



rec 2865

HUMBLE OIL & REFINING COMPANY

DENVER 1, COLORADO

CENTRAL REGION

DENVER AREA

JOHN D. KNODELL, JR.
AREA ATTORNEY

July 1, 1963

P. O. BOX 120

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention Mr. A. L. Porter, Jr.
Secretary-Director

Gentlemen:

RE: Application of Humble Oil & Refining Company for
Pressure Maintenance Project in Many Rocks Oil Field

Herewith please find three (3) copies of Humble's application for permission to institute a pressure maintenance project in Sections 1, 2, 11 and 12, Township 31 North, Range 14 West, San Juan County, New Mexico. Will you please publish the required notice in order that this application may be heard at the examiner hearing which is schedule for July 24, 1963.

Very truly yours,

John D. Knodell, Jr.

JDK:ch
Enclosures (3)

DOCKET MAILED

Date 7/12/63





HUMBLE OIL & REFINING COMPANY

DENVER 1, COLORADO

CENTRAL REGION

DENVER AREA

JOHN D. KNODELL, JR.
AREA ATTORNEY

July 19, 1963

P. O. BOX 120

*file
Case 2865
JMS*

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention Mr. A. L. Porter, Jr.
Secretary-Director

Gentlemen:

Re: Amendment of Application of Humble Oil &
Refining Company for Approval of a Pressure
Maintenance Project in Many Rocks Gallup
Oil Field Case No. 2865

We have heretofore transmitted to you Humble's application for permission to institute a pressure maintenance project in Sections 1, 2, 11 and 12, Township 31 North, Range 14 West, San Juan County, New Mexico, and that application has been docketed by you as Case No. 2865. That application requests approval to complete and operate six proposed water injection wells, all described in paragraph III of that application. In addition, that application requests permission to transfer allowables of injection wells or wells which are shut in or curtailed to other producing wells within the project area without limitation on oil which may be produced from wells within the project area offsetting wells in the pool operated by other operators.

Since filing our application, Humble has drilled and completed in the project area additional wells which have more accurately defined the limits of the Many Rocks Gallup Oil Pool. It now appears that some of the wells which Humble initially planned to use as water injection wells may not be suitable for use as water injection wells, and it may be necessary in order to institute and maintain the most efficient pressure maintenance program for Humble to modify its pressure maintenance program and/or drill substitute injection wells at locations more suitable from the standpoint of an efficient pressure maintenance program. In addition, Humble has been informed that certain offset operators will not be able to institute cooperative pressure maintenance programs on their offsetting leases immediately, and such operators feel that some limitation on production from wells offsetting their leases in the pool should be established for a limited period of time in order to protect correlative rights.

Humble, therefore, hereby requests permission to amend its application for approval of its proposed pressure maintenance project in the Many Rocks



Gallup Oil Field, and if such permission is granted, hereby amends said application in the following respects:

(1) Subparagraph (C) of paragraph VIII is amended to read as follows:

- (C) That allowables for injection wells be transferred to producing wells within the project area as well as allowables for producing wells which, in the interest of more efficient operation of the project, are shut in or curtailed because of high gas-oil ratio or are shut in for any of the following reasons: pressure regulations, control of pattern or sweep efficiencies, or to observe changes in pressures or changes in characteristics of reservoir liquids or progress of sweep, provided that any producing well in the project area which directly or diagonally offsets any well outside the project area producing from the same common source of supply shall not produce in excess of top unit allowable for the pool until January 1, 1964, or until the operators of such offset well outside the project area have instituted a pressure maintenance project in the area of such well, whichever shall first occur.

VIII: (2) The following subparagraph (K) is added to said paragraph

- (K) That provision be made for the administrative approval by the Commission for drilling, completing and operating water injection wells in substitution for and in lieu of the injection wells for which approval is requested herein.

Respectfully submitted,

HUMBLE OIL & REFINING COMPANY

John D. Knodell, Jr.
John D. Knodell, Jr.
Denver Area Attorney

by B. H.

JDK:ch

cc: See Attached List

Carbon copies to:

Mr. F. M. Burback
Mobil Oil Company
10737 South Shoemaker Road
Santa Fe Springs, California

Mr. D. G. Kingman
Mobil Oil Company
612 South Flower Street
Los Angeles, California

Mr. Burns H. Errebo
Mobil Oil Company
500 Petroleum Club Building
Denver, Colorado

Mr. E. F. Motter
Cities Service Oil Company
P. O. Box 97
Hobbs, New Mexico

Mr. Barton W. Ratliff
Skelly Oil Company
P. O. Box 1650
Tulsa, Oklahoma

Atlantic Refining Company
760 Petroleum Club Building
Denver, Colorado

Tidewater Oil Company
P. O. Box 1231
Midland, Texas

Mr. Curtis J. Little
2929 Monte Vista Boulevard, NE
Albuquerque, New Mexico

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

Case 2865

APPLICATION OF HUMBLE OIL & REFINING COMPANY)
FOR AN ORDER AUTHORIZING THE INJECTION OF)
WATER FOR PRESSURE MAINTENANCE AND SECONDARY)
RECOVERY PURPOSES INTO THE GALLUP (TOCITO))
SANDSTONE FORMATION UNDERLYING APPLICANT'S)
NAVAJO "G" LEASE, SECTIONS 1, 2, 11 AND 12,)
TOWNSHIP 31 NORTH, RANGE 17 WEST, SAN JUAN)
COUNTY, NEW MEXICO AND FOR PROMULGATION OF)
SPECIAL RULES GOVERNING THE OPERATION OF)
SAID PROJECT)

