

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

April 9, 1957

Mr. R. L. Elliott  
Graridge Corporation  
P.O. Box 752  
Breckenridge, Texas

Dear Sir:

We enclose two copies of Order R-972 issued April 5, 1957, by the Oil Conservation Commission in Case 1195, which was heard on January 9th at Santa Fe.

Very truly yours,

A. L. Porter, Jr.  
Secretary - Director

bp  
Encl.

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P  
Y

OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

Date 3/7/57

CASE 1195

Hearing Date 9 am on 1/9/57 @ SF before WWM

My recommendations for an order in the above numbered cases are as follows:

OK to approve <sup>pilot</sup> water ~~for~~ recommended  
by EAC to expire 6/30/58

Walter W. Mankin  
Staff Member  
Examiner



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ROSWELL

S. E. REYNOLDS  
STATE ENGINEER

ADDRESS CORRESPONDENCE TO:  
P. O. BOX 810  
ROSWELL, N. M.

January 11, 1957

Files: L-3322 and L-3323

Graridge Corporation  
Box 752  
Breckenridge, Texas

Gentlemen:

Enclosed are your applications for permit to appropriate for pilot flooding purposes, which have been approved.

Proof of Completion of Works for permits No. L-3322 and L-3323 should be filed in this office as soon as possible after the installation of equipment, but in no event later than December 30, 1957. Forms are enclosed for your convenience to be executed in triplicate, notarized and returned to this office.

Wells L-3322 and L-3323 are to be abandoned to pilot flooding before June 30, 1958. A totalizing water meter is to be installed in the line between the two wells and the place of use so as to measure the amount of water appropriated from both wells.

These permits have been approved for pilot flooding purposes only. A Declaration should be filed for these two wells to establish the rights for such uses as Oil Well Drilling, equipment maintenance and Domestic use.

Your rights under this permit will expire December 30, 1957, unless proofs are filed or applications for extension of time are received in this office on or before the above date.

Very truly yours,

Fred H. Hennighausen  
District Supervisor

By: *William D. L. Brown*  
William D. L. Brown  
Basin Supervisor

BB: jt  
cc: State Engineer  
encl: Applications (2)  
Forms-Proof of Works (6)

IMPORTANT—READ INSTRUCTIONS ON BACK BEFORE FILLING OUT THIS FORM

## APPLICATION FOR PERMIT

1956 DEC 12 PM 1:56

To appropriate the Underground Waters of the State of New Mexico

COUNTY ENGINEER'S OFFICE  
SANTA FE, N.M.

## LEA COUNTY UNDERGROUND WATER BASIN

Application No. L-3222 Book LC-12 Date Received October 11, 1956

1. Name of applicant Graridge Corporation  
 Postoffice address Box 752 City or Town Breckenridge, Texas  
 County of Stephens State of Texas  
 2. Source of water supply Shallow ground water basin (350')  
 (state whether artesian or shallow ground water basin)  
 located in Lea County Basin  
 (name of underground stream, valley, artesian basin, etc.)

3. The well is to be located in the SW  $\frac{1}{4}$ , SW  $\frac{1}{4}$ , NE  $\frac{1}{4}$ ,  
 of section 31 Township 12-S Range 32-E N.M.P.M.  
 on land owned by State of New Mexico, Leased by Graridge Corporation.  
 4. Description of well: driller Whiteside, in Drilled in Levelland, Texas W.D. No. 1947 depth 350' feet;  
 diameter (outside) of casing 7" inches; type of pump and power plant to be used  
Peerless (20-stage) 7 1/2 h.p. turbine pump

5. Quantity of water to be appropriated and beneficially used 750,000 bbls/year, or 94 acre-feet/year  
total from this well.  
 (feet depth or acre feet per acre)  
 for secondary recovery of oil by waterflooding purposes.  
 6. Acreage to be irrigated 160 acre pilot flood. acres  
 located and described as follows (describe only lands to be irrigated):

Subdivision	Sec.	Twp.	Range	Acres Irrigated	Owner
(SEE ATTACHED LETTER OF EXPLANATION)					

(Note: location of well and acreage to be irrigated must be shown on plat on reverse side.)

7. Time required to commence construction Water well is already completed  
 Time required to complete the works 60 days (see attached letter)  
 Time required to fully apply water to beneficial use 60 days  
 8. Additional statements or explanations (including data on any other water rights appurtenant to above lands)

(SEE ATTACHED LETTER OF EXPLANATION)

FILED

JAN 7 1957

OFFICE

GROUND WATER SUPERVISOR  
NEW MEXICO

I, Robert M. Vick being first duly sworn upon my oath, depose  
 and say that I have carefully read the foregoing statement and each and all of the items contained therein, and that  
 the same are true to the best of my knowledge and belief.

