

# GRARIDGE CORPORATION

IBEX BUILDING

POST OFFICE BOX 732

BRECKENRIDGE, TEXAS

January 18, 1960 25

Oil Conservation Commission  
State of New Mexico  
State Capitol Building  
Santa Fe, New Mexico

Re: Application For Administrative  
Approval To Convert Two Wells  
To Water Injection Wells In  
North Caprock Queen Unit No. 1  
Lea and Chaves Counties

Gentlemen:

In accordance with Commission Order No. R-972-B, issued on August 6, 1958, Graridge Corporation as Unit Operator respectively request administrative approval to convert the following wells to water injection wells.

<u>WELL NO.</u>	<u>LOCATION</u>
7-10	NW/4, SE/4, Sec. 7, T13S, R32E
7-16	SE/4, SE/4, Sec. 7, T13S, R32E

The following data pertinent to the proposed expansion are given.

(1) The proposed injection wells are directly offset by a producing well which has shown response to the waterflood project. See attached Form C-116 and Exhibit No. 1.

(2) The wells requested have undergone remedial work and readied for water injection.

(3) Exhibit No. 2 indicates present injection well data. It is evident that some of the injection wells are not as receptive to water injection as others, thus, it is desirable to place wells on injection as early as responses warrant in order to maintain flood balance.

7-10	Comp - 10/31/46	292' 7 5/8" 40" 1/2	150 gal
		3042' 2" 17" 1/2	600 gal
		120' 4 1/2" 18" 1/2	50 gal
7-16	Comp - 10/31/46	206' 8 5/8" 28" 1/2	150 gal
		3336' 2" 16" 1/2	600 gal
		126' 4 1/2" 18" 1/2	50 gal

January 18, 1960

(4) Exhibit No. 3 gives performance curves for the overall waterflood project.

Graridge Corporation is requesting the State Engineers office to waive its requirement of placing tubing and packer in these injection wells as only fresh water will be injected into them, and which they did on Injection Well No. 7-14.

Copies of this application are being sent to Ambassador Oil Corporation and to Great Western Drilling Company as they are offset operators to the proposed expansion. We are submitting waivers to the offset operators and will forward these to the Commission as soon as possible.

Any consideration by the Commission in expediting this matter will be greatly appreciated.

Very truly yours,

GRARIDGE CORPORATION



B. G. Harrison

Manager of Secondary Recovery

SHL:BGH:gl

cc: Oil Conservation Commission, Hobbs  
Mr. Frank Irby

Graham Office

January 12, 1960

Graridge Corporation  
P. O. Box 752  
Breckenridge, Texas

Gentlemen:

Well No. 16-1, Tract 2 of the North Central Caprock Queen Unit, has received response from water injection as evidenced in tests in December, 1959 and January, 1960. Since December 19 the production has increased from 2 barrels per day to 22 barrels per day on January 10, 1960. Enclosed please find C-116's on the above well.

Great Western Drilling Company requests that Graridge as operator of the North Caprock Queen Unit No. 1 expand their Unit by the conversion of their Well No. 7-16 to an injection well. That this expansion be expedited so that waste will not occur.

This letter will also serve as a waiver to the above expansion as Great Western Drilling Company is requesting that Well No. 7-16 in the North Caprock Queen Unit No. 1 be converted to an injection well as soon as possible.

Yours very truly,

GREAT WESTERN DRILLING COMPANY

  
O. H. Cross  
General Superintendent

ONE :amh  
Enclosures

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

OPERATOR.....Great Western Drilling Company..... POOL ..... Caprock Queen.....  
 ADDRESS..... P. O. Box 1699, Midland, Texas..... MONTH OF ..... January....., 1960  
 SCHEDULED TEST..... COMPLETION TEST..... SPECIAL TEST..... X..... (Check One)  
 (See Instructions on Reverse Side)

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
<b>North Central Caprock Queen Unit</b>										
Tract 2	18-1	1-8	Pump		24	3	0	17	TSTM	
Tract 2	18-1	1-10	Pump		24	3	0	22	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..... January 12, 1960.....

Great Western Drilling Company  
Company

By..... *O. H. Crews*..... (O. H. Crews)

General Superintendent  
Title

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

OPERATOR.....Great Western Drilling Company..... POOL.....Caprock Queen.....

