

Union Oil Company of California

205 EAST WASHINGTON AVENUE



LOVINGTON, NEW MEXICO 88260

February 28, 1967

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

WEX - 256
See memo 11

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 #2, located in the NE/4 of SE/4 of Section 7, T-16-S, R-34-E.

This well is offset to the West and East by producing wells. Well #2 has reached its secondary limit (2 BOPD). Conversion of this well should improve the area's sweep efficiency around wells #1 and #3. 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 Hume 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.

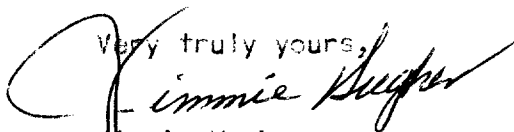
February 28, 1967

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,

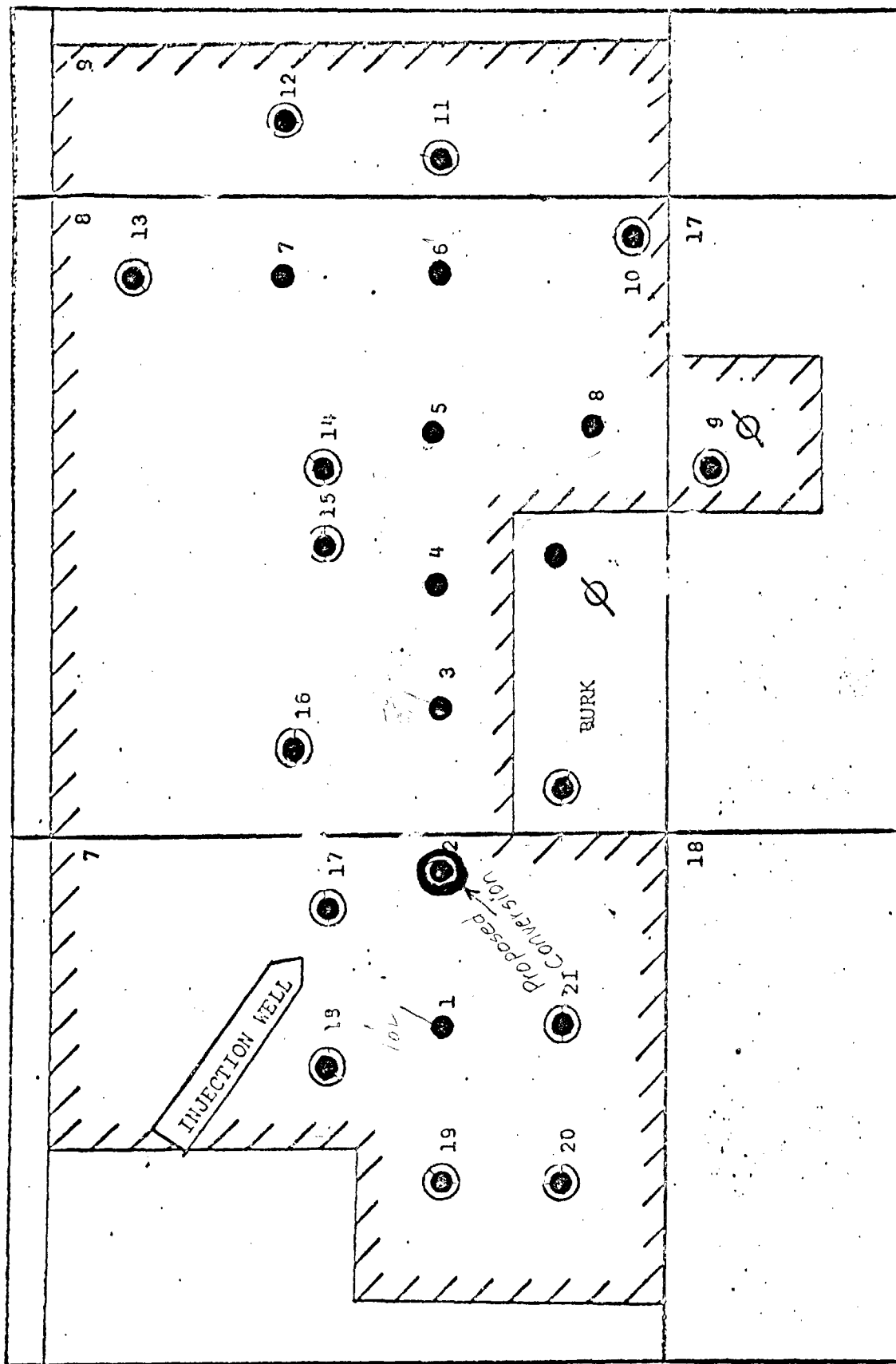
A handwritten signature in cursive script, reading "Jimmie Hughes". The signature is written in dark ink and is positioned above the typed name and title.

Jimmie Hughes
Area Production Engineer

JH/jj

Attachments

cc: Mr. Frank Irby
State Engineer Office



HUME QUEEN UNIT

HUME QUEEN FIELD

Twp 16S - R9E 34 E

Lea Co., N.M.
UNION OIL COMPANY OF CALIFORNIA

EXHIBIT II

NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTSC-1116
Revised 1-1-65

Operator		County		Lea											
Union Oil Company of California		Hume Queen		Lea											
Address		210 E. Ave. O, Lovington, New Mexico		Completion <input type="checkbox"/> Special <input type="checkbox"/>											
		TYPE OF TEST - (X)		SCHEDULED XX											
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE 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		OIL BBL.	GAS M.C.F.
Hume Queen Unit (Test Prior To Stimulation)	1	J	7	16S	34E	4-13-64	P	30#	93	24	1	33	1	-	TSTM
Hume Queen Unit (Test @ Peak Stimulated Rate)	1	J	7	16S	34E	5-21-65	P	30#	136	24	5	33	102	29	290
Hume Queen Unit (Current Test - On Decline)	1	J	7	16S	34E	2-17-67	P	30#	145	24	8	33	30	-	TSTM
Hume Queen Unit (Test Prior To Stimulation)	3	L	8	16S	34E	1-15-64	P	30#	136	24	1	33	40	4	100
Hume Queen Unit (Test @ Peak Stimulated Rate)	3	L	8	16S	34E	8-12-65	P	30#	136	24	0	33	91	9	99
Hume Queen Unit (Current Test)	3	L	8	16S	34E	2-19-67	P	30#	111	24	6	33	55	-	TSTM

No well will be assigned an allowable greater than the amount of oil produced on the official test.

