

hydrocarbons produced in the “Utica” Play are actually from the Point Pleasant Formation, which is Ohio’s terminology for the shelf edge deposits surrounding Trenton Limestone platforms in New York, Ohio, West Virginia, Kentucky, Michigan, surrounding states and Canada.

The Utica/Point Pleasant Shale Play dates back to 1859 when the rock’s Michigan Basin equivalent, the Collingwood Shale, was mined and distilled into oil in Craighleith, Ontario. This endeavor was short lived due to the simultaneous discovery of oil in Pennsylvania. In the late 1880’s Trenton gas was discovered in New York State along the shore of Lake Ontario. This high-pressure discovery was deemed to be from the Trenton Limestone, however it contained a shaley carbonate source rock, similar to the Point Pleasant.

John Galey drilled the deepest cable tool well in the world in 1944 in Butler County, PA, which had significant shows in the Point Pleasant interval. In more modern times several near-shelf-edge conventional Trenton fields were discovered in West Virginia, New York and Ohio. In 2009 Range Resources drilled the first horizontal Utica Point Pleasant test in the United States, located in Beaver County, PA. The well was deemed to be non-commercial and was not turned into line. The following year Chesapeake drilled their Buell discovery well in Harrison County, Ohio.

All of the old shows plus thousands of Trenton penetrations in the Ohio Knox play contributed to Chesapeake’s successful campaign to initiate the “Utica Play” in Harrison and Carroll County, Ohio. Chesapeake paid attention to oilfield history and existing geological data to discover one of the premier unconventional plays in the world!

HYPOTHETICAL 1859 NORTH AMERICAN EXPLORATORY PROGRAM

Raymond P. Sorenson
1825 S. Cheyenne Ave., Tulsa, OK 74119
sorensonrk@sbcglobal.net

As the 1850s came to a close, the pre-modern oil industry was in a state of flux after the collapse in whale-oil production due to overharvesting. The manufacture of coal gas for municipal lighting and heating systems was a mature industry in North America and Europe, and efforts to maximize the by-product yield of liquid oils through modification of the retort process and the choice of raw materials had become a rapidly expanding focus. Thanks in large part to state and provincial governmental surveys, knowledge of North American geology was improving rapidly. By the end of the 1850s a few hundred scientific publications had documented the natural occurrence of hydrocarbons or rocks suitable for coal-oil manufacture in

29 American states and 5 Canadian provinces (using modern political boundaries), with natural flows of petroleum or carburetted hydrogen (methane) gas reported from wells in at least 12 of them. Commercial production of oil at Enniskillen in western Ontario was already underway, initially from surface excavation and hand-dug wells. Even in the absence of the 1859 Drake well at Titusville or the proprietary Benjamin Silliman Jr. report upon which it was based, it is likely that a play concept for petroleum exploration using wellbores would have arisen in the near future.

A hypothetical approach for exploration would have been initial literature research to establish which geographic regions were most prospective, based on the distribution and type of hydrocarbon occurrences, the quality and availability of published descriptions, and market access to population centers. The initial high grading would later have been followed by field research to locate local prospect areas for leasing and drilling. This paper will arbitrarily focus on how exploration priorities would have developed within North America, with the understanding that areas in Europe, the Middle East, Asia, and South America might have had similar promise.

Using these criteria, New York State would have ranked at the top, with geological documentation of petroleum at more than 40 locations, and with transportation corridors to metropolitan markets already in place. Ontario already had production from hand-dug wells at Enniskillen and several other shows to the north of Lake Erie, and would have been regarded as a western extension of the New York play area. Next on the priority list would have been the Ohio - (West) Virginia boundary area along the Ohio River, plus other locations scattered across Ohio, where petroleum and carburetted hydrogen gas were commonly associated with brine wells used in the salt manufacturing industry. Hydrocarbon indications in Kentucky were as good or better than in Ohio, but market access would have been less convenient. California would have completed the top five, with the most prolific surface indications of petroleum for any state, but commercial exploitation would have been hampered by the low quality of its heavy bitumen, and its location remote from major North American markets.

