

Ohio's oil and gas industry through time



Cygnet Oil Field located in Bloom Township, Wood County, Ohio (circa 1885). Production from the Trenton Limestone (Ordovician).



View of some of the offshore wells in Grand Lake St. Mary's, Mercer County, Ohio (circa 1890). While wells drilled in the middle of streams in the Oil Creek, Pennsylvania area predated drilling of the Grand Lake St. Mary's, it is believed these are the first "off-shore" wells drilled in a lake from "platforms".



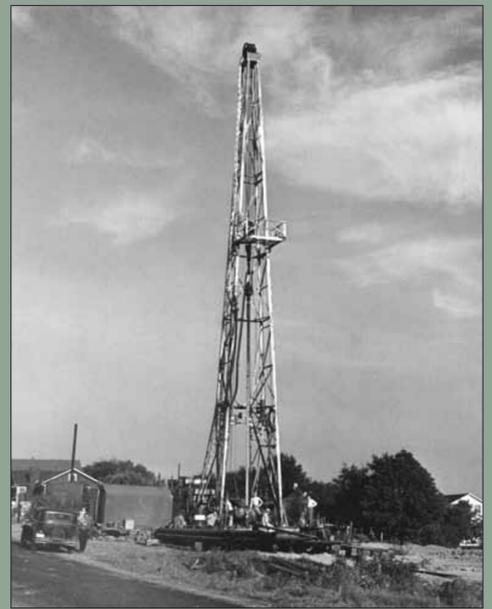
Group of early oil wells near Marietta, Ohio (circa 1900). Production from the Cow Run Sandstone (Pennsylvanian).



The Bremen Oil Field of Fairfield and Perry Counties, was the first "big" oil producing area for the "Clinton" sandstone (Silurian) in Ohio. Discovered approximately 1907. This is a photograph of a portion of the field around 1910; the town of Bremen is in the background (Rush Creek Township, Fairfield County).



After some of the shallow Cow Run Sandstone oil fields of southwest Ohio were no longer in production several attempts were made to drain more oil from the formation via horizontal wells. The first attempt was made in 1937. The operators drilled 802' horizontally into the formation from the outcrop. This was one of the first horizontal wells in the world! Unfortunately, production was very low and the well was soon abandoned. In 1945 the Blakson Oil Company dug a large pit into the formation in Union Township, Morgan County in the middle of the old Buck Run Pool. The company planned to drill 24 horizontal holes radially from the pit. After the first two holes were completed and produced only 12 to 14 barrels per day, combined, the project was abandoned. In the above photo the workman has his hand on one of the wellheads.



The first rotary rig used in the Canton gas field (Stark County), August 1946. This was only the second rotary rig in Ohio at the time. Drilling of the Canton Gas Field was a "boom time" and witnessed town lot drilling similar to the Morrow County boom of the early 1960's, but without as much fanfare. By the end of October 1946 96 wells had been drilled (only seven were dry) with an average initial daily production of 2,759 MCF/D. By one account, up to 77 rigs, both cable tool and rotary, were running at one time.



Laying oil pipeline through Hocking County, Ohio in 1953.



Off-shore drilling platform on Canadian side of Lake Erie, 1956. Recent off-shore Canadian drilling has been performed from drilling barges.

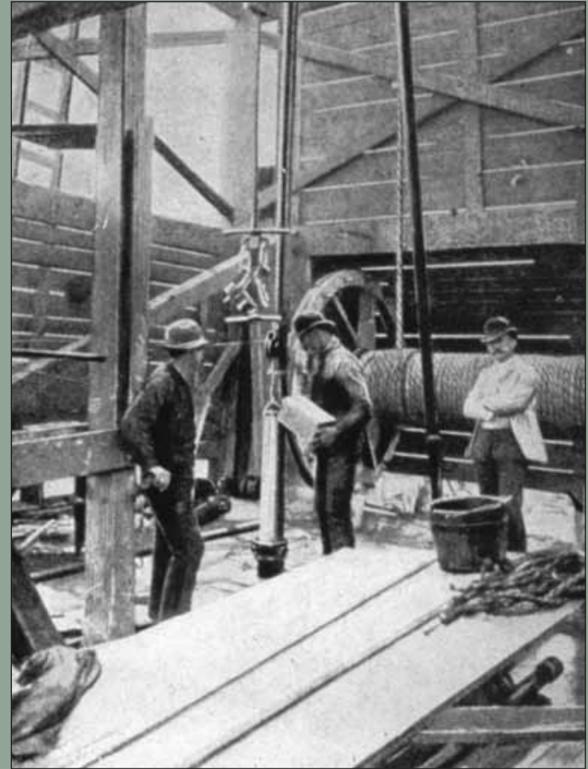


Aerial view looking north along U.S. Route 42 in Cardington, Morrow County, Ohio (1964). In 1963-64 Morrow County was the last unregulated drilling boom in the U.S. As many as 150 rigs were drilling at one time. There were no spacing laws; thus wells were drilled anywhere lease-of-rights could be obtained: backyards, railroad right-of-ways, parks, cemeteries, etc. In 1964 alone 1,340 wells were completed in Morrow County.



Meridian Oil Inc. attempted a secondary recovery waterflood within the Trenton Limestone in 1995 near the city of Lima (Allen County, Ohio). Within a few months of the start of flood operations they had premature breakthrough of their flood water and abandoned the project. (Photo courtesy of the Lima News)

Historic vignette of early oil-and-gas-well stimulation technology



Top and right photos: "Shooter" pouring nitroglycerine from transport can into torpedo. The torpedoes were put together specific for each formation/well. The thicker and harder the formation to be shot, the longer and wider the torpedo used, to hold more or less nitro. "Typical" shot records show nitro amounts would vary from about 30 quarts up to about 800 quarts!



