North Papalotes Exploratory Unit
Geological Justification and Description

Yates Petroleum Corporation requests the formation of the North Papalotes Exploratory Unit to support the drilling of a wildcat well to test the Morrow sand potential of the N/2 of section 36 T14S R34E. The proposed unit will include the following lands as depicted on Exhibit 1: sections 25, 26 and the N/2 of section 36, T14S R34E. The initial well, proposed at a location of 990' FNL and 660' FEL of section 36, will test the Morrow section at a depth of approximately 13,450' MD.

The primary objective of this well is the Morrow age Mesa sand, a gas productive sand found to be of limited extent, and therefore uneconomic, in several nearby wells. A key well in the area is the Yates Petroleum Corporation Morton Unit #1, located 770' FNL and 2150' FEL of section 5, T15S R35E (well #3; Exhibit 3, A-A'). This well production tested 6' of Mesa sand with an initial rate of 9500 MMCFD. This high rate was not sustained, however, because of apparent limited reservoir extent. Another well in the area with a Mesa sand show is the Adobe Resources Scott 1-Y located 1980' FSL and 1730' FEL of section 11, T15S R35E (well #1; Exhibit 4, B-B'). The Scott 1-Y DST'd the Mesa sand and recovered 1000 cc condensate, 600 cc gas cut mud and 1 cfg with an ISIP of 5573#. Again, the DST information suggested a limited reservoir as the FSIP was recorded at 637#. Based on well log, DST and production information, it is apparent that the Mesa sand has potential to be an excellent reservoir if it could be found thicker and more continuous than seen in existing well bores.

It is Yates' geologic interpretation that the Mesa sand was deposited along structurally low areas that existed during Morrow time and these low areas acted as pathways for clastic deposition. Based on all available subsurface information in the area it is our belief that a structural low exists in the area defined by the proposed unit boundary and this low greatly increases the chance of a thicker Mesa sand being present (see Exhibits 1 and 2; Morrow Lime Structure Map and Mesa Sand Isochore Map). If our interpretation is correct we could expect greater reservoir continuity and extent than previously encountered and, therefore, an economic completion. Yates prefers to drill the initial test well for this exploration concept in the southeastern portion of the proposed unit because 1) The only wells thus far to have encountered the sand are in the southern portion of the mapped area and 2) we would like to be on the side of the unit that is closest to the thickest Mesa sand penetrated to date, which is in our Morton Unit #1 well to the east in section 5. The proposed location of 990' FSL and 660' FEL of section 36 T14S R34E would satisfy these criteria.

The proposed unit outline encompasses an area where the chance of an economic completion in the Mesa sand is interpreted to be the greatest based on our depositional model. The formation of this exploratory unit would aid in the reasonable development of the reservoir to the north and west, given a successful initial wildcat, which we would commence drilling before Feb.1, 2001.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case No. 12549 Exhibit No. 7
Submitted by:
Yates Petroleum Corporation
Hearing Date: December 7, 2000