

GRARIDGE CORPORATION  
IBEX BUILDING POST OFFICE BOX 752  
BRECKENRIDGE, TEXAS

August 28, 1959

MAIL OFFICE CCC

RECEIVED AM 9:21

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

Re: Application For Administra-  
tive Approval To Convert Two  
Wells To Water Injection  
Wells In Artesia Flood No. 2,  
Eddy County, New Mexico

Gentlemen:

In accordance with Commission Order No. R-966-E,  
Graridge Corporation respectfully request administrative approval  
to convert the following wells to water injection wells:

<u>Lease</u>	<u>Well No.</u>	<u>Location</u>
Lackawanna State "A"	1	NW/4, SE/4, Sec. 21, T-18S, R-28E
Lackawanna State "A"	3	NW/4, SE/4, Sec. 21, T-18S, R-28E

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) 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

August 28, 1959

to maintain balance.

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

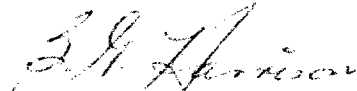
Attached Exhibit No. 1 indicates all offset operators and injection wells in the area adjacent to the proposed expansion.

Since Exhibit No. 1 indicates Graridge Corporation as the offset operator, no waivers from offset operators are enclosed.

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

Yours very truly,

GRARIDGE CORPORATION



B. G. Harrison

Manager of Secondary Recovery

SHL/BGH/gf

cc: Graham  
State Engineer Office  
Attn: Mr. Frank Irby  
Mr. Cliff Chapman  
Mr. Paul Darnell

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

## INSTRUCTIONS

Mail original to Oil Conservation Commission, Santa Fe, New Mexico, and one copy to District Office, Hobbs, New Mexico.

This report shall be mailed to the Commission on or before the 15th of the month following the period in which the well is scheduled to be tested. The ratios, as reported, shall become effective for proration purposes the first of the month following the end of the period in which the test is scheduled to be made. Failure to make the required test and report will be penalized as the Commission's Regulations provide.

Under "producing methods," show flowing, pumping, or gas lift; under "hours," show the duration of the test in hours, which includes all time the well is open for production of oil or gas during the 24-hour test period. The allowable is the daily allowable for the well at the time of test.

**METHOD OF TESTING:** Produce each well in the normal operating manner and the customary production rate and measure all gas, oil and water produced during 24 hours.

**MEASUREMENTS:** To be made in accordance with Rule 301. In computing the gas-oil ratio on gas lift wells, input is subtracted from output to obtain net gas volume.

**PRESSURE BASE:** 15.025 lbs. per sq. in., Specific Gravity .70. Temperature 60° F.

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

OPERATOR Granridge Corporation POOL Artesia  
ADDRESS Box 752, Breckenridge, Texas MONTH OF August, 1959  
SCHEDULED TEST X 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	
Lackawanna State	2-A	7-21	Pump	--	24	6	0	12	TSTM	

(I certify that the information given is true and complete to the best of my knowledge.)

Date August 28, 1959

Granridge Corporation  
Company  
By A. H. Lindley, Jr. S.H. Lindley, Jr.  
Engineer  
Title

