

A historical review of oil and gas

From the early days of civilisation mankind discovered the high value and diversified use of oil and gas and utilised it where ever he could get hold of it.

Around 300 B.C., Alexander the Great supposedly used burning oil or "petroleum" to frighten the war elephants of his enemies.

Marco Polo during his trips in the 13th Century recorded oil seeping from underground in the Caspian Sea region. Inscriptions found by archeologists indicate that oil and asphalt (a hard form of oil) were even used in 4000 B.C. in this area. Asphalt was also used by the ancient Egyptians to embalm mummies.

Ruins of early ships found by archeologists indicate that those vessels were caulked (cracks sealed to keep water out) with a form of asphalt, sometimes called bitumen or pitch.

In what is now the United States, petroleum was reported by Juan Rodriquez, a Spanish explorer, in 1542 near Santa Barbara, California. Oil residues from surface seepages near Nacogdoches, Texas, were used to repair the boats of the DeSoto expedition in 1593.

History of Oil&Gas

- Oil found at surface was used already some 4,000 years ago
- Chinese drilled/dug for oil for illumination purposes
- Quitinoil of Tegernsee/Germany used by monks for healing purposes was first oil use in Europe, 1430
- Alsace, oil production from oily sands being mined and cooked in big pans
- 1857, Bucharest, first European city with oil illumination, distillery
- 1859, Titusville, Pennsylvania, first oil well by Laurentine Drake → oil fever
- 1859, Celle, Germany's first oil well, commercially unimportant, too deep.
- 1900, USA and Russia were the biggest and most important oil producers
- 1901, Spindeltop, Texas, first oil well "Lucas" "drilled" with rotary table
- 1908, Oil discovery in Iran, Darcy contract, Masjid-l Sulayman
- 1927, Iraq; 1932, Bahrain; 1936, Saudi Arabia
- 1938, Kuwait; 1939, Qatar; 1958, UA Emirates
- 1962, Oman and around the entire world

Today it is not really a question whether or not here is petroleum but rather how expensive it is to produce it.

Refinery 1906



Drawing of the former Mobil refinery in Wedel near Hamburg. This first German mineral oil refinery went on stream in the fall of 1906, with a processing capacity of 30,000 tonnes per annum at the time.

In the early years of the industry, a refinery was little more than a still where the crude was boiled and then the different products were condensed out at various temperatures.

The skills required were not all that different from making moonshine, which is why whiskey makers went into oil refining in the nineteenth century. Today, a refinery is often a large, complex, sophisticated, and expensive manufacturing facility.

Wooden derricks and iron men



Mobil Oil Germany, Wedel near Hamburg 1906



Austria 1930 OMV

The early days of oil exploration involved simple techniques and high risks requiring tough men.

Same like wooden ships required iron men, wooden derricks required iron men too.

Who does not want to be leave it?

Who wants to join in?

Today the petroleum industry is leading in terms of personnel and operational safety as well as environmental protection.

However, the development to that level was very tough.

The picture on the right is not a sculpture, but a man at a wellhead cleaning a cable being pulled out of a well with heavy oil.

Of course today a series of line wipers are used to keep the rig as clean as possible however, heavy oils still cause a big mess.



Do you wonder why they are called “rough necks”?

Horse head pumps



Courtesy of Mobil Oil Corp.

Oil pumps in Germany 1930



Right from the beginning the horse head pumps were used to produce oil to surface. The photo shows that the wells were drilled very close together. “When my neighbour got oil in his yard, than we must have some here too!”

What is a barrel?

When oil first started flowing out of the wells in western Pennsylvania in the 1860's, desperate oil men ransacked farmhouses, barns, cellars, stores, and trash yards for any kind of [barrel-molasses](#), beer, whiskey, cider, turpentine, sale, fish, and whatever else was handy. But as coopers began to make barrels specially for the oil trade, one standard size emerged, and that size continues to be the norm to the present. It is [42 gallons or 158.979 litres](#).



