



RECEIVED

OCT - 5 '90

(505) 625-2117

November 2, 1990

O. C. D.
ARTESIA, OFFICE

New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

Attention: Mr. Michael E. Stogner

Re: Desert Rose Federal Well # 1
1740' FSL & 660 FEL (Unit I)
Section 27, Township 23 South, Range 23 East NMPM
Eddy County, NM

Dear Mr. Stogner:

Per our recent phone conversation, this letter was written to provide you with additional evidence supporting Yates Energy Corporation's application for dual completion of Bandana Point Strawn Gas Pool and Undesignated East Hess Morrow Gas Pool production in the subject well.

The Bandana Point Strawn Gas Pool is a limited reservoir as evidenced by its pressure and production history. Attachment "A" is a summary of shut-in pressures taken on the well. It shows a significant decline in reservoir pressure following only a limited withdrawal of gas. Attachment "B" is a summary of flowing tubing pressures which also indicate that the reservoir is rapidly depleting. The current line pressure runs between 600 and 650 PSIG, which means the Strawn is basically riding the line at this point. Without some relief on the line pressure or installation of compression facilities, the Strawn is rapidly approaching its productive capacity. Even with a reduction in line pressure, the remaining reserves in the Strawn reservoir are limited. This is a major factor when considering potential waste in the Strawn versus loss of reserves due to drainage in the Morrow.

In order to comply with your request for more detailed engineering work, I have made an attempt to calculate friction factors for the Strawn for both tubular and annular flow, and relate these to pressure losses as a result of friction. Attachment "C" summarizes the calculations for these various factors. It is evident from these calculations that producing the Strawn up the annulus will actually decrease the pressure loss due to friction, enabling the reservoir to be more efficiently produced, and resulting in less waste than if present operations are continued.

Attachment "D" is a calculation of the minimum flow rate