PMX 153

PDEV0020700153

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

August 5, 1992

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

Conoco, Inc.
10 Desta Drive
Suite 100 W
Midland, Texas 79705-4500

Attention: Jerry Hoover

RE: Injection Pressure Increase
MCA Unit Pressure Maintenance
24 Wells
Lea County, New Mexico

Dear Mr. Hoover,

Reference is made to your request dated July 22, 1992, to increase the injection pressure on 24 wells in the MCA Unit permitted by Division Orders R-6157, R-6157-A and PMX-153. This request is based on declining injection fluid densities monitored and recorded from May 1, 1992 through July 19, 1992 and presented in Exhibits A thru E, included with your request.

The Division Director Finds That:

1) Division Order No. R-6157, issued October 30, 1979, authorized a CO2 pilot project to be initiated in the MCA Unit and to include two (2) injection wells.

2) Order No. R-6157 allowed for the injection of either CO2 or water.

3) Said Order R-6157 allowed a maximum surface pressure of 2150 psi, which consequentially allowed a bottom hole pressure of 3889 psi, using a fluid density gradient of .455 psi/ft for MCA produced water and an average uppermost injection depth of 3822 feet.

4) Division Order No. R-6157-A, issued April 30, 1991, authorized the injection of water, CO2, a mixture of produced carbon dioxide and hydrocarbon gas, or any combination of these fluids, thereby allowing varying injection fluid densities.

5) Division Order No. PMX-153, issued January 13, 1989, authorized the expansion of the MCA Pressure Maintenance/Enhanced Recovery Project to include 22 additional wells for a total of 24 permitted injection wells in the Maljamar Grayburg - San Andres Pool in Lea County, New Mexico.

6) Injection fluid densities have been declining as evidenced by data recorded between May 1, 1992 and July 19, 1992, and submitted with your request as Exhibits A thru E.

It Is Therefore Ordered That:

1) The pressure limit set by Order No. R-6157 as 2150 psi at surface be interpreted to imply a bottom hole pressure of 3889 psi.

2) To maintain a bottom hole pressure of 3889 psi with varying injection fluid densities, the following formula be utilized to calculate the maximum wellhead pressure on an individual well basis:

WELLHEAD PRESSURE = 3889 psi (BHP) - FLUID DENSITY GRADIENT/ft. of Depth to the Uppermost Injection Interval

3) In any case, the wellhead pressure will not exceed 2563 psi.

4) When converting from one injection fluid to another, wellhead pressure will be monitored and brought into compliance with the above formula within 72 hours of the conversion.

5) The operator is hereby authorized to increase the injection pressure on 24 wells in the MCA Unit as needed to obtain the bottom hole pressure as described above.

It Is Further Ordered That:

The subject wells shall be governed by all provisions of Division Order Nos. R-6157, R-6157-A and PMX-153 and Division Rules 702-706 not inconsistent herewith.

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected fluids are not being confined to the injection zone or are endangering any fresh water aquifers.

DONE at Santa Fe, New Mexico, on this 5th day of August, 1992.

State of New Mexico
Oil Conservation Division

William J. LeMay
Director

WJL/BS/jc

cc: Oil Conservation Division - Hobbs
David Catanach
Files R-6157, R-6157-A, PMX-153