# *Mohajir & Associates, Inc.*

An Oil & Gas Consulting Firm

G. H. "Nez" Mohajir, P.E.
Chairman and Chief Executive Officer


December 30, 1994

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
Santa Fe, New Mexico 87505

Examiner_____
Case No. 10280
EXHIBIT NO. 13

Re: Case No. 10280
Order No. R-9594-A
Pool Rules for the Milnesand-Abo Pool
Lea & Roosevelt Counties, New Mexico

Dear Sirs:

Our client, Petroleum Production Management, Inc., has requested that we submit the following comments concerning the forthcoming review of Case No. 10280. Mohajir and Associates, Inc., on behalf of its clients, hereby requests that the temporary Special Rules and Regulations promulgated for the Milnesand-Abo Pool be made permanent. The temporary rules provide for the Milnesand-Abo Pool to be developed on 80 acre proration units instead of the standard 40 acre proration units.

During the fourteen month period since the last review in October, 1993, Petroleum Production Management, Inc. has not conducted any bottomhole pressure tests of the Abo formation. The cost of obtaining a bottomhole pressure point for one or both of these wells would be very high. The bottomhole pump and rods would have to be removed, the well shut-in for 72 hours, pressure bombs run in the hole and pulled out again, pump and rods reran and possibly a stimulation if the well does not return to full production. There will also be a loss of production during all this work.

However, Mohajir and Associates, Inc. has been conducting an extensive reservoir study of Petroleum Production Management, Inc.'s properties in New Mexico during the last few months. It is very apparent to us, based on decline curve analysis and volumetrics, that each of the Petroleum Production Management, Inc. wells will drain at least 78 acres and possibly as much as 146 acres. Attached to this letter are decline curves for the Will #3 well and the Will #4 Abo formation. Projected ultimate oil recovery from the Will #3 is 187,000 Bbls and the cumulative production to September 1994 was 95,576 Bbls. Ultimate recovery from the Abo formation in the Will #4 is expected to be 75,000 Bbls and the cumulative production to December 1994 was 45,497 Bbls. The average ultimate recovery per well is estimated to be 131,000 Bbls. Based on 9% porosity, 30% water saturation, and a formation volume factor of 1.36, the original oil in place in the Abo formation is 359 BO/Ac-ft. The two wells are expected to drain 89.8 BO/Ac.ft., equivalent to a recovery factor of 25%, which is very high for a solution gas drive reservoir. The wells on the Will lease will drain an average of 122.5 acres per well. The attached page outlines the general reservoir parameters used.


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Drainage in the Milnesand-Abo Pool will be at least 80 acres per well or more. Development on less than 80 acre spacing per well will result in uneconomic drilling and will not result in any additional oil being produced for the State of New Mexico. In fact the opposite is likely to occur; 40 acre spacing will result in recoveries which do not support the cost of drilling a well. An operator who considers drilling an Abo well will have no assurance that an offset operator will not drill a 40 acre offset and compete with the original well for the same reserves.

In the event that the temporary rules are rescinded and the spacing in the Milnesand-Abo Pool becomes 40 acres once again, Petroleum Production Management, Inc. requests that those wells which are already producing from this field be assigned permanent 80 acre spacing to prevent possible economic loss resulting from the drilling of unnecessary wells. The current operators have a right to recover the production that there wells will drain from 80 acres which is the basis that they have been operating under for the last four years.

Being the operator of two Abo wells in the Milnesand-Abo Pool and with plans to drill additional wells in this area, Petroleum Production Management, Inc. wishes to emphasize that it requests that Special Rules and Regulations set up in October 10, 1991 and extended on November 18, 1993 be made permanent. If the Oil Conservation Division is not satisfied with our support data, Petroleum Production Management, Inc., if so desired, will present supportive data to the Division's satisfaction.

If you have any questions concerning the foregoing please contact the undersigned or M. B. Nattrass at 913-345-8070.

Yours very truly;
Mohajir and Associates, Inc.

G.H. "Nez" Mohajir, P. E.

MBN/

ATTACHMENT 1

Will Lease
S/2 Sec. 34-8S-35E,
Roosevelt County, New Mexico

O = 9% (density porosity)
Sw = 30%
Bo = 1.36 (average based on Federal 3-C (GOR - 456 and Will 3A (GOR - 1136)

$$OOIP = \frac{7758(.09)(1 - .30)}{1.36}$$

= 359.4 BO/Ac. ft.

| | | | |
|---|---|---|---|
| Ultimate Recovery - | Will #3A | = | 187,000 Bbls |
| | Will #4 | = | 75,000 Bbls |
| | Total | = | 262,000 BBls |
| | Average | = | 131,000 Bbls |

Recovery factor 25%

Recoverable Oil 89.8 BO/Ac. ft.

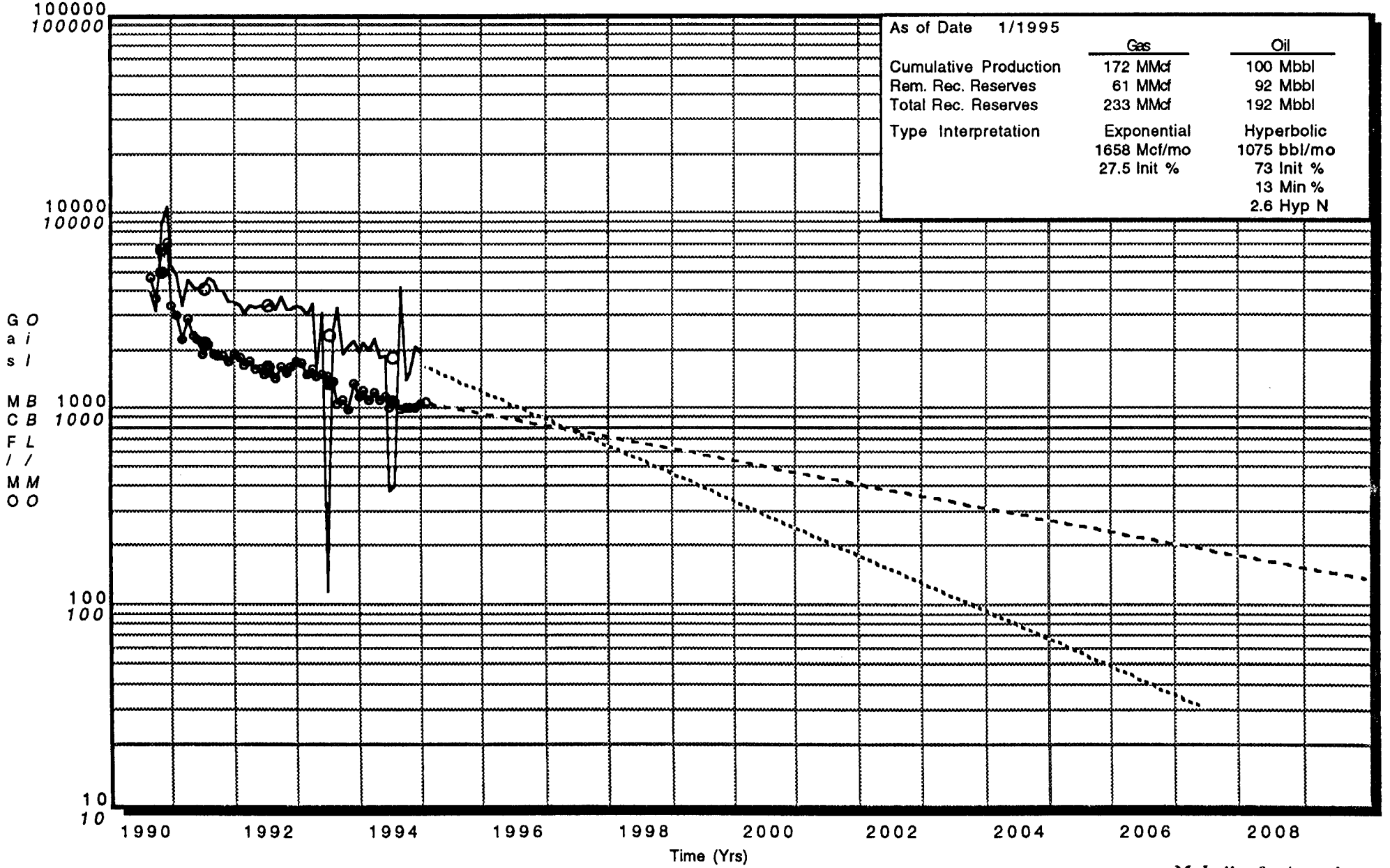
Average thickness 11.9 ft.

Drainage Area 122.5 Ac. per well

## Production Rate vs. Time

Well Name & No.: WILL 693 LTD 000003
Operator: PETROLEUM PROD MGMT INC
Field Name: MILNESAND (ABO) AB
County: ROOSEVELT State: NM

Dwight's ID: 150,041,08S35E34N00AB
Reservoir Name: ABO
Location: 34N 8S 35E
Date graph plotted: 05-05-1995



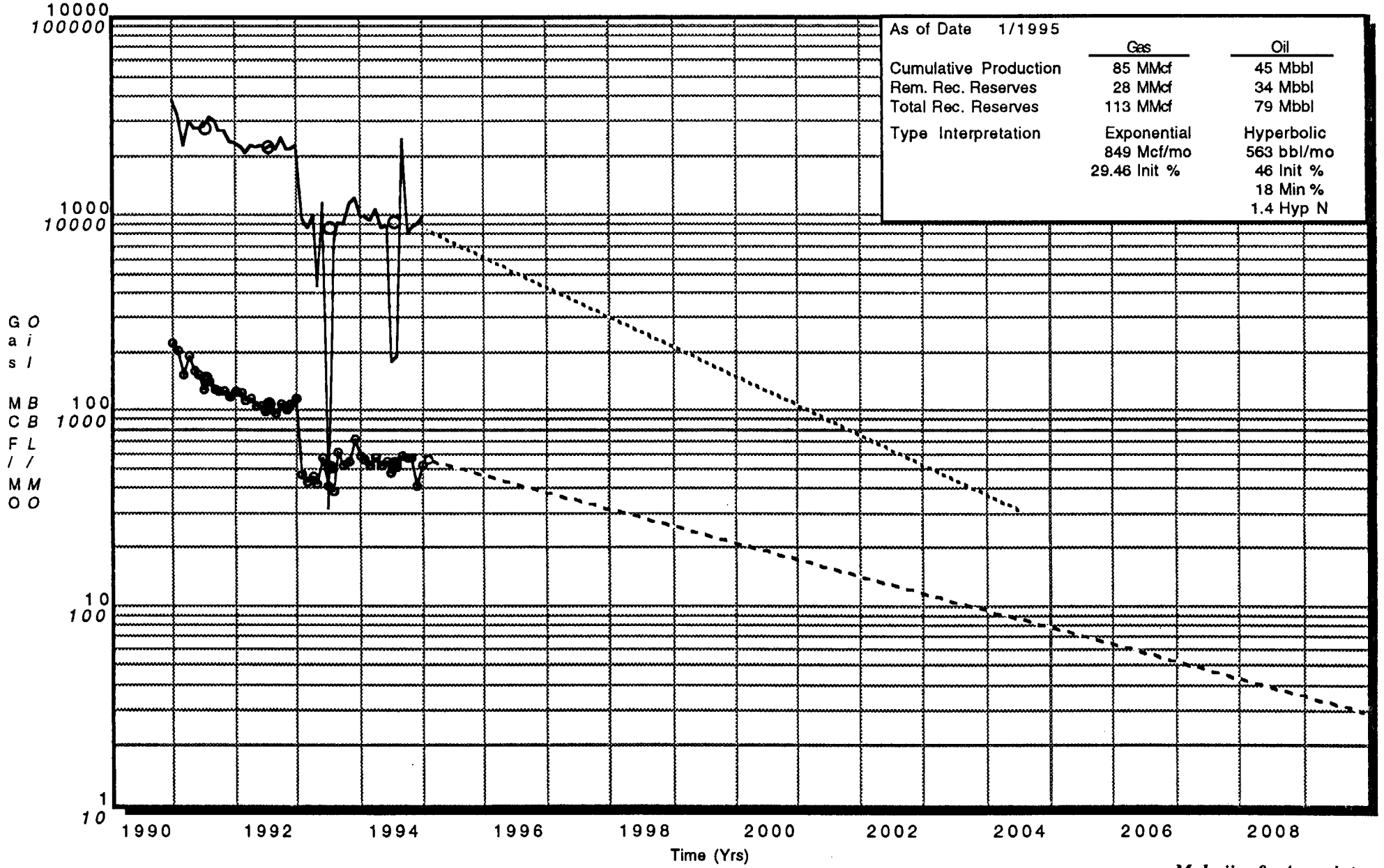

| As of Date 1/1995 | Gas | Oil |
|---|---|---|
| Cumulative Production | 172 MMcf | 100 Mbbl |
| Rem. Rec. Reserves | 61 MMcf | 92 Mbbl |
| Total Rec. Reserves | 233 MMcf | 192 Mbbl |
| Type Interpretation | Exponential | Hyperbolic |
| | 1658 Mcf/mo | 1075 bbl/mo |
| | 27.5 Init % | 73 Init % |
| | | 13 Min % |
| | | 2.6 Hyp N |

*Mohajir & Associates,*

## Production Rate vs. Time

Well Name & No.: WILL 693 LTD 000004
Operator: PETROLEUM PROD MGMT INC
Field Name: MILNESAND (ABO) AB
County: ROOSEVELT State: NM

Dwight's ID: 150,041,08S35E34J00AB
Reservoir Name: ABO
Location: 34J 8S 35E
Date graph plotted: 05-05-1995




| As of Date 1/1995 | Gas | Oil |
|---|---|---|
| Cumulative Production | 85 MMcf | 45 Mbbl |
| Rem. Rec. Reserves | 28 MMcf | 34 Mbbl |
| Total Rec. Reserves | 113 MMcf | 79 Mbbl |
| Type Interpretation | Exponential | Hyperbolic |
| | 849 Mcf/mo | 563 bbl/mo |
| | 29.46 Init % | 46 Init % |
| | | 18 Min % |
| | | 1.4 Hyp N |

*Mohajir & Associates,*

**BEFORE THE**
**OIL CONSERVATION COMMISSION**
Santa Fe, New Mexico

Case No. 10280 Exhibit No. 13

Submitted by: Petroleum Production Management Inc.

Hearing Date: August 3, 1995