

THE HISTORY OF THE INDUSTRY

Establishment of industrial oil production in the Carpathian region as a prerequisite for the creation of the Museum of Oil Fields of Galicia

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The oil has been discussed in the Carpathian region for a long time. One of the first written mentions of the presence of oil in the Carpathian subsoil is found in the works of Jan Dlugosz (1415 - 1480), a Polish historian, diplomat, Archbishop of Lviv, the author of the History of Poland in 12 volumes. The rocky oil (one of its former names) emerged on the face of the mountain streams, rivers and lakes. In those days it was mined in a simple primitive way, using the bundles of long grass or other well-absorbing materials, the oil was collected from the surface of water bodies and pressed into buckets. The people who collected oil in this way were called "lybaks". In the 15th and 16th centuries the oil manifestations were observed near the Carpathian villages of Nebyliv, Kosmach Starunia, Molodkiv, Pidlyvche, Perehinske, Pryslup, Lukva, thresholds, Lyucha, Birch, Stebnyk, Bytkiv, Pasichna and others. The households used oil as a therapeutic ointment, the product to lubricate the tool carts, drying while dressing leather, and later it was used for street lighting etc.

The beginning of the industrial oil production in the region is believed the year of 1771. At that time in the village of Sloboda-Rungurska at Kolomyia district the oil was received from the well dug for the extraction of salt at the depth of 24 m. Subsequently, such wells for oil production (or oil cistern) began to appear in the other parts of the Carpathians, i.e. in the village of Ripne (1786), in the village of Naguyevychi (1792), near Boryslav (1820's) etc. with the time passing by the oil reservoir got exhausted, so the wells were deepened. Currently their maximum depth is not established, but this method of production was dangerous to the miners. Frequently the rock falls, explosions of natural gas, and equipment falling caused injury to or even death of employees. One of these cases was described by the famous Ukrainian writer Ivan Franko in his story Boryslav Laughs.



Fig. 1. Manual oil collection

By the mid-nineteenth century, the oil demand was low because of the narrow scope of its economic use. For the same reasons the oil extraction technologies were not developed. The impetus for initiating the large-scale oil development in Galicia in particular and Europe in general was the invention of Jan Zeg and Ignatius Lukasiewicz who obtained the kerosene in the laboratory of the pharmacy "Under the gold star" when conducting experiments on the oil fractional distillation in 1853. They proposed the idea to use kerosene in a special lamp for lighting.

These innovating ways of oil use led to the rapid growth in demand for oil, but the methods of its production were gradually pushed back by the innovating technologies, because they did not allow to keep pace with the increased demand. In the second half of the nineteenth century the drilling attempts were started in the Carpathian oil-bearing areas. The first oil wells in Boryslav with the depth of 250 m were drilled in 1862, with the depth of 75 m in the village of Sloboda-Rungurska in 1872, and in the village of Ripne in 1887. The important role in the development of oil and gas production industry of Galicia was played by disclosure of Skhidnytsia deposit. The beginning of oil industry in Skhidnytsya is associated with

digging of wells here in places of oil manifestation on the surface in 1859, and in 1872 the first well was drilled here. The implementation of drilling at great depths allowed discovering the new fields; the first oil-bearing well was drilled in Bytkiv in 1899. Since then, the Bytkiv oil industry traces its history.



Fig. 2. General view of Bytkiv oil field



Fig. 3. Measures to increase the oil production (1970's)

First the wells were drilled by manual impact way, and later they began to use the mechanical impact drilling using the steam engines (locomobiles). The foreign methods were widely implemented in fields, gradually improving and adapting them to geological conditions of the Carpathians. For example, the Polish-Canadian drilling method appeared this way.

The oil production method was changed too. For lifting of oil on to the top of the wells that have ceased to gush the bailer was used. Later this method was replaced by swabbing. Subsequently, oil was pumped. At the end of the nineteenth and the beginning of the twentieth century the application of group drives of the pumping installations (kirates) was used at oil fields, which enabled simultaneously driving several wells equipped with immersed pumps from one motor. The oil was also produced with a gas-lift method. The first attempts of its production using the compressed gas energy were made in Skhidnytsya, Galicia, in 1900.

Along with the increasing oil production volumes, the refineries were built. One of the first refineries was built in 1882 in Pechenizhyn (near Coloma), and in 1910 a part of the plant equipment was moved to Nadvirna. At the same time a large oil refining plant was built in Drohobych.

The introduction of new technologies both in drilling and in mining provided a significant increase in oil production in the early twentieth century. In 1909, Galicia ranked 3rd in the world after the U.S. and Russia by volume of oil production. Its indicator reached 2 million tons. The oil production center of those times in the Carpathian region was Boryslav.