The number was borrowed from England, where a statute in 1482 under King Edward IV established 42 gallons as the standard size barrel for herring in order to end skullduggery and "divers deceits" in the packing of fish. At the time, herring fishing was the biggest business in the North Sea. By 1866, seven years after Colonel Drake drilled his well, Pennsylvania producers confirmed the 42-gallon barrel as their standard, as opposed to , say, the 31 1/2 gallon wine barrel or the 32 gallon London ale barrel or the 36 gallon London beer barrel.

And that, in a roundabout way, brings us right back to the present day. For the 42 gallon barrel is still used as the standard measurement, even if not as a physical receptacle, in the biggest business in the North Sea—which today of course in not herring, but oil.

This article taken from "The Prize" by Daniel Yergin

The beginning



1859, Titusville, Pennsylvania

See additional text under notes

Today's oil industry actually began in 1859.

In those days, an oily fuel for lamps and lubricants was made by melting the fat of whales. But whale oil had become expensive.

A company called the Pennsylvania Rock Oil Company became interested in digging for natural oil.

Oily rocks had been encountered in Pennsylvania by people drilling for salt. At first, this "rock oil" had been used as a medicine, but if enough of it could be found, perhaps it might be a cheaper substitute for whale oil.

Lucas-1

The history of modern oil drilling began Jan. 10th 1901 at 10:30 in Spindeltop, a hill close to Beaumont Texas (50 miles east of Houston).

Rotary drilling technique managed to drill as deep as 1020 ft (330 m) in only three month.

First time in recorded history a high pressure petroleum reservoir was hit.

As there were no pressure control devices developed suddenly oil shot up with a tremendous row.

Almost, as a demonstration of power the blowout or “gusher” (a Russian word for fountain) pushed the entire drill string - 300 m of drill pipe - out of the well into the sky.

For many days Lucas-1 blew at a rate of 100,000 barrel oil per day, more than all known well together at the time.



