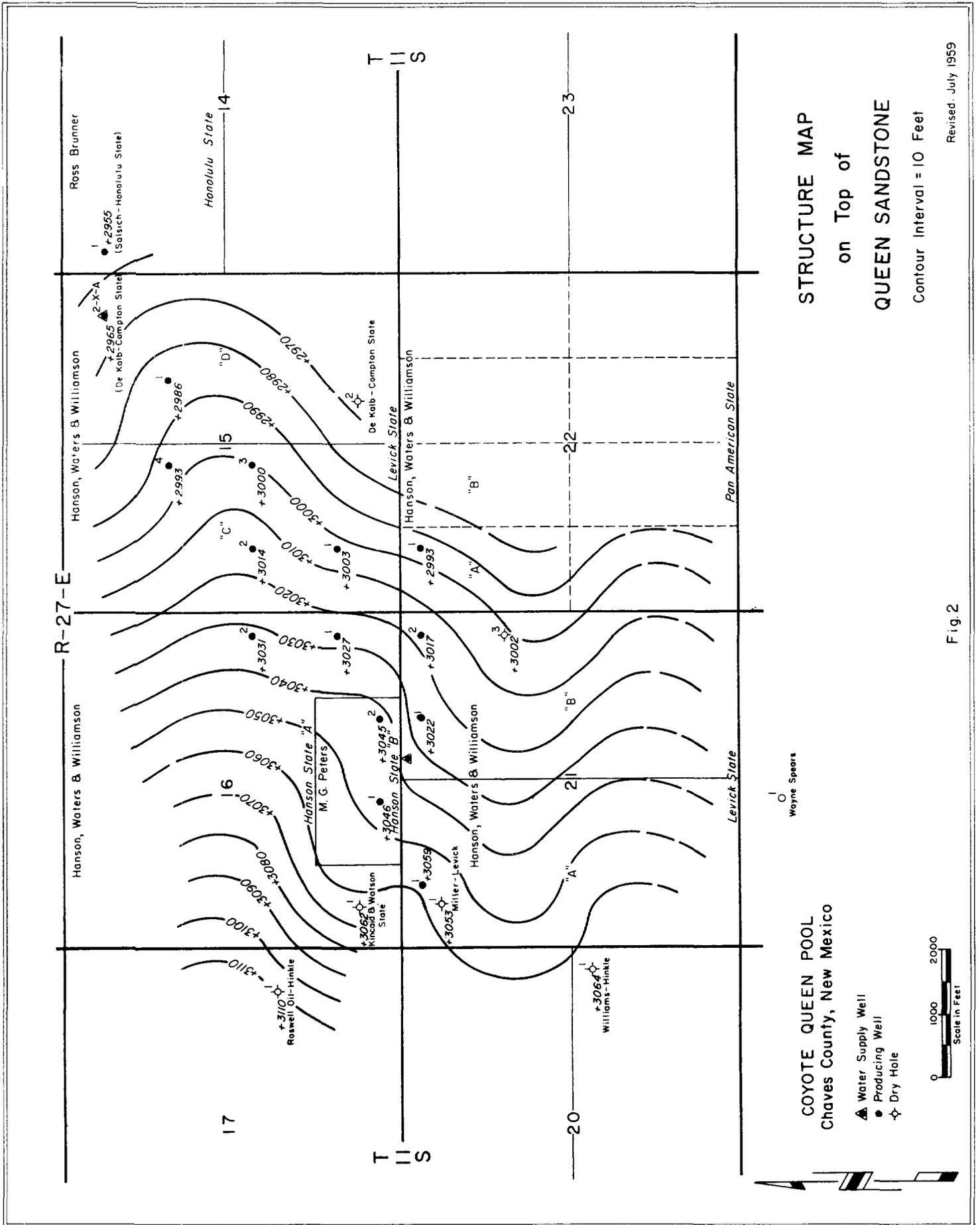


Fig. 1



**STRUCTURE MAP**  
 on Top of  
**QUEEN SANDSTONE**  
 Contour