

BEFORE THE  
OIL CONSERVATION DIVISION  
Santa Fe, New Mexico

Case No. 11986 Exhibit No. 3

Submitted by: Saba Energy of Texas, Incorporated

Hearing Date: June 11, 1998

# Memorandum

To: Brad Katzung  
Steve Baldwin  
Wade Brawley

From: Dan Kennedy

Date: December 19, 1997

Re: Geological Economic Review of the Permo-Penn Production in the Area of the Tatum Field

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The PI CD ROM data was queried for all Permo-Penn, Bough, Cisco, and Canyon oil production occurring from the region of the Tatum Field (T10S-15S and R33-38E) at depths greater than 10,000 feet. A total of 238 oil wells fit the query's criteria and their production averages approximately 180,000 BO and 400 MMCFG per well. The attached X-Y plot (cumulative production verses depth) represents that production.

A preliminary economic review indicated that wells drilled with reserves of less than 250,000 BO per well would be marginally economic. Therefore, a second query was performed using the same criteria as the first query with the added criteria that the production was over 250,000 BO for each property. A total of 27 wells fit the second query's criteria. Three fields were present in the second query with more than 3 wells. These fields were the Bagley North, Saunders East, and Dean Fields. The Roswell Geological Society Symposium Book's descriptions of those fields are attached.

The Dean Field appears to be the best analogy to our Tatum Production (size, depth, producing formation, average reservoir porosity). The Dean Field is located approximately 18 miles south of the Tatum Field and had 29 producers that fit the criteria of the first query. Those wells averaged 162,000 BO and 160 MMCFG. Nine of the 29 wells exceeded 250,000 BO.

Saunders East, located 24 miles southeast of the Tatum Field, would be the second best analogy to our Tatum production. However, the Permo-Penn production in the Saunders East Field appears to be more stratigraphically controlled than in the Tatum Field in which the primary trapping mechanism is structural. The field has averaged 333,000 BO and 500 MMCFG per well from 8 Permo-Penn producers. The larger reserves may be due in part to the fact that the Saunders East Field was drilled on 160-acre spacing and the Dean Field was drilled on 80-acre spacing.

The Bagley North Field is located 12 miles to the east of the Tatum Field. The field has averaged approximately 246,000 BO and 600 MMCFG per well from the Permo-Penn. But the field is located on a much larger structural feature than the Tatum production and, therefore, is considered to be a poor analogy.

John Fisco believes that the Four Lakes Field is the best analogy. The Four Lakes Field produces from the Cisco and a deeper Permo-Penn zone at a depth of approximately 10,000 feet. It is analogous to our Tatum Field in the fact that the Permo-Penn pays are draped over a deeper structural feature that is very limited in size. The Four Lakes Field production averaged 338,000 BO and 444 MMCFG per well from the Cisco and Permo-Penn pays, which is very similar to the Saunders East Field's average production. The Cisco appears to be the main zone that produces in the Four Lakes Field and if our Cisco zone is productive, this field may be the best analogy to our Tatum production. The Four Lakes Field is drilled on 160-acre spacing.

Four individual economic scenarios were run to evaluate the merits of drilling additional tests on the Tatum feature. The first scenario is an 11,200' Canyon test using the average reserves recovered from the Dean Field (162,000 BO and 160 MMCFG). The second scenario is also an 11,200' Canyon test using the average reserves recovered from the Saunders and Four Lakes Fields (333,000 BO and 500 MMCFG). Two 14,000' Silur-Devonian test scenarios were run. One assumed no production from the Silur-Devonian and only production from the Permo-Penn comparable to the Dean Field (162,000 BO and 160 MMCFG). The last scenario assumed a successful Silur-Devonian test. A third query was performed using the same geographical area used in the first and second queries for Silurian and Devonian production. The query indicated that Silur-Devonian wells average 387,000 BO per well and that figure was used for a successful Silur-Devonian test.