Robert H. Vick applicant  
Robert M. Vick, Pet. Engr. for Graridge Corp.

Subscribed and sworn to before me this 9th day of October, A.D., 19 56

Notary Public

Oct 11, 1957

CELIA W. THERFORD

Notary Public,  
Stephens County,  
Texas

FILED

OCT 11 1956

OFFICE  
GROUND WATER SUPERVISOR  
NEW MEXICO

APPROVAL OF THE STATE ENGINEER

Number of this permit L-3323 Date received corrected \_\_\_\_\_  
Recorded in Book 16-13 Publication of notice ordered \_\_\_\_\_  
Page 2323 Name of paper \_\_\_\_\_  
Application received October 11, 1956 Affidavit of publication filed \_\_\_\_\_  
Date returned for correction \_\_\_\_\_ Date of approval Jan. 4, 1957

This application is approved for 183 acre feet of water  
subject to all prior valid and existing rights to the use of the waters of said underground source and provided that  
the applicant complies with all rules and regulations of the State Engineer pertaining to the drilling of wells \_\_\_\_\_  
**Appropriation of water to be limited to 183 acre feet per annum from Wells Nos. L-3323 and L-3323 and not to exceed the amount produced by two wells only. This application is approved for pilot flooding purposes only and only in the oil wells indicated on the plat submitted with this application. Wells L-3323 and L-3323 to be abandoned to pilot flooding before June 30, 1958. A totalizing water meter is to be installed in the line between the two wells and the place of use so as to measure the amount of water appropriated from both wells.**

Works shall be completed and proofs filed on or before December 30, 1957

Water shall be applied to beneficial use and proofs filed on or before \_\_\_\_\_

This is to certify that I have examined the above application for permit to appropriate the underground waters of the State of New Mexico and hereby approve the same subject to the foregoing provisions and conditions.

Witness my hand and seal this 4 day of Jan., A.D., 1957

**S. E. REYNOLDS**

State Engineer

LOCATE WELL AND ACREAGE TO BE IRRIGATED AS ACCURATELY AS POSSIBLE ON FOLLOWING PLAT:

Section (s) 31, Township 12-S, Range 32-E, N.M.P.M.


By: D. E. Kienlen  
D. E. Kienlen  
Asst. Chief,  
Water Rights Division.

INSTRUCTIONS

This form shall be executed, preferably typewritten, in triplicate and shall be accompanied by a filing fee of \$5.00. Each of triplicate copies must be properly signed and attested.

A separate application for permit must be filed for each well used.

Secs. 1-4—Fill out all blanks fully and accurately.

Sec. 5—Irrigation use shall be stated in feet depth or acre feet of water per acre to be applied on the land. If for domestic, municipal, or other purposes, state total quantity in acre feet to be used annually. Domestic use may include the irrigation of not more than one acre of lawn and garden for noncommercial use.

Sec. 6—Describe only the lands to be irrigated. If on unsurveyed lands describe by legal subdivision "as projected" from the nearest government survey corners, or describe by metes and bounds and tie survey to some permanent, easily located natural object.

Sec. 7—Estimate time reasonably required to commence and to complete project.

Sec. 8—If lands are irrigated from any other source, explain in this section. Give any other data necessary to fully describe water right sought.

If additional space is necessary, use a separate sheet or sheets and attach securely hereto.

IMPORTANT—READ INSTRUCTIONS ON BACK BEFORE FILLING OUT THIS FORM

## APPLICATION FOR PERMIT

1956 DEC 12 P. 11:54

To Appropriate the Underground Waters of the State of New Mexico

STATE ENGINEER  
SANTA FE, N.M.

## LEA COUNTY UNDERGROUND WATER BASIN

Application No. L-3223 Book LC-13 Date Received October 11, 1956

1. Name of applicant Graridge Corporation  
 Postoffice address Rm. 732, City or Town Brokenridge, Texas  
 County of Stephens, State of Texas

2. Source of water supply Shallow ground water basin (350')  
 (state whether artesian or shallow ground water basin)  
 located in Lea County, Lea County Basin  
 (name of underground stream, valley, artesian basin, etc.)

3. The well is to be located in the SE  $\frac{1}{4}$ , SW  $\frac{1}{4}$ , SW  $\frac{1}{4}$ ,  
 of section 31, Township 12-S, Range 12-E, N.M.P.M.  
 on land owned by State of New Mexico. Leased by Graridge Corporation.

