

3. This well was initially produced in December, 1980. The attached production graph includes the logarithm of the liquid-gas ratio in bbls/mcf plotted as a function of time. The liquid-gas ratio has remained in the range of 9 bbl/mcf to 13 bbl/mcf since September, 1982, with the particular exception of the months of September, October, and November, 1983. During these months, the observed well performance can be summarized as follows:

1983 Month	Production			Liquid/ Gas Ratio
	<u>Gas</u>	<u>Liq. H.C.</u>	<u>Water</u>	
September	12,944	173	16	14.6
October	13,032	176	0	13.5
November	12,606	185	19	16.2

In addition to the noted anomalous increase in liquid-gas ratio during this period, the casing pressure increased as the flow rate was reduced (as expected) while the tubing pressure decreased as the gas rate was reduced, as is anomalous:

<u>1983 Month</u>	<u>Gas Rate mcf/day</u>	<u>Tubing</u>	<u>Casing</u>
August	488	800	1054
September	544	809	1083
October	481	792	1093
November	420	813	1067
December	747	873	1048

These observations of gas flow rate, liquid-gas ratio and casing and tubing pressures all indicate that the well must be allowed to produce a minimum of 420 mcfpd in order that all of the liquids that accompany gas production are removed from the well and are not allowed to accumulate therein.

Additionally, there are demonstrated instances where a Morrow formation producing well was closed in temporarily and, although not producing large volumes of liquids, commercial gas production could not be restored. Such instances of apparently anomalous loss of gas productivity subsequent to shut-in can be demonstrated by the Dinero Operating Company Big Chief No. 3, which is located in Unit J of Section 21, Township 22 South, Range 28 East, Eddy County, New Mexico. Initial production for this well was in May, 1979, and, as shown by the attached production graph, performance was as follows: