EVENING MEETING OCTOBER 11, 1976

DR. RICHARD R. VINCELETTE—Biographical Sketch

Dr. Vincelette is a native of Montana and received his B. S. in Geological Engineering from the Montana School of Mines. He received his Ph.D. in geology from Stanford University where he was a National Science Foundation Fellow. He began his professional career with Shell Oil Company in the Rocky Mountain region. After several years with Shell which included a tour with Shell Development in Houston, he joined Trend Exploration Limited in Denver, Colorado and became involved in worldwide exploration. Currently, he is Vice President, Filon Exploration Corp., Denver, Colorado, engaged in worldwide exploration. Dr. Vincelette's special interest is petroleum exploration. For 1976-77, he is an AAPG Distinguished Lecturer.

DR. NORMAN H. FOSTER—Biographical Sketch

Dr. Foster is a native of Iowa and attended the University of Iowa where he received B.A. and M.S. degrees. He received his Ph.D. in geology for the University of Kansas. After receiving the Ph.D., he worked in the Rocky Mountain region for Sinclair Oil Corp. and Atlantic Richfield Co. Since 1969, he has been involved in worldwide exploration, first with Trend Exploration Limited and at present he is Vice President, Filon Exploration Corp., Denver, Colorado. His special interests are photogeology, photogeomorphology, remote sensing, general geology, and geology of petroleum. Dr. Foster holds memberships in numerous scientific societies including AAPG, GSA (Fellow), SEPM, and he is President-elect of the Rocky Mountain Association of Geologists. For 1976-77, he is an AAPG Distinguished Lecturer.

CONCEPTS AND TECHNIQUES UTILIZED IN SUCCESSFUL EXPLORATION FOR OIL-BEARING REEFS IN INDONESIA (Abstract)

by: Dr. Richard R. Vincelette and Dr. Norman H. Foster

Recent exploration activity (1971-present) has resulted in the discovery of significant oil reserves in Miocene age reefs in the Salawati basin of northwestern Irian Jaya, Indonesia.

The success of the program was the result of a combination of exploration techniques, including: (1) detailed facies analysis from pre-existing outcrop and subsurface control; (2) recognition of the potential of Tertiary reefs as exploration targets; (3) recognition of the geomorphic expression of subsurface reefs and detailed interpretation of aerial photographs and remote-sensing imagery to determine location of reefs; (4) application of modern multifold seismic techniques to map reefs in the subsurface; and (5) use of helicopter-transported rigs and modern engineering techniques in drilling exploratory wells in remote jungle terrain. Utilization of these fundamental exploration concepts and techniques has resulted in a number of significant oil discoveries.

The reservoir and trap are highly porous and permeable Miocene reefs, which have produced as much as 32,000 BOPD from individual wells. The reefs obtain heights in excess of 1,600 feet (490 meters) and range in areal extent from 2 to 48 square miles (5 to 124 square kilometers). Porosities within reefal carbonate rocks are as much as 43% and average 20% to 30%.

The knowledge gained from the current exploration program concerning reef morphology, porosity variations, tectonic history, surface expression of reefs, seismic response of reefs, and other factors which control these oil accumulations should expedite future exploration efforts in this, and similar basins.