



San Joaquin Geological Society

Date: Tuesday, April 9th, 2013

Time: 6:00 PM Social Hour
7:00 PM Dinner
8:00 PM Lecture

Place: American Legion
2020 H St. Bakersfield, CA 93301

PSAAPG Members & Mesozoic's
\$25 w/reservation
\$30 without reservation

Non PSAAPG Members
\$30 w/reservation

Full-time Students with ID:
Free, Courtesy of Chevron & Occidental

SJGS WEBSITE

<http://www.SanJoaquinGeologicalSociety.org/>

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Historical Development of the Petroleum Industry in California

Stephen Testa¹

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California has a rich heritage in oil. Oil seeps have been noted by Native Americans and Spanish explorers in the vicinity of Los Angeles since about 1543. The post gold rush era of the mid-to-late 19th Century represented the first major phase of oil exploration and production in California. It was a period when the State legislature was concerned about a declining economic climate and explored means to spur the economy, and encourage growth and development.

Some individuals, such as Benjamin Silliman, Jr. and William P. Blake, expressed optimism. Josiah D. Whitney, State Geologist and Director of the first California Geological Survey (1860M1874) presented a pessimistic view of petroleum as a true commodity, and this pessimism eventually sealed the fate of the Survey. By the turn of the Century, things would, however, turn around. The Los Angeles City Oil Field, discovered in 1892 by Edward L. Doheny, Sr., would be the most historically significant field in California, and its discovery would have profound impact for the industry worldwide. The discovery, situated in what is now Echo Park, would set off California's first oil boom during the revitalization period (1875-1900). Being in close proximity to downtown Los Angeles, its discovery sparked one of the first major land booms in the city.

By 1898, the Los Angeles field made up 65 percent of the total quantity of oil produced in California for that year. Within a few years there were over 200 oil companies and 2500 wells within the city limits. The Los Angeles City Field would become one of the major oil producers in the world. Of most importance is the effect this field had on the industry, attracting many due to its peculiar location to downtown Los Angeles.

The discovery of the Los Angeles City Oil Field would soon lead to other fields being discovered throughout the Los Angeles Basin during the early 20th Century, including the proving of seven giant fields (Brea-Olinda, Beverly Hills, West Coyote, East Coyote, Montebello, Richmond and Santa Fe), with the Los Angeles Basin area becoming one of the major oil-producing areas in the world. It was also during this time that Doheny would be instrumental in the conversion of coal- to oil-burning locomotive engines, which serve as the harbinger of a new era of petroleum-fuel transportation.

During the early 1920s, California became the most oil productive state in the country, and by 1923, one of every five barrels of oil was produced from the Los Angeles Basin. Notably, thirteen fields would be discovered along what is referred to as the Newport-Inglewood Structural Zone (NISZ). The northwest-southeast oriented Newport-Inglewood Structural Zone is an active fault characterized by major right-lateral movement in the southeastern portion of the Los Angeles Basin. Over 3.4 billion barrels of oil have been produced from these fields since the first field, Beverly Hills, was discovered in 1900.

Most of the subsequent production was derived from discovery of the super giant Huntington Beach and Long Beach oil fields in 1920 and 1921, respectively. Dramatic production and decline trends during the 1920s and 1930s directly reflected the closely spaced town lot drilling campaigns and unrestricted wasting of reservoir pressure. Nearly 40 percent of the total oil production for Southern California has come from fields situated along this structural zone. By the 1950s, California, in total cumulative output, produced 21 of the country's 81 top oil fields, with three fields in the top ten, and by the early 1980s, potential offshore production was in the forefront of California's oil industry. In 1957, the city of Los Angeles celebrated the rich oil heritage of Signal Hill with the faith-based heritage resulting in the removal of this symbol, along with the religious symbolism.

Stephen Testa –BIO

From 1976 until August 2005, he served as an engineering and environmental consultant for such firms as Bechtel, Dames and Moore, Converse Consultants and Engineering Enterprises, and in 1992, as Chief Executive Officer of the international consulting firm Applied Environmental Services, he took his firm public. Stephen M. Testa entered public service in August 2005 when he was appointed Executive Officer of the California State Mining and Geology Board.

Testa is the author or co-author of numerous books and over 125 publications, including Geological Aspects of Hazardous Waste Management; The Reuse and Recycling of Contaminated Soils; and Restoration of Contaminated Aquifers: Petroleum Hydrocarbons and Organic Compounds; Petroleum in the Environment; Acid Mine Drainage, Acid Rock Drainage and Sulfate Soils (in press); Oil Spills and Gas Leaks: Emergency Response and Prevention (in press); Hydraulic Fracturing and Unconventional Oil and Gas Resources, Environmental Protection, and Cost Recovery Techniques (in progress). More recently, he is known for his entertaining book One Man's Planet – Earth in Today's Political Culture, published by the American Geological Institute. He has served as an instructor at USC and CSU Fullerton, and has provided numerous workshops and technical presentations.

Testa is the Past-President of the American Geological Institute (AGI) and the American Institute of Professional Geologists (AIPG), and the American Association of Petroleum Geologists-Energy Mineral Division (AAPG-EMD), past Editor-in-Chief of American Association of Petroleum Geologists – Division of Environmental Geosciences' (AAPG-DEG's) peer review journal "Environmental Geosciences", and the recipient of the AIPG's Martin Van Couvering Award and Honorary Membership, AAPG-DEG's Research Award, and the Roy Shlemon Geology Mentor Honorarium for excellence in application of applied earth science. He currently writes editorials for various national venues including AGI's flagship EARTH Magazine.

*** RSVP ***

By: Friday April 5th, 2013

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