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ABSTRACTS

G. M. KNEBEL, president of A.A.P.G., Standard Oil Co. (N. J.), New York, N. Y.
What Lies Ahead for A.A.P.G.?

With the search for new oil reserves extending to all corners of the earth to-day, the activities of the American Association of Petroleum Geologists are becoming more international. The continued growth in world population and the constant improvement in the standard of living place a tremendous responsibility on all exploration men to provide the necessary raw materials and resources needed. In meeting this challenge and to properly represent the growing membership of the American Association of Petroleum Geologists, a healthy evolution has been taking place in the Association.

Detailed statistics have been prepared and studied for 236 or all of the major oil fields of the free world. They represent 217 billion barrels, which is 82.5% of the free world's expected ultimate. The study shows the bulk of our oil occurs: (1) on the stable side of basins, (2) in anticlines, (3) in sandstone and carbonate reservoirs, (4) from formations of Mesozoic age or younger, and (5) from a depth range of 2,000-8,000 feet.

Most of the world's ultimate oil is 30° API gravity or above with mixed and asphaltic base oils predominating. The discovery of the "big" giants has been cyclic with 10-year intervals starting with the Lake Maracaibo discovery in 1917.

ROBERT B. TOTTEN, Sun Oil Co., Amarillo, Texas
General Geology and Historical Development, Texas and Oklahoma Panhandles

The Texas and Oklahoma Panhandle areas include three large basins: Western Anadarko, Dalhart, and Palo Duro. The Hugoton embayment is part of the Western Anadarko basin and the Dalhart basin connects to the Palo Duro basin. The Hardeman (Red River) basin and the Harmon basin occupy a part of the southeastern Texas Panhandle area. Some major positive areas of significance are Amarillo uplift, Cimarron uplift, Bravo "Dome," and Matador archipelago. Some other uplift areas are Childress anticline, Hall County anticline, Narcisso structure, Quinduno structure, etc.

The earliest commercial gas production in the Texas Panhandle area was discovered in northern Potter County in December, 1918. The first oil production was secured in Carson County in May, 1921. Not until May, 1925, was prolific oil production found. The Panhandle boom started late in 1925 and was well under way in 1926. Gas production was first encountered in the Hugoton field in December, 1922, in Seward County, Kansas, and in 1925 Hugoton field gas production extended into Texas County, Oklahoma. In May, 1943, the Keyes gas area of northeastern Cimarron County, Oklahoma, was discovered. In May, 1946, oil production was found in the Anton-Irish field of Lamb County and Hale County, Texas. Until April, 1949, there had been no production encountered in the Western Anadarko basin, and then the Sinclair Oil and Gas Company's Lips No. 1, northern Roberts County, Texas, discovered oil in the Meramec. Since that time and with an increasing tempo many additional oil and gas fields have been discovered. Many of these fields are in Hansford County, Texas, and in Beaver County, Oklahoma. The majority of the gas and oil fields found in the past few years are in the Western Anadarko basin, but the Dalhart basin area has had a few new producing fields. The Palo Duro basin has had only one new pool, and there is one new field in Cottle County, Texas. More than fifty oil or gas fields have been discovered since the Lips field in 1949.

Much of the more recent production in the Panhandle area is from rocks of Pennsylvanian age with Morrow sand wells most numerous. Other important Pennsylvanian production occurs in the lower Virgil, Missouri, and Des Moines. At this time the pre-Pennsylvanian beds are not important in production except for the newly discovered Arbuckle dolomite oil-producer in the Laketon area of northeastern Gray County, Texas. The older Panhandle and Hugoton fields produce from the lower Permian rocks. A few other Permian (Wolfcamp) producing areas are known; chief among these is the Quinduno field, southern Roberts County, Texas.

Many of the producing areas are of the stratigraphic trap variety. A few fields have prominent anomalous structure; many have little or no closure.

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Tectonic Framework of Oklahoma

Oklahoma can be divided into the following major tectonic units:

The Oklahoma salient of the Ouachita Mountain orogen with the McAlester-Arkansas basin as foredeep.

The Arbuckle Mountain-Criner Hills-Wichita orogenic system with the Anadarko basin as foredeep.

The cratonic foreland of the two above systems consisting of the Oklahoma lobe of the Ozark