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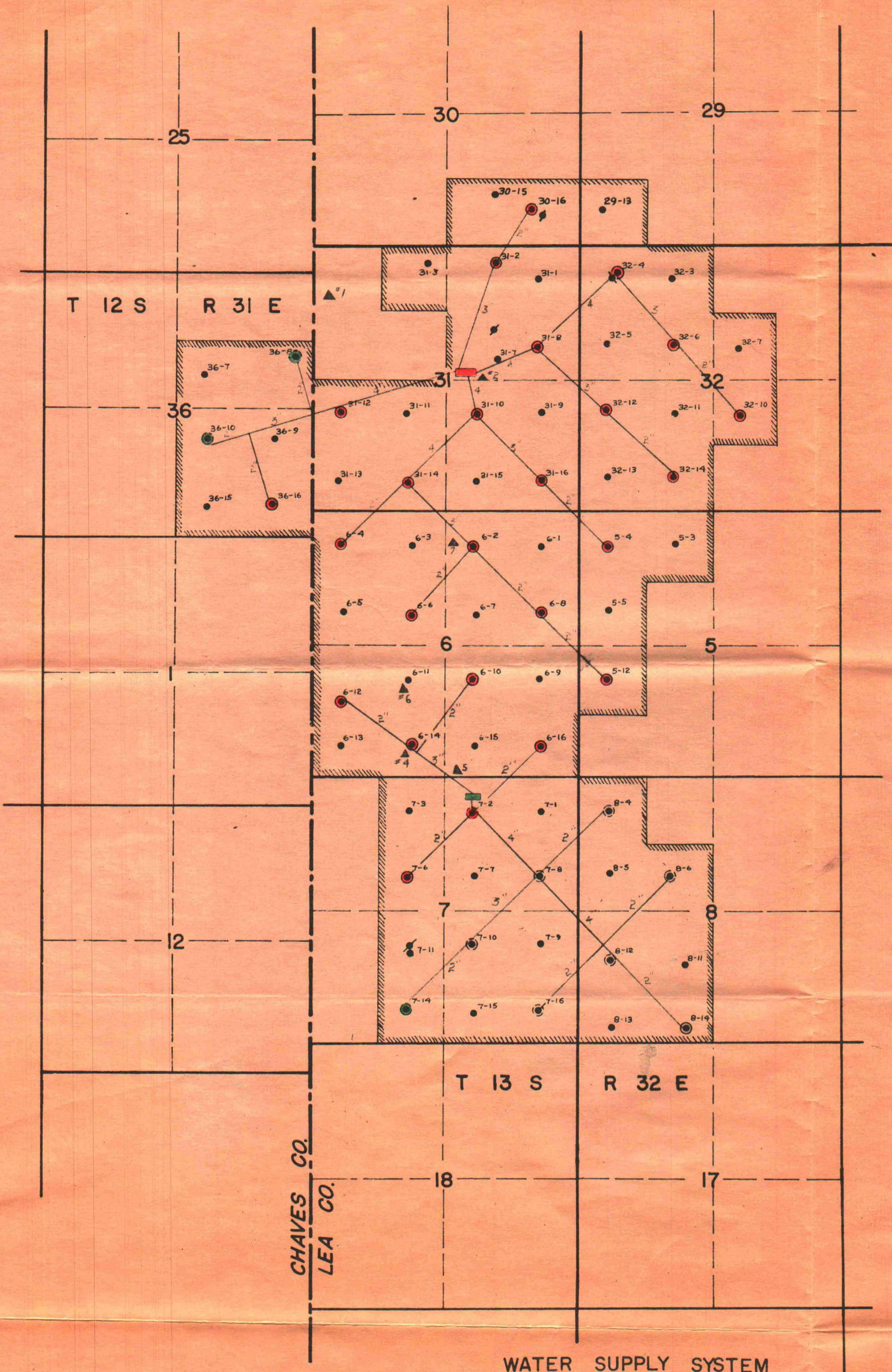
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**PRESSURE BASE:** 15.025 lbs. per sq. in., Specific Gravity .70. Temperature 60° F.





**LEGEND**

- Water Plant
- Water Supply Well

**NORTH CAPROCK QUEEN  
UNIT NO. 1**

**CHAVES & LEA COUNTIES, NEW MEX.**

**SCALE: 1"=2000'**



## Monthly Water Flood Report

## Injection Well Data

Project: Artesia Pilot Flood No. 2Month: July, 1959Field: ArtesiaFormation: 1st Grayburg

Lease & Well No.	Effective Acre-Feet		Total Water		Input B/D/ Ac-Ft.	IBEX* Net Input	Inject- ion Pressure	Total Bbls.	Cumulative Ibex * Net Bbls.	Input Net B/ Net AF
	Total	Ibex	Mo.	Avg/ Day						
McNutt 2			6,711	216			1,140		167,702	
5			3,549	115			1,100		30,939	
6			5,276	182			1,040		51,805	
8			11,409	369			940		76,101	
Resler Yates #13			4,491	145			1,135		146,138	
18			6,703	216			1,110		155,367	
22			7,875	254			1,100		58,083	
39			2,561	83			1,090		27,695	
51			3,198	118			1,130		120,109	
301			5,555	179			910		13,264	
** 304			1,337	149			820		1,337	

Remarks: (continued on next page)

Exhibit #2



GRARIDGE CORPORATION  
Monthly Water Flood Report  
Injection Well Data

Page 11.  
(2)

Project: Artesia Flood No. 2

Month: July, 1959

Field: Artesia

Formation: 1st Grayburg

Lease & Well No.	Effective Acres-Feet		Total Water		Input B/D/ Ac-Ft.	IBEX* Net Input	Inject- ion Pressure	Total Bbls.	Cumulative		Input Net B/ Net AF
	Total	Ibex	Mo.	Avg/ Day					Ibex *	Net Bbls.	
** Ventures St.	305		1,189	132			1,010		1,189		
Welch Duke St.	4		5,626	181			1,020		43,018		
5			7,848	253			1,100		158,114		
7			8,057	260			940		186,307		
10			8,580	277			920		67,663		
16			5,263	170			420		44,495		
** 21			432	48			1,135		432		
15			5,278	170			890		19,089		
Totals (19)			100,938	3517			996 (avg)		1,368,847		

Remarks: \*\* Injection commenced in the following new wells on July 23, 1959:

Resler Yates St. 304  
Ventures St. 305  
Welch Duke St. 21

INJECTION PRESSURE, PSIG.

