



NORTH AMERICAN EXPLORATION AND PRODUCTION GROUP
Midland Area Land Office and Production District

SUN OIL COMPANY

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July 6, 1976

New Mexico Oil Conservation Commission
Secretary Director's Office
P. O. Box 2088
Santa Fe, New Mexico 87501

Gentlemen:

Re: Shearn Federal Com. #1

Sun Oil Company respectfully submits the following data in application to downhole commingle production from the Wolfcamp and Bone Springs reservoirs in the Shearn Federal Com. #1. Location of the well is in Unit L, Section 15, Township 19-S, Range 32-E, Lea County, New Mexico.

The subject well, formerly completed in the Wolfcamp, with perforations from 10,626 to 10,759 was plugged back in June, 1976 to test for economic production from the Bone Springs formation. The Bone Springs was perforated from 9832 to 9868, then treated and swab tested. The above work was done after receiving an approved C-103 proposing the work.

On June 12, 1976, the Wolfcamp formation in the Shearn Federal #1 tested 22 barrels of oil, 5 barrels of water and 369 MCF gas, GOR 16,772/1, pumping 24 hours. Swab testing the Bone Spring zone indicates production of 9 barrels of oil per day can be anticipated from this interval. A producing gas oil ratio of 800 cu. ft. per barrel is expected. Based on these tests, it is proposed that 71% of the oil production and 98% of the gas production be allocated to the Wolfcamp with the remainder being credited to the Bone Spring.

Estimated bottom hole pressure of the Wolfcamp formation is 1000# based on extrapolating previous pressure data versus the current cumulative production. Bottom hole pressure in the recently perforated Bone Spring interval is approximately 3310 psi based on a 37 hour S.I.T.P., 6-22-76 and hydrostatic head of the fluid in the well. Crossflow will be prevented since the pumping equipment installed in the well is capable of keeping the fluid pumped down. Gas from both zones will flow up the annulus.

The Wolfcamp zone of the Shearn Federal #1 produces 25 to 30 barrels of fluid daily. The crude oil is a 40.3° API gravity crude and is produced with a formation brine water of 1.08 sp. gravity. Bone Spring oil production in the northeast offset to the Shearn Federal is 39.9° API gravity. There should be no detrimental results of commingling the fluids downhole.

Value received for the 40.3° crude is \$12.23 per barrel. The 39.9 gravity crude sells for \$12.22 per barrel. Therefore, commingling the crude oils will not reduce the value received for the production.