

Biographical Sketches—A Partial List of Early Oil Pioneers*

John F. Carll

B. 1828, Brooklyn, New York

D. 1904, Flushing, New York

Although born in Brooklyn, New York, John F. Carll moved to Venango County, Pennsylvania in 1864. He had an avid interest in oil and the oil region, engaging in oil production in NW Pennsylvania for nearly 10 years. Carll became a recognized local expert on the geological characteristics of the reservoirs as well as the engineering practices used to exploit them.

When the Second Pennsylvania Geological Survey was organized in 1874, Carll was assigned to the oil region in western Pennsylvania as the first geologist ever employed full-time to specialize in petroleum studies. Beginning in 1875, he wrote several reports for the Survey and emphasized the importance of subsurface mapping. He also created hypotheses about oil displacement, drill cuttings, and strip logs, conducting the first systematic scientific study of the oil fields. Carll's observations and recommendations were enlightening for his time and continued to be used almost 40 years after his reports were originally published. Today, Carll is considered to be the "father of petroleum geology."

Amos Densmore

B. 1825, Rochester, New York

D. 1898, New York City

Amos Densmore was born in New York, but educated at Allegheny College in Meadville, PA, where oil production and transportation sparked his imagination. After 1862, teamsters hauled barrels of oil from the well site to the railroad yard where the barrels were stacked on flatcars for transport. Unfortunately, the traditional wooden barrels were unreliable and leaky, and the constant motion of railway transportation only intensified the problem, causing money to be lost.

In 1865, Amos and James Densmore designed a more cost-effective way to transport oil by rail. The brothers invented and built the Densmore Tank Car, a specialty railroad car that could haul 80-90 barrels (nearly 3,400 gallons) of oil. They used a flat train car and affixed two vertical 40-45 barrel tanks made of pine planks banded with iron. The first successful test of the Densmore Tank Car was in September, 1865. The car ran successfully on a line from Miller Farm along Oil Creek (south of Titusville, PA) to New York, with no oil loss. On April 10, 1866, the Densmore brothers were issued a U.S. patent for the tank car.

The success of the Densmore Tank Car revolutionized the transportation of oil by railway. The Densmore saw many improvements during Amos Densmore's time, including metal construction, a single-tank design, and expansion domes that prevented leakage.

* These biographical sketches are meant to supplement Oil 150's Pioneering Petroleum Series. For more information and individual essays on these and other early oil pioneers, visit www.oil150.com.

Samuel C. T. Dodd

B. 1836, Franklin, Pennsylvania

D. 1907, Pinehurst, North Carolina

A native of Franklin, Pennsylvania, Samuel Calvin Tait Dodd became a lawyer in August 1859, a date which corresponds with the world's first successful commercial oil well, drilled by Edwin L. Drake. From his law office in Franklin, PA (county seat for Venango County), he became a leading figure in legal matters involving the developing oil industry. Dodd prepared leases and contracts, handled litigation involving oil companies, and drew up incorporation papers for refineries and a variety of new businesses with ties to oil. His legal papers were considered models of brevity, and his reputation as a lawyer quickly spread.

In 1881, Dodd was selected as general solicitor of the Standard Oil Company. In that position, he authored the *Standard Oil Trust Agreement*, which was signed on January 2, 1882. This document, as drafted by Dodd, covered just a single sheet of paper, not including the signature sheets. The agreement led to Standard Oil's dominance of the industry and served as a model for other trusts. Dodd strongly defended the *Standard Oil Trust Agreement* in comments to the general public and also in the legal and legislative arenas. He served as Standard Oil's general solicitor through his retirement in 1905. The Standard Oil Trust was overturned by the Supreme Court after Dodd's death.

Heman Janes

B. 1828, Erie, Pennsylvania

D. 1905, Erie, Pennsylvania

Heman Janes was a land speculator in the northeast United States and southern Canada. In 1861, Janes bought Tarr Farm on Oil Creek in Venango County, PA from James Tarr for \$60,000. The Tarr Farm produced the Phillips No. 2, an oil well that flowed at 4,000 barrels per day, the Woodford well, which yielded 3,000 barrels per day, and other significant wells. Later, Janes sold half of the farm (the upper elevations) back to Tarr; but he retained the portion of the farm close by the east bank of Oil Creek, the sections that contained the Phillips lease, the Woodford lease, his own wells and other big producers.

