

# History of Oklahoma oil industry

Kenny A. Franks Oklahoma Historical Society

Oil ushered Oklahoma into the twentieth century and gave it an economic base that for decades allowed continued development. The state's petroleum deposits lie within a vast reserve called the Mid-Continent Region, an area that also encompasses Kansas, Texas, Arkansas, Louisiana, and New Mexico. For twenty-two years between 1900 and 1935 Oklahoma ranked first among the Mid-Continent states in oil production and for nine additional years ranked second. During that period the state produced 906,012,375 barrels of oil worth approximately \$5.28 billion.

Long before the onset of Oklahoma's great oil booms, the state's early inhabitants tapped into the region's many natural oil and gas seeps. Across the state American Indians employed the black liquid that oozed from beneath the rocks and accumulated on the surface of creeks and springs as medicine for both themselves and their animals. When the eastern tribes and non-Indians arrived, word of these seeps spread. As early as 1830 Chickasaw Agent A. M. Upshaw made note of local medicine springs. His successor, A. J. Smith, reported on seeps in the Wichita Mountains. Comanche Chief Asa Toyette showed the seeps to Thomas C. Battey in the 1870s and remarked "heap of medicinegood black medicine." By the 1850s visitors from neighboring states were utilizing the seeps. At Boyd Springs on Oil Creek in the Chickasaw Nation, travelers camping at the springs often drove a musket barrel into the water and then ignited the escaping natural gas for illumination. Maytubby Springs near Caddo and New Spring Place near Oaks became popular health spas.

In 1859 Lewis Ross struck oil while deepening his salt water well near Neosho Crossing on Grand River in the Cherokee Nation. Jacob Bartles, who gave his name to the oil center of Bartlesville, noticed oil seeping out of the ground southeast of Vinita when he marched through the region with the Sixth Kansas Cavalry during the Civil War. In 1875 George B. Keeler and Jasper Exendine were herding cattle along Sand Creek in Osage County. When Keeler's horse refused to drink the water in a convenient pond, the two men discovered that the water was covered with a scum of oil. At that time "creekology" was the accepted method of prospecting for oil. Creekology simply was the search for aboveground indications of oil, and the most obvious indications were natural seeps. In 1878 the U.S. Geological Survey issued a publication detailing surface signs—streams that were coated with oil, natural gas seeps that rendered areas devoid of growth, tarry water that livestock refused to drink, and so forth. Oilmen quickly associated these signs with Oklahoma.

Robert M. Darden, a pioneer oilman from Missouri, organized Oklahoma's first petroleum enterprise, the Chickasaw Oil Company, in 1872 and drilled on promising land near Winchester Colbert's home; however, the refusal of federal officials to recognize non-Indian leases doomed the attempt. In late 1884 Dr. H. W. Faucett formed the Choctaw Oil and Refining Company and the Cherokee Oil Company and secured drilling rights to thirteen million acres. Faucett drilled two wells, one at Clear Boggy Creek west of Atoka in the Choctaw Nation and the other at Alum Bluff on the Illinois River in the Cherokee Nation. Both wells were abandoned after Faucett fell ill, returned to



Photo courtesy of Oklahoma Historical Society

An example of a "battery" of oil storage tanks, which could be found during the early days of the oil and gas industry in Oklahoma.



#### A colorized version of "Bird's Eye View of Glen Pool, near Tulsa, Okla." gives a glimpse into how the oil fields of Oklahoma once looked.

#### Missouri, and died there in 1888.

In 1882 Edward Byrd, an intermarried Cherokee, was searching for missing cattle along Oil Branch Creek when he noticed an oil scum on the surface. Four years later Byrd secured the right to drill on a half-section lease but could not convince any financiers to invest in a well on such a small acreage. Undaunted, Byrd persuaded Cherokee officials to lease him ninety-four thousand acres. In 1887 he formed the United States Oil & Gas Company (USOG) and completed the first of eleven wells along Oil Branch Creek in August 1889. Unable to find a market for their output, in 1895 he sold out to John Phillips, who reorganized USOG as the Cherokee Oil and Gas Company. Like its forerunner, the Cherokee Oil and Gas Company could not profitably market its crude and abandoned

its wells. Other oil wells were drilled near Muskogee in 1894, but they too were unprofitable.

