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# INTERNATIONAL EXPLORATIONISTS

## INTERNATIONAL EXPLORATIONISTS DINNER MEETING—MARCH 21, 1990

MATTHEW R. SILVERMAN—Biographical Sketch



Matthew R. Silverman received his M.S. in geology from the University of Colorado in 1983. Mr. Silverman has over 13 years of experience in petroleum exploration and production.

Prior to joining Gustavson Associates as Vice President, he was employed by an American affiliate of TOTAL Compagnie Francaise de Petroles. Mr. Silverman was responsible for prospect generation,

field development, drillsite selection, and regional geology. He worked extensively with geophysicists on subtle stratigraphic traps in the Rocky Mountain and Mid-Continent regions of the United States.

Since his affiliation with Gustavson Associates, Mr. Silverman has managed basin analysis studies and hydrocarbon resource appraisals in the Far East and the West Siberian Basin. He has also prepared reviews of the geology and petroleum potential of New Zealand and Hungary.

He has published several articles in AAPG, RMAG and World Oil journals and recently coauthored a paper on the "Sedimentology, Diagenesis, and Reservoir Potential of the Pennsylvanian Tyler Formation, Central Montana."

### PETROLEUM GEOLOGY AND HYDROCARBON FAVORABILITY OF NEW ZEALAND

Exploration for hydrocarbons in New Zealand has continued since the 19th century, but the nation relies very heavily on imported petroleum products. The Taranaki Basin, located on the west coast of the North Island, is the only producing area to date. Kapuni Field was discovered onshore in 1959 and has reserves of approximately 576 BCF gas and 29 MMB condensate. Maui Field was discovered offshore in 1969 and has reserves of almost 6 TCF gas and 130 MMB condensate. Oil production was first established in 1980 with the onshore McKee Field, which has reserves of 35 MMB oil and 125 BCF gas.

Extensional tectonics and complex plate-margin deformation characterize the geologic setting. Adequate hydrocarbon reservoirs, effective seals, and mature source rocks are contained primarily in Late Cretaceous-Eocene coal measures. Older strata may be considered economic basement. Structural traps (fault-bounded anticlines) predominate, but numerous opportunities for stratigraphic and combination traps exist.

On an international scale, the geologic favorability of New Zealand is considered average. Source rocks and seals are good, but historical exploration success ratios and average field size are only fair. Geologic factors within the Taranaki Basin are more propitious than elsewhere in the country. However, under-explored basins, especially in deep-water offshore provinces, may also have significant potential for the discovery of very large fields. Nineteen blocks are currently being offered (closing date, March 30, 1990) on the east coast of the South Island, in the sparsely-drilled Canterbury Basin and Chatham Rise.

The investment favorability of New Zealand is considered good. The political situation is excellent; taxes and contract terms, operating environment, and data availability are all good. Acreage availability and market for deep-water offshore gas in gas/condensate-prone areas are considered average. Overall hydrocarbon-exploration favorability for New Zealand is ranked average-to-good on a worldwide comparative scale.