4. Description of well: driller Whitson, in Drilled in  
Loveland, Texas; W.D. No. 1947; depth 350 feet;  
 diameter (outside) of casing 7" inches; type of pump and power plant to be used  
Peerless (20-stage) 7 1/2 h.p. turbine pump

5. Quantity of water to be appropriated and beneficially used 730,000 gals./year, or 9 1/2 acre-feet/year  
total from this well.  
 (feet depth or acre feet per acre)  
 for secondary recovery of oil by waterflooding purposes.

6. Acreage to be irrigated 160 acre pilot flood. acres  
 located and described as follows (describe only lands to be irrigated):

Subdivision	Sec.	Twp.	Range	Acres Irrigated	Owner
(SEE ATTACHED LETTER OF EXPLANATION)					

(Note: location of well and acreage to be irrigated must be shown on plat on reverse side.)

7. Time required to commence construction Water well is already completed  
 Time required to complete the works 60 days (see attached letter)  
 Time required to fully apply water to beneficial use 60 days

8. Additional statements or explanations (including data on any other water rights appurtenant to above lands)  
(SEE ATTACHED LETTER OF EXPLANATION)

I, Robert H. Vick, being first duly sworn upon my oath, depose  
 and say that I have carefully read the foregoing statement and each and all of the items contained therein, and that  
 the same are true to the best of my knowledge and belief.

Robert H. Vick, applicant  
Robert H. Vick, Pet. Engr. for Graridge Corp.

Subscribed and sworn to before me this 9th day of October, A.D. 19 56

My Commission expires June 1, 1957

**FILED**  
 OCT 11 1956  
 OFFICE  
 GROUND WATER SUPERVISOR  
 ROSWELL, NEW MEXICO

**FILED**  
 JAN 7 1957  
 OFFICE  
 GROUND WATER SUPERVISOR  
 ROSWELL, NEW MEXICO

Lea County,  
 Texas

# APPROVAL OF THE STATE ENGINEER

Number of this permit L-3323 Date received corrected \_\_\_\_\_  
 Recorded in Book 16-13 Publication of notice ordered \_\_\_\_\_  
 Page 3323 Name of paper \_\_\_\_\_  
 Application received October 11, 1956 Affidavit of publication filed \_\_\_\_\_  
 Date returned for correction \_\_\_\_\_ Date of approval Jan. 4, 1957

This application is approved for 100 acre feet of water  
 subject to all prior valid and existing rights to the use of the waters of said underground source and provided that  
 the applicant complies with all rules and regulations of the State Engineer pertaining to the drilling of wells \_\_\_\_\_  
Appropriation of water to be limited to 100 acre feet per annum from Wells

Sec. L-3323 and L-3323 and not to exceed the amount produced by two wells  
only. This application is approved for pilot flooding purposes only and only  
in the oil wells indicated on the plat submitted with this application. Wells L-3323  
and L-3323 to be abandoned to pilot flooding before June 30, 1958. A totalizing  
water meter is to be installed in the line between the two wells and the place of  
use so as to measure the amount of water appropriated from both wells.

Works shall be completed and proofs filed on or before December 30, 1957

Water shall be applied to beneficial use and proofs filed on or before \_\_\_\_\_

This is to certify that I have examined the above application for permit to appropriate the underground waters  
 of the State of New Mexico and hereby approve the same subject to the foregoing provisions and conditions.

Witness my hand and seal this 4 day of Jan., A.D., 1957

**S. E. RETHOLDS**

State Engineer

LOCATE WELL AND ACREAGE TO BE IRRIGATED AS ACCURATELY AS POSSIBLE ON FOLLOWING PLAT:

Section (s) 31, Township 12-S, Range 3E, N.M.P.M.


(SEE ATTACHED LETTER ALSO)

By: D. E. Kienlen  
 D. E. Kienlen  
 Asst. Chief,  
 Water Rights Division.

## INSTRUCTIONS

This form shall be executed, preferably typewritten, in triplicate and shall be accompanied by a filing fee of \$5.00.  
 Each of triplicate copies must be properly signed and attested.

A separate application for permit must be filed for each well used.

Secs. 1-4—Fill out all blanks fully and accurately.

Sec. 5—Irrigation use shall be stated in feet depth or acre feet of water per acre to be applied on the land. If for  
 domestic, municipal, or other purposes, state total quantity in acre feet to be used annually. Domestic use may include  
 the irrigation of not more than one acre of lawn and garden for noncommercial use.

Sec. 6—Describe only the lands to be irrigated. If on unsurveyed lands describe by legal subdivision "as pro-  
 jected" from the nearest government survey corners, or describe by metes and bounds and tie survey to some perma-  
 nent, easily located natural object.