Aside from profits, Janes was also interested in the efficient drilling and transportation of crude petroleum. He aspired to build an oil pipeline along Oil Creek, but his plans were upset by the attack on Fort Sumter and subsequent U.S. Civil War. Janes was more successful in his venture to introduce the practice of casing wells, a process of encasing small tubing in larger tubing to protect the oil in the small tubing. Casing wells protected the well from being filled with water.

Janes returned to his hometown of Erie, Pennsylvania, where he owned historical and residential properties, in 1878.

Pebr Kalm (Often translated as “Peter” in English)

B. 1716, Finland

D. 1779, Sweden

Pebr Kalm traveled through the Great Lakes Region of the U.S. and Canada between 1748 and 1751. Later he published *En Resa Till Norra Amerika* (or *A Journey to North America*) about his journey. The book included a map on which the oil springs of Oil Creek, Pennsylvania were marked. Missionaries François Dollier de Casson and Father René de Brehaut Galinée made the map originally and marked “Fonteine [sic] de bitumen.”

John A. Mather

B. 1829, Lancashire, England

D. 1915, Titusville, Pennsylvania

John A. Mather immigrated to the United States in 1856. While visiting his brother in Pennsylvania, he met a traveling photographer and became so fascinated that he asked to be taught the business. The pair traveled through Pennsylvania and West Virginia while Mather learned the new and difficult wet-plate process of making and finishing photographs. By 1860, Mather struck out on his own, traveling through West Virginia, Maryland and Ohio plying his new trade. When he learned of Edwin Drake’s discovery well and the oil fervor it caused, Mather packed his equipment and headed for Titusville, Pennsylvania where he opened a studio and gallery. Using both a horse-drawn wagon and a flat-bottomed boat (equipped with a darkroom), Mather traveled up and down the Oil Creek Valley taking photos of pioneer oil men, famous oil wells, teamsters, oil towns, and countless other aspects of the burgeoning oil industry. For forty years, wherever Pennsylvania’s oilmen went, Mather was always close behind.

John Mather’s photographs recorded the significant changes that the oil boom brought to the physical and social landscapes of Pennsylvania’s Oil Region. His collection of glass-print negatives remains nearly intact and is housed at the Drake Well Museum in Titusville, PA.

Ludwig Nobel

B. 1831, Sweden

D. 1888, France

Ludwig Nobel of Sweden was responsible for the design and construction of the first oil tanker. Oil tankers are unique because unlike barges, the oil is not contained in barrels but rather in large deep compartments. This allows the tankers to carry more oil and reduces the need for expensive oil barrels. In 1878, Nobel saw the need for oil tankers and signed a deal with Sven Almqvist at Lindholmen-Motala in Sweden to make the blueprints for the tanker. That same year, the first oil tanker, named the *Zoroaster*, carried oil from Baku to Astrakhan, in the Russian Empire. Within a few months after the *Zoroaster*’s first voyage, Nobel had more oil tankers built and representatives from across the world came to Russia to study the tankers.

Colonel Edward A. L. Roberts

B. 1829, Moreau, New York

D. 1881

As an officer in the Union Army, Edward A. L. Roberts followed the developments in the fledgling petroleum industry. Feeling there was money to be made in oil, Edward and his brother Walter, a dentist, traveled from New York to Titusville, PA in 1864 and 1867, respectively.

By the mid-1860s, paraffin wax and other elements were choking off the flow of oil in Pennsylvania's wells. To solve this problem, Edward came up with the idea of a torpedo packed with explosives that could be exploded at the bottom of a well, fracturing the surrounding rock and increasing the flow of oil into the well. In January 1865, Edward tested his first torpedo on the Ladies Well near Titusville. The shooting was a great success, increasing the well's production and creating interest among oil producers. In 1866, a year after he and his brother founded the Roberts Petroleum Torpedo Company, Edward introduced his nitroglycerine torpedo and immediately patented the idea.

A war of sorts erupted between the Roberts brothers and the oil industry. No one wanted to go back to shooting wells with gunpowder, and the Roberts brothers' services were pricey due to their patent. The brothers filed suit against the many who shot their own wells with the easily-made nitroglycerine. The situation developed into what became known as the Torpedo Wars.

