

# GRARIDGE CORPORATION

IBEX BUILDING

POST OFFICE BOX 732

BRECKENRIDGE, TEXAS

February 13, 1961

*WFX - 11*

*Filing Room  
New Date Mar 2*

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  
Artesia Flood No. 2, Eddy  
County, New Mexico

Gentlemen:

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

<u>LEASE</u>	<u>WELL NO.</u>	<u>LOCATION</u>
Resler Yates State	384	Unit H, Sec. 28, T18S, R28E
Resler Yates State	385	Unit H, Sec. 28, T18S, R28E

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. 1 indicates all offset operators and injection wells in Artesia Flood No. 2. A copy of this application and a waiver form is being sent to Western Yates Company as they are the offset operator to the proposed expansion. This waiver will be forwarded to you as soon as it is received.

(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 a flood balance.

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

The subject wells have been completed in the following manner.

Resler Yates State No. 385: 7" casing was set at 549' and enough cement was used to circulate to the surface. The hole was drilled to 2181' and logged. 2-7/8" EUE plastic coated tubing was set at 2179' and cemented with 340 sacks, the cement circulated. The 2-7/8" tubing will be perforated opposite the First Grayburg formation. Water injection will be down the 2-7/8" plastic coated long string through perforations into the First Grayburg.

Resler Yates State No. 384: 7" casing was set at 528' and cemented with enough cement to circulate. The hole was drilled to 2158' and logged. 2-7/8" EUE plastic coated tubing was set at 2156' and cemented with 300 sacks, the cement circulated. The 2-7/8" tubing will be perforated opposite the First Grayburg formation. Water injection will be down the 2-7/8" plastic coated long string through the perforations into the First Grayburg formation.

As ordered by the Commission in Order No. R-1687, remedial work to protect the pay zone from water channelling and encroachment has been performed on Western Development Company's Resler Yates State Well No. 47, a twin well to No. 385, which produces from an interval other than that being flooded by Graridge Corporation.

Remedial work was not required on Western Development Company's Resler Yates State No. 27, a twin to No. 384, as the interval other than that being flooded by Graridge Corporation has casing (oil string) set through the First Grayburg and cemented which should afford proper protection to other producing horizons.

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

BGH/vl  
Attachments (4)

cc: Oil Conservation Commission, Artesia  
Mr. Frank Irby

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

OPERATOR Graridge Corporation POOL Artesia  
ADDRESS Box 752, Breckenridge, Texas MONTH OF February, 19 61  
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	
*Resler Yates State	307	5-24-60	Pump	---	24	30	0	24	TSTM	TSTM
Resler Yates State	307	1-4-61	Pump	---	24	40	0	49	TSTM	TSTM
* This well was drilled after waterflood response had pressured up area.										

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.

