

**MAX STEINEKE (1898-1952): A PIONEER
AMERICAN GEOLOGIST IN THE EARLY HISTORY
OF OIL EXPLORATION IN SAUDI ARABIA**

Rasoul Sorkhabi

*University of Utah, Energy & Geoscience Institute
Salt Lake City, UT 84108
rsorkhabi@egi.utah.edu*

The history of oil exploration in Saudi Arabia began in the 1930s when Sultan Abdul Aziz Ibn Saud signed an oil concession with Socal as this Arab country, like elsewhere in the world, was suffering from the Great Depression. In 1933, *Socal* (later *Chevron*) founded the *California-Arabian Standard Oil Company (CASOC)* as its subsidiary to operate in Saudi Arabia (this company later became *Aramco* and the present-day *Saudi Aramco*). In 1934, *CASOC* sent Max Steineke to Saudi Arabia to join the party of the geologists working there; two years, Steineke became the company's Chief Geologist, a position he held until 1946. Steineke was born in March 1898 and graduated with AB in geology from Stanford University in 1921. He played a leading role in the oil exploration and geologic mapping in Saudi Arabia during a period when fieldwork, especially in remote areas, demanded diligence and resilience, and oil exploration was conducted by simple *down-to-earth* methods. Thanks to Steineke's and his colleagues' efforts, some of the earliest and largest oil fields in the eastern part (Al Hasa province) of Saudi Arabia were discovered in the 1930s and 40s including the Dammam field (discovered in 1936 after drilling six failed wells), Abu Hadriyah (March 1940), Abqaiq (December 1940), and Ghawar (discovered in July 1948) which remains to his day the world's largest oil field.

Steineke presented his first paper titled "Arabian Geology and Topography" at the AAPG annual meeting in 1939, and his last paper, "Stratigraphic Relations of Arabian Jurassic Oil" was published posthumously in 1958 in AAPG Bulletin, which is still regarded as a seminal paper on the subject. His geographic and geology maps of "the Western Persian Gulf quadrangle, Kingdom of Saudi Arabia" were also published in 1958 by USGS. In his 2000 book *Out in the Blue: Letters from Arabia, 1937 to 1940*, Thomas Barger remarked that Steineke had the courage to make interpretations based on the available evidence and throw away his own ideas as soon as new data demanded it. Steineke was also very devoted to his work and team and showed both care and humbleness, which made his subordinates behave likewise.

In 1948, Steineke contracted a serious illness and spent the last years of his life in his home in Los Altos, California. In 1951, Steineke was awarded AAPG's prestigious Sidney Powers Memorial Medal. When he died in April 1952, *Aramco* issued an obituary honoring, ...*the man who more anyone*

else is entitled to credit for discovering the large oil reserves in Saudi Arabia.

Aside from his professional achievements, Steineke was survived by his two daughters, Maxine and Marian. Maxine Steineke Goad (M.S. in physics from Stanford and married in 1952 to physicist Walter Goad from Los Alamos Scientific Laboratory) rose to become an eminent groundwater protection expert in New Mexico (winning the 2008 New Mexico Earth Science Achievement Award). Steineke Hall, a guest-house in the Saudi Aramco Residential Camp in Dhahran, is named in honor of Max Steineke, not only because of his geologic contributions to the kingdom but also for his cultural ability to work respectfully with native men from the Arabian Peninsula.