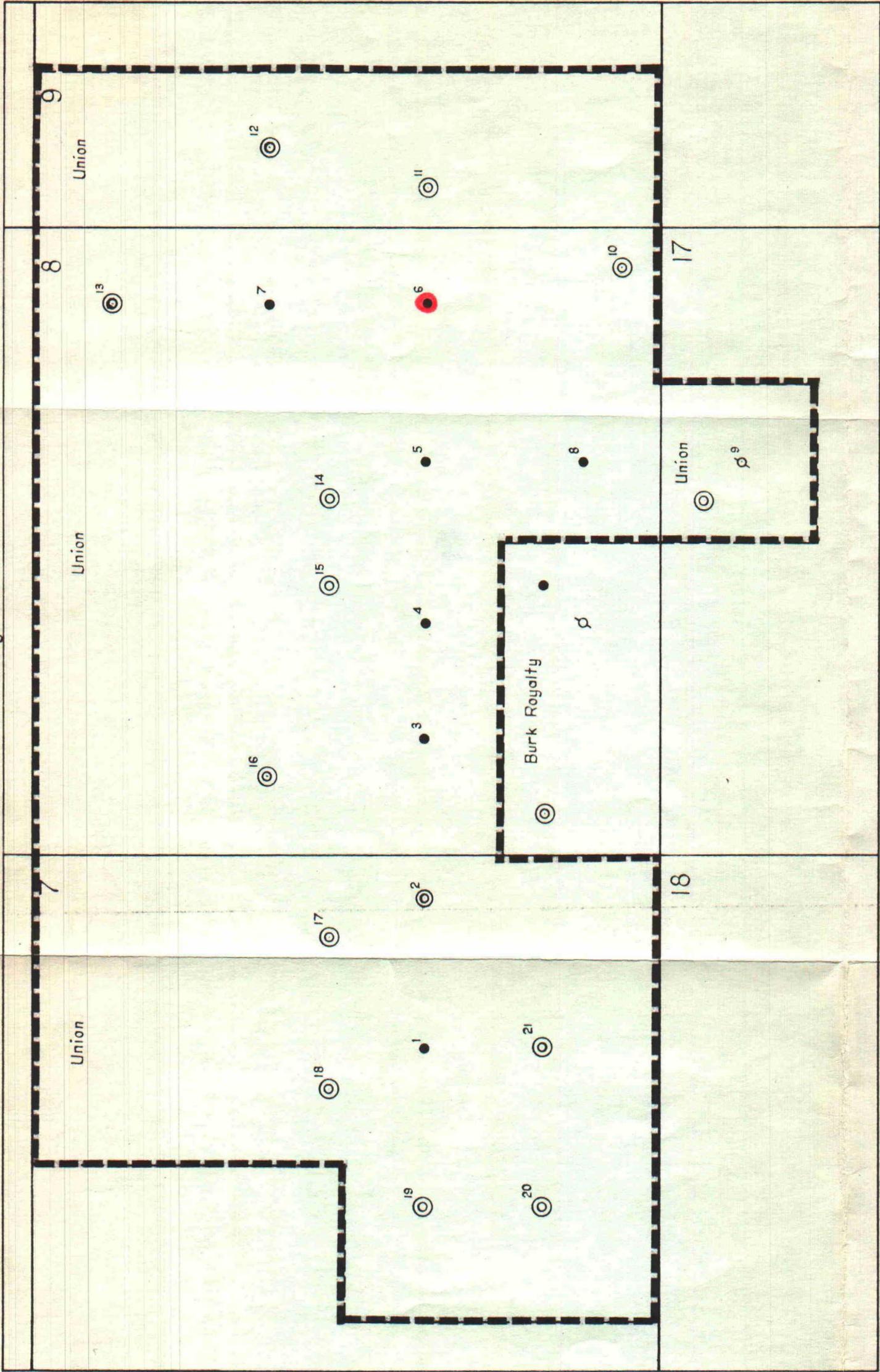
R. H. Butler

RHB:rb

cc: Mr. Joe Ramey

Range 34 E

TWP. 16 S



### LEGEND

- UNIT BOUNDARY
- ⊙ INJECTION WELLS
- PRODUCING WELLS

UNION OIL COMPANY OF CALIFORNIA  
 CENTRAL DIVISION -- MIDLAND, TEXAS

## HUME QUEEN FIELD

LEA COUNTY, NEW MEX.

