PRE-MODERN HISTORY OF BITUMEN, OIL AND GAS IN PERSIA

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

The modern history of petroleum in the Middle East is officially considered as 1908, when the Anglo-Persian Oil Company drilled a successful well in Masjid Suleiman, Zagros basin. The native people called that area, Meidan Naft (plain of oil), indicating the native knowledge and use of petroleum in pre-modern times. Drawing on language, historical records, and regional geology, I attempt to chronicle and analyze bitumen, oil and gas in ancient Iran (Persia). The word *mummy* is derived from the Persian root, *mum* (bitumen) which was given to the Egyptian mummies by Europeans in the 17the century on the assumption that bitumen was used for embalming. The oldest recorded oil well (dug by hand) was reported from southwest Iran by Herodotus. Oil and gas fields of Iran are situated along three orogenic systems: the Zagros in southwest, the Alborz in north, and the Caucasus Knot in northwest Iran. There are numerous oil and gas seeps in all these regions which have been recorded by historians, geographers and travelers, both native and European. Zoroastrian temples, which kept sacred fire alight, are geographically close to these seeps. I especially use literature by Mas'udi (10th century), Marco Polo, Homavi (13th century), Mustofi (14th century), Barbaro and Duckett (15th Century), and Chardin, Cartwright, Englebert-Kaempfer (17th century) and Hanway (18th century) to discuss the geography and uses of oil, gas and bitumen. In *Nuz'hat al-Ghulub*, Mustofi remarks that water carried oil to the surface. In *Kitab ul-Asrar*, the alchemist Razi (10th century) discusses distillation of petroleum, and notes the presence of sulfur impurities in oil and association of oil with salt rock (because of many salt dome traps).

WEST VIRGINIA'S OIL INDUSTRY ILLUSTRATED ON POSTCARDS

Jeff A. Spencer 675 Piney Creek Rd. Bellville, TX 77418, jspencer@asprexpetroleum.com

The period 1907-1915 is referred to by postcard collectors as the *Golden Age of Postcards*, as postcard collecting had become one of the most popular hobbies in the world. Postcards have helped to illustrate the history, geography, and industrial growth of the United States. This is evident in their depiction of the early 20th century *boom days* of the oil industry. Early wooden derricks were proudly displayed, often with the operator's name. Oil *gushers* and oil field fires were a common theme of these early postcards, as were petroleum refining and transportation.

Sistersville and Mannington are two examples of early West Virginia oil producing areas depicted on early 20th century postcards. Early town scenes of Sistersville show wooden derricks scattered amongst residential areas and along the Ohio River.

The messages written on postcards can also add to the story of the early oil pioneers. These include oil field workers describing a day in an oil field and local residents expressing their amazement with all the activity and fortunes being made.

SPECIFIC EVENTS IN ROMANIAN OIL HISTORY

Gabriela Tanasescu, National Petroleum Museum, Ploiesti; Pandele Neculae, S.C. "PETROM" S.A.; Traian Stefan Mocuta, ICPT Campina; Anca Leparda, S.C. ''PETROM'' S.A., pandele.neculae@petrom.ro

Oil history is a complete one in which there are main characters and crowds, inventors and common workers where petroleum represents cause and effect in the same time. It decides the wars results but wars can also decide the future of petroleum. Oil history is very old having the roots lost in the darkness of immemorial times but it is also a contemporary history, where man plays one of the most tremendous characters of its existence. Year 1857 represents the beginning of the Romanian oil industry because three international events took place in our country:

- Romania, the first country in the world with an output of 275 t oil officially registered in international statistics (The Science of Petroleum – 1938),
- The first refinery in the world built in Ploiesti by Mehedinteanu brothers,
- Bucharest, the first town in the world having public lighting with kerosene.

