

MARTIN YATES, III  
1912 - 1985  
FRANK W. YATES  
1936 - 1986



105 SOUTH FOURTH STREET  
ARTESIA, NEW MEXICO 88210  
TELEPHONE (505) 748-1471

S. P. YATES  
CHAIRMAN OF THE BOARD  
JOHN A. YATES  
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TREASURER

## GEOLOGICAL EXPLANATION OF THE PROPOSED SAWYER NORTH UNIT, ROOSEVELT COUNTY, NEW MEXICO

The proposed Sawyer North Unit is comprised of the following lands: All of Sections 32 & 33, T-8-S, R-38-E, Roosevelt County, New Mexico. The initial test well will be drilled to a projected total depth of 9500 feet to test the hydrocarbon potential of the Pennsylvanian Bough "C" formation at a location of 2310' FSL & 700' FEL Section 32, T-8-S R-38-E. The important wells are numbered and are shown on both the Structure Map, the Isopach and the Key Well Display.

The Structure Map, with the Top of the Bough "C" as the datum, shows a closure underlying the proposed unit. This closure is controlled by a buried horst block at the Devonian level. The Structure Map also indicates the estimated oil-water contact in the Bough "C", as defined by tests and log calculations.

The Isopach of the Bough "C" Interval shows the area of porosity greater than 3% overlain by the estimated oil-water contact. The Bough "C" porosity appears to be developed over the buried Devonian horst block. Well #2 produced 262,506 BO from the Devonian and was plugged in 1982.

The unit is defined by an estimated oil-water contact at a subsea depth of -5397. Well # 5 perforated the Bough "C" interval and swabbed 100% salt water with a slight show of gas. Well # 1, 2, and 3 all have porosity in the Bough "C" interval and have log derived salt water saturations (Sw) of 35% or less, and are interpreted to be above the oil-water contact. Wells # 1, 2, or 3 did not test the Bough "C".

The key well to the Sawyer North Unit (Well # 1) is the Anadarko Production Co. #1 Anadarko-State "A", located 1880' FNL & 1880' FEL, Section 32, T-8-S R-38-E, Roosevelt County, New Mexico. This well was drilled in 1966 to a depth of 11,600' to test the Devonian formation. A DST was attempted in the Devonian, but was misrun. No tests were taken in the Bough "C" even though logs show porosity of up to 9% with Sw of 17%. It is felt that this well is capable of economic production from the Bough "C".

The San Andres formation is also prospective in the area. Yates Petroleum Corporation intends to fully evaluate all hydrocarbon shows in order to establish economic production from the Sawyer North Unit.

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

Case No. 11420 Exhibit No. 7

Submitted by: Yates Petroleum Corporation

Hearing Date: November 2, 1995