

May 15 11 3 30

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF SHENANDOAH OIL CORPORATION TO INSTITUTE A WATERFLOOD PROJECT BY THE INJECTION OF WATER INTO THE YATES, SEVEN RIVERS, QUEEN AND GRAYBURG FORMATIONS THROUGH FIVE INJECTION WELLS TO BE LOCATED IN SECTIONS 29 AND 30, TOWNSHIP 18 SOUTH, RANGE 31 EAST, SHUGART FIELD, EDDY COUNTY, NEW MEXICO.

NO. 3279

APPLICATION FOR APPROVAL OF

SHENANDOAH OIL CORPORATION WATERFLOOD PROJECT

Comes now the Applicant, Shenandoah Oil Corporation, and hereby makes application for approval of a waterflood project pursuant to Rule 701 of the Rules and Regulations of the Commission and in support thereof states:

1. Applicant desires to initiate a waterflood project to inject fresh water into the Yates, Seven Rivers, Queen (Upper and Lower) and Grayburg formations in the five existing wells on the following described tracts:

<u>WELL NUMBER</u>		<u>LOCATION</u>
Shugart A-8	N	SE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 29, T-18-S, R-31-E
Shugart D-1	G	SW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 30, T-18-S, R-31-E
Shugart D-8	A	NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 30, T-18-S, R-31-E
Shugart C-3	I	NE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 30, T-18-S, R-31-E
Kenwood-Federal No. 3	F	SE $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 29, T-18-S, R-31-E

2. That the above wells and all other wells in the area have reached an advanced state of depletion and are stripper wells.

3. That the Applicant feels that the waterflooding of the Yates, Seven Rivers, Queen (Upper and Lower) and Grayburg

formations is feasible, and that flooding will result in the increased ultimate recovery of oil and prevent waste.

4. That the Hondo (Operator) Culwin Queen Unit located in Section 36, Township 18 South, Range 30 East, and Section 1, Township 19 South, Range 30 East, and the Ray Smith Shugart 18 Queen Unit located in Section 18, Township 18 South, Range 31 East, and Section 13, Township 18 South, Range 30 East, are currently under flood.

5. That negotiations are currently under way with Chambers and Kennedy and Union Oil Company of California, the owners of the leases immediately South of Applicant's leases, whereby Chambers and Kennedy have tentatively agreed to place their No. 3 Well located in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 32, Township 18 South, Range 31 East, on injection, and Union Oil Company of California has agreed to place its No. F-1 located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 31, Township 18 South, Range 31 East, on injection.

6. That when the need arises, upon administrative approval, Applicant should be permitted to convert to water injection wells additional wells within its lease boundaries as shown on Exhibit B attached hereto.

7. Applicant proposes to inject fresh to brackish water in the Yates, Queen and Grayburg formations, ranging in a depth of 2550 feet (Yates) to 3750 feet (Lower Grayburg), and to inject approximately 350 barrels per well per day where only the Yates section is being flooded and 600 barrels per well per day where the Queen and Grayburg sections are being flooded simultaneously as shown in Exhibit C. Injection water will be acquired from a commercial water company operating in the area.

Applicant will install water injection facilities on its Shugart "A" Lease near their Shugart A-1 Well and the system will be so designed as to handle and treat all of the produced water on the project for reinjecting.

Applicant expects a secondary recovery of \pm 1,000,000 barrels and/or a 1:1 ratio to primary.

8. That in support of this application and in accordance with the provisions of Rule 701, Applicant submits herewith the following exhibits:

Exhibit A - A plat showing the location of Applicant's project relative to the ownership of all other leases within a two-mile radius of which are producing from one or more of the same geologic formations.

Exhibit B - A plat showing Applicant's pilot injection well and proposed field pattern.

Exhibit C - A diagrammatic sketch of the proposed injection wells showing tops of cement, perforations and depths.

Exhibit D - Tabulation of cementing data.

Exhibit E - A monthly performance curve that includes cumulative production data figures for the total project.

Such logs as are available will be submitted at the time of the hearing.

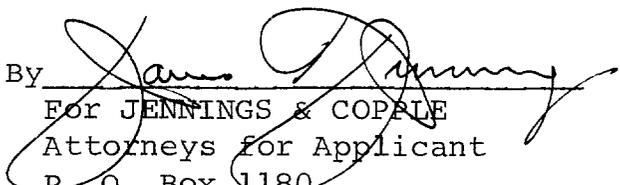
WHEREFORE, Applicant requests the Commission set this matter down for hearing before an examiner at an early date, publish the notice as required by law and, after hearing, issue its Order:

1. Authorizing the waterflood project and the injection of water into the Yates, Seven Rivers, Queen (Upper and Lower) and Grayburg formations in the five injection wells located in Sections 29 and 30, Township 18 South, Range 31 East.