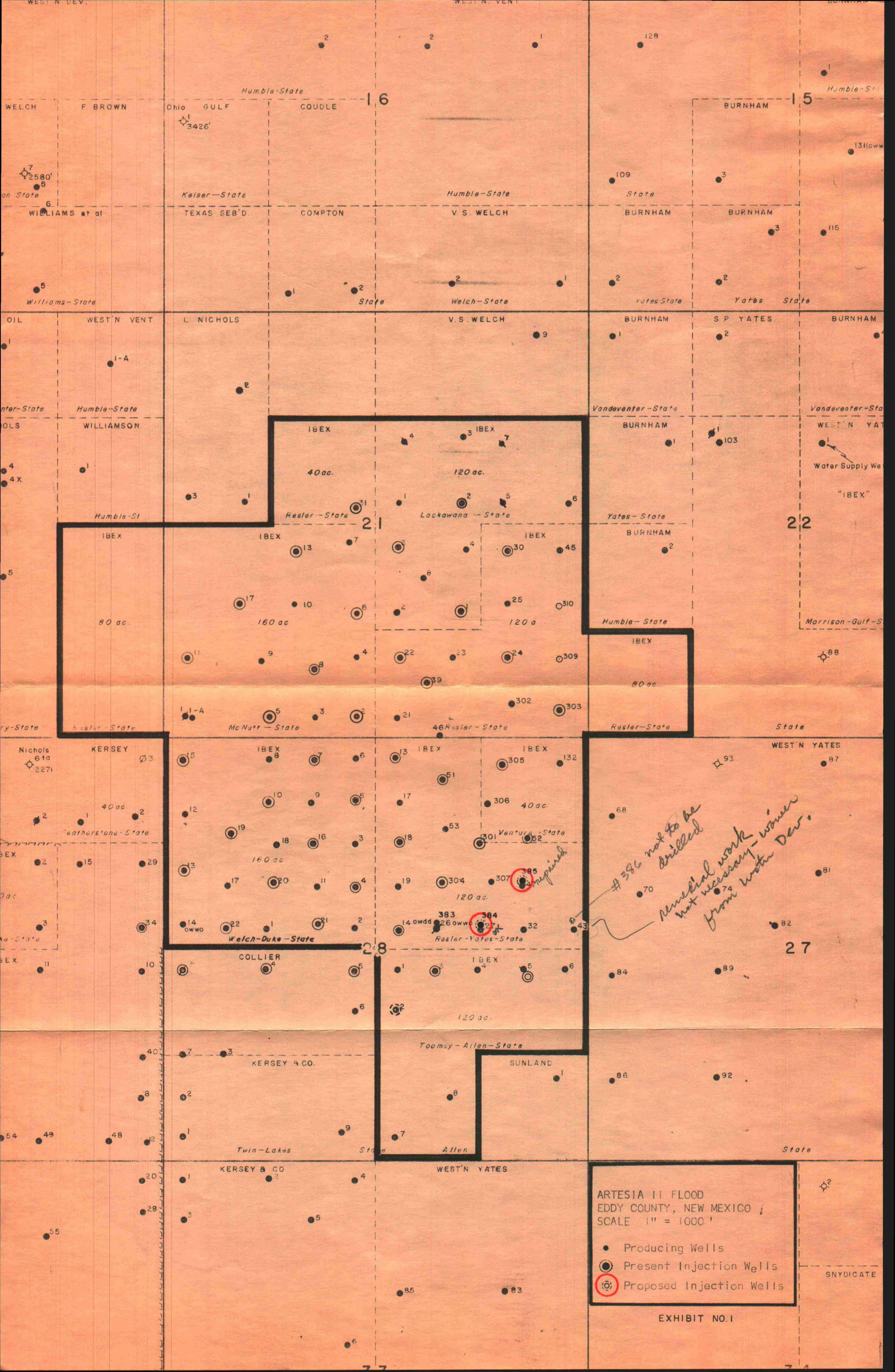
Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission. In accordance with Rule 301 and Appropriate Pool Rules.

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

Date February 13, 1961

GRARIDGE CORPORATION  
Company  
By S. H. Lindley, Jr.  
Engineer  
Title





ARTESIA II FLOOD  
EDDY COUNTY, NEW MEXICO  
SCALE 1" = 1000'

- Producing Wells
- Present Injection Wells
- ⊙ Proposed Injection Wells

EXHIBIT NO.1



# GRARIDGE CORPORATION

## MONTHLY WATER FLOOD REPORT

Page 11.

### Injection Well Data

Project: Artesia Flood No. 2

Month: January, 1961

Lease & Well No.	Total Water Input		Injection Pressure	Cumulative Input
	Month	Avg./Day		
Lackawanna State 2	4,893	158	920	17,764
Lackawanna State "A" 1	3,528	114	1040	54,468
3	5,265	170	1050	68,975
McNuff State 2	6,513	210	1075	277,190
5	3,697	119	1055	93,725
6	3,564	115	1055	120,704
8	5,737	185	1050	191,246
11	6,103	197	1055	76,446
13	4,702	174***	1050	34,806
17	5,403	174	1055	80,684
Resler Yates State 13	3,719	120	1075	216,335
14	5,483	177	1040	31,791
18	3,496	113	1065	229,969
22	4,037	130	1065	142,918
24	2,361	84****	1050	48,082
30	1,765	57	1040	14,742
31	7,059	228	1020	10,991
39	4,152	134	1065	78,724
51	6,508	210	500	187,951
301	7,250	234	1060	99,634

\* Based on 14 days  
 \*\* Based on 19 days  
 \*\*\* Based on 27 days  
 \*\*\*\* Based on 28 days  
 \*\*\*\*\* Based on 29 days  
 \*\*\*\*\* Based on 30 days

EXHIBIT #2

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

## MONTHLY WATER FLOOD REPORT

Page 11.

### Injection Well Data

(2)

Project: Artesia Flood No. 2

Month: January, 1961

Lease & Well No.	Total Water Input		Injection Pressure	Cumulative Input
	Month	Avg./Day		
Resler Yates State 303	2,764	89	1055	29,060
304	4,870	157	1050	72,608
Toomey Allen 3	4,049	131	1055	32,867
Ventures State 52	3,942	127	1060	63,342
305	4,967	166*****	1045	60,148
Welch Duke State 4	904	48**	1020	115,366
5	4,839	156	1000	265,473
7	5,754	186	1000	304,629
10	7,420	240	1045	144,876
13	5,294	171	1040	57,066
15	6,376	206	1005	109,049
16	6,029	208*****	930	137,984
19	856	61*	1060	66,715
20	6,700	216	1045	87,012
21	5,395	174	1020	72,047
22	5,994	193	870	79,282
TOTAL (36)	171,394	5,632	1020 (avg)	3,774,669