In 1894 Michael Cudahy obtained a two-hundredthousand-acre lease in the Creek Nation and drilled several wells. One was a dry hole near Red Fork. In 1896 Cudahy contracted with George Keeler, William Johnstone, Frank M. Overlees, and several other prominent Cherokees to drill on the banks of the Caney River just north of downtown Bartlesville. It was the winter of 1896–97, and the weather was bitterly cold. Nonetheless, Cudahy ordered his drillers, A. P. McBride and C. L. Broom, to haul his Red Fork rig to Bartlesville. The trip took almost three weeks as the oilmen were forced to cut a path through the ice covering the Arkansas River so the wagons could ford the waterway, but by late January 1897 they were ready to start drilling. At 3:00 p.m. on April 15, 1897, Jennie Cass dropped an explosive charge down the well's hole and brought in the state's first commercially successful oil well, the Nellie Johnstone Number One, at fifty barrels per day. Unfortunately, the Nellie Johnstone's output quickly swamped the local market, and there was no available means for shipping the crude to the nearest refinery at Neodesha, Kansas. As a result, the well was capped.

Because the Nellie Johnstone had not been properly sealed, a series of leaks developed. A trickle of oil eventually collected in the sump and then overflowed in a small rivulet into the Caney

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# History of Oklahoma natural gas

#### Ken Anderson Oklahoma Historical Society

Natural gas is one of the most popular forms of energy in use today. It is colorless and odorless, except when a malodorant is added for safety purposes, and it burns with an even temperature. When burned, it is more environmentally friendly than many other fuels. Yet the use of natural gas for heat is not new.

In fact, the Chinese were using it more than two thousand years ago. Today natural gas not only heats homes and cooks meals, it also powers school buses, garbage trucks, and other fleet vehicles at less cost and less emitted pollution than gasoline or diesel fuel. Its many useful by-products include the carbon black that makes automobile tires last longer and a host of consumer products ranging from drugs, medicines, and cosmetics to man-made fibers for clothing. Natural gas also provides the ammonia that fertilizes crops.

Natural gas is a homogenous fluid of low density and low viscosity. It is classified as a fluid, since both liquids and gases are fluids. Unlike liquids, however, gases have neither definite shape nor definite volume; e.g., a gas will expand to fill its container. It is a form of energy that is basically a hydrocarbonic mixture that contains some impurities. This naturally occurring mixture has its own composition that can change as its underground reservoir is depleted. Natural gas may be found by itself in a geological formation but also

## H & C is here for its customers

H & C Services, Inc. was founded by Hulene and Clyde Butler in 1975.

What began as a trucking and forklift service company to service the oil and gas drilling companies became an almost overnight success. In 1982, Hulene and Clyde built a 5,000-square-foot building on the South Access Road and started an oilfield supply store.

Hulene and Clyde went through the booms and the bust of the oil and gas industries, but never gave up and their business continued to grow. In March of 1997, Clyde passed away and Hulene and their son Dale continued running the business.

The company experienced modest growth despite the cyclical nature

of the oil and gas business. A new showroom was added in 2005 with welding products and specialty tools. They also put in a repair shop in the old store front for repairs on pumps, power tools and small engines.

In 2012 Hulene passed away and Dale became very ill so Dale's son Greg took on the helm and continued growth, and expansion. Greg and his team did extensive training to become a great company, and now are opening a second location in Okarche.

H & C is more than just an oilfield supply they also offers products that everyone can use. If customers need it and H & C doesn't already have they will find it for their customers. is often found in conjunction with oil and salt water. In this case, gas under pressure provides the prime driving force needed to remove the oil from the reservoir.

Although technically natural gas is considered a "fossil fuel," its major constituent is methane, which can also be generated from today's biological wastes from plants and animals. Its other components may include ethane, propane, butane, pentane, hexane, heptane, nitrogen, carbon dioxide, and helium. Sometimes the mixture may also include hydrogen sulfide, which even in small concentrations can be highly dangerous.

Natural gas can be produced from wells that produce only gas, or from wells that also produce condensate, a liquid hydrocarbon that lies halfway between gas and oil. Over the years condensate has gone by many names: casinghead gas, casinghead gasoline, white gas, and drip gas. In the days of simple engines in automobiles and farm tractors it was not uncommon for anyone having access to a condensate well to fill his tank with "drip." However, the results were not always predictable. At times it might not even ignite, and at other times it might cause thundering backfires and clouds of foul-smelling smoke.