Edward Roberts died in 1881. Two years later, the patent on his well shooting process expired. Anyone could then legally shoot an oil well with a nitroglycerine torpedo. The Roberts Petroleum Torpedo Company was sold a short time later to Adam Cupler who continued the operation at the Adam Cupler Company.

Benjamin Silliman, Sr.

B. 1779, Trumbull, Connecticut

D. 1864, New Haven, Connecticut

Benjamin Silliman, Sr. became the first professor of chemistry at Yale University at age 23 after studying chemistry at the University of Pennsylvania. He was also a professor of natural history. In 1854, he became the first person to use fractional distillation to distill crude oil. During his successful career, Silliman, Sr. founded and edited the *American Journal of Science*. He married Harriet Trumbull, daughter of the Connecticut governor; they had four children, including Benjamin Silliman, Jr. whose chemical analysis of Pennsylvania oil samples in 1855 led to the drilling of the Drake Well.

In 1940, Yale's Silliman College opened, a residential college named in honor of the senior chemistry professor.

William A. Smith

B. 1812, Tarentum, Pennsylvania

D. 1890, Butler County, Pennsylvania

William A. Smith, more commonly known as “Uncle Billy,” drilled the world’s first successful oil well for Edwin L. Drake. He was a trained blacksmith from Tarentum, Pennsylvania. In April 1859, he was hired by Drake to drill an oil well, a task never before attempted. Other blacksmiths that Drake had previously approached refused, arguing that the task was impossible. However, Smith believed Drake’s idea of drilling for oil had merit. He fabricated the new tools necessary to drill into the earth and moved with his family to Titusville, Pennsylvania. Living in the engine house, “Uncle Billy” rarely left the well site, and on August 27, 1859, he struck oil at 69½ feet. Smith continued working for the Seneca Oil Company until 1863. In 1865, he returned to his farm in Butler County, Pennsylvania where he died in 1890.

Ida M. Tarbell

B. 1857, Hatch Hollow, Erie County, Pennsylvania

D. 1944, Bridgeport, Connecticut

Ida Tarbell, possibly the most famous American female investigative journalist in history, was born in 1857 and moved to Titusville, Pennsylvania in 1870. She attended high school in Titusville and went on to attend Allegheny College in Meadville, PA where she graduated as the sole woman in the class of 1880. After graduation, Tarbell accepted a teaching post in Ohio, but resigned after two years. Upon returning to Pennsylvania, she accepted a position as a journalist at *The Chautauquan*, a small magazine published in Meadville, PA, and found her true calling.

Shortly after her seven-year stint at *The Chautauquan*, Tarbell went to work for *McClure’s Magazine*, where she wrote *The History of the Standard Oil Company*. This serialized article was published over two years beginning in 1902, and then as a book in 1904. Tarbell’s investigative journalism about John D. Rockefeller’s Standard Oil Company led to antitrust lawsuits and congressional hearings. In 1911, the Supreme Court broke up the Standard Oil Company Trust and began to work on antitrust laws so that one company would never again dominate any one industry.

Tarbell remains most well-known for changing the faces of the oil industry and journalism. However, during her writing career, she also penned a number of important biographies, including works on Abraham Lincoln, Madame Roland, and Napoleon Bonaparte. She also published her autobiography entitled *All in a Day’s Work* in 1939.

Tarbell never married or had children. She died in 1944 at age 86. Her family home still stands at 324 East Main Street in Titusville, PA.

Samuel Van Syckel

B. 1813, Alexandria Township, Hunterdon County, New Jersey

D. 1894, Alexandria Township, Hunterdon County, New Jersey

In 1865, Samuel Van Syckel created the first successful oil pipeline. His pipeline stretched from Pennsylvania's Pithole boomtown to the Miller Farm, near Titusville, Pennsylvania. The 2-inch wrought-iron pipe covered 5 miles and could carry approximately 2,000 barrels of oil every 24 hours with the help of three steam pumps. The most difficult problems for Van Syckel were the tumultuous teamsters and the terrain. Teamsters repeatedly tried to sabotage the pipeline (which was more efficient than their barrel-filled wagons) by cutting the pipes or burning the oil. Van Syckel safeguarded his pipeline by posting guards its entire length. He conquered the difficult wilderness terrain by laying pipe both above and below ground. Van Syckel realized his idea of an oil pipeline, but lost his investment through bad business practices.