2. Establishing rules for the operation of the flood within the area and for administrative expansion and conversion of additional wells to water injection wells.

Respectfully submitted,

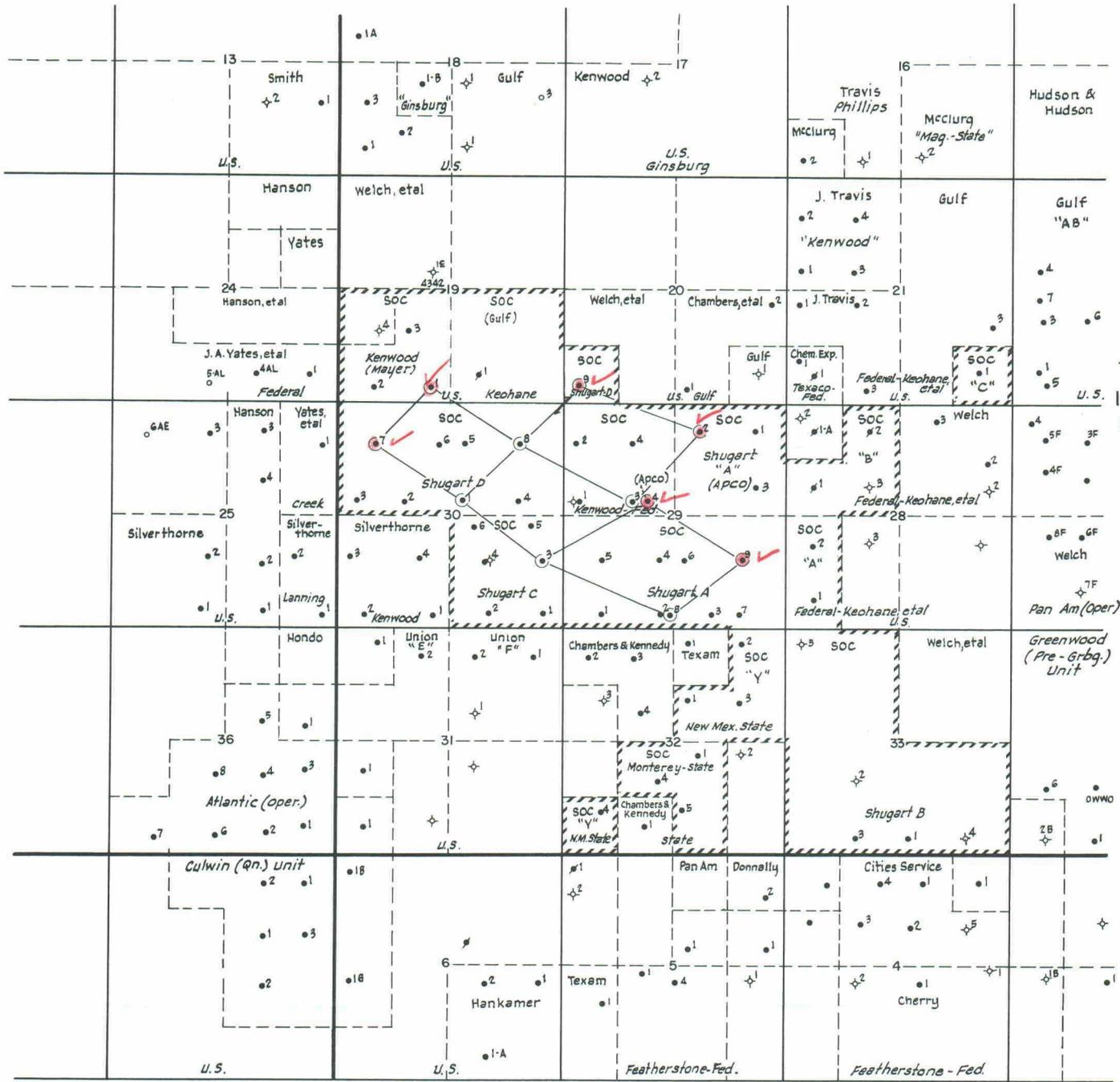
SHENANDOAH OIL CORPORATION

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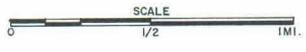


- LEGEND -

- Lease Boundaries
- ⊙ Injection Well
- ⊙—⊙ Injection Pattern



FLOOD NO. 4
SHUGART
 EDDY COUNTY, NEW MEXICO



FEB., 1970