While oil is measured in barrels, natural gas is measured in cubic feet, and the number of British Thermal Units (or BTUs) per cubic foot, determine its value. A BTU is the amount of heat required to increase the temperature of one pound of water one degree Fahrenheit.

Another difference between gas and oil is that oil is seldom found at depths greater than ten thousand to sixteen thousand feet. However, natural gas was produced from a depth of 31,441 feet from the world's deepest producing well, the Lone Star Bertha Rogers drilled in the Hunton Formation in Beckham County, Oklahoma. The Bertha Rogers also happened to be the site of the world's largest well blowout. This took place during the oil and gas boom of the early 1980s when drilling companies were building "10-milers," rigs that were designed to drill to depths up to fifty thousand feet.

Natural gas has increased in importance to Oklahoma's economy over the years. In the early years of the area's petroleum industry, gas associated with oil being produced was flared (burned off at the wellhead). This was a waste not only of a valuable commodity but also of the reservoir drive that provided the pressure to lift the oil to the surface. At that time however, there were no pipelines to transport the gas to places it might have been used. But as the industry grew in the state and more and more gas-producing formations were discovered, gas pipelines were laid to transport the gas to markets. Some of the major gas basins in Oklahoma include the Arkoma, which runs from east central Oklahoma into Arkansas. The East Texas is in the lower southeastern tip of Oklahoma, the southwestern tip of Arkansas, and the northeastern tip of Texas. The huge Anadarko Basin underlies central and western Oklahoma, the Texas Panhandle, and southwestern Kansas. The smaller Marietta Basin is located in south-central Oklahoma and runs southeast into Texas, and the Ardmore Basin lies between the East Texas and Arkhoma basins. In all, there are thirty-four hundred gas fields in Oklahoma.

Not only has the gas that these fields produced been of great

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River. Later, a group of children was ice-skating on the river and built a bonfire to keep warm. Flames ignited the rivulet of oil, spread to the Nellie Johnstone, and destroyed it. Two years later, in the summer of 1899 the Kansas, Oklahoma Central and Southwestern Railway (later the Atchison, Topeka and Santa Fe Railway) reached Bartlesville and offered rail service to Neodesha. With the ability to transport the crude to market, oilmen flocked to Bartlesville, turning it into a major oil-boom town overnight and touching off one of the greatest rushes to riches in the American West—the Oklahoma oil boom era.

In the first three decades of the twentieth century discovery after discovery was made in the Sooner State. In 1901 came Red Fork Field and the emergence of Tulsa as "the Oil Capital of the World." The Alluwe Field and the Cherokee Shallow Sands District soon were discovered, as was Cleveland, the first major discovery in Oklahoma Territory when it was opened in 1904, as were the Muskogee Field and its associated pools. The following year Glenn Pool, one of the greatest oil fields ever, made Oklahoma a national leader in oil production and induced several major energy companies to tie the state into their major oil transmission pipelines.

A decade earlier, on March 16, 1896, Henry Foster had leased the mineral rights to the entire Osage Nation for ten years. Soon afterward he died, and his brother, Edwin B. Foster, became a lessee and organized the Phoenix Oil Company to develop the Osage interests. After several unsuccessful wells were drilled in the region, Foster formed the Indian Territory Illuminating Oil Company (ITIO) in 1901 to take over the operation. When Foster died, ITIO slipped into receivership and several subleases were granted to creditors including Theodore N. Barnsdall, who used the lease to form Barnsdall Oil Company.

In 1903 Henry Foster's son, Henry Vernon Foster, became president of ITIO. To raise capital he subdivided ITIO's Osage Lease into 348 lots and subleased many. Even so, as the Osage Blanket Lease's expiration date of March 1906 approached, little development had taken place. In March 1905 ITIO's Osage Lease was reduced to 680,000 acres. The other 171,000 acres were opened to other oil companies through a series of lease sales held under the Million Dollar Elm in Pawhuska by Colonel Ellsworth E. Walters. Eventually, more than 350 oil

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This is the first oil train leaving Bartlesville with a load of unrefined oil.

### **Giant Oil Tools has** diverse customer base

Giant Oil Tools established its location in Oklahoma in April 2016.