ADDRESS..... P. O. Box 1659, Midland, Texas..... MONTH OF..... December....., 19.59.....

SCHEDULED TEST..... COMPLETION TEST..... SPECIAL TEST..... ..... (Check One)

(See Instructions on Reverse Side)

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
<b>North Central Caprock Queen Unit</b>										
Tract 2	18-1	12-7	Pump		24	3	0	2	TSTM	
Tract 2	18-1	12-19	Pump		24	3	0	2	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.)

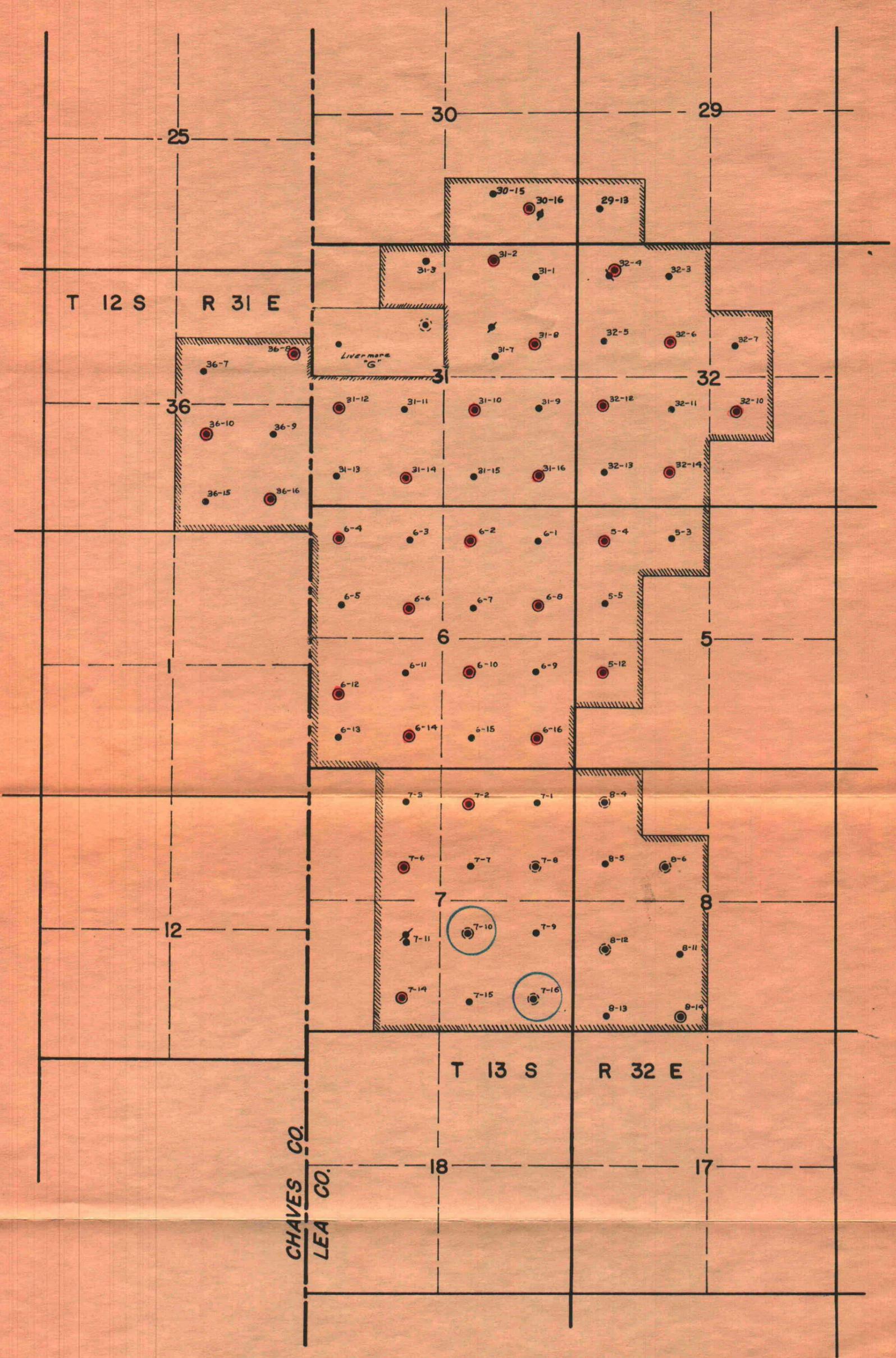
Date..... January 12, 1960.....

