

THE EARLY HISTORY OF FORMATION EVALUATION

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By the time Schlumberger began commercial *electrical coring* operations in the United States in 1929, the petroleum industry had been in business for 70 years dating back to the 1859 Drake well in Pennsylvania. Logging as we know it today was not available for that early period, but numerous efforts were made to characterize conditions within the wellbores and understand the nature of producing reservoirs. Coring, fracture detection, directional surveys, and even borehole imaging all helped set the stage for the rapid progress that followed the first applications of wireline logging. Many of these innovations originated in the minerals industry, as was also the case for the Schlumberger electrical surveys. Within the first 30 years after the establishment of the wireline logging industry, the physical properties that are measured by today's logging tools had been evaluated by service companies and oil company research laboratories. Most of today's logging methods were understood conceptually by the time SPWLA was formed in 1959, although commercial applications often had to await advances in technology.

OHIO'S LEGACY IN EARLY PETROLEUM SCIENTIFIC STUDIES

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During the 19th century, as petroleum development grew from a cottage industry into a major factor in the global economy, Ohio residents were significant contributors to the scientific understanding of the occurrence of oil & gas in nature. Samuel P. Hildreth, a doctor in Marietta, published *American Journal of Science* reports in the 1820s and 1830s that described the salt manufacturing business in southeastern Ohio and the oil and gas which often accompanied the flow of water from brine wells. Hildreth was instrumental in the formation of the 1st Ohio geological survey in 1836 and participated as an assistant to principal geologist W. W. Mather. Two reports were published in 1838 with numerous references to oil, gas, and bituminous shale found within the state of Ohio. Immediately following the Drake well discovery in Titusville, Pa., J. S. Newberry published a paper in the *Ohio Agricultural Report* for 1859 that described the rock oils in Ohio and provided one of the best early reviews of worldwide and historical oil

activities. E. B. Andrews of Marietta College published an anticlinal theory for trapping petroleum in 1861 and described the importance of fractures in petroleum production. This was not the first anticlinal theory to appear in print, but was probably the most influential because of Andrew's effective use of illustrations. When the 2nd Ohio Geological Survey was established in 1869, Newberry was named the chief geologist with Andrews and Edward Orton among the assistants. Orton later became Ohio's state geologist, and published some of the most important and influential petroleum studies of the late 1800s.

READING IDA TARBELL AFTER A CENTURY: THE STANDARD OIL STORY REVISITED

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In 1911 (now one hundred years ago), an anti-trust law by the US Supreme Court compelled the Standard Oil Co., which dominated the country's oil industry, to split into several independent companies (the ancestors of today's major American oil companies). The growth of the Standard Oil was the work of an eminent man, John D. Rockefeller (1839-1937) during the *Gilded Age* in the late 19th century, but its split was partly due to the work of a woman journalist from Pennsylvania, Ida Tarbell (1857-1944) during the *Progressive Era* of the early 20th century America. Today very few people know Ida Tarbell's name, and even fewer have read her 850-page book *The History of the Standard Oil Company*. But when it was first published as a series of twenty articles in the *McClure's* magazine (from November 1902 through July 1903) and eventually in two volumes in 1904, Tarbell's *History* was a widely read book, and has remained to this day as *the single most influential book on business ever published in the United States*. (Daniel Yergin, *The Prize*, 1992). In 1999, the *New York Times* listed Tarbell's book as No. 5 of the top 100 works of the 20th century American journalism. This paper focuses on Tarbell's role as a pioneer female investigative journalist in the petroleum industry. Drawing on Tarbell's and other work, we trace the rise and fall of the Standard Oil Company. What led Tarbell to write the Standard Oil's history and how she handled it? Although widely renowned as a *muckraker* (a term coined by President Theodor Roosevelt in 1906), Tarbell viewed herself as a *historian journalist*. In her 1939 autobiography *All in the Day's Work*, Tarbell also recounts that as a young student and teacher her major study and passion was natural science. Reading Tarbell after a century is still relevant to our age as there are always risks that large enterprises may not want to play a fair game in the free market. Moreover, Tarbell's style of writing offers an excellent example of the literature written

to the public on a technical subject and yet in an engaging language and based on detailed investigations.

**OILFIELD PHOTOGRAPHERS – THREE WHO
CAPTURED NORTH AMERICAN OIL BOOMS:
FRANK ROBBINS, FRANK TROST, AND JACK
NOLAN**

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Photographers captured many great views of North American oil booms. Common scenes included oil gushers, oilfield fires, teamsters, and boomtowns. These photographs were produced and sold to tourists and many were later used in stereoviews and postcards.

Frank Robbins (1846? – 1924) documented the emerging Pennsylvania petroleum industry of the 1860s through 1880s. He was one of the most prolific producers of stereoscopic views of the Oil City and Bradford, Pennsylvania and Olean, New York oil regions. His views included scenes of Triumph Hill, Tidioute, Petrolia, and Pithole. Many of his photographs also were used in early twentieth century postcards.

Frank Trost (1868-1944) had the good fortune to photograph early scenes of the Spindletop, Texas oilfield (discovered in 1901), including perhaps the most famous photograph of the Lucas Gusher. His other Spindletop views include dozens of derricks so close together they appear to be touching, the field's first oilfield fire, and several views of early gushers. Several postcards were also made from Trost photographs.

Jack Nolan (1889-1972) was a pioneer Texas photographer and newspaperman who documented the East Texas oil boom

of the early 1930s. Many of Nolan's photographs were made into real photo postcards (RPPCs). These highly collectible postcards captured the hustle and bustle of the boom towns and oilfield camps, as well as spectacular images of oil gushers and oilfield fires. He also documented the enforcement of martial law in the oilfields by the Texas National Guard. Jack's postcards are also known for their highly descriptive captions.

**THE ROLE OF GEOLOGICAL SURVEY
TECHNOLOGY AND GEOLOGICAL MODELS IN
THE GEOGRAPHIC DISPERSION OF PROSPECTIVE
DRILLING IN BRAZIL, 1922-2010**

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Poster: This study is based on the available data on the georeferenced database of the Brazilian oil and gas government regulatory agency (ANP – Agência Nacional do Petróleo Gás e Biocombustíveis) regarding the position, year of drilling and results of the oil and gas wells drilled in Brazil. The position of the wells were plotted on their sedimentary basins and aggregated in five periods (1922-1950, 1951-1970, 1971-1980, 1981-1997, after 1997). For each period some of the most significant changes in the technical or institutional background were compiled and reported. Those maps allowed an interesting discussion on the criteria and methodology used to establish the prospect locations at each period and presented a possible explanation for the very low productivity of drilling in Brazil up to the 80's as much as the changes in the conceptual basis that lead to the successful performance of the 90's and the first decade of the 21st century.