Case 1142

THE PURE OIL COMPANY

GENERAL OFFICES, 35 EAST WACKER DRIVE, CHICAGO.

TEXAS PRODUCING DIVISION
P. O. BOX 2107
FORT WORTH 1, TEXAS

March 19, 1958

State of New Mexico
Oil Conservation Commission
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Dear Mr. Porter:

The Pure Oil Company, as operator of the South Vacuum Unit, respectfully requests that a hearing before the Commission be scheduled to consider the adoption of special rules and regulations to govern the orderly development of the South Vacuum (Devonian) Pool.

Union Oil Company of California, as the original operator of the South Vacuum Unit, drilled and completed as a producer the South Vacuum Unit Well No. 1-35 located 1980' south of the north line and 1980' west of the east line, Section 35, T-18-S, R-35-E, Lea County, New Mexico. This well was completed in the Devonian formation through perforations from 11,643 to 11,680' and initially produced 361 barrels of oil in 5 hours through a 1/2" choke. After completion of this well, The Pure Oil Company was designated as operator of the South Vacuum Unit, which action was approved by the Oil Conservation Commission February 3, 1958. The name South Vacuum (Devonian) Pool was suggested, and a hearing was held on March 13, 1958, to consider the creation of a new oil pool so designated.

To date the South Vacuum Unit Well No. 1-35 is the only well completed and producing from the Devonian formation in the area. There are, however, several additional wells now in the process of being drilled for possible Devonian production in the area of this well.

In order to bring about the orderly and proper development of this common source of supply, to prevent waste, to avoid the drilling of unnecessary wells, and to protect the correlative rights of all interested parties, we hereby request that the following special rules and regulations be adopted:

1) That the South Vacuum (Devonian) Pool be extended to include Sections 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, and 36, T-18-S, R-35-E; Sections 19, 30, and 31, T-18-S, R-36-E; Sections 1, 2, 3, and 4, T-19-S, R-35-E; and Section 6, T-19-S, R-36-E. This area is outlined in red on the attached plat.

2) That these special rules and regulations govern the common source of supply designated as the entire Devonian reservoir, the top of which if found at a depth of 11,547' in the South Vacuum Unit Well No. 1-35.

3) That proration units of 80 acres each be established, consisting of two continuous and contigious 40 acre tracts elongate in either direction.

4) That all wells completed in said common source of supply be located in the center of either 40 acre tract within the 80 acre proration unit, with a tolerance of 150' to avoid surface obstructions.

5) That any well completed in said common source of supply and to which is dedicated less than 79 acres or more than 81 acres be granted an allowable in the proportion that the total number of acres assigned to the well bears to 80 acres.

Attached hereto is a list of the names and addresses of all leasehold interests in the area. A copy of this application has been mailed to each of these parties.

Yours very truly,

Harry C. Wells

Harry C. Wells
Ass't. Div. Prod. Engr.

HCW:c
att. - 2

The Atlantic Refining Company
P. O. Box 871
Midland, Texas

Champlin Refining Company
P. O. Box 1440
Midland, Texas

Cities Service Oil Company
P. O. Box 97
Hobbs, New Mexico

Forest Oil Corporation
P. O. Box 2066
Midland, Texas

Gulf Oil Corporation
P. O. Box 962
Roswell, New Mexico

Jake L. Hamon
102 Western Building
Midland, Texas

J. Don Hudgens, Inc.
P. O. Box 1898
Hobbs, New Mexico

Humble Oil & Refining Company
P. O. Box 1600
Midland, Texas

Ralph Lowe
P. O. Box 832
Midland, Texas

Fred Luthy
1712 San Cristobal Road S.W.
Albuquerque, New Mexico

Magnolia Petroleum Company
P. O. Box 633
Midland, Texas

The Ohio Oil Company
P. O. Box 552
Midland, Texas

Neville G. Penrose, Inc.
1813 Fair Building
Fort Worth, Texas

Phillips Petroleum Company
P. O. Box 2105
Hobbs, New Mexico

The Pure Oil Company
P. O. Box 2107
Fort Worth 1, Texas

Richardson & Bass
Ft. Worth Nat'l. Bank Bldg.
Fort Worth, Texas

Shell Oil Company
P. O. Box 1509
Midland, Texas

J. E. Simmons
P. O. Box 548
Lovington, New Mexico

Sinclair Oil & Gas Company
P. O. Box 1470
Midland, Texas

Skelly Oil Company
P. O. Box 993
Midland, Texas

Sun Oil Company
P. O. Box 1861
Midland, Texas

The Superior Oil Company
Andrews Highway
Midland, Texas

The Texas Company
P. O. Box 1270
Midland, Texas

Texas Gulf Producing Company
P. O. Box 1764
Midland, Texas

Texas Pacific Coal and Oil Company
P. O. Box 2037
Midland, Texas

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

C. W. Trainer
515 West Park
Hobbs, New Mexico

Union Oil Company of California
Union Oil Building
619 West Texas
Midland, Texas

May 59

SOUTH VACUUM (DEVONIAN) POOL
RESERVOIR DATA

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Pure EXHIBIT No. 2
CASE 1472

1. PHYSICAL PROPERTIES OF RESERVOIR ROCK

(Based on Core Analysis)

a. Average Porosity - 6.5%

b. Average Permeability - 226 Millidarcys

c. Average Interstitial Water Saturation - 32.5%

d. Net Thickness - 105 feet (40% of Cored interval analysed - 42' not analysed)

2. LITHOLOGY

Grey dense to finely crystalline dolomite with pin-point to large vugs, inter-crystalline porosity, and fracturing.

3. STRUCTURAL FEATURES OF RESERVOIR

Probable northwest-southeast trending anticline bounded on the northeast flank by steep dip or possible faulting. No original gas cap. Oil-water contact not determined.

4. CHARACTERISTICS OF RESERVOIR FLUIDS

a. Gravity of Stock Tank Oil - 48.6° API

b. Saturation Pressure - 382 PSIG

c. Formation Volume Factor - Barrels Reservoir Oil per Barrel Stock Tank Oil

At Original Pressure - 1.051

At Saturation Pressure - 1.088

d. Viscosity of Reservoir Oil - Centipoise

At Original Pressure - .884

At Saturation Pressure - .588

e. Dissolved Gas-Oil Ratio - Cubic Feet per Barrel Stock Tank Oil

At Saturation Pressure - 96

5. RESERVOIR PRESSURES AND TEMPERATURE

a. Datum Depth - 7550' Sub-sea

b. Original Reservoir Pressure - 4826 PSI

(From drill stem test 1-11-58)

c. Reservoir Pressure 2-1-58 - 4766 PSI

d. Reservoir Pressure 5-9-58 - 4693 PSI

(Cumulative Oil Production to 5-9-58 - 20,082 barrels)

e. Reservoir Temperature - 148° F

f. Productivity Index - Barrels per Day per PSI Pressure Drop - 4.4

g. Productive Capacity from Pressure Build-up Data - 4230 millidarcy-feet

The Pure Oil Company
5-14-58