Photo at Spindeltop museum RB

Boom town

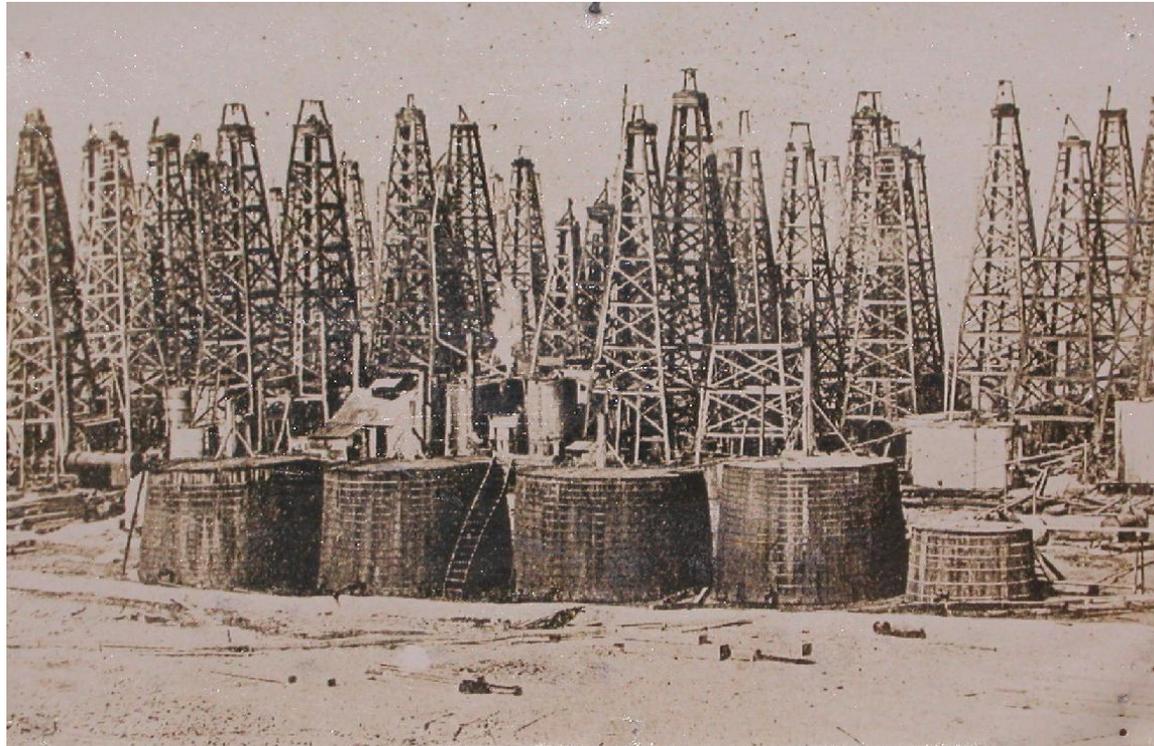


Photo at Spindeltop museum

Only 1 year later Spindeltop had developed to a forest of derricks. Drilling licenses became very expensive and were reduced down to a minimum, the size of a rig floor.

The recovered oil was collected in wooden tanks seen in the front.

Spindeltop bonanza

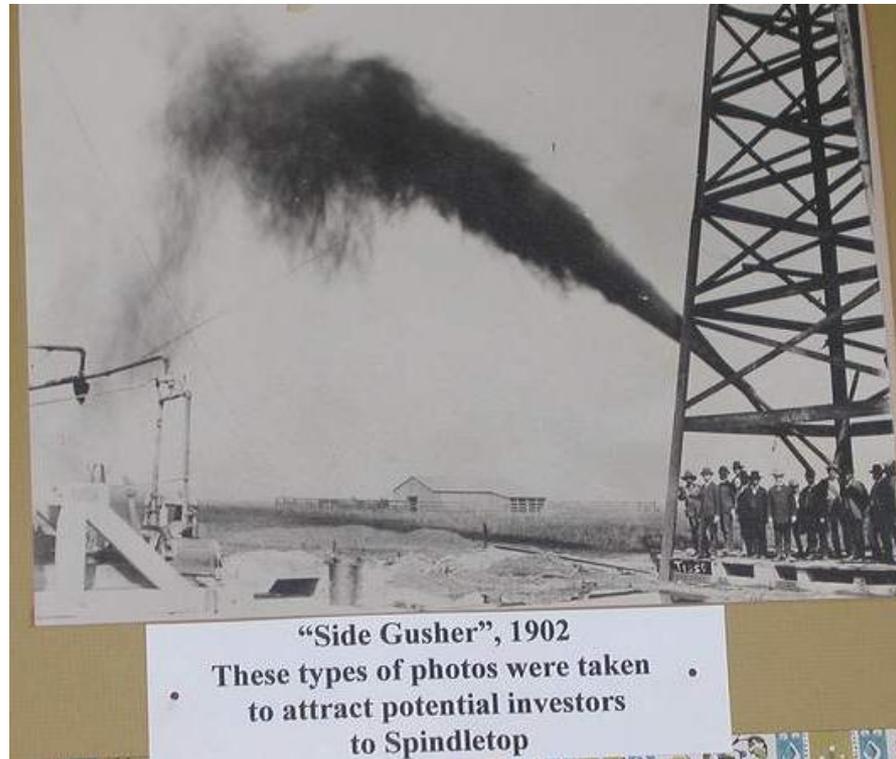


Photo at Spindletop museum.

Shortly after the photo was taken, the oil got ignited and a huge fire developed lasting for many days, burning down the entire forest of derricks.

From history to future industry

Today the oil and gas industry is the largest in the world. The confirmed recoverable resources last for many years to come. Future recovery techniques combined with a high oil price will allow further exploitation of today not commercially interesting oil fields.

So far some 1,000,000 wells have been drilled of which some 500,000 are still producing. These impressive numbers are enlarged every year by some 30,000 new wells.

Keeping in mind that most oil wells are without any measuring instrumentation we see the huge potential also for us.



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