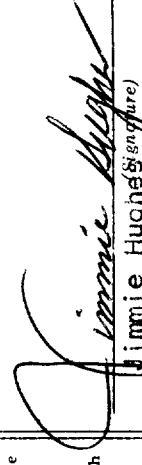
During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized 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.



Jimmie Hughes

Area Production Engineer

(Title)

February 28, 1967

(Date)

EXHIBIT III
HUME QUEEN UNIT
CASING PROGRAM OF PROPOSED INJECTION WELL

WELL #2

TD	4000'
ETD	3964'
Open Hole Sections	-
Perforations	3934'-3954'

Surface Casing

Size	8 5/8
Setting Depth	354'
Cement, sacks	300
Circulated?	Yes
Grade Pipe	J-55
Weight, Lbs/Ft.	24
Age, years	8
Condition	New

Oil String

Size	5 1/2
Setting Depth	3999'
Cement, sacks	200
Grade Pipe	J-55
weight, Lbs/Ft.	14
Age, years	8
Condition	New

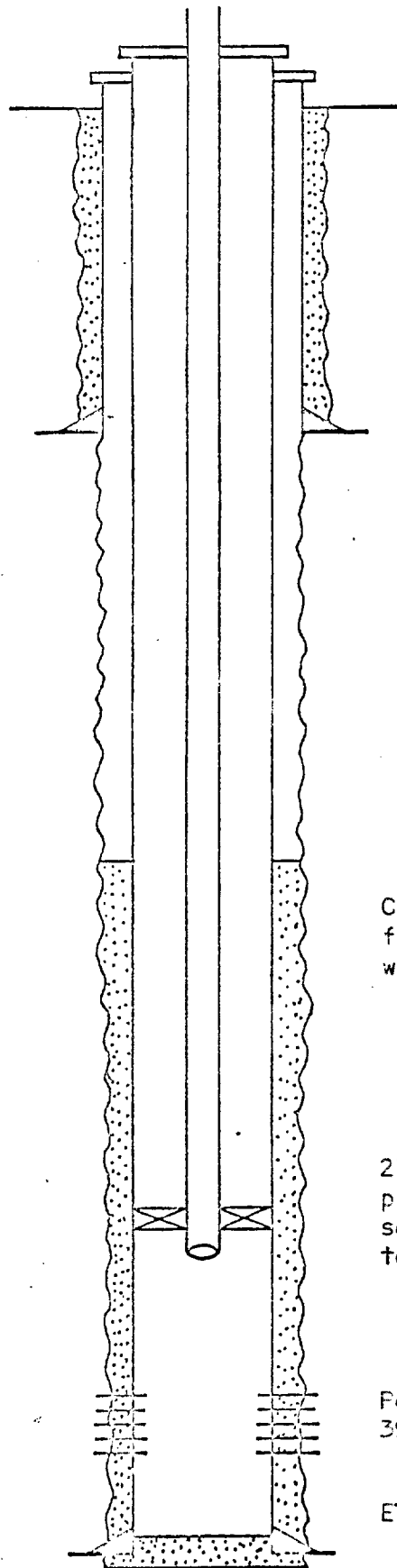
HUME QUEEN UNIT
WELL #2

Anticipated Injectivity:
250 B/D at 2150 psig

8-5/8" c 354'
w/300 sacks
(circulated)

Calculated Top of Cement
2719'

5 1/2" c 3999'
w/200 sacks



Surface

Casing-tubing annulus
filled with inhibited
water

2" EUE, 8 rt, J-55
plastic-lined tubing
set at about 3830' with
tension packer on bottom

Perforations
3934'-3954'

ETD 3964'

TD 4000'

Union Oil Company of California

205 EAST WASHINGTON AVENUE



LOVINGTON, NEW MEXICO 88260

February 28, 1967

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

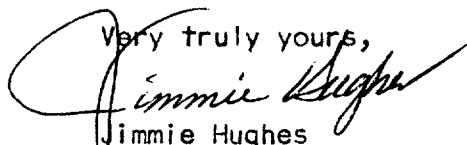
Re: Casing Data On Proposed Water Injection
Well, Hume Queen Unit, Lea County,
New Mexico

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,

Jimmie Hughes
Area Production Engineer

JH/jj
Attachments

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



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

March 2, 1967

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

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 which seeks authority to expand their Hume Queen Unit Waterflood Project in Lea County, New Mexico by the conversion of well #2 located in the NE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Sec. 7, T. 16 S., R. 34 E., to water injection service.

On the basis of the information contained in the application, exhibits 3 and 4 and Mr. Hughes' letter to me under date of February 28, 1967, it appears that no threat of contamination to any fresh waters which may exist in the area will occur and this office offers no objection to the granting of the application.

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

Yours truly,

S. E. Reynolds
State Engineer

By:

Frank E. Irby
Frank E. Irby
Chief

Water Rights Div.