The first "location" was a 20foot shipping container and a storage space in El Reno. Since then, the company has had a wild ride coming out of a historic downturn and through some small market ups and downs since then.

Fortunately, the company has established solid relationships with a diverse customer base stretching across the Oklahoma oil patch, as well as clients in plays in other states.

Having those strong relationships allowed the company to move into the first actual building in December 2016. As the customer base and demands grew company leaders saw an opportunity to introduce a nickel coating service here

in Oklahoma and the company moved to its present location at Penn and West Reno in Oklahoma City to accommodate a nickel coating shop.

Proximity to shippers, machine shops, and other services, combined with a diverse inventory and now nickel coating, allows Giant to offer quick turnaround for customers on their various projects.

Of course, none of this means anything if the business doesn't have the right people to execute for its clients. As Giant has moved up in physical space, it also has slowly built a reliable team of individuals who all strive to deliver consistently and maintain quality. Whether it is a simple coating job or shipping tools, the people are what make the real difference at Giant Oil Tools.



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Giant Oil Tools' first Oklahoma location was a 20-foot shipping container and a storage space in El Reno in 2016. Since then, Giant Oil Tools has moved into its present location in Oklahoma City to accomodate a nickel coating shop.



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pools were located in the Osage Nation. The most prolific was the Burbank Field, opened in May 1920.

Also in 1906 the final Osage roll of 2,229 tribal members was completed. Tribal land was allotted, but mineral rights were held in common. Each member was entitled to one Osage headright, or one equal share of oil and natural gas royalty, and the money poured in. On one afternoon in 1924 Walters sold \$10,888,000 worth of leases, with a single 160-acre lease bringing \$1,990,000. Such huge wealth occsioned an "Osage Reign of Terror," a series of crimes in which Osage headright holders were swindled and sometimes murdered for their share of royalty money.

Just to the west of the Osage, Ernest W. Marland opened the Ponca City Field in 1911 when he completed the Willie Cries for War Number One on sacred Ponca land. This strike attracted other wildcatters, and in 1917 the Garber Field was located. It proved to be one of the largest producers of high-grade crude during World War I. However, when Marland discovered the Tonkawa or Three Sands Field in 1921, the oil legacy of northcentral Oklahoma was assured, as was the future of Marland Oil Company, the forerunner of Ponca City-based Conoco.

In 1912 Tom Slick found an oil seep on the Frank Wheeler farm east of Cushing. Wheeler had paid sixty-five cents per acre for his farm in 1907, but when Slick uncovered the huge Cushing Field, the value skyrocketed. Jackson Barnett, who been granted a 160-acre allotment in the Cushing Field, owned a farm that eventually produced oil worth \$24 million. So great was Cushing's output that in 1919 its wells produced 17 percent of all oil marketed in the United States and between 1912 and 1919 produced 3 percent of all the world's output.

To the south in Carter County an equally rich discovery, the Healdton-Hewitt Field, was rediscovered in 1913. The area originally had been drilled in 1888 by a man named Palmer; he had been attracted by the numerous oil seeps. However, Palmer could find no market for his crude and abandoned the well. When Roy M. Johnston heard stories of the old well, he and Edward Galt and A. T. McGhee visited the site and, with Wirt Franklin and Sam Apple, leased much of the oil springs area. The discovery well was completed in August 1913, and the rush was on. Healdton proved to be one of Oklahoma's richest fields, and in 1919 the nearby Hewitt Pool opened. In 1917 D. W. Ohern and Frank Buttram started active drilling in the Cement Field in Caddo County. To the east in Garvin County Magnolia Petroleum Company uncovered the Eola or Robberson Field in 1920.

Development of the huge Hugoton-Guymon Gas Field started in the Texas Panhandle in 1920 and spread northward across the Oklahoma Panhandle into southwestern Kansas. The field proved to be one of the nation's largest natural gas discoveries and a principal source of helium. During the Roaring Twenties perhaps the greatest discovery was made at Seminole. Drilling started near Wewoka as early as 1902, and several fields were located in the following decades. In 1926-27 five of the state's largest discoveries were located-Earlsboro, Seminole City, Bowlegs, Searight, and Little River. Fifty pools were located in and around Seminole County, and between July 1926 and September 1929 these fields produced more than 250 million barrels of oil.

