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## GEOLOGICAL EXPLANATION OF THE PROPOSED ALPHABET UNIT, LEA COUNTY, NEW MEXICO

The proposed Alphabet Unit is comprised of the following lands: T-21-S, R-34-E, Section 7-SE/4; Section 8-All; Section 9-NW/4; Section 17-S/2, NW/4, W/2 NE/4; and Section 18-E/2, SW/4, Lea County, New Mexico. The initial test well will be drilled to a projected total depth of 10,400' feet to test the hydrocarbon potential of the upper Permian Bone Spring formation. The important wells are identified by numbers on both the Structure Map and Cross Section.

The Structure Map, with the top of the Avalon Sand Interval (near the top of the Bone Spring Formation, see Cross Section A-A') as the datum, shows a prominent structural nose with dip generally to the southwest. The closure on this structural nose and underlying the proposed Alphabet Unit is interpreted from subsurface well control.

This area has long been known to have hydrocarbon potential in the Bone Spring formation. The Hunt Oil #1 State "4", located in Section 4, T-21-S, R-34-E was completed from the Bone Spring formation (9556'-9657') on 9/2/81 and produced 20,075 BO and 114,723 MCFG before the well was plugged. The Texaco #1 Berry "5" State (Well #1, Section 5) produced 194 BO and 117 MCFG from 8829'-8859'. The Getty #1 Getty "6" State Com, Section 6, produced 22,467 BO , 9,061 MCFG and 9,270 BW from a gross interval of 8830'-11,176'. These wells tested one or only several sands in the Bone Spring interval and did not treat these sands with large fracture treatments.

Yates Petroleum has recently worked over the wells in section 4, and section 5 and tested numerous Bone Spring sands. Yates has determined that this area has potential in many of the upper Bone Spring sands. (See Cross Section A-A')

The Alphabet Unit is proposed for the following reasons.

1. Subsurface well control indicates a structural closure underlying the proposed unit. ( the -5150 contour on the Structure Map)
2. Recent activity indicates significant hydrocarbon potential in many of the upper Bone Spring sands. This activity consisted of re-entries of several old plugged wells and have numerous mechanical unknowns (integrity of casing, quality of cement job, etc.)
3. The mapped structure significantly enhances the potential in these sands.

4. The new large fracture treatments have significantly improved both initial rates and ultimate recovery from these sands.

5. A new well will carefully evaluate both the Delaware and Bone Spring sands. (Mud logs, DST's, properly designed fracture treatments, etc.)

6. A unit will provide the means to orderly drill, test (DST's and production test) and develop this area in a manner that will prevent undue waste.

The Delaware sands are also prospective in the area. Yates Petroleum Corporation intends to fully evaluate all hydrocarbon shows in order to establish economic production from the Alphabet Unit.

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

Case No. 11469 Exhibit No. 7

Submitted by: Yates Petroleum Corporation

Hearing Date: February 22, 1996