

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**

Clarence Herz  
317 15th Street South  
Fargo, ND 58103  
[cherz1967@yahoo.com](mailto:cherz1967@yahoo.com)

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**

Norman J. Hyne  
6338 E. 98th St.  
Tulsa, OK 74137  
[nhyne@att.net](mailto:nhyne@att.net)

### **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**

Ardath L. Lawson  
Kansas Oil Museum  
383 E Central Ave., El Dorado, KS 67042  
[lawsona@kansasoilmuseum.org](mailto:lawsona@kansasoilmuseum.org)

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

a few weeks, all that was to change. On October 5, 1915, exploration activities carried out by a small team of geologists resulted in an oil strike of major proportions, the Stapleton #1, paving the way for a sudden new influx of population and an equally sudden new way of life for the people of Butler County. The discovery and development of the newly discovered El Dorado oilfield would change not just one small town in Kansas, but the whole country, and perhaps even the world.

The search for oil was far from a scientific activity in most of America around the turn of the century; in fact, many of the men who drilled the first tentative wells in Kansas had more in common with gamblers than geologists. When first the City of El Dorado and then the company that was to become *Cities Service* hired geologists onto their crew, many wildcat drillers of the time laughed. The philosophy they espoused was, *If you drill and get it, you've got it; and if you don't, you haven't*. But geologists like Charles N. Gould and J. Russel Crabtree were undaunted by their opponents, and kept on day by day with their methodical survey of Butler County's surface features, relating them to known oil strikes in the county and in similar areas, and creating new maps that were among the first to add contours to their representations of geologic formations. Following the pioneering successes on the El Dorado oil fields, men like Deering Marshall of Wichita later said that *when we started prospecting we did not have much faith in the ability of geologists to tell whether oil or gas was likely to be found in one place or another. That has been taken out of us. We would not consider locating a hole now without the advice of a geologist*. These early advances in scientific exploration and mapping would spread quickly to other oilfields and companies throughout the country, and would forever change the way drilling was planned and carried out.

Harry Doherty's Cities Service Company might have taken the lion's share of the field on account of his faith in geology, but everybody was trying to get in on the drilling game however they could, whether that was as lessor or lessee, roustabout or retailer. Butler County's population nearly doubled in size between the 1910 and 1920 state censuses, from 23,000 to over 43,000 people, with most of this growth taking place only in the latter half of that 10-year period. The prolific El Dorado fields supplied a large amount of the oil that went towards fueling and lubricating the trucks, ships, and airplanes that came into extensive use during World War I, the world's first mechanized war, lending credence to the statement of local newspaper editor Rolla J. Clymer that *oceans of oil helped float the Allies to victory*.

The boom lasted through the 1920s, and even after production began to seriously decline in the 1930s still many of the boom towns persisted, and oilfield work remained a significant way of life for many residents of Butler County. As oilmen such as Jacob Moellendick became wealthy off the

natural riches of the county they turned to other pioneering ventures, funneling their wealth and vision into building up Wichita and developing it as the soon-to-be-proclaimed *Aviation Capital of the World*. Companies such as Beechcraft, Travel Air, and Cessna all saw their birth as a result of Butler County oil money, which continued to fund innovation in the industry for the next few decades. Now, one hundred years after that very first El Dorado strike, the legends and the legacy of the oil boom live on.

## THE CONSTRUCTION OF A UNIQUE PIPELINE IN THE CAUCASUS

Mir-Yusif Mir-Babayev  
Azerbaijan Technical University (Baku)  
Fizuli Str., House 53, Flat 49  
AZ1014, Baku, Azerbaijan  
mirbabayevmiryusif@yahoo.com

Bahram Atabeyli  
Caucasus University in Baku  
Sumqayit Road; 16-km Khirdalan  
AZ0101, Baku, Azerbaijan  
mirbm0@bp.com

*Accepted but not Presented*

Pipeline transportation in oil industry came into existence after the mid-1860s. Until the mid-1860s oil was transported in barrels and then in cisterns. In 1863, Dmitry Mendeleev suggested the use of pipelines for a transportation of oil from fields to oil refineries, and in 1877, he put forward the idea of constructing an oil pipelines over long distances. The same year, he visited the USA in order, as he explained *...to learn the reason of flourishing of oil business in America, find out the obstacles that delay this in our country and what needs to be in order to remove this delay*. In his fundamental work called Foundations of Chemistry (Saint-Petersburg, 1895, 6th edition), which was translated into numerous languages, Mendeleev noted that, *When oil pipeline from Baku to the Black Sea will be constructed in South Caucasus (there are many of them in America, they deliver crude oil from Pennsylvania to the coast of the ocean, where oil is turned into kerosene and other products), the Baku oil will give an opportunity to produce the burning oil and that, without any doubt, will find a huge market*.

Let's note here that first iron oil pipeline with 5-cm diameter and 6-km length was constructed in the USA (Pennsylvania) in 1865. By the 20th century, the USA possessed over 10 thousand kilometers of oil pipelines connecting the Pennsylvanian oil fields with oil refineries and markets in Pittsburgh,