Seminole was followed by the huge discovery at Oklahoma City in 1928. Oklahoma City's first oil well was drilled in 1889 shortly after the run; the driller, however, was looking for water and abandoned the well. The Foster Petroleum Company and ITIO brought in the Oklahoma City Number One as a gusher on December 4, 1928.

The discovery of the Oklahoma City Field marked the transition from creekology to modern geology. Oklahoma had a long history of such eminent geologists as Charles N. Gould, who began his work with the Oklahoma Territorial Geological and Natural History Survey in 1900 and later headed the Oklahoma Geological Survey. Gould was a pioneer in the scientific exploration of oilproducing regions. Also important in the history of petroleum exploration was the work of John C. Karcher, Irving Perrine, and W. P. Haseman, who conducted the first successful reflection seismograph experiments in Oklahoma in 1921.

In 1901 the University of Oklahoma began offering courses in geology, and as early as 1913 the Gypsy Oil Company created a separate geological department under M. J. Munn. In 1915 Everette L. DeGolyer, Charles H. Tyler of the University of Oklahoma, J. Elmer Thomas,

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Photo courtesy of Oklahoma Historical Society

Oilfield workers proudly pose next to their rig whichis "ready to drill." This rig was outside of Bartlesville.

Weekender, June 29, 2019, Weatherford Daily News • 9



### **Serving Western Oklahoma for 50 Years**

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and James H. Gardner instigated plans to form a professional organization of geologists. A call went out to interested individuals, and in February 1917 the Southwestern Association of Petroleum Geologists, later renamed the American Association of Petroleum Geologists, was formed with headquarters in Tulsa. A decade later, in 1928 the University of Tulsa opened its School of Petroleum Geology. Nonetheless, prior to the Oklahoma City discovery many oilmen continued to rely on surface indicators and not on geology. However, when Dean A. McGee successfully used scientific geology to unravel the mystery of the Oklahoma City Field, oilmen learned that science held the key to finding oil.

Large pockets of high-pressure natural gas and huge oil production characterized Oklahoma City. One well, the Number One McBeth, had a daily flow of 101,002 barrels of oil. When gas pockets were unexpectedly encountered, the result was a runaway gusher that often sprayed entire neighborhoods before the crew controlled the well. The most famous of these was the Wild Mary Sudik. For ten days between March 26 and April 4, 1930, the Wild Mary threw twenty thousand barrels of oil and two hundred million cubic feet of natural gas into the air daily as workmen struggled to cap the well. A black film of oil settled on Norman, eleven miles to the south, and when the wind shifted, the mist fell on Nicoma Park, eleven miles to the north.

Oklahoma scientists also were in the forefront of the petrochemical industry. In 1927 John C. Walker of Empire Gas and Fuel Company (later Cities Service Oil Company) worked to eliminate the problem of rust in the company's natural gas pipeline system. Walker hoped to remove oxygen from the gas by promoting oxidation at high temperature, but the experiment unexpectedly created formaldehyde, methanol, acetone, acetaldehyde, higher alcohols, ketones,

### Natural gas

and aldehydes. Walker unwittingly had given birth to Oklahoma's petrochemical industry. Cities Service's plant at Tallant, the state's first such facility, became known as "the petrochemical patriarch of the Southwest."

The opening of the Seminole and Oklahoma City fields coincided with the onset of the Great Depression. With the economic downturn and the glut of oil on the market, the price of crude plunged. Arguing that he was preserving the state's oil and gas resources for future generations Gov. William H. Murray ordered a prorationing program and sent the Oklahoma National Guard into the fields to force compliance in 1931 and 1932. When the price of oil rose and the state legislature adopted a comprehensive oil code to control overproduction, the troops were removed. In 1936 Gov. Ernest W. Marland declared martial law around the State Capitol in a dispute with Oklahoma City officials over drilling on state property.

There were several other pre–World War II discoveries. The Edmond Field opened in 1930, and the Fitts Field opened in 1933. By 1935 forty-four of the state's seventy-seven counties were producing oil in commercial quantity from 408 named pools. That same year the Oklahoma Corporation Commission was authorized to establish ten-acre drilling sites, and the Oklahoma City-based Interstate Oil Compact Commission was organized. In 1937 one of the first large secondary recovery programs was implemented in Nowata, Osage, Rogers, Tulsa, and Washington counties.

