INTERNATIONAL EXPLORATIONISTS GROUP DINNER MEETING—OCTOBER 19, 1983

DONALD C. SWANSON—Biographical Sketch

Donald C. Swanson is a partner in Swanson Petroleum Enterprises (which provides technical services to Venezuelan companies) and Swanson and Crow (an independent exploration company) as well as President of Cygnet Group Inc. He received a B.S. degree in General Arts and Sciences from Colorado State University, a B.S. degree in Geology from the University of Tulsa, and did graduate studies at the University of Oklahoma. Before forming his own companies, he spent 29 years with Exxon — 15 years in operations and 14 years at the Exxon Production Research Center. While at Exxon he organized and taught classes in a wide range of subjects including clastics, reservoirs, logging, and computer applications. These classes were held at various sites in the U.S. as well as in Venezuela and Colombia. He continues to teach industry classes in clastics and exploration techniques through Swanson Petroleum Enterprises.

Mr. Swanson is a leader in the utilization and application of integrated stratigraphic and facies analysis to both exploration methodology and reservoir studies. He is considered to be an authority on the petroleum geology of the Anadarko Basin and the geology of Venezuela. He has done detailed reservoir studies of fields in the U. S., Netherlands and Venezuela and has published papers on a wide range of subjects within Exxon and his own company, as well as in AAPG bulletins, memoirs and special publications, in local geological society bulletins, in "World Oil" and in "Shale Shaker".

Mr. Swanson has made presentations of technical papers to numerous professional societies in Texas, Oklahoma, California, Kansas, Wyoming, Louisiana, Colorado, Venezuela and Colombia as well as to the national AAPG meetings. He has received many professional honors and acknowledgements including the A. I. Levorson Award from AAPG for best paper in 1968 and 1979. He is a member of the Explorer's Club, the American Association of Petroleum Geologists, the American Association for the Advancement of Science and is a fellow of the Geological Society of America.

DEPOSITIONAL HISTORY OF THE CERRO NEGRO REGION IN THE ORINOCO TAR BELT, VENEZUELA

The Orinoco Tar Belt in eastern Venezuela holds one of the world's largest accumulations of unexplored energy reserves. Although the oil is low gravity and will present difficult and expensive production problems, the size of the reserves alone should make the tar belt or "Faja" of considerable interest to petroleum geologists. Estimates vary, but everyone agrees that there are hundreds of billions of barrels of oil held in the fluvial-deltaic clastics that make up the reservoir facies.

The oil is contained in sandstones of the Miocene Oficina Formation, the basal unit of a thick wedge of Tertiary clastic sediments which thins southward over the stable southern shelf of the Eastern Venezuelan Basin. It terminates near the surface along the Orinoco River just north of the Guyana Shield. Structure in the area is relatively simple and consists principally of normal faults. The trapped hydrocarbons move updip from the basin southward through "conduits" consisting of fluvial-deltaic and fluvial valley fill deposits (similar to Fisk's substratum in the Mississippi River trench).

The stratigraphic framework of the Oficina Formation includes onlap onto an unconformity consisting of stream-dissected Cretaceous and igneous rocks. Although the stratigraphic pattern is one of onlap, the actual shoreline either remained stationary or often prograded basinward as the result of laterally shifting regressive deltaic lobes or "tongues". The principal stratigraphic facies sequence was one of transgressing valley fill followed by numerous episodes of regressive deltaic sedimentation which filled a stratigraphic "skeleton" of onlap.

Facies and stratigraphic relationships are markedly similar between the Orinoco Tar Belt accumulations and those in Alberta, Canada. Both occur in essentially thick sandstones which lie upon and are molded by a stream-dissected paleotopographic surface.