Sec. 7—Estimate time reasonably required to commence and to complete project.

Sec. 8—If lands are irrigated from any other source, explain in this section. Give any other data necessary to  
 fully describe water right sought.

If additional space is necessary, use a separate sheet or sheets and attach securely hereto.

1956 OCT 12 PM 1:56

October 18, 1956

STATE ENGINEER  
SANTA FE

Files : L-3322; L-3323

C  
Office of State Engineer  
Water Conservation Department  
909 East Second Street  
Roswell, New Mexico

Attention: Mr. Fred H. Hennighausen

O  
Gentlemen:

This is an attached letter of explanation for the forms submitted covering "Application for Permit to Appropriate the Underground Waters of the State of New Mexico" under Section 31, Township 12-S, Range 32-E, of Lea County.

P  
Y  
This land is now included in the expanded "Lea County Water Basin". The two (2) water wells described on the separate applications were both originally drilled in 1947, for industrial uses. The two wells were drilled to the 350' sand and gravel formation. The past and current uses for the wells are as follows: to furnish water for drilling purposes in the oil production development program, to furnish fresh water for daily operations such as equipment maintenance, and for de-salting of the producing formation in the oil wells. Another use has been in conjunction with periodic water-injection tests conducted in several of the oil producing wells to evaluate the feasibility of secondary recovery operations in the oil producing formation.

The results of the above water-injection tests together with accepted engineering calculations have proven the possibility of recovering an additional twenty-five hundred (2500) barrels of oil per productive acre from the field which under present producing means would not be obtainable. Ultimate royalties to the State, for a field-wide flood under such an operation, would be in excess of \$4,000,000.00 over a period of approximately eight (8) years.

The pilot flood which we propose to install, as shown on the attached plat, would include approximately 480 acres and require 3,000,000 barrels of water (375 acre feet) distributed over an eight (8) year period. Ultimate royalties to the State from this 480 acre pilot flood would amount to approximately 150,000 barrels of oil.

FILED

JAN 7 1957

OFFICE  
GROUND WATER SUPERVISOR  
ROSWELL, NEW MEXICO



2 - Office of State Engineer

October 18, 1956

Application is therefore made to produce and to use two thousand (2,000) barrels water per day from each of the two existing water wells for the proposed pilot waterflood. This would amount to a total yearly volume of 730,000 barrels water or 9 1/4 acre-feet of water per year from each of the two water wells listed on the attached applications. This total requested volume would include the miscellaneous uses listed at the first of this letter.

As previously stated, the water wells are already completed. It will, however, require approximately sixty (60) days to complete arrangements and obtain approval for the waterflood from the Oil Conservation Commission. Application of the water would commence immediately thereafter.

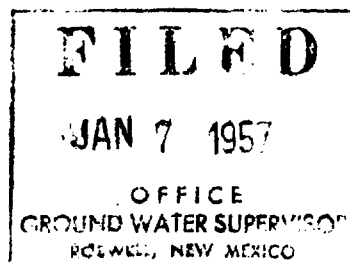
Sincerely yours,

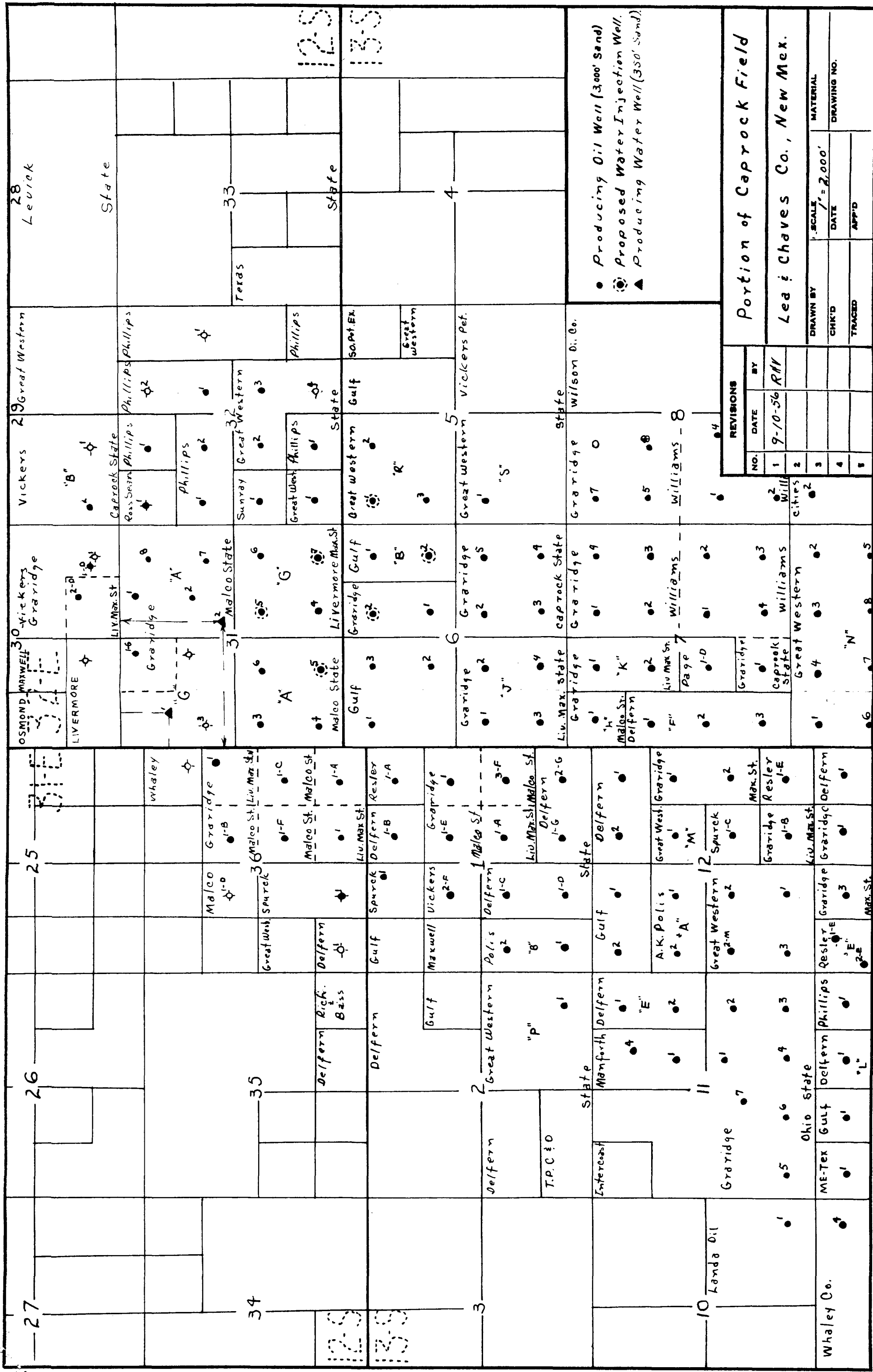
GRANITE CORPORATION

*Robert H. Vick*

Robert H. Vick  
Engineer

rhv/jba





OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

Date 2-28-57

CASE 1195

Hearing Date 1-9-57

My recommendations for an order in the above numbered cases are as follows:

I recommend that the applicants request be granted as requested.

Findings:

- (1) That applicant has permits # L-3322 and L-3323 from the office of the State Engineer to appropriate 188 Acre feet of fresh water from two water wells located in SWSWNE Sec. 31-12S-32E and SEWNW 31-12S-32E.
- (2) That these permits require this water to be used for secondary recovery on this water flood project.
- (3) That these permits expire June 30, 1958.
- (4) That ~~the~~ applicant proposes to inject fresh water into six wells located in the <sup>Sec.</sup> S/2 31-12S-32E, NW Sec. 5 and NE/4 Sec. 6-13S-32E.
- (5) That <sup>monthly</sup> progress reports should be made to the Commission.
- (6) That the applicant proposes to convert <sup>6 wells</sup> from oil wells to water injection wells. <sup>in the above land</sup> These wells are located in S/2 Sec. <sup>Staff Member</sup> 31-12S-32E, NW/4 Sec. 5 and NE/4 Sec. 6-13S-32E.

OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

Date \_\_\_\_\_

CASE \_\_\_\_\_

Hearing Date \_\_\_\_\_

My recommendations for an order in the above numbered cases are as follows:

Order:

(1) That the following wells are hereby approved for conversion from oil wells to water injection wells in the <sup>Caprock</sup> Queens-oil ~~Basin~~.

Grayridge - Malco. St. "A" # 5	N - 31 - 125 - 32 E
" - Linemore Maxwell St. "B" # 5	J - 31 - 125 - 32 E
" - " " " " # 7	O - 31 - 125 - 32 E
" - " " " " # 2	B - 6 - 135 - 32 E
Gulf - Lea St. "B" # 2	H - 6 - 135 - 32 E
Great - Western - St. "R" # 1	D - 5 - 135 - 32 E

(2) That this order shall remain ~~in full force~~ valid until June 30, 1958 unless proof is submitted to the commission after notice & hearing that <sup>another</sup> source of water is available to the applicant to carry on the operation after that date.

  
Staff Member