

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

APPLICATION OF TENNECO OIL COMPANY
FOR THE APPROVAL OF THE LONE PINE
DAKOTA "D" UNIT AGREEMENT, MCKINLEY
COUNTY, NEW MEXICO, AND FOR A PRESSURE
MAINTENANCE PROJECT COVERING SAID UNIT
WITH SPECIAL UNIT RULES.

No. 4665

APPLICATION

Comes now Tenneco Oil Company by its Attorneys White, Koch,
Kelly & McCarthy, and in support of its Application states:

Application for Unit Agreement

1. That Tenneco Oil Company will be the operator of the proposed unit designated the Lone Pine Dakota "D" Unit comprising 2,598.30 Acres, more or less, of Federal, Indian and Fee land, located in Township 17 North, Range 8 West and Township 17 North, Range 9 West, N.M.P.M., McKinley County, New Mexico. The specific description of the unit is found in Section 2 on pages 2 and 3 of the proposed Unit Agreement, a copy of which is attached to this Application.

2. The unitized formation is defined as that stratigraphic interval commonly known as the Dakota "D" zone and more specifically defined as that interval occurring between 2780 feet and 2872 feet subsurface in Tenneco Oil Company's Don ne pah Well No. 1 located 820 feet from the North line and 500 feet from the West line of Section 18, Township 17 North, Range 8 West, N.M.P.M.

Application for Pressure Maintenance Project

3. Tenneco further seeks approval of a gas pressure maintenance project comprising all the area included within the Lone Pine Dakota "D" Unit.

4. The initial injection wells will be four gas injection wells and one water injection well located as follows:

Gas Injection Wells

Teneco Oil Company Hospah No. 44 located in the SE 1/4 of the SE 1/4 of Section 12, Township 17 North, Range 9 West, McKinley County.

Tenneco Oil Company Santa Fe and Pacific Railroad No. 6, located in the SE 1/4 of the NE 1/4 of Section 13, Township 17 North, Range 9 West, McKinley County.

Tenneco Oil Company Santa Fe Pacific Railroad No. 10 located in the NW 1/4 of the NE 1/4 of Section 13 Township 17 North, Range 9 West, McKinley County.

Tenneco Oil Company Santa Fe Pacific Railroad No. 12 located in the NE 1/4 of the SE 1/4 of Section 7, Township 17 North, Range 8 West, McKinley County.

Water Injection Well

Tenneco Oil Company Lone Pine No. 1 located in the NW 1/4 of the NW 1/4 of Section 19, Township 17 North, Range 8 West, McKinley County.

5. Applicant further seeks special rules governing the pressure maintenance project and attaches to this Application a copy of the proposed rules governing said unit and project.

WHEREFORE Tenneco Oil Company requests that after public hearing the Commission enter its Order granting said application.

WHITE, KOCH, KELLY & MCCARTHY

By

J. B. Kelly

DRAFT

GMH/dr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 4665
K-4263
Order No. R- 4264

APPLICATION OF TENNECO OIL
COMPANY FOR A PRESSURE MAINTENANCE
PROJECT, MCKINLEY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 16, 1972,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this _____ day of February, 1972, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Tenneco Oil Company, seeks authority
to institute a pressure maintenance project in the Lone Pine
Dakota "D" Pool by the injection of gas and water into the Dakota
"D" zone through five wells located in Sections ⁷~~3~~ and ¹⁹~~2~~ of
Township 17 North, Range ⁸~~3~~ West and Sections ¹²~~3~~ and ¹³~~2~~ of Town-
ship 17 North, Range ⁹~~3~~ West, McKinley County, New Mexico.

(3) That the applicant also seeks the designation
of a project area and promulgation of rules
for the project including a procedure whereby
additional injection wells may be approved
administratively.

(4) That the proposed pressure maintenance project is in the interest of conservation and should result in greater ultimate recovery of oil, thereby preventing waste.

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Tenneco Oil Company, is hereby authorized to institute a pressure maintenance project in the Lone Pine Dakota "D" Pool by the injection of gas and water into the Dakota "D" zone through five wells located in McKinley County, New Mexico, as follows:

| Well | Unit | Section | Township | Range | Range |
|-----------------|------|---------|----------|-------|----------------------------|
| SFPRR No. 12 | I | 7 | 17N | 8W | gas injection |
| Lone Pine No. 1 | D | 19 | 17N | 8W | water injection |
| Hospah No. 44 | P | 12 | 17N | 9W | gas injection |
| SFPRR No. 6 | H | 13 | 17N | 9W | gas injection |
| SFPRR No. 10 | B | 13 | 17N | 9W | gas injection |

(2) That the subject pressure maintenance project is hereby designated the Lone Pine Dakota "D" Pressure Maintenance Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations insofar as said rules are not inconsistent with this order.

(3) That Special Rules and Regulations governing the operation of the Lone Pine Dakota "D" Pressure Maintenance Project, McKinley County, New Mexico, are hereby promulgated as follows:

Please see, that in the case of said project, the injection is carried out in accordance with the numbers 11 and 12 attached at the bottom of the previous page.