Great Western Drilling Company  
Company

By..... *O. H. Crews*..... (O. H. Crews)

General Superintendent

Title



NORTH CAPROCK QUEEN  
 UNIT NO. 1  
 CHAVES & LEA COUNTIES, NEW MEX.  
 SCALE: 1" = 2000'

Exhibit 1

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

OPERATOR Graridge Corporation POOL Caprock Queen  
 ADDRESS Box 752 -- Breckenridge, Texas MONTH OF January, 1960  
 SCHEDULED TEST..... COMPLETION TEST..... SPECIAL TEST X..... (Check One)  
 (See Instructions on Reverse Side)

Tests before Waterflood Response

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
North Caprock Queen Unit #1	7-11	9-24	Pump	--	24	Pot. Test	0	1/2	TSTM	TSTM
	7-13	10-15	Pump	--	24	6	0	6	TSTM	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 January 16, 1960

Graridge Corporation

Company

By S. H. Lindley, Jr.  
(S.H. Lindley, Jr.)

Engineer

Title

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

OPERATOR Graridge Corporation POOL Caprock Queen  
 ADDRESS Box 752, Breckenridge, Texas MONTH OF January, 19 60  
 SCHEDULED TEST..... COMPLETION TEST..... SPECIAL TEST X..... (Check One)  
 (See Instructions on Reverse Side)

Tests after Waterflood Response

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
North Caprock Queen Unit #1	7-11	1-13	Pump	--	24	1	0	23	TSTM	TSTM
	7-15	1-14	Pump	--	24	6	0	8.33	TSTM	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 January 16, 1960

Graridge Corporation  
Company

By S. H. Lindley, Jr.  
(S.H. Lindley, Jr.)  
Engineer  
Title

GR AR I D G E C O R P O R A T I O N

MONTHLY WATER FLOOD REPORT

Injection Well Data

Project: Cap Unit

Month: December, 1959

Lease & Well No.	Total Water Input		Injection Pressure	Cumulative Input
	Month	Avg./Day		
Cap Unit 5-4	4,190	135	1,015	402,959
5-12	2,862	92	920	61,768
6-2	5,526	178	1,060	444,121
6-4	5,237	169	1,100	99,297
6-6	4,609	154	1,020	79,398
6-8	15,541	502	900	267,100
6-10	2,716	88	1,100	34,681
6-12	15,655	505	800	186,349
6-14	15,993	516	320	146,211
6-16	4,118	133	1,100	44,826
7-2	7,708	249	1,100	59,979
7-6	4,311	139	1,100	34,005
7-14	14,781	476	610	75,572
30-16	7,134	297	940	97,948
31-2	14,045	484	950	204,214
31-8	14,499	468	810	228,108
31-10	11,538	373	0	410,184
31-12	15,612	504	430	203,739
31-14	3,566	115	1,100	116,274
31-16	13,537	437	580	465,735