Several fires determined enormous tragedy but the fires history got deep roots in the period of manual well production. The inflammable properties of petroleum created troubles in the well production by uncontrolled blowouts. Many times these gushers ended in fires and terrifying accidents, the lack of technical means was the main reason of important oil waste. Some oil and gas capping devices were built in order to stop the petroleum loss to mention only the valve patented in 1912 by two Romanian engineers Virgiliu Tacit and Vasile Puscariu, which is considered the ancestor of blowout preventers indeed. Even so, in our history we had frequent fires, some of them famous for their length and intensity: the Well No.47 fire from Câmpina, 1900, the Well No.15 from Gura Ocnitei, 1907, etc. The tragedy of Well No.160 of Romanian-American Co., from Moreni, which lasted from 1929 until 1931, was considered the climax. Among all concerns, the two World Wars left the strongest impression

on the Romanian oil history.

The whole amount of destructions worked out at almost 600,000,000 golden lei (£10,000,000) but the most important thing was the sufferance and human loss. The oil industry damages were so radical that only in 1925 the petroleum production could be reestablish after huge efforts and spectacular capital investments. Unfortunately, a new war rushed upon Romania bringing once again the smell of blood and oil. Ploiesti was an important strategic place, where some of the most modern refineries were located. The German army needed badly the Romanian high-octane ratio gasoline so it was vital for them to keep Ploiesti safe. Ploiesti was almost destroyed by British and American bombardments. More than 17700 explosive bombs and 2000 incendiary ones carried in the 6000 airplanes were dropped over this town and caused 457 fires, destroyed 8989 buildings and 103 public institutions. More than 800 people died and other 750 were injured. Almost all the refineries from Ploiesti suffered damages which affected them by 80 % in the 24 bombardments. After the war Ploiesti was such a complete ruin that it was considered the town with the greatest losses from Europe after Warsaw. A pretty long while petroleum lighted, heated and gave life. He has got his own place in War and Peace times. Reason of ruin or source of prosperity petroleum has brought to light the best and worst of things.

THE HISTORY OF OIL ALONG THE NEWPORT-INGLEWOOD STRUCTURAL ZONE - LOS ANGELES COUNTY, CALIFORNIA

Stephen M. Testa, Testa Environmental Corporation, 19814 Jesus Maria Road, Mokelumne Hill, CA 95245 stesta@goldrush.com

Following the Los Angeles City Oil Field boom of the 1890s, other fields throughout the Los Angles Basin were subsequently discovered and developed. 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 have since been discovered along what is referred to as the Newport-Inglewood Structural Zone. 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. Nearly 40 percent of the total oil production for Southern California has come from fields situated along this structural zone. 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. Today, a mixed usage of land in a densely populated urban environment exists, including wetlands habitat, parklands, and commercial, industrial and residential developments. Current environmental issues along this zone are multi-faceted and pertain to seismic hazards, groundwater withdrawal and utilization, ongoing barrier projects via injection to manage salt water intrusion, gas leakage and adverse impact of the petroleum industry to overall groundwater quality.

In 1957, Los Angeles celebrated its rich oil heritage of Signal Hill with the symbol of oil derricks on the Seal of the County. Political correctness concerning the county's faith-based heritage resulted in this symbol's removal in 2004.

THE LOS ANGELES CITY OIL FIELD – CALIFORNIA'S FIRST OIL BOOM DURING THE REVITALIZATION PERIOD (1875-1900)

Stephen M. Testa, Testa Environmental Corporation, 19814 Jesus Maria Road, Mokelumne Hill, CA 95245, stesta@goldrush.com

Oil seeps have been noted by Native Americans and Spanish explorers in the vicinity of Los Angeles since about 1543. The Los Angeles Field was discovered in 1892 by Edward L. Doheny, Sr. The original oil field was located along Glendale Boulevard between Beverly Boulevard and Colton Avenue, near present day Dodger Stadium. Doheny's well, which extended to a depth of about 460 feet, produced 45 barrels a day, which put him on the road to becoming one of the wealthiest men in America. 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 the second year of production following the discovery, 750,000 barrels of oil were produced, bringing California's output in excess of 1 million barrels. Within two years, 80 wells were producing oil in the area bounded by Figueroa, First, Union and Temple Streets, and by 1897 more than 500 producing wells existed. 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. As of 1913, the Los Angeles City Field encompassed about 0.6 square miles or 380 acres of proved land, with 400 wells (1000 original, some abandoned) or .4 acres per well (typically 4 to 8 acres per well was the economic limit). Total production at the