A STUDY OF SOUTH CHINA SEA SEDIMENT

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ABSTRACT

The South China Sea is a new area of interest for oil and mineral exploration. South China Sea sediment core V36-07 was obtained by the research vessel Vema of the Lamont-Doherty Geological Observatory of Columbia University in Palisades, New York. The core was split in half, air dried, and stored. During storage the core hardened into semi-circular lengths of dry mud-like material. Pieces approximately 2.5 g each were removed from the core at 50 cm intervals.

A pyconometer was built by the author to perform dry bulk volume analysis of the samples. Dry bulk volume determinations were performed on all 22 samples from the core. Subsequently, grain volume analyses were performed on the samples and porosities were derived. Porosity is an important factor for oil migration and accumulation.

Microscopic analysis revealed microfossils and mineral grains comprised the core. Major microfossil species and their relative abundances were noted. Mineral constituents were identified with x-ray diffraction. Trace elements were identified with x-ray fluorescence. Size analyses were performed by wet sieving and hydrometer tests.

The core sample was comprised of clay size parti-

cles and microfossils. The fairly homogeneous sediment was very porous and hydrocarbon migration could take place. There were not sufficient quantities of economic minerals present at this core location for offshore mining. The core was taken on the northeast slope of the basin.