

History of Petroleum Development in Utah

Thomas C. Chidsey, Jr.¹

¹Utah Geological Survey, Emeritus

Abstract

Utah's petroleum development history extends back more than 130 years. Over the decades, many lessons have been learned from past exploration efforts and resulting production. This history has led Utah to be consistently ranked in the top 15 states in production since the 1960s.

In 1891, the Bamber & Millis 1 was drilled and although a dry hole, it was the first well in Utah to specifically target hydrocarbons. That same year, natural gas was accidentally discovered just east of Great Salt Lake while drilling a water well. Gas from nearby wells was transported to Salt Lake City in a wooden pipe, marking Utah's first use of local gas or oil.

Wildcats in the early part of the 20th century targeted large surface anticlines and areas with oil seeps. Discoveries included Rozel Point (1904), Virgin (1907), Mexican Hat (1908), and Cane Creek (1925).

These fields produced only small amounts of oil; Mexican Hat still pumps a few BOPD.

Utah's first commercial gas field, Clay Basin, was discovered in 1927 in the southern Green River Basin. As a result, pipelines were constructed to transport gas from Clay Basin, and other new fields in southwestern Wyoming, to northern Utah during the late 1920s and early 1930s. In 1948, the first truly commercial oil field, Ashley Valley, was discovered in eastern Utah (it has produced over 21 MMBO).

Not long after, major discoveries opened the large basins where most of the activity continues today: Bluebell (1949), Redwash (1951), and Natural Buttes (1952) fields in the Uinta Basin, and Boundary Butte field (1948), Utah's largest oil field Greater Aneth (1956), and Lisbon field (1960) in the Paradox Basin.

In 1951, the Cretaceous Ferron Sandstone proved gas productive with the discovery of Clear Creek field on the Wasatch Plateau. Ferron coalbeds proved productive with the 1992 discovery of Drunkards Wash field, now part of the "Ferron CBM fairway," which has produced over 1.5 TCFG.

The discovery of Pineview field in 1975 led to major finds in the Utah-Wyoming thrust belt during the late 1970s and early 1980s after years of drilling failures. Heavy oil was discovered in Great Salt Lake during an "offshore" drilling program from 1978 to 1981. The 2004 discovery of Covenant field in the central Utah thrust belt turned that region from one of speculation to proven potential.

In 1982, a then-new experimental drilling program was initiated in Grassy Trail field, a small Triassic Moenkopi Formation oil producer in east-central Utah. The new technique was horizontal drilling. Horizontal drilling is now the standard practice for wells targeting the oil potential of the Cane Creek shale in the Pennsylvanian Paradox Formation of the Paradox Basin and the Eocene Green River Formation of the Uinta Basin.

Over 1.7 billion BO and 14 TCFG have been produced in Utah. The exploration efforts, development practices, and successes of the past provide a great legacy for Utah's future hydrocarbon potential and development.

History of Petroleum Geology in the Rockies

Monday, July 25 4:05 PM