Interval = 10 Feet

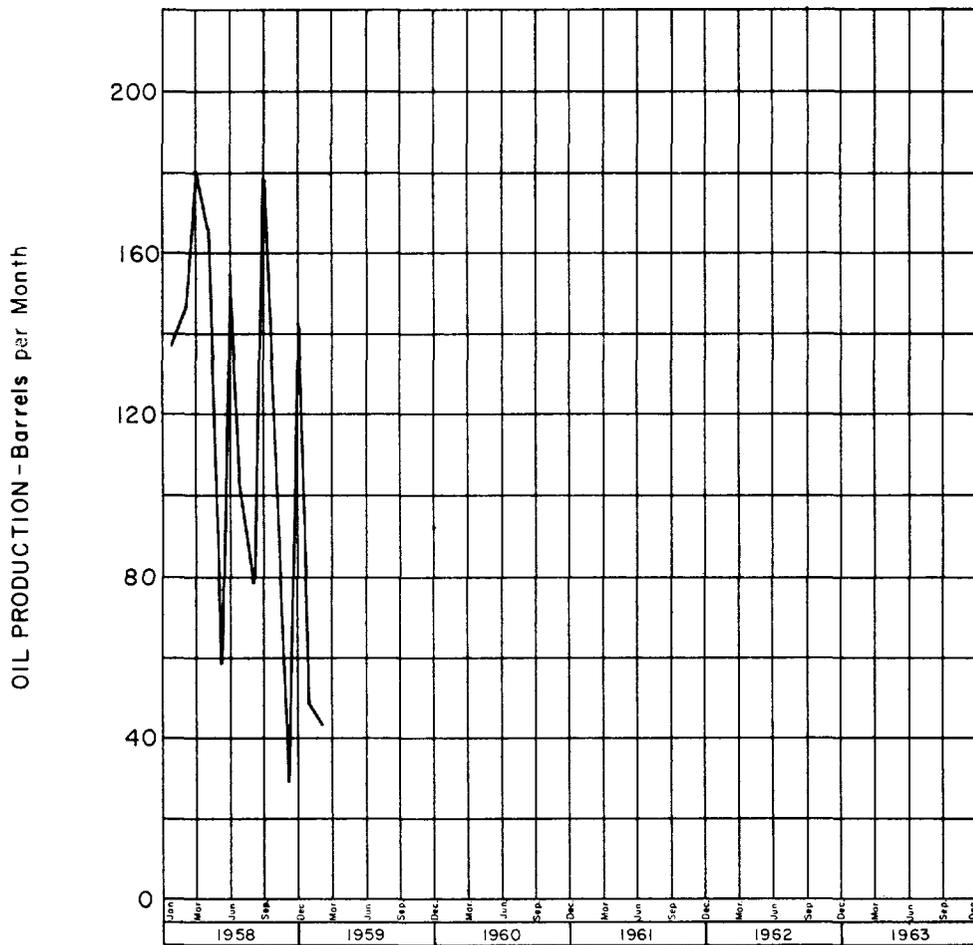
**COYOTE QUEEN POOL**  
 Chaves County, New Mexico