Exhibit 2



WATER INJECTED, BBL/MO

OIL PRODUCTION, BBL/MO

GRARIDGE CORPORATION  
 NORTH CARROCK QUEEN UNIT  
 LEA & CRIVES COUNTIES, NEW MEXICO  
 PERFORMANCE CURVES

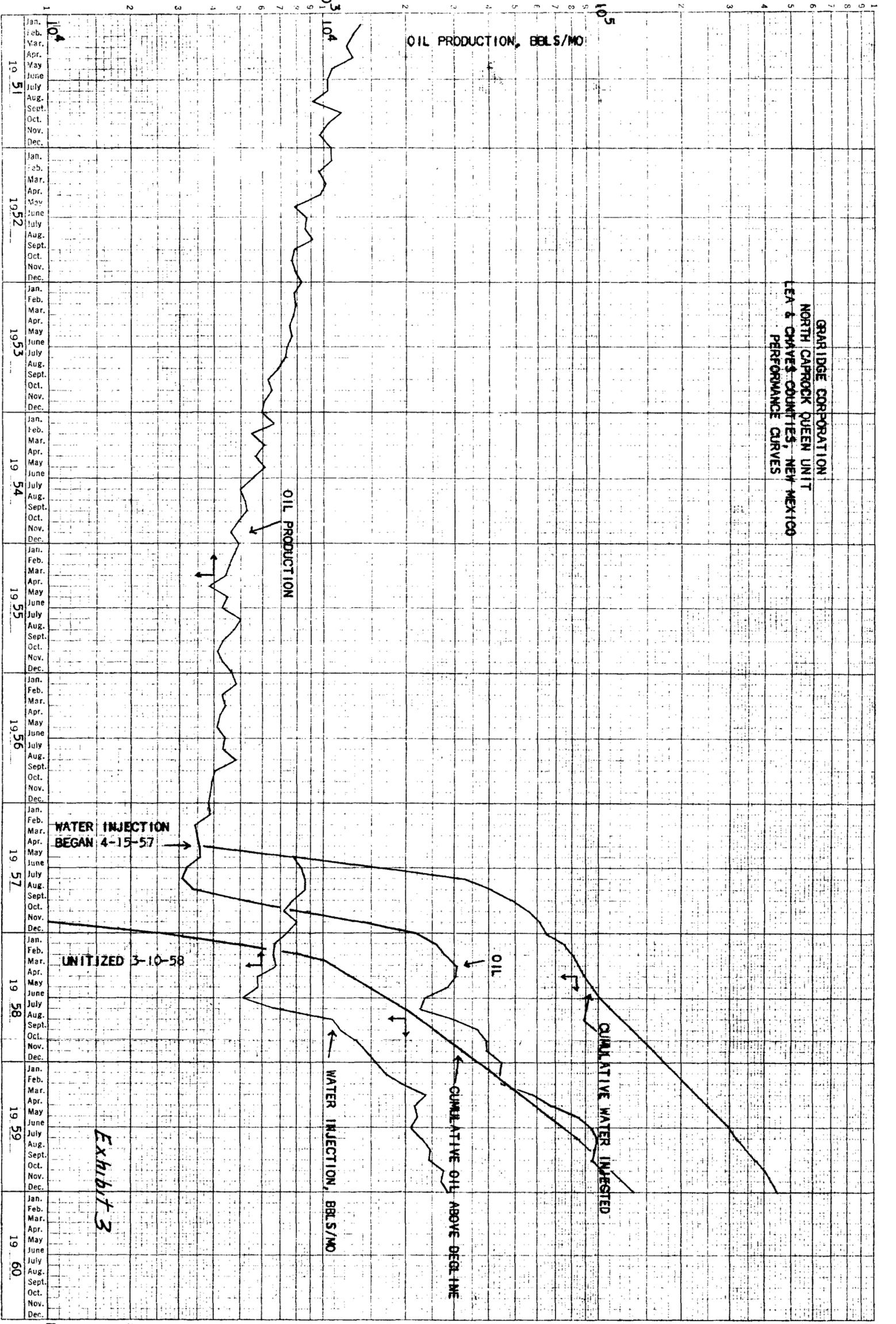
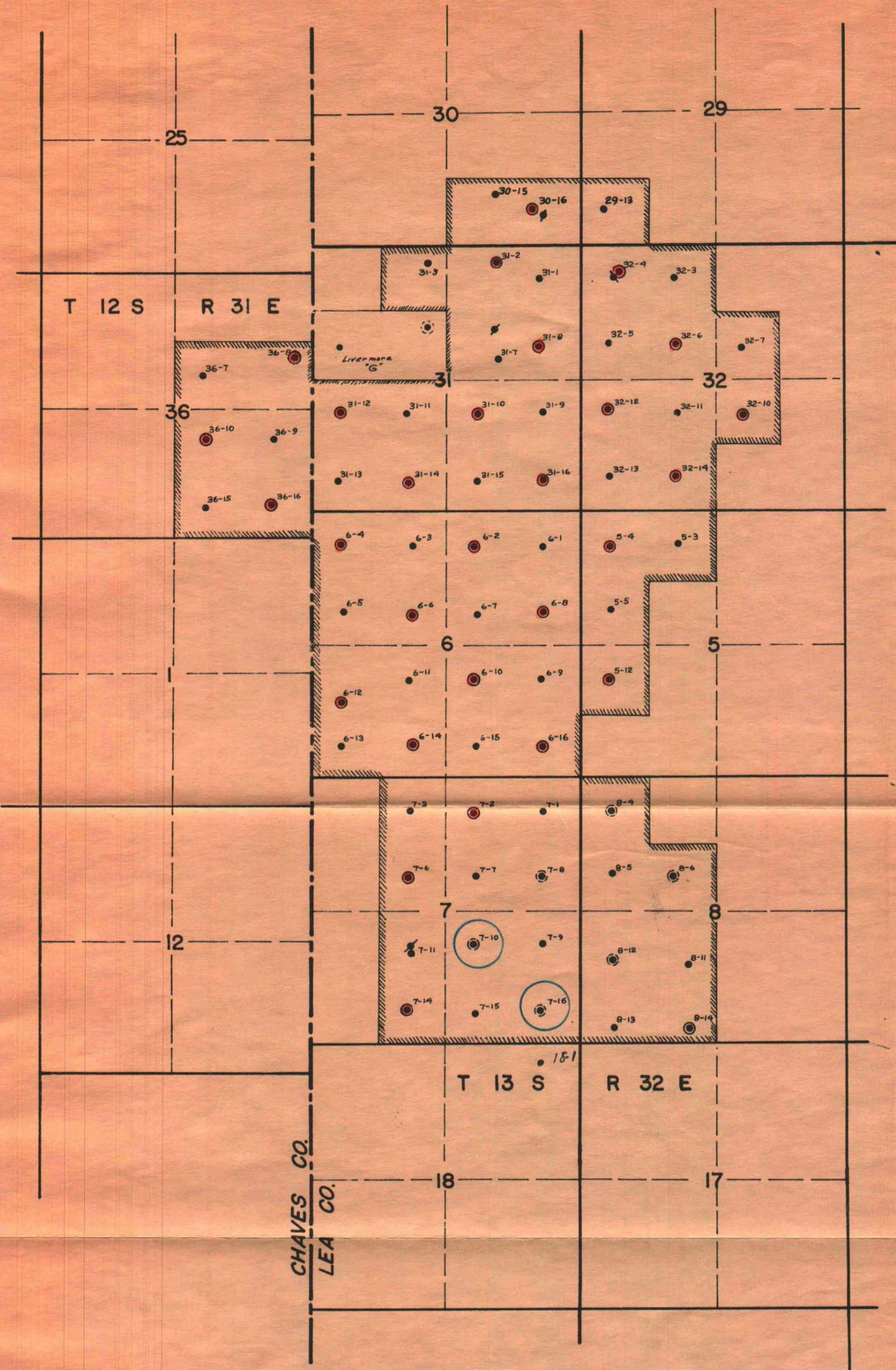


Exhibit 3

CUMULATIVE OIL ABOVE DECLINE AND CUMULATIVE WATER INJECTED, BBL



NORTH CAPROCK QUEEN  
 UNIT NO. 1  
 CHAVES & LEA COUNTIES, NEW MEX.  
 SCALE: 1" = 2000'

Exhibit 1

GRARIDGE CORPORATION

IBEX BUILDING

POST OFFICE BOX 752

BRECKENRIDGE, TEXAS

January 23, 1960

Oil Conservation Commission  
State Capitol Building  
Santa Fe, New Mexico

Gentlemen:

Attached please find a waiver from Great Western Drilling Company indicating that they as an offset operator have no objection to the expansion of Caprock Queen Unit No. 1 by conversion of Well Nos. 7-10 and 7-16 to water injection wells.

This should allow the Commission to waive the fifteen (15) day waiting period which is required if no waivers are obtained.

Your cooperation in expediting this application will be appreciated.

Yours very truly,

GRARIDGE CORPORATION

  
B. G. Harrison

Manager of Secondary Recovery

BGH:gl

Attachment

cc: Graham Office

GRARIDGE CORPORATION

IBEX BUILDING

POST OFFICE BOX 752

BRECKENRIDGE, TEXAS

January 18, 1960

Great Western Drilling Company  
P. O. Box 1659  
Midland, Texas

ATTENTION: Mr. M. B. Wilson

Gentlemen:

It is the desire of Graridge Corporation to expand the water injection program in the North Caprock Queen Unit No. 1 Flood in Lea and Chaves Counties, New Mexico. The expansion is to include the following wells.

<u>WELL NO.</u>	<u>LOCATION</u>
7-10	NW/4, SE/4, Sec. 7 T13S, R32E
7-16	SE/4, SE/4, Sec. 7 T13S, R32E

A fifteen-day waiting period is set up by the Commission unless waivers are obtained from all offset operators offsetting the proposed expansion.

In order to expedite matters, please sign and return one copy of this letter to this office if your company has no objection to the proposed expansion.

Yours very truly,

GRARIDGE CORPORATION



B. G. Harrison  
Manager of Secondary Recovery

Signed By: Ms. B. Wilson  
Vice President Production

For: Great Western Drilling Company

SHL:BGH:gl

GRARIDGE CORPORATION

IBEX BUILDING

POST OFFICE BOX 752

BRECKENRIDGE, TEXAS

January 27, 1960

Oil Conservation Commission  
State Capitol Building  
Santa Fe, New Mexico

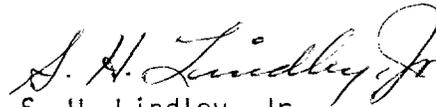
Gentlemen:

Attached is a waiver from Ambassador Oil Corporation indicating they as an offset operator have no objection to the expansion of Caprock Unit No. 1 by conversion of Well Nos. 7-10 and 7-16 to water injection wells.

Your cooperation in expediting this application will be appreciated.

Yours very truly,

GRARIDGE CORPORATION

  
S. H. Lindley, Jr.  
Engineer

SHL:gl

Attachment

cc: Graham Office

GRARIDGE CORPORATION  
IBEX BUILDING POST OFFICE BOX 752  
BRECKENRIDGE, TEXAS

January 18, 1960

Ambassador Oil Corporation  
P. O. Box 9338  
Fort Worth 7, Texas

ATTENTION: Mr. R. H. Vick

Gentlemen:

It is the desire of Graridge Corporation to expand the water injection program in the North Caprock Queen Unit No. 1 Flood in Lea and Chaves Counties, New Mexico. The expansion is to include the following wells.

<u>WELL NO.</u>	<u>LOCATION</u>
7-10	NW/4, SE/4, Sec.7, T13S, R32E
7-16	SE/4, SE/4, Sec.7, T13S, R32E

A fifteen-day waiting period is set up by the Commission unless waivers are obtained from all offset operators offsetting the proposed expansion.

In order to expedite matters, please sign and return one copy of this letter to this office if your company has no objection to the proposed expansion.

Yours very truly,

GRARIDGE CORPORATION

*B. G. Harrison*

B. G. Harrison  
Manager of Secondary Recovery

Signed By:

For:

*Robert H. Vick*  
*Ambassador Oil*

SHL:BGH:gl



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS  
STATE ENGINEER

ADDRESS CORRESPONDENCE TO:  
P. O. BOX 1079  
SANTA FE, N. M.

February 6, 1960

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

Dear Mr. Porter:

Reference is made to the application for administrative approval to convert two wells to water injection wells in North Caprock Queen Unit No. 1, Lea and Chaves Counties submitted on January 18, 1960 by Graridge Corporation. The wells involved in this application are Nos. 7-10, NW $\frac{1}{4}$ SE $\frac{1}{4}$  Section 7, Township 13 South, Range 32 East and Well 7-16, SE $\frac{1}{4}$  of the SE $\frac{1}{4}$  of Section 7, Township 13 South, Range 32 East as shown on the plat accompanying the application. I have reviewed the casing and cementing program on these existing wells and find no reason to believe that the granting of this application would be a threat to the quality of waters which may exist in the area. Therefore, this office offers no objection to the granting of this application.

Yours truly,

S. E. Reynolds  
State Engineer

By:

*Frank E. Irby*  
Frank E. Irby  
Chief

Water Rights Division

FEI/ma

cc-B. G. Harrison