CASE NO. _____

TO: THE HONORABLE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO AND THE
SECRETARY-DIRECTOR THEREOF

NOW COMES Humble Oil & Refining Company, a Delaware corporation authorized to do business in the State of New Mexico, as owner and operator of that certain oil and gas lease commonly called Applicant's Navajo "G" Lease, executed by the Navajo Tribe of Indians, as lessor, which said lease covers Sections 1, 2, 11 and 12 described above, and hereby makes application to the New Mexico Oil Conservation Commission for an order authorizing the injection of water for pressure maintenance and secondary recovery purposes into the Gallup (Tocito) Sandstone formation underlying the said Navajo "G" Lease, pursuant to Rule 701 of this Commission, and for promulgation of special rules governing the operation of said project. In support of this application, Applicant respectfully shows:

I.

There is attached hereto, made a part hereof, and for purposes of identification marked Exhibit "A," a plat showing the said Navajo "G" Lease of Applicant, the location of all wells drilled thereon and all wells drilled within a radius of two (2) miles from the proposed injection wells hereinafter identified. All wells shown on said Exhibit "A" and located in Sections 6, 7, 8, 17 and 18, Township 31 North, Range 16 West and all

wells shown on said Exhibit "A" located in Sections 1, 2 and 12, Township 31 North, Range 17 West, and all wells shown on said Exhibit "A" located in Sections 27, 34 and 35, Township 32 North, Range 17 West are producing from the Gallup (Tocito) Sandstone formation which is a member of the Mancos formation of Cretaceous age. Said Exhibit "A" also shows the location of the proposed injection wells for which authorization is requested herein and the ownership of the respective leasehold interests within a radius of two (2) miles from all of said proposed injection wells.

II.

There is outlined in red on Exhibit "A" attached hereto, the proposed project area which is a part of the lands embraced in the Navajo "G" Lease identified above, and which includes the following described lands, to-wit:

Township 31 North, Range 17 West, N.M.P.M.

Section 1: All
Section 2: $E\frac{1}{2}$ and $NW\frac{1}{4}$
Section 11: $N\frac{1}{2}NE\frac{1}{4}$ and $SE\frac{1}{4}NE\frac{1}{4}$
Section 12: $NW\frac{1}{4}$ and $E\frac{1}{2}$

III.

There is also attached hereto, made a part hereof, and for purposes of identification marked Exhibit "B," a schedule listing all proposed injection wells drilled to this date upon Applicant's Navajo "G" Lease within the proposed project area, and which shows the total depth of each well, the size of production casing in each well, the depth to which the casing in each well has been set, the estimated top of the cement used in setting the casing in each well, the perforated interval in each well and the completion date of each well. Promptly after all of the other proposed water injection wells are drilled by Applicant, Applicant will submit a supplement to said Exhibit "B" showing the same information with regard to said proposed water injection wells hereafter drilled by Applicant.

IV.

At the time of filing this application the only proposed injection well which has been drilled by Applicant is the Navajo "G" Well No. 16, located approximately 1,980 feet south of the North line and 1,980 feet east of the West line of Section 1, Township 31 North, Range 17 West. There is

attached hereto, made a part hereof, and for purposes of identification marked Exhibit "C," an electric survey run in said well. In addition, Applicant proposes to drill wells at the following locations and, if permission is granted as herein requested, to operate said wells as water injection wells:

Township 31 North, Range 17 West, N.M.P.M.

Section 1: $NW\frac{1}{4}SW\frac{1}{4}$, $NW\frac{1}{4}SE\frac{1}{4}$, $SE\frac{1}{4}SW\frac{1}{4}$
Section 2: $SE\frac{1}{4}NE\frac{1}{4}$
Section 12: $NW\frac{1}{4}NE\frac{1}{4}$

Promptly after those proposed water injection wells have been drilled and electric surveys run, Applicant will file with this Commission electric surveys run by Applicant in those wells.

V.

Applicant proposes to inject water in the proposed water injection wells into the Gallup (Tocito) Sandstone producing formation which is encountered beneath the project area at depths from 1,175 feet to 1,275 feet beneath the surface, such water to be injected at rates ranging from 90 barrels to 300 barrels per day per well.

VI.