-3-

CASE NO. 4665

Order No. B-7

SPECIAL RULES AND REGULATIONS
LONE PINE DAKOTA "D" UNIT
FOR THE
PRESSURE MAINTENANCE PROJECT

RULE 1. The project area of the Lone Pine Dakota "D" Unit Pressure Maintenance Project, hereinafter referred to as the Project, shall comprise all of the area included within the Lone Pine Dakota "D" Unit.

RULE 2. The allowable for the Project shall be the sum of the allowables of the several wells within the project area, including those wells which are shut-in, curtailed, or used as injection wells. Allowables for all wells shall be determined in a manner hereinafter prescribed.

RULE 3. The allowable assigned to each producing well in the Project shall be equal to the well's ability to produce or to top unit allowable for the Lone Pine Dakota "D" Pool, whichever is less; the allowable assigned to each injection well in the Project shall be the top unit allowable for the Lone Pine Dakota "D" Pool.

RULE 4. An allowable may be assigned to any well which is curtailed or shut-in because of high gas-oil ratio, pressure regulation, control of pattern or sweep efficiencies, or to observe changes in pressure or changes in characteristics of reservoir liquids or progress of sweep.

RULE 5. The allowable assigned to any well which is shut-in or curtailed in accordance with Rule 4 above shall be determined by a 24-hour test at a stabilized rate of production which shall be the final 24-hour period of a 72-hour test throughout which the well should be produced in the same manner and at a constant rate. The daily tolerance limitation set forth in Commission Rule 502 I (a) and the limiting gas-oil ratio (2000 : 1) for the Lone Pine Dakota "D" Pool shall be waived during such tests. The

project operator shall notify the Commission and all operators offsetting the well of the exact time such tests are to be conducted in order that the tests may be witnessed.

RULE 6. The project allowable may be produced from any well or wells in the project area, provided that any producing well in the project area which directly or diagonally offsets a well outside the project area producing from the same common source of supply shall not produce in excess of two times the top unit allowable for the Lone Pine Dakota "D" Pool.

RULE 7. Each producing well shall be subject to the limiting gas-oil ratio (2000 : 1) for the Lone Pine Dakota "D" Pool, except that any well within the project area producing with a gas-oil ratio in excess of 2000 cubic feet of gas per barrel of oil may be produced on a "net" gas-oil ratio basis, which net gas-oil ratio shall be determined by applying credit for daily average gas injected into the Lone Pine Dakota "D" Pool within the project area to such well. The daily adjusted oil allowable for any well receiving gas injection credit shall be determined in accordance with the following formula:

$$A_{adj} = \frac{TUA \times F_a \times 2,000}{\frac{P_g - I_g}{P_o}}$$

Where:

- A_{adj} = the well's daily adjusted allowable
- TUA = top unit allowable for the pool
- F_a = the well's acreage factor
- P_g = average daily volume of gas produced by the well during the preceding month, cubic feet
- I_g = the well's allocated share of the daily average gas injected during the preceding month, cubic feet
- P_o = average daily volume of oil produced by the well during the preceding month, barrels

In no event shall the amount of injected gas being credited to a well be such as to cause the net gas-oil ration, $\frac{Pg - Ig}{Po}$, to be less than 2000 : 1.

RULE 8. Each month the project operator shall, within three days after the normal unit allowable for Northwest New Mexico has been established, submit to the Commission a Pressure Maintenance Project Operator's Report, on a form prescribed by the Commission, outlining thereon the data required, and requesting allowables for each of the several wells in the Project as well as the total Project allowable. The aforesaid Pressure Maintenance Project Operator's Report shall be filed in lieu of Form C-120 for the Project.

RULE 9. The conversion of producing wells to injection, the drilling of additional wells for injection, and expansion of the project area shall be accomplished only after approval of the same by the Secretary-Director of the Commission. To obtain such approval, the Project operator shall file application with the Commission, which application, if it seeks authorization to convert additional wells to injection or to drill additional injection wells shall include the following:

(1) A plat showing the location of proposed injection well, all wells within the project area, and offset operators, locating wells which offset the project area.

(2) A schematic drawing of the proposed injection well which fully describes the casing, tubing, perforated interval, and depth showing that the injection of gas or water will be confined to the Dakota "D" formation.

-6-

CASE NO. 4665

Order No. R-

(3) A letter stating that all offset operators within one-half mile of the proposed injection well have been furnished a complete copy of the application and the date of notification.

The Secretary-Director may approve the proposed injection well, if within 20 days after receiving the application, no objection to the proposal is received. The Secretary-Director may grant immediate approval, provided waivers of objection are received from all offset operators.

Expansion of the project area may be approved by the Secretary-Director of the Commission administratively when good cause is shown therefor.

RULE 10. Wells may be located anywhere within the unit area. However producing wells shall not be located within 330 feet of the outer boundaries of the unit area. The Secretary-Director of the Commission shall have authority to grant permission to drill any well within the provisions of this rule without notice and hearing.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.