JOHN E. KILKENNY

John E. Kilken- 
ny, President of 
AAPG, is Vice Presi- 
dent of Philippine Geothermal, Inc., a 
subsidiary of Union Oil Company of Cal- 
ifornia.

He received his 
academic training at 
the University of 
California at Berke- 
ley, graduating in 
1935. He went to 
work for the Texas Company as a Sels- 
mic Computer. Kil-
kenny 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), Geoologi- 
cal 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 unavailability 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.