Applicant proposes to obtain the water for such injection from Applicant's water source well which produces water from the Morrison formation and which is located in Section 10, Township 31 North, Range 17 West, San Juan County, New Mexico. Said well has been heretofore drilled by Applicant and is presently furnishing water for injection into the injection wells in Applicant's pressure maintenance project in the Horseshoe-Gallup Pool, which said pressure maintenance project was authorized by Order No. R-1745 in Case No. 2024 before this Commission. The producing capacity of that well has been tested and is sufficient to produce water in quantities sufficient for both Applicant's pressure maintenance projects in the Horseshoe-Gallup Pool and the pressure maintenance project for which authorization is requested herein. The New Mexico State Engineer has issued a permit authorizing Applicant to obtain water for injection from such

source, and Applicant has furnished said engineer an analysis of the water obtained from such source.

VII.

Applicant is the sole owner of the said Navajo "G" lease identified herein and the Navajo Tribe of Indians is the sole royalty owner under said lease. Therefore, no unit agreement and no unit operating agreement will be needed in order to institute the pressure maintenance project for which authority is requested herein. Applicant is presently negotiating cooperative lease line pressure maintenance agreements by and between Applicant and the operators of leases to the northwest of Sections 1, 2 and 12 described above and by and between Applicant and the operators of oil and gas leases to the southeast of said sections. Applicant and all said operators propose to institute pressure maintenance operations on a cooperative basis with each operator continuing to operate its own leases.

VIII.

Applicant believes and asserts that it will be in the interest of conservation and the prevention of waste to inaugurate a water injection program for pressure maintenance and secondary recovery purposes as soon as possible by the injection of water into the injection wells for which authority is requested herein, and that said project is in the interest of obtaining the greatest ultimate recovery of oil and gas from said Gallup (Tocito) Sandstone formation. Applicant, therefore, respectfully requests that its proposed pressure maintenance program be approved, that the area hereinabove described be designated as the project area, that an allowable formula be fixed therefor, and in connection therewith, Applicant recommends the adoption of special field rules governing said project as follows:

- (A) The completion and operation of the proposed water injection wells listed in paragraph III hereof be approved and Applicant be authorized to institute the pressure maintenance project proposed herein.
- (B) That the allowable for the project area be the sum of the allowables of the several wells completed within the project area including those wells which may be shut in curtailed, or used as injection wells.

- (C) That allowables for injection wells be transferred to producing wells within the project area as well as allowables for producing wells which, in the interest of more efficient operation of the project, are shut in or curtailed because of high gas-oil ratio or are shut in for any of the following reasons: pressure regulations, control of pattern or sweep efficiencies, or to observe changes in pressures or changes in characteristics of reservoir liquids or progress of sweep.
- (D) That the allowable assigned to any well which is shut in or which may be curtailed in accordance with the applicable special rules, and which allowable is to be transferred to any well or wells in the project area for production, shall in no event be greater than its ability to produce during the test period prescribed by the special rules, or greater than the top unit allowable for the pool during the month of transfer, whichever is less.
- (E) That the allowable assigned to any injection well on a 40-acre proration unit shall be the top unit allowable for the pool.
- (F) That the ability to produce of any well which is shut in or curtailed in accordance with the special rules 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 the constant rate. The daily tolerance limitation set forth in Commission Rule 502 I(a) and any limiting gas-oil ratio for the pool shall be waived during such tests. The project operator shall notify all operators offsetting the well, as well as the Commission, of the exact time such tests are to be conducted. Tests may be witnessed by representatives of the offsetting operators and the Commission if so desired.
- (G) That the top allowable assigned to each producing well in the project shall be equal to the well's ability to produce or to the top unit allowable of the pool, whichever is less.
- (H) That the project operator submit each month, within a reasonable time after the normal unit allowable for northwest New Mexico has been established, to the Commission, a pressure maintenance project operator's report on a form prescribed by the Commission, requesting allowables for each of the several wells in the project area as well as the total project allowable.
- (I) That the Commission calculate the allowable for each well in the project area, and that the sum of the allowables so calculated be assigned to the project so that the same may be produced from any well or wells in the project in any proportion.
- (J) That provision be made for the administrative approval by the Commission of the conversion of additional producing wells to injection wells, and the

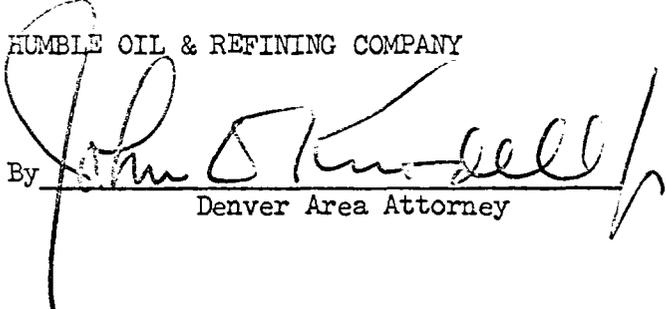
drilling of additional producing and injection wells, and the expansion of the project area under such reasonable conditions as may be prescribed by this Commission.

WHEREFORE, Applicant requests that this application be set down for hearing before an examiner after due notice as required by law and the rules and regulations of this Commission.

Respectfully submitted,

HUMBLE OIL & REFINING COMPANY

By


Denver Area Attorney

HERVEY, DOW & HINKLE

By


Roswell, New Mexico
Attorneys for Applicant