signatures in the C15+ range of the GC-FID traces indicating a single oil family. This is corroborated by the narrow range of pristane/phytane ratios (1.78 to 1.89). Molecular parameters from the GC-MS analysis of one of the crudes are consistent with derivation from a Devonian aged source rock that was deposited in a sub-oxic, marine environment. Stable carbon isotopic compositions of the saturated and aromatic fractions of the crude oil from McClintock #1 well) are (d13C values of -29.8 -29.1‰, respectively) provide further evidence for a source rock deposited in a marine depositional environment.

## THOMAS W. LEACH – THE FATHER OF NORTH DAKOTA'S PETROLEUM INDUSTRY

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In June 2014, North Dakota celebrated an important milestone. After 63 years North Dakota's daily oil production had exceeded one million barrels per day. The celebration, attended by several hundred people, was held in Tioga, home of North Dakota's first producing oil well, the Clarence Iverson No. 1. Speakers included Ron Ness, President of the Petroleum Council and Governor Jack Dalrymple. They both spoke briefly on the significance of the event. During his closing remarks Governor Dalrymple introduced several of the remaining members of the Clarence Iverson and Henry Bakken families on whose farm land the first two wells were drilled. Sadly, no one mentioned the contributions of Thomas W. Leach, the father of North Dakota's Petroleum Industry. In 1928 Leach became convinced oil existed in North Dakota and he worked tirelessly over four decades to see North Dakota become a producing state.

What makes someone the father of an industry? They have to give that industry life where it did not exist before. When the Big Viking well, being drilled near Tioga, in Williams County North Dakota, ran out of money drilling in the state stopped and the petroleum industry died. There was, but one ember remaining; one person in the entire country interested in seeing North Dakota become an oil-producing state and that person was Thomas W. Leach. When oil was discovered in 1951 Leach moved quickly to help establish the field. Writing about Leach's involvement in the state, the Tulsa Tribute said, He literally sold the Williston basin single-handed. Tom Leach's story is one of perseverance, determination, and fortitude. It is an American story, and it starts in Tulsa, Oklahoma in 1928.

## THE SINGLE MOST DECISIVE EVENT IN THE HISTORY OF OKLAHOMA – THE GLENN POOL OIL FIELD DISCOVERY

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## KEYNOTE ADDRESS

In the late 1800's. Oklahoma was not a state. It was occupied by large Indian reservations that were strictly regulated by the federal government. The Creek Indian reservation to the south of the railroad stop called Tulsa was first opened for drilling. In 1905, the first great oil field in Oklahoma, the Glenn Pool Field was discovered on that reservation. Robert Galbreath, an Oklahoma City real estate man and his partner, Frank Chesley had drilled a well in a corn field on the 160 acre Ida Glenn farm that blew out. The Ida Glenn #1 was only 1,481 feet deep and produced from an unknown sandstone that was originally called the Glenn Sand but later was identified as the Bartlesville Sandstone. The original well made 85 barrels of oil per day. The second well just to the south came in at 700 BOPD and the third well to the north at 2,000 BOPD. The oil was high grade, the well depths were shallow and the field was very large (43 square miles) in size. This was one of the largest oil fields in the world during its time. The oil boom was on! In 1907 when Oklahoma became a state and pipelines finally reached the field, the Glenn Pool produced 46 million barrels of oil, more than any other state in the United States. It made Tulsa the "Oil Capital of the World" from 1907 to 1930. The field has since produced 340 million barrels of oil.

## OIL DORADO! THE LEGENDS AND LEGACY OF A KANSAS OIL BOOM

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In September of 1915 the small prairie town of El Dorado, Kansas, was a typical agricultural community of some 3000 persons, whose welfare was dependent on cattle ranching across the broad expanse of the Flint Hills and the introduction of the promising new crop of kaffir corn. Automobiles, electricity, and better roads were becoming more common, but the pace of development was placid and most of the county's excitement revolved around the yearly kaffir corn carnival and the occasional murder sensation. But within the span of