- ▲ Water Supply Well
- Producing Well
- ⊕ Dry Hole



Fig. 2

Revised July 1959

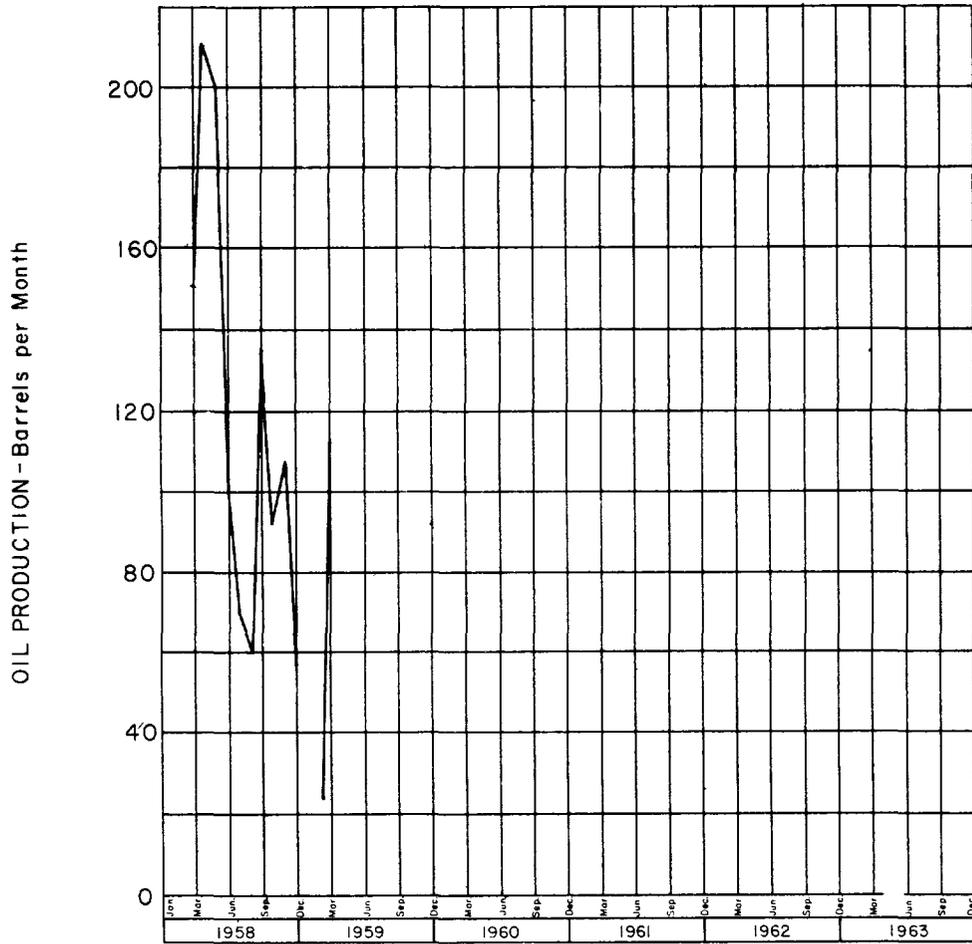


PRODUCTION HISTORY

George Williams  
*Levick State Lease*

COYOTE QUEEN POOL  
 Chaves County, New Mexico

Fig. 5



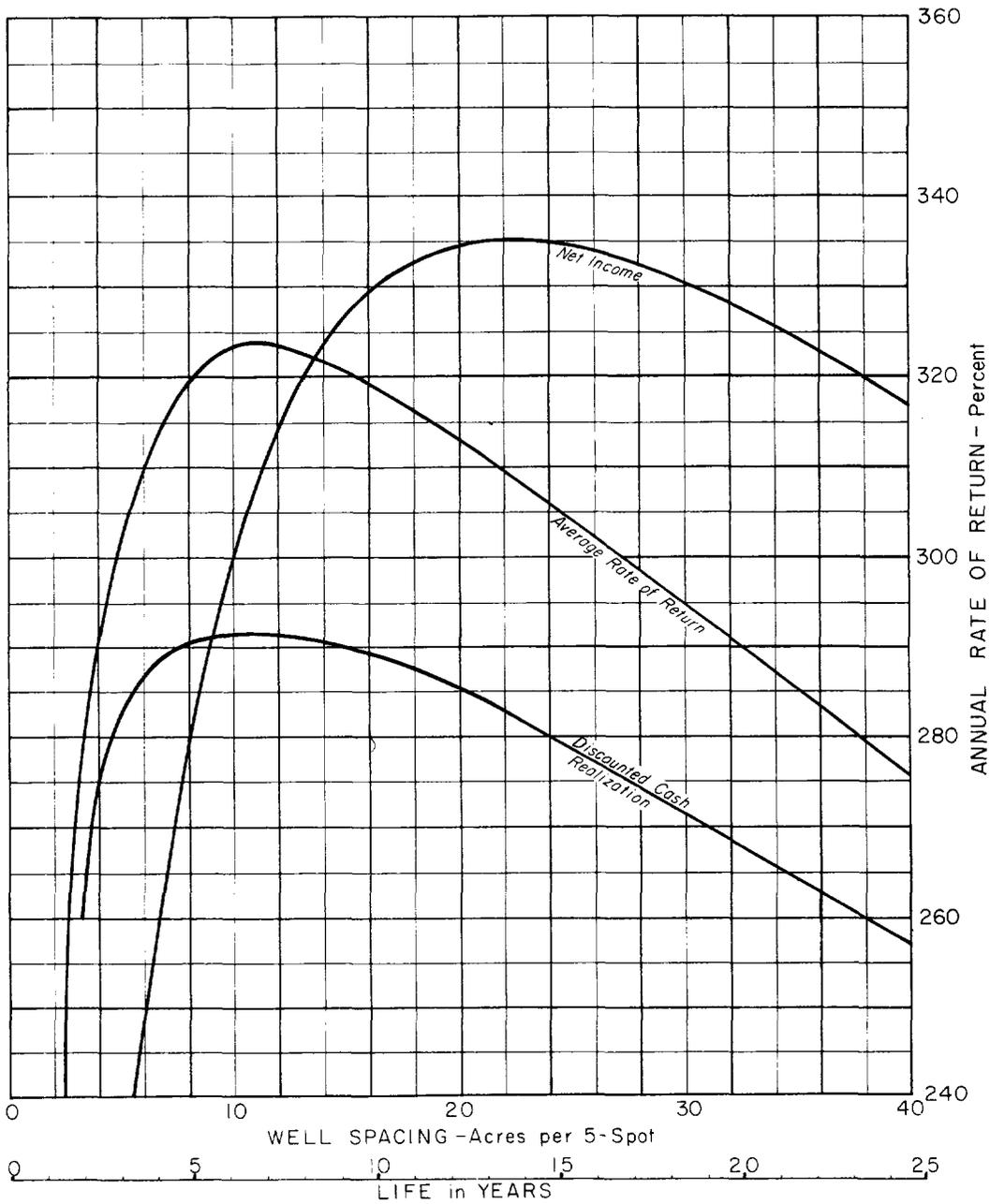
PRODUCTION HISTORY

M.G. Peters  
 (Steinberger Drilling Co.)  
*Hanson State Lease*

COYOTE QUEEN POOL  
 Chaves County, New Mexico

Fig. 5A

NET INCOME BEFORE TAXES



DISCOUNTED CASH REALIZATION AFTER CORPORATE INCOME TAX

### OPTIMUM SPACING ANALYSIS

COYOTE QUEEN POOL  
Chaves County, New Mexico

Fig. 6

APPLICATION OF HANSON, WATERS AND WILLIAMSON FOR AUTHORITY TO INSTITUTE A PILOT WATER FLOOD PROJECT IN THE COYOTE-QUEEN POOL IN CHAVES COUNTY, NEW MEXICO, WITH APPROVAL OF CAPACITY ALLOWABLES FOR TWELVE WELLS, WITH AN ADMINISTRATIVE PROCEDURE FOR EXPANSION OF THE PROJECT AREA, CONVERSION OF WELLS TO INJECTION WELLS, AND GRANTING OF CAPACITY ALLOWABLES.

No. 1728

## AMENDMENT OF APPLICATION

Comes now the applicant in the above captioned case and requests leave of the Oil Conservation Commission to amend the application heretofore filed by adding thereto the following:

9. The source of water for the pilot water flood project will be the De Kalb Well No. 2 XA located 660 feet from the North and East lines of Section 15, Township 11 South, Range 27 East; salt water to be produced from the Glorieta formation between approximately 2500 and 2800 feet. Upon completion of said well for water production, information on its quality will be furnished to the office of the State Engineer, and to any other party as the Commission may direct.

10. It is estimated that approximately 1,140 barrels of water per day will be used initially for injection purposes.

11. Attached hereto and made a part hereof is a plat showing well locations, lease ownership, and offsetting ownership in the area involved in this application.

Except as amended by the furnishing<sup>of</sup> the additional information contained herein, said application to be submitted for hearing as heretofore filed. Simultaneously with the filing of this amendment, a copy thereof has been furnished to the office of the State Engineer. WHEREFORE, applicant respectfully requests that this amendment be accepted for filing, and that hearing on the application, as amended, proceed as scheduled.

Respectfully submitted,

HANSON WATERS & WILLIAMSON

By Jason W. Kellahin

Kellahin & Fox

Attorneys for Applicant

DOCKET: EXAMINER HEARING JULY 28, 1959Oil Conservation Commission - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Elvis A. Utz, Examiner, or A. L. Porter, Jr., Secretary-Director

Continued Case

CASE 1720: (Continued) Application of Skelly Oil Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its W. P. Saunders Well No. 1, located in the SW/4 SE/4 of Section 11, Township 26 North, Range 11 West, San Juan County, New Mexico, in such a manner as to produce oil from the Gallegos-Gallup Oil Pool and to produce oil from an undesignated Dakota pool through parallel strings of tubing.