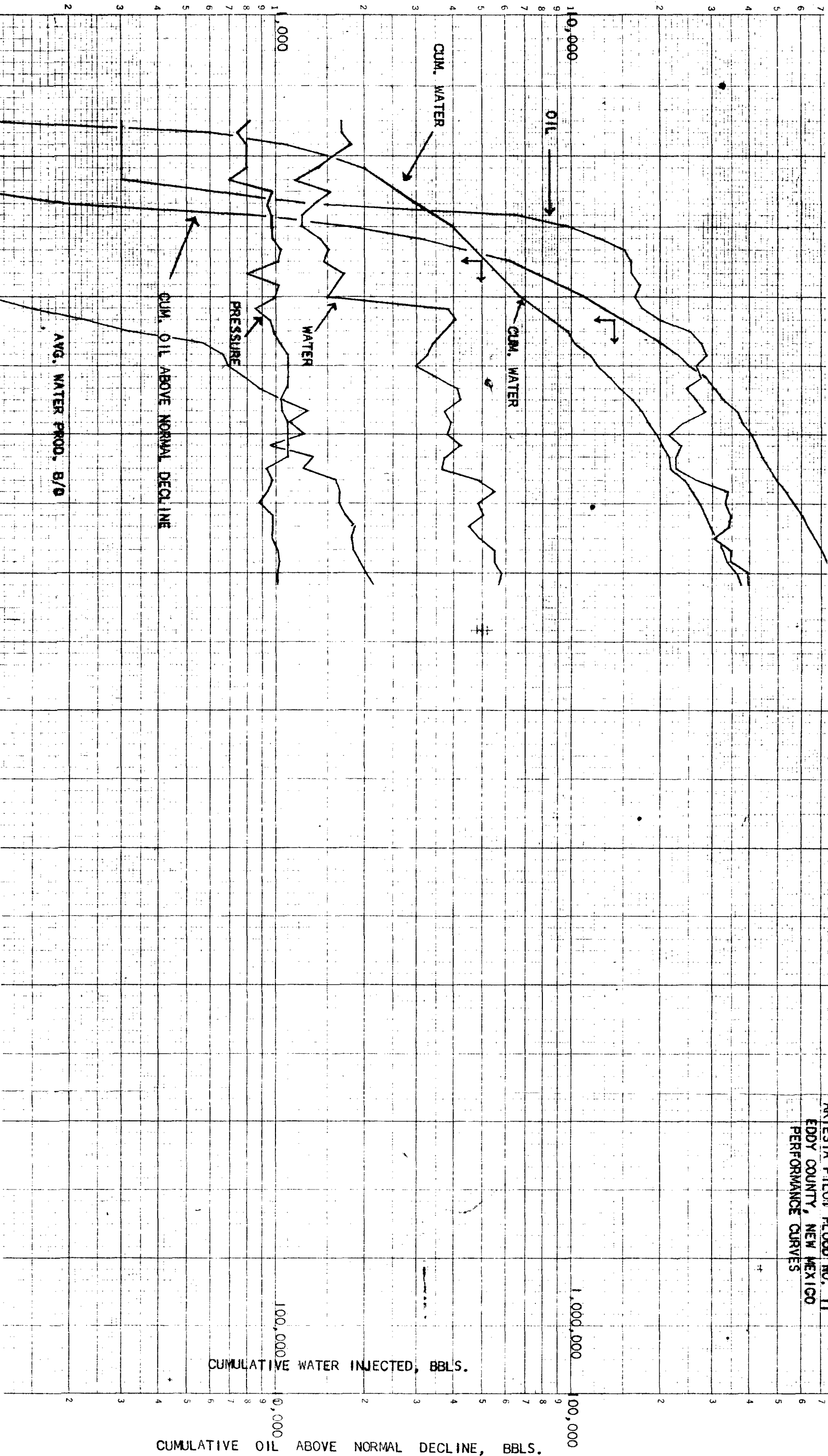
10 YEARS BY MONTHS  
X 3 CYCLES  
KEUFFEL & ESSER CO.

359-205L  
MADE IN U.S.A.

INJECTION PRESSURE, PSIG.

WATER INJECTION, BBLS/DAY  
AVG. WATER PROD. BBLS/DAY

OIL PRODUCTION, BBLS/MO.



WELLS FLOW FLOOD NO. 11  
EDDY COUNTY, NEW MEXICO  
PERFORMANCE CURVES

# GRARIDGE CORPORATION

IBEX BUILDING

POST OFFICE BOX 752

BRECKENRIDGE, TEXAS

February 13, 1961

Western Yates, Inc.  
P.O. Box 427  
Artesia, New Mexico

Gentlemen:

It is the desire of Graridge Corporation to expand the water injection program in the Artesia No. 2 Flood in Eddy County, New Mexico. The expansion is to include the following wells.