Petroleum seeps associated with earthquakes and volcanic eruptions on other continents had been described on numerous occasions in the European literature, and a search for analogous occurrences in North America would have been prudent. Although volcanoes and earthquakes were uncommon to the east of the Rocky Mountains, bitumen flows were known to respond to earthquakes near Santa Barbara, California, and petroleum had already been found in six states in direct association with igneous rocks. Bitumen shows within the Hartford rift valley of Connecticut/Massachusetts were less impressive than in higher ranked states, but the metropolitan location would have justified serious examination. Likewise,

the Gaspé Peninsula and other areas along the St. Lawrence Seaway in Quebec would have been of interest due to the availability of marine transportation. Oklahoma would have attracted attention as the most prospective inland region west of the Mississippi River, with reasonable proximity to military establishments and transcontinental travel routes. The seeps on Oil Creek near Titusville were well known, even though they had been completely ignored by the state geological survey, but a decision to perform a serious study of northwestern Pennsylvania would likely have resulted from its immediate proximity to the more prospective states of New York and Ohio.

Although hydrocarbons had been identified in many other states and provinces, they were generally of minor scale, of isolated occurrence, or in remote geographic locations, and would not have merited serious consideration.

THE INDEPENDENT TORPEDO COMPANY OIL WELL SHOOTING IN THE LIMA-INDIANA OIL FIELD AND BEYOND

Jeff Spencer
675 Piney Creek Road, Bellville, TX 77418
spencerj320@gmail.com

As the drilling and completing of wells in the Lima-Indiana oilfield progressed through the late 1800s and early 1900s, competition grew in the oil well shooting business. By early 1905 this had all changed as the Hercules Torpedo company had acquired most of the competition in northwestern Ohio and eastern Indiana. The company's monopoly, also known as the "torpedo trust" or "nitroglycerin trust," was short-lived. Five Findlay, Ohio businessmen organized the Independent Torpedo Company, incorporated March 21, 1905, and opened its office in Findlay a month later. By 1909, the company had established nitroglycerine factories and offices in Indiana and Illinois. The company moved into the Mid-continent area, opening a factory near Tulsa in 1910. With the discovery of the Ranger oil field in Texas in 1917, the company opened a factory there to service the rapidly growing oilfields of north and west Texas.

This successful oilfield service company merged with the Eastern Torpedo Company of Toledo in 1928, forming the Independent-Eastern Torpedo Company, headquartered in Findlay. In the 1940s, the company merged with the Chemical Process Company and greatly expanded into the Texas and New Mexico oilfields offering booth shooting and acidizing services. By the early 1950s, the company operated five nitroglycerin factories and fifty-one shooting and acidizing stations in ten states, but none in Ohio. In 1956 the company was acquired by B. J. Services.

EARLY OIL DRILLING IN AND AROUND GRAND LAKE, OHIO (1886-1892)

Jeff Spencer¹ and Joyce Alig²

¹ 675 Piney Creek Road
Bellville, TX 77418
spencerj320@gmail.com

² 3054 Burk-St. Henry Road
Saint Henry, OH 45883
histalig@bright.net

POSTER PRESENTATION

As drilling in the prolific Lima-Indiana oil field (1884) progressed to the southwest, wells were drilled near Grand Lake, Ohio in 1886. The first over-water drilling in the United States occurred in 1891 as operators extended their drilling into the lake. This 13,500 acre man-made lake, also known as Grand Reservoir, Lake Celina, Lake Mercer, or Grand Lake St. Marys, was constructed between 1837 and 1845 as a reservoir for the Miami and Erie Canal.

The State of Ohio held a joint committee meeting in March, 1892 to take testimony from individuals associated with the surface and mineral leases and the oil developments "around St. Mary's reservoir." The purpose of the meeting was apparently to determine why the state was not receiving royalty on leases in the areas adjacent to the lake that annually flooded or were "between high and low water." Much of the early petroleum history of the area can be found in the testimonies from this meeting.

Additionally, historic maps show well locations near the lakeshore. 1891 newspapers articles followed the initial drilling in the lake and the concerns of the local fisherman. A Pittsburgh Dispatch September, 1891 newspaper headline read, AN OIL WELL IN A LAKE. THE SUCCESSFUL CLOSE OF A REMARKABLE EXPERIMENT. Early photographs and postcards show both the lake drilling from wooden platforms and the derricks located in the adjacent low areas.