NEW CASES

CASE 1725: Application of Amerada Petroleum Corporation for an oil-oil dual completion and for permission to commingle the production from two separate pools. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its State "Q" Well No. 1, located in the NW/4 SE/4 of Section 16, Township 20 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Eunice-Monument Pool and the production of oil from an undesignated Tubb pool, through parallel strings of tubing. Applicant further seeks permission to commingle the production from said pools produced from the said State "Q" Well No. 1.

CASE 1726: Application of Amerada Petroleum Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Ka Da Pa Well No. 1, located in the SW/4 SW/4 of Section 4, Township 25 North, Range 12 West, San Juan County, New Mexico, in such a manner as to permit the production of oil from the Bisti-Lower Gallup Oil Pool and the production of oil from an interval designated by the applicant as the Lower Mancos sand through parallel strings of tubing.

CASE 1727: Application of Skelly Oil Company for an oil-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Jicarilla "B" Well No. 20, located in the NW/4 NW/4 of Section 31, Township 25 North, Range 5 West, Rio Arriba County, New Mexico, in such a manner as to permit production of oil from the Otero-Gallup Oil Pool and the production of gas from an undesignated Dakota pool through parallel strings of tubing.

CASE 1728: Application of Hanson, Waters and Williamson, for an order authorizing a pilot water flood project, for capacity allowable for twelve wells in said project area, and for establishment of an administrative procedure for expansion of said project, conversion of wells to water injection, and for granting capacity allowables. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Coyote-Queen Pool in Chaves County, New Mexico. Applicant proposes to inject water into the Queen formation through six wells located in Sections 15 and 16, Township 11 South, Range 27 East. Applicant also seeks capacity allowables for twelve wells in said project. Applicant further seeks the establishment of a procedure whereby the project area may be expanded, wells may be converted to water injection, and capacity allowables granted without notice and hearing.

CASE 1729: Application of El Paso Natural Gas Products Company for permission to produce more than 16 wells in a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing the production of more than 16 wells in the Horseshoe-Gallup Oil Pool into a common tank battery. Said wells are located on applicant's Horseshoe Ute Lease comprising portions of Sections 27, 28, 33 and 34, Township 31 North, Range 16 West, San Juan County, New Mexico.

CASE 1610: Application of Wood River Oil & Refining Company, Inc., for an amendment of Order No. R-1352. Applicant, in the above-styled cause, seeks an amendment of Order No. R-1352, to provide that the unorthodox well locations for well Nos. 8 and 9 of the Wills Water Flood Project, Rhodes Pool, Lea County, New Mexico, be 1135 feet from the South line and 1315 feet from the West line of Section 35, and 1135 feet from the South line and 20 feet from the West line of Section 35 respectively, both in Township 26 South, Range 37 East.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

APPLICATION OF HANSON, WATERS  
AND WILLIAMSON FOR AUTHORITY TO  
INSTITUTE A PILOT WATER FLOOD  
PROJECT IN THE COYOTE-QUEEN POOL  
IN CHAVES COUNTY, NEW MEXICO  
WITH APPROVAL OF CAPACITY ALLOW-  
ABLES FOR TWELVE WELLS, WITH AN  
ADMINISTRATIVE PROCEDURE FOR  
EXPANSION OF THE PROJECT AREA,  
CONVERSION OF WELLS TO INJECTION  
WELLS, AND GRANTING OF CAPACITY  
ALLOWABLES.

Case No. 1728

A P P L I C A T I O N

Comes now the Applicant, Hanson, Waters and Williamson, composed of E. A. Hanson, individually, and M. A. Waters, Jr., and N. R. Williamson, a partnership, and applies to the Commission for authority to institute a pilot water flood project in the Coyote-Queen Pool in Chaves County, New Mexico, capacity allowables for twelve wells in the project area of said water flood project, and for establishment of an administrative procedure for expansion of the project area, conversion of producing wells to injection wells, and the granting of capacity allowables brought into the project area by such procedure, and in support of such application would show:

1. Said pilot project area will consist of the following described area, and such other area as may properly be included after notice, and hearing before the Commission or its duly qualified examiner:

Township 11 South, Range 27 East, NMPM

Section 15 - NW $\frac{1}{4}$  SW $\frac{1}{4}$ , W $\frac{1}{2}$  NE $\frac{1}{4}$  SW $\frac{1}{4}$ , NE $\frac{1}{4}$  NE $\frac{1}{4}$  SW $\frac{1}{4}$ ,

*Robert  
Muelch*  
*7-18-59*  
*[Signature]*

$N\frac{1}{2} SW\frac{1}{4} SW\frac{1}{4}$ ,  $SW\frac{1}{4} SW\frac{1}{4} SW\frac{1}{4}$ ,  $S\frac{1}{2} SW\frac{1}{4} NW\frac{1}{4}$ ,  $NE\frac{1}{4} SW\frac{1}{4} NW\frac{1}{4}$ ,  
 $SW\frac{1}{4} SE\frac{1}{4} NW\frac{1}{4}$ .

Section 16 -  $S\frac{1}{2} NE\frac{1}{4} SE\frac{1}{4}$ ,  $NE\frac{1}{4} NE\frac{1}{4} SE\frac{1}{4}$ ,  $NE\frac{1}{4} SE\frac{1}{4} SE\frac{1}{4}$ .

2. Proposed injection wells will be located as follows:

Levick State C No. 100, 990 FSL, 990 FWL, Section 15  
Levick State C No. 101, 1650 FSL, 990 FWL, Section 15  
Levick State C No. 102, 2310 FSL, 1650 FWL, Section 15  
Levick State C No. 103, 2310 FNL, 990 FWL, Section 15  
Levick State C No. 104, 2310 FSL, 330 FWL, Section 15  
Hanson State A No. 100, 1650 FWL, 330 FEL, Section 16

3. Proposed producing wells for which capacity allowables are sought are:

Levick State C No. 1, 990 FWL, 990 FWL, Section 15  
Levick State C No. 2, 2310 FWL, 990 FWL, Section 15  
Levick State C No. 3, 2310 FWL, 2310 FWL, Section 15  
Levick State C No. 5, 330 FSL, 330 FWL, Section 15  
Levick State C No. 6, 1650 FWL, 330 FWL, Section 15  
Levick State C No. 7, 1650 FWL, 1650 FWL, Section 15  
Levick State C No. 8, 2310 FNL, 1650 FWL, Section 15  
Levick State C No. 9, 2310 FNL, 330 FWL, Section 15  
Levick State C No. 10, 1650 FNL, 990 FWL, Section 15  
Hanson State A No. 1, 990 FWL, 330 FEL, Section 16  
Hanson State A No. 2, 3210 FSL, 330 FEL, Section 16  
Hanson State A No. 3, 1650 FSL, 990 FEL, Section 16

4. That all of the wells involved in this application which are presently producing, are producing from the Queen formation, and are not producing from any other formation.

5. The name, description, and depth of the formations to be affected by the proposed injection are as follows:

Formation: Queen Formation.

Water to be injected between 800 feet and 960 feet.

6. Simultaneously with the filing of this application, applicant has filed with the office of the State Engineer, P. O. Box 1079, Santa Fe, New Mexico, a copy of this application, and will file within the immediate future, an analysis of the water to be used in this project, and other information pertinent to this application.

7. Applicant further requests that it be authorized to convert any other wells located within the above described area to water injection, or production at capacity allowable rates, or expansion of the project area, without notice and hearing, subject to administrative approval by the Commission, when it has been established to the satisfaction of the Secretary-Director of the Commission that the proposed water injection well has experienced a substantial response to the water flood project, or is directly off-set by a producing well which has experienced such response. It is hereby stipulated that the State Engineer of the State of New Mexico is an interested party and is to be notified of any requests for expansion of the project area.

8. Applicant further requests an exception to Rule 502 in order to prevent waste, and that capacity allowables may be authorized for expansion of the water flood project area.

WHEREFORE, Applicant respectfully requests that this matter be set for hearing before the Commission's duly authorized examiner, or before the Commission, and that after notice and hearing as provided by law, the Commission enter its order granting the relief prayed for.

Respectfully submitted,

HANSON, WATERS & WILLIAMSON

By Jason W. Kellahin  
Kellahin and Fox  
P. O. Box 1713  
Santa Fe, New Mexico

Attorneys for Applicant