LEASE	WELL NO.	LOCATION
Resler Yates State	384	Unit H, Sec. 28, T18S, R28E
Resler Yates State	385	Unit H, S c. 28, T18S, R28E

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

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

Yours very truly,

GRARIDGE CORPORATION

*B. G. Harrison*  
B. G. Harrison  
Manager of Secondary Recovery

BGH/vl

SIGNED BY *M. E. Spittler*  
Chairman of Operating Committee  
FOR WESTERN-YATES

Date Received <b>FEB 27 1961</b>			
ROUTE TO		ROUTE TO	
	DATE CHECKED		DATE CHECKED
LC		WEL	
ONR		CRA	
TAF		PLC	
FFD		BOE	
WFB		NEW	
BGH ✓		JWC	
Mail To:		FILE:	
Graham		<i>WR</i>	





STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS  
STATE ENGINEER

February 22, 1961

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

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

Dear Mr. Porter:

Reference is made to the application of the Graridge Corporation dated February 13, 1961, which seeks administrative approval to convert two wells, Resler Yates State, Well No. 384 and Resler Yates State, Well No. 385, Unit H, Section 28, Township 18 South, Range 28 East, Eddy County, New Mexico, to water injection wells.

In view of the statements that injection, in each case, will be down 2-7/8" plastic coated tubing, (with cement around the tubing circulated) and through the perforations into the First Grayburg formation, it appears that there will be no threat of contamination to the fresh 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

ma

cc-F. H. Hennighausen  
Graridge Corporation

By: *Frank E. Irby*  
Frank E. Irby  
Chief  
Water Rights Division

Sub. V

1. LIT. 1.2 TH 1.1.1.1

OIL CONSERVATION COMMISSION

~~XXXXXXXX~~ DRAWER DD

~~XXXXXXXXXXXXXXXXXXXX~~  
ARTESIA, NEW MEXICO

DATE MARCH 9, 1961

OIL CONSERVATION COMMISSION  
BOX 871  
SANTA FE, NEW MEXICO

Re: Proposed NSP \_\_\_\_\_  
Proposed NSL \_\_\_\_\_  
Proposed NFO \_\_\_\_\_  
Proposed DC \_\_\_\_\_  
WFX

Gentlemen:

I have examined the application dated March 9, 1961  
for the Graridge Corp. Resler-Yates-State # 384 & 385, U-H-28-18S-28E  
Operator Lease and Well No. S-T-R

and my recommendations are as follows:

Case # 1973 Order # R 1687 says Western Development Company's wells # 43  
and 47 should have remedial work before injection of water into Resler-Yates-  
State Wells # 384 and 385 and 386.

Western Development Company's #47 is O. K. But 43 has not has anything done  
to it.

Yours very truly,

OIL CONSERVATION COMMISSION

*M. L. Armstrong*  
M. L. Armstrong

Supervisor, District No. 2

MLA/sa

*To Santa Fe*

Artesia, New Mexico  
March 21, 1961

Graridge Corporation  
Ibex Building  
Breckenridge, Texas

Gentlemen:

Reference is made to your February 13, 1961, Application to the New Mexico Oil Conservation Commission for administrative approval to convert two wells (Reasler-Yates State Nos. 384 and 385) to water injection wells in the Artesia Flood No. 2, Eddy County, New Mexico.

On June 7, 1960, the Oil Conservation Commission promulgated its Order R-1687 in Case 1973, authorizing you to drill three injection wells on your Artesia Water Flood Project No. 2 and two of these wells were the Nos. 384 and 385. This order was conditioned upon the fact that you would perform the necessary remedial work on our State Wells Nos. 43 and 47.

You are advised that we consider that the necessary remedial work has been accomplished on our State Well No. 47 and that we have no objection to your pending application for administrative approval to convert wells Nos. 384 and 385 to water injection wells. However, this permission shall not be construed as relieving Graridge Corporation, its successors and assigns, from any of the obligations imposed upon your company by the terms of any of our existing agreements relative to the Artesia Flood in Eddy County, New Mexico.

We are furnishing you with an additional copy of this letter in order that you may transmit the same to the New Mexico Oil



Graridge Corporation  
March 21, 1961  
Page 2

Conservation Commission so that their files will reflect that we have no objection to the first above mentioned application for administrative approval.

Very truly yours

WESTERN DEVELOPMENT COMPANY  
OF DELAWARE

By M. E. Spitler  
Marion Spitler, General Manager

YATES PETROLEUM CORPORATION

By Harvey E. Yates

In duplicate