The huge demand for petroleum during World War II spurred additional drilling, and in 1941 forty-one new fields were located in Oklahoma. At the same time the production of liquefied natural gas reached new heights. In 1943 Ace Gutowsky located the West Edmond Field using modern seismographic equipment. In 1947 the discovery well of the Golden Trend, which includes twentytwo separate fields, was completed. The West Short Junction Field was opened in 1948.

However, beginning in the 1950s the rate of depletion exceeded discoveries. The only major find during this period was the Sooner Trend. Some drilling activity continued as fields were expanded and secondary recovery operations in older producing areas were undertaken. Many major oil companies began moving overseas. In foreign countries the technological innovation of Oklahoma-based companies such as Kerr-McGee and Reading and Bates made possible the economical development of potentially oil-rich areas once considered impenetrable.

The trend was reversed with the Arab oil embargo in the early 1970s and the deregulation of deep natural gas. The development of the Deep Anadarko Basin in southwestern Oklahoma triggered a new oil-boom era when Robert A. Hefner III, began an extensive drilling program in the area around Elk City. Once again Oklahoma boomed as oilmen rushed to the state as hundreds of millions of dollars poured from the earth.

However, in the early 1980s the boom "busted." In 1982 Oklahoma had its first failure of revenue in state history. By 1999 production had declined markedly, dropping to about 40 percent of the 1986 level. Concomitantly, employment fell, and at the end of the twentieth century only one in sixty workers had petroleum industry–related jobs. By the close of the twentieth century, Oklahoma's oil economy had rebounded; however, many major companies had begun abandoning the state as overseas production came to dominate the world's energy supply. Nonetheless, the energy industry continued to be a cornerstone of the state's economy, producing in excess of \$3.3 billion in the year 2000.

Kenny A. Franks, "Petroleum Industry," The Encyclopedia of Oklahoma History and Culture

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commercial value, the gross production taxes levied on it have helped fund the state government and also has provided a major source of income for the Oklahoma Teachers' Retirement System. According to the Oklahoma Tax Commission, in the first ten months of the year 2000, 228,039,837 mcf (thousand cubic feet) of casinghead gas and 1,183,720,664 mcf of natural gas were produced. Since casinghead and natural gas figures are combined for gross production tax purposes, Oklahoma collected a total of \$291,000,156 in taxes on this ten-month production. This statistic alone illustrates the economic significance of natural gas for Oklahoma.

Ken Anderson, "Natural Gas," The Encyclopedia of Oklahoma History and Culture

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If you want to know who ASAP Energy Inc. is, you need to know President Rick Koch. Koch has over 30 years of experience as an entrepreneur in retail. He opened his first gasoline service station in 1979 at only 18 years of age. That year, gasoline skyrocketed to \$1.25 per gallon. With his father and brother helping in the business, the Kochs soon developed a reputation for quality service, attention to detail, follow through, a great attitude, and a safe/clean retail operation.

In 1985, Koch Oil Company began selling wholesale fuel to local retailers. In a short time, Koch Oil Company was the wholesaler to go to when you needed fast, dependable, service "anywhere-anytime."

Koch Oil soon outgrew its location and acquired its new headquarters east of Weatherford. The location on Route 66 seemed to be fitting for this pioneer company with bright visions of the future and a tenacious attitude of service. As business expanded, so has the property on Route 66. The headquarters are located at 1501 N Airport Road in Weatherford, acquired in 1997. Rick Koch Oil Company acquired ASAP fuels in 2010. In May 2011, RKO ASAP changed its name to ASAP Energy Inc.

Koch always had the right combination of quality service and quality products at the right price. He also went the extra mile to make sure the customer was taken care of and that they got what they needed, when they needed it. This attitude is still carried today at ASAP Energy Inc.

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#### Rick Koch opened the first ASAP service station in 1979. ASAP Energy Inc. is set to open their 18th service station in Weatherford in

2020.

## History of Oklahoma pipelines

Bobby D. Weaver Oklahoma Historical Society

Pipelines provide the most efficient method of transporting liquid and gas petroleum products and as such move approximately two-thirds of the nation's petroleum production. At the beginning of the twenty-first century Oklahoma ranked seventh among oil-producing states and, with 68,008 miles operating within its boundaries, served as the nation's major crossroads for pipelines. The major lines included fifteen crude-oil lines, six that carried refined product, and seven that transported liquified gas. There was also a massive network of smaller lines that serviced the various oil fields and provided product to the state's cities and towns.

That complex system comprises an upstream portion and a downstream portion. The upstream system starts with gathering pipelines of a small diameter that takes the oil from the wells to field storage tanks. From there the oil is pumped through larger gathering lines to be concentrated at storage facilities, usually termed tank farms, from which it enters the major pipelines for transport to refineries. The downstream system begins after the oil is refined and the resulting product, such as gasoline, home-heating oil, jet fuel, and a host of others, is pumped to depots for wholesale and retail distribution. Taken as a whole, the entire complex has remained a major employer in the state of Oklahoma.

The first oil pipeline built in Oklahoma developed in 1900 when the Phoenix Oil Company laid a twoinch line from its wells in present Osage County to the nearby railroad loading facility at Bartlesville. Despite continuing small oil strikes in the region, no major pipelines were built, due largely to the legal difficulties of securing permission to cross Indian lands. Then in 1906 the massive Glenn Pool Field was discovered near Tulsa, and the situation changed. That year the Prairie Oil and Gas Company built a major pipeline from the Glenn Pool to a Standard Oil Company refinery in Indiana.

Overproduction in the Glenn Pool field overwhelmed railroad oil-loading terminals at Jenks and the newly created Kiefer. As a result, the price of the low-sulphur-content oil, which was ideal for refining, dropped to less than a dollar per barrel. With that incentive and the coming of Oklahoma statehood in 1907, both the Gulf Oil Corporation and the Texas Company (Texaco) laid major eight-inch lines from the Glenn Pool to their Gulf Coast refineries in the Beaumont, Texas, area. That development set the pattern for a tremendous expansion of the pipeline network throughout Oklahoma as new fields were discovered, refineries were built, and demand for petroleum products grew. Subsequently, the second state legislature in 1909 granted the Oklahoma Corporation Commission (OCC) the power to regulate oil pipeline companies within the state, and the OCC has retained that authority to the present.

Bobby D. Weaver, "Pipelines," The Encyclopedia of Oklahoma History and Culture

Getty Images The Oklahoma oil and gas industry has a rich history and has helped to create many job opportunities within the state.





Courtesy of Oklahoma Historical Society

A mud gusher from a seismograph crew's dynamite charge at the fairgrounds signaled the start of a search for oil to be carried on at the Oklahoma Semi-Centennial exposition, June 14 to July 7, 1957.

# Nalco Champion serves the industry for 90 years

#### Performing

The legacy on land is impressive but it's what Nalco Champion does with it that matters: When Nalco deploys ots expertise to the well site and in laboratories, the company is there to solve the toughest challenges. Every time.

From out people to out products to out customers, Nalco is performance focused. The broad experience and deep network provide a foundation of market intelligence, ensuring the creation of relevant innovation. Innovations that bring customers immediate results and longterm value from their operations and out partnerships with them. For high-density drilling operations and multipad site programs, this means precise chemistry that supports completions, for rapid clean out and maximum, sustained well flow.

**Delivering** Nalco delivers precise chemical treatments, testing, and innovative technology to the well site operations of more than 160 countries worldwide, including some of the most dynamic unconventional fields.

As an autonomous, chemically-focused global enterprise, Nalco has unmatched procurement power that translates to security of supply and peace of mind for the company's customers. Integrity drives out supply chain, so products are delivered where they are needed when promised with trusted quality.

#### Investing

Nalco is committed to the global oil and gas industry and work with its customers to ensure value is delivered every step of the way. Through established partnerships, Nalco is working on solutions to today's issues, before they become tomorrow's problems. Nalco Champion prides itself on the ability to bring value to all projects, regardless of size or scope. The company backs this up with dedicated assets on the ground and lab facilities across the globe.

Nalco is the world leader in produced water treatment. The company dominates this market by not just understanding the chemistry, but the effects of temperature, transportation, storage and treatment on water resources. contamination, plugging and other hazards that threaten flow. Nalco partners with clients of all sizes. The company's solutions are modular, allowing it to scale up or scale down as the situation demands. Nalco adapts to the customer needs not just in welltreatment solutions, but in the economic and value proposition the company's solutions

perspective anticipates

This holistic

create.



Provided

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# WE PERFORM WE DELIVER WE INVEST

### **NALCO** Champion

An Ecolab Company