Shooters using horse-drawn wagon to transport nitro and torpedo materials to the well site.



Remains of horse, wagon, and nitro shooter's equipment, including wireline after an accident. Unfortunately, this was not all that uncommon. Shooters eventually learned to transport the nitro in copper cans sheathed in rubber to absorb shocks; several of these were placed in a large aluminum tray containing cold water to keep the nitro temperature down.



Well gushing brine and oil as a result of nitro shot.

Historic drilling paintings



ANCIENT CHINESE DRILLING RIG

Two thousand years ago the Chinese used a rig similar to the one illustrated to drill wells for brine, sometimes reaching to a depth of 2000 feet. This ancient apparatus contained most of the basic features of cable tool rigs used today.

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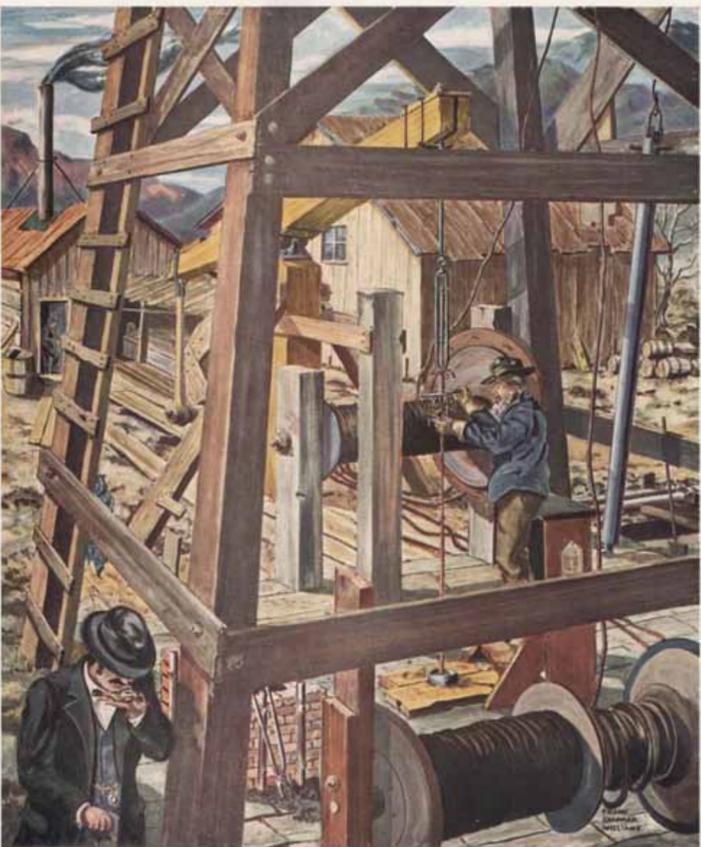


SPRING POLE DRILLING RIG

Early American brine wells and many of the first oil wells were drilled by the crude method illustrated. With their feet in the stirrups, drillers "kicked down" scores of wells in the Oil Creek area of Pennsylvania.

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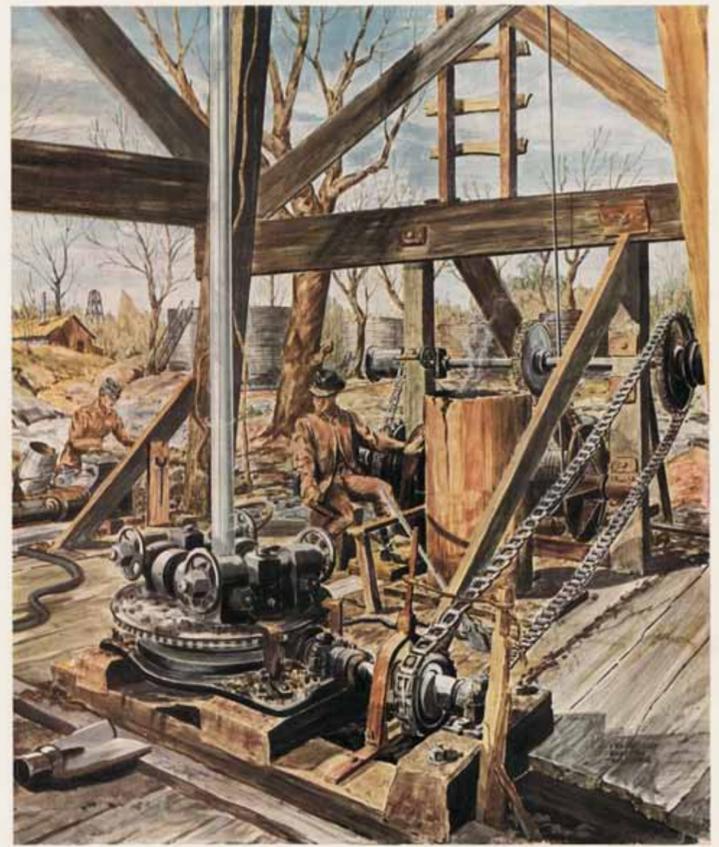


CABLE TOOL RIG

The cable tool or standard rig established the American petroleum industry as a going concern. The many variations of this rig tapped vast oil reserves. Even today they hold their own against the rotary in many localities.

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EARLY ROTARY DRILLING RIG

The advent of the rotary drilling rig enabled drilling to much greater depths in shorter time than possible with cable tool rigs. The drill bit is attached to drill pipe that spins to cut through rock and the cuttings are flushed to the surface by circulating fluids.

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