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Raney
CONTINENTAL OIL COMPANY

HOBBS OFFICE OCC

1960 FEB 18 AM 3:18
Roswell, New Mexico
February 8, 1960

New Mexico Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico

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

Re: { Continental Oil Company's applica-
tion for permission to assign a
standard Eumont proration unit
jointly to its SEMU Eumont No. 67
and SEMU Eumont No. 69 wells
located in Section 24-R20S-T37E,
NMPM, Lea County, New Mexico }

Gentlemen:

Continental Oil Company's SEMU Eumont No. 67 gas well located 1980 feet from the south and west lines of Section 24-T20S-R37E, NMPM, Lea County, New Mexico has a standard 640 acre Eumont gas proration unit consisting of said Section 24. This well has been classified as a marginal well and more recently as an underproduced non-marginal gas well.

In order to more adequately develop Eumont gas reserves in Section 24, Continental Oil Company completed its SEMU Eumont No. 69 gas well at a location 1980 feet from the north and west lines of said Section 24 on July 1, 1959. Initial completion tests indicated the No. 69 well would have a low deliverability at 600 psi. Recently El Paso Natural Gas Company installed a compressor on their line in this area and lowered line pressures to approximately 250 psi.

In order to determine the optimum size NSP to assign to the No. 69 well, Continental Oil Company respectfully requests permission to assign a standard Eumont gas proration unit consisting of Section 24-T20S-R37E, NMPM, Lea County, New Mexico jointly to its SEMU Eumont No. 67 and SEMU Eumont No. 69 wells. Neither well will be allowed to produce in excess of 75 per cent of the total allowable. After adequate testing, a Eumont NSP for the No. 69 well will be applied for.

W. A. Mead
Wm. A. Mead
Division Superintendent
of Production
New Mexico Division

1. The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations

$$\begin{cases} \Delta u = f(x, y, z, u, v, w) \\ \Delta v = g(x, y, z, u, v, w) \\ \Delta w = h(x, y, z, u, v, w) \end{cases}$$

where f, g, h are continuous functions of their arguments.

It is shown that if the functions f, g, h satisfy certain conditions, then the system has a solution in the domain D bounded by the surface S .

The second part of the paper is devoted to the study of the properties of the solutions of the system. It is shown that if the functions f, g, h are bounded, then the solutions of the system are also bounded. It is also shown that if the functions f, g, h are continuous, then the solutions of the system are also continuous. Finally, it is shown that if the functions f, g, h are differentiable, then the solutions of the system are also differentiable.

The third part of the paper is devoted to the study of the properties of the solutions of the system. It is shown that if the functions f, g, h are bounded, then the solutions of the system are also bounded. It is also shown that if the functions f, g, h are continuous, then the solutions of the system are also continuous. Finally, it is shown that if the functions f, g, h are differentiable, then the solutions of the system are also differentiable.