In the early twentieth century the oil fields belonged to the most high-tech industries. Each oil field has its own smithery and mechanical workshop; the rail road was constructed to deliver the equipment to the wells. The autonomous power stations were built, such as gas power station in Bytkiv (1923).

The contemporary methods of exploitation of oil deposits, which were inherently barbaric, led to the fact that close to 40's of the twentieth century the volumes of oil production began to fall. The separate oil industries, including Sloboda-Rungurska field, ceased to exist completely. This also contributed to the fact that the new drilling and oil

extraction technologies widely used in the world at that time, including the rotary drilling, rarely found their application in Galicia.

The second high noon of the oil and gas industry in the Carpathian region occurred in the 50's of the twentieth century. At that time, all oil fields of the Carpathian region moved to Ukrnaftavydobuvannya trust. The complex of geological surveying works contributed to the discovery of many new fields; a surge of oil from the Deep Fold of Bytkiv-Babchenske field was obtained in 1951, and Dolynske, North Dolynske, Starosambirskie, Gvizdetske, Pnivske, Pasichnyanske, Spasske, Strutynske, Oriv-Ulychnyanske, and Stynavske fields were developed. The widespread introduction of the new drilling methods, intensification of fluids influx and production was started.

Today the oil companies of Galicia have a positive experience of more than two centuries' management. Still, unfortunately, we have to state that there is still no institution in the territory which would retain and compile the data about the formation and development of industrial oil and gas production here for future generations. In our opinion, such an establishment should become the new Museum of Oil Fields of Galicia. After all, its absence has already caused the irreversible loss of many documents, models of machinery (oil equipment, drilling tools, special mechanisms, and mining equipment).

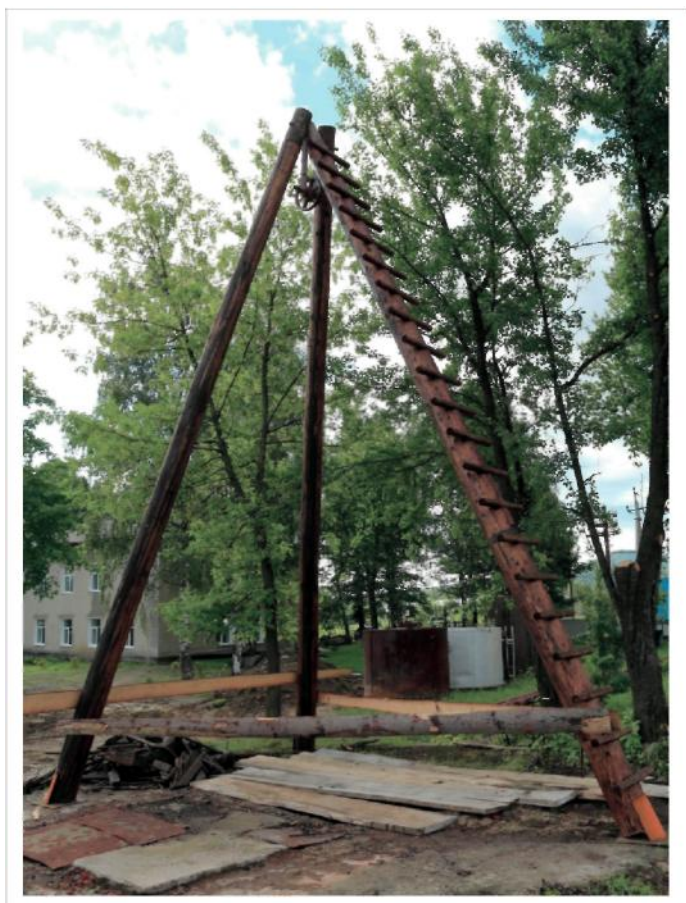


Fig. 4. Installation of a new exhibit - a tripod for oil production

Most of the machinery was disposed, and a small part was taken abroad, where it entered the "golden fund" of museum collections. For example, a real treasure of the exhibition and funds of the Museum of Oil and Gas Industry named after Lukasiewicz in Bubrka (Poland) are the documents and equipment from Boryslav and Bytkiv oil fields, which are proudly exhibited as historical objects of the Polish national oil and gas production industry.

Drawing the public attention to the problem of annual reduction of petroleum equipment, machinery, buildings, structures and other oil production facilities having an invaluable historical, cultural, scientific and technical information and, in general, is the heritage of all previous generations of petroleum industry employees, we realize that without proper accounting and preservation, which is one of the priorities of the current and future generations of oil industry employees, these items of the museum value may be lost forever, which is unacceptable.

Realizing the importance of research of the hydrocarbon production history, in order to preserve the historical heritage of the territory, a public organization Institute of History of Nadvirna Oilfield Area was created in 2012. It included the oil specialists of Nadