GEOLOGIC REPORT
PROPOSED REMUDA UNIT
CATRON COUNTY, NEW MEXICO

I. ENCLOSURES

Exhibit A. Remuda Unit Area Geological Summary Map

II. LOCATION

The proposed Remuda Unit is located in northeast Catron County, west central New Mexico. The unit lies in Townships 2 and 3 North, Ranges 9 and 10 West. Elevations range from 6900' to 8000' in this semi-arid uninhabited region.

III. GEOLOGICAL SUMMARY

A. Stratigraphy

Geological studies indicate that petroleum potential in the Remuda Unit Area exists in sedimentary rocks of Pennsylvanian, Permian and Cretaceous age. Pennsylvanian sediments thicken rapidly from west to east in the unit area, reflecting a sedimentary wedge edge that bounds the Zuni Uplift. The aforementioned Pennsylvanian sediment wedge is an ideal locale for stratigraphic accumulation of oil and gas.

Permian, San Andres Limestone and Glorietta Sandstone are regional reservoirs in the Remuda Unit Area. These formations have sufficient permeability and porosity to qualify as hydrocarbon reservoirs, but structural closure will be necessary to trap hydrocarbon within these sediments.

The Gallup through Dakota sediments of the Cretaceous period are preserved in the Remuda Area. Based on outcrop studies and subsurface studies in the San Juan Basin, it is suggested that Gallup, Tres Hermanos and Dakota sands are present in the form of northwest-southeast trending bar and beach sands. Simple stratigraphic traps are potentially present in the unit area, but Laramide folding would relocate stratigraphically trapped oil to anticlinal crests.

B. Structure

Post-Cretaceous Laramide folding created several regional north-south trending anticlines in the Zuni Basin. The Remuda Unit is located on one of these south documented plunging anticlinal trends. Field mapping in the area has shown that an anticlinal closure exists within the Remuda Unit outlined.

IV. BASIS FOR PROPOSED UNIT

Acreage within the Remuda Unit and boundaries of the unit were determined to be structurally high to the 5500' closing structural contour which is drawn on the base of the Cretaceous. Justification for such contouring is

field mapping and strike and dip attitudes of Cretaceous rocks. Two oil and gas tests drilled by E. J. Gorman are located in the northwest ¼ of Section 34, Township 3 North, Range 9 West, the Gorman #1 T.D. at 168' in 1924, and the Gorman #2 T.D. in Cretaceous Gallup (?) at 501' in 1933. No other data is available on these tests and they are located low on the structure and did not test a significant portion of the sedimentary section. They do not condemn or enhance the oil and gas potential of the Remuda Unit.

V. INITIAL TEST WELL

The initial test well will be drilled to a depth of 5500' or 30' into the basement complex, whichever is the lesser depth. Drill depths for an average well in the proposed unit area are as follows:

Tertiary, Surface, Ground Elevation - 7100'
Gallup - 400'
Tres Hermanos - 800'
Dakota - 1000'
San Andres - 2700'
Glorietta - 2900'
Pennsylvanian - 4900'
Basement - 5500'
TD - 5500'

Dennis W. Belnap
District Geologist
TransOcean Oil, Inc.