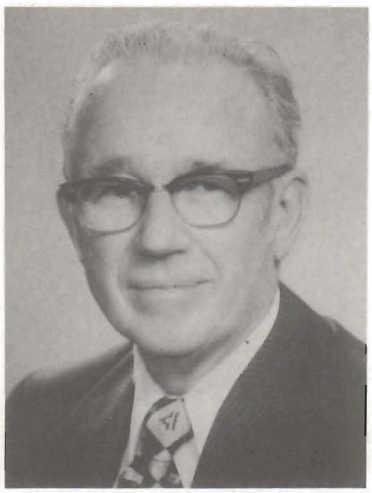
JOHN E. KILKENNY



John E. Kilkenny, President of AAPG, is Vice President of Philippine Geothermal, Inc., a subsidiary of Union Oil Company of California.

He received his academic training at the University of California at Berkeley, graduating in 1935. He went to work for the Texas Company as a Seismic Computer. Kilkenny went on to positions with The Superior Oil Company, Olson's Scouting Service, The Pure Oil Company and Chanslor—Canfield Midway Oil Co.

In 1951, Mr. Kilkenny was hired as Senior Staff Geologist by Union Oil. Since then he has been Chief Geologist for the Pacific Coast, Geological Coordinator (Domestic), Geological Coordinator (Geothermal Division) and was named to his present position in 1971.

GEOTHERMAL POTENTIAL OF SOUTHWESTERN UNITED STATES

The subject area comprises the states of California, Nevada, Utah, Colorado, New Mexico and Arizona. This geographic area includes the following geologic provinces: The Colorado Plateau, Basin and Range, Sierra Nevada and Southern California batholiths, Great Valley and Coast Ranges of California.

This area is considered favorable for geothermal prospecting because of the presence of numerous hot springs, Tertiary and especially Quaternary volcanism, and faulting of both block and rift type.

Located in this area is The Geysers Field, the largest geothermal field in the world as well as the only commercially producing field in the United States, situated in the northern Coast Ranges of California about 75 miles north of San Francisco. In the Salton Sea area of the Imperial Valley, California, large flows of steam and geothermal fluids have been obtained, currently uneconomic due to high mineral content. Twenty miles south of the Mexican border in the same basin, the Cerro Prieto geothermal field produces 75 megawatts and appears to be capable of supplying energy for considerably more power. In the Valles Caldera, near Los Alamos, New Mexico, discovery of a new field has been indicated by recent exploratory drilling. Flows of hot water and flashed steam have been recorded in several areas in Nevada, none of which have yet proved commercial.

Exploration for geothermal resources is in the early stage of activity. One hundred and forty-nine exploratory wells have been drilled to date in 55 different areas. Many of these wells were shallow and not adequate tests. It is too early to predict what the success ratio will be until deeper and more conclusive tests are drilled. Up to the present, exploration has been hampered by the unavilability of public lands which cover well over half of the prospective territory.

Leasing activity during the last few years, coupled with geological and geophysical work by private industry and indicated successful utilization of 150° C to 225° C waters by the heat exchange method, suggests that there will be an extensive exploration drilling program in the next few years that should shed much light on the amount of geothermal reserves that are present in the southwestern United States and how significant a part this form of energy will play in our total energy picture.