WATER INJECTION, BBL/DAY

OIL PRODUCTION, BBL/MO.

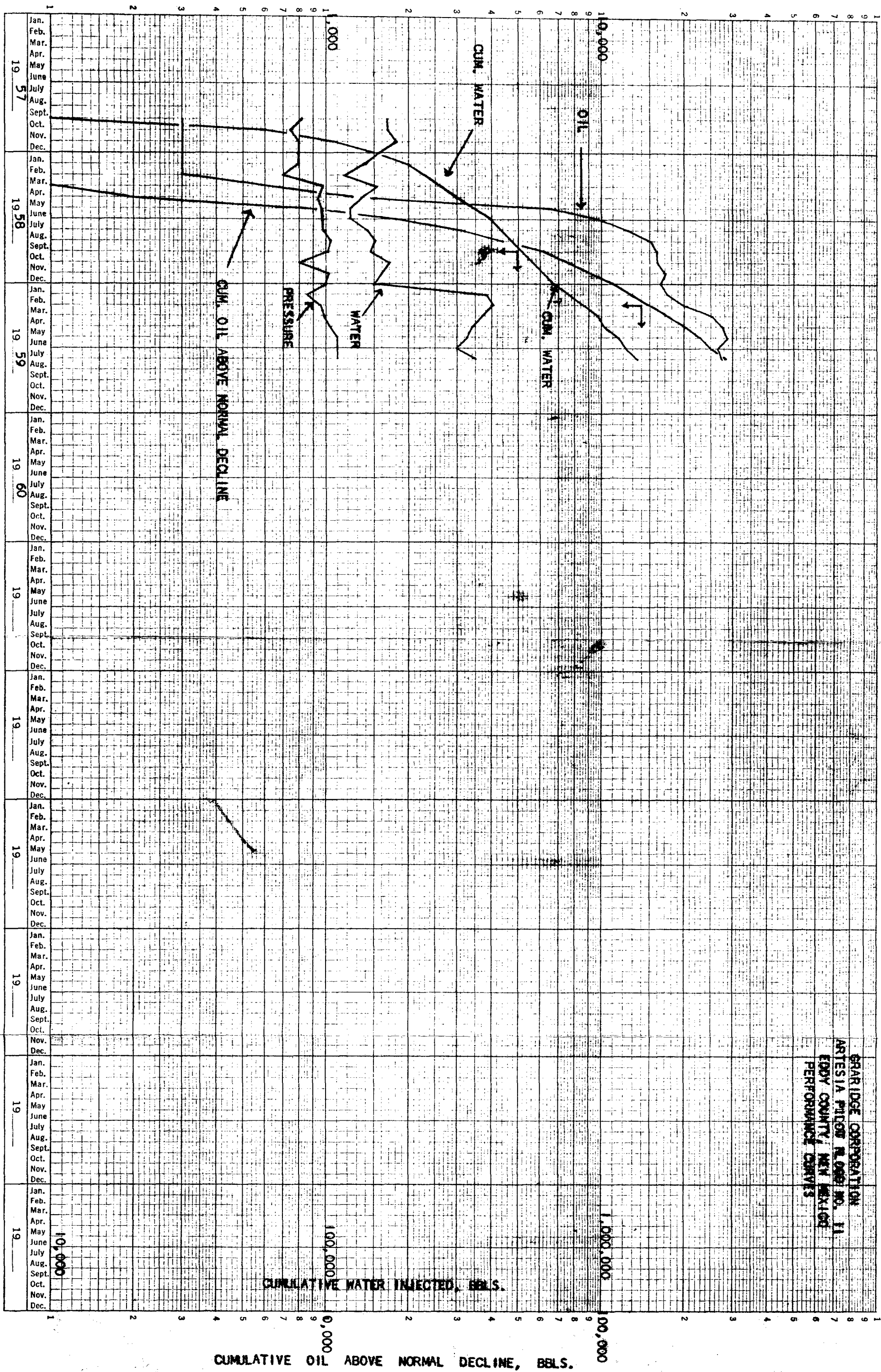


Exhibit #3



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS  
STATE ENGINEER

September 4, 1959

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

Oil Conservation Commission  
State Capitol Building  
Santa Fe, New Mexico

Attn. Mr. A. L. Porter, Jr.  
Secretary-Director

Dear Mr. Porter:


Reference is made to Graridge Corporation's application for administrative approval to convert two wells to water injection wells in Artesia Flood No. 2, Eddy County, New Mexico. The subject wells are Lackawanna State "A" No. 1 in the NW $\frac{1}{4}$  of the SE $\frac{1}{4}$  of Section 21, Township 18 South, Range 28 East and Lackawanna State "A" No. 3 in the NW $\frac{1}{4}$  of the SE $\frac{1}{4}$  of Section 21, Township 18 South, Range 28 East.

After reviewing this application, the statements in the cover letter and your files on these two wells, I recommend that new casing be set at 650 feet below the surface and cement circulated to the surface. My principal reasons being that there is no indication that any cement was used in either of these wells at the time of construction; that the casing in wells 1 and 3 is more than 30 years old; that the plugging of well No. 1 was not done in accordance with present day requirements; that good quality water comparable to that found in the Roswell Artesian Basin is present in this area at certain depths which, in my opinion, will be protected by constructing the wells in the manner recommended.

Very truly yours,

S. E. Reynolds  
State Engineer

FEI/ma  
cc-Graridge Corp.  
F. H. Hennighausen

By:   
Frank E. Irby  
Chief  
Water Rights Division



# GRARIDGE CORPORATION

IBEX BUILDING

POST OFFICE BOX 752

BRECKENRIDGE, TEXAS

October 5, 1959

Oil Conservation Commission  
State Capitol Building  
Santa Fe, New Mexico

ATTENTION: Mr. Jim Capatina

Gentlemen:

In keeping with our telephone conversation of October 2, 1959, regarding the completion methods on Graridge Corporation Lackawana State "A" Well Nos. 1 and 3, the following data is offered:

Lackawana State "A" No. 1:

1st Grayburg Oil Sand:	2132-2162'
Total Depth:	2183'
Old Casing:	8" at 685' Amount of cement Unknown; 6 5/8" at 1971' Amount of cement unknown
New Casing:	4 1/2" OD 9.5#/ft. at 2124' with 350 sx. cement.
Top of Cement:	1684' outside 4 1/2" csg. (Calc. from 50% fillup)

Before placing this well on injection, a string of 2 3/8" cement lined tubing will be run with a tension type packer and set to a depth of approximately 2100'.

Lackawana State "A" No. 3:

1st Grayburg Oil Sand:	2090-2121'
Total Depth:	2124'
Old Casing:	10" at 293' Amount of cement unknown; 8 1/4" at 674' Amount of cement unknown; and 6 5/8" at 1973' Amount of cement un- known
New Casing:	4 1/2" OD 9.5#/ft. will be run and set at approx. 2085' and cemented with approx. 100 sx.

October 5, 1959

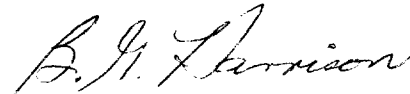
Before placing this well on injection, a string of 2 3/8" cement lined tubing will be run with a tension type packer and set at an approximate depth of 2075' which will be well below the top of the cement outside the 4 1/2" casing.

The workover operation on this well is to begin in the next few days.

Due to insufficient well records on this newly acquired property, we are unable to furnish any additional information on these wells, but if any other questions arise, please advise us.

Yours very truly,

GRARIDGE CORPORATION



B. G. Harrison  
Manager of Secondary Recovery

BGH:gl

cc: Oil Conservation Commission, Artesia  
Mr. Cliff Chapman  
Mr. Paul Darnell  
Graham  
State Engineer Office, Santa Fe  
Attn: Mr. Frank Irby



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.

October 9, 1959

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

Dear Mr. Porter:

Reference is made to Graridge Corporation's application for administrative approval to convert two wells to water injection wells in Artesia Flood #2, Eddy County, New Mexico and subsequent correspondence on that matter.


Mr. Harrison's letter of October 5, 1959 pertaining to the two wells, Lackawana State "A" No. 1 and Lackawana State "A" No. 2 sets forth the casing, cementing, tubing and packer program to be used in these injection wells. After carefully studying this program, it appears that the fresh waters encountered between land surface and the injection zone will have protection from contamination. Therefore, this office offers no objection to the granting of this application.

Yours truly,

FEI/ma

cc-Graridge Corp.  
F. H. Hennighausen

S. E. Reynolds  
State Engineer

By:   
Frank E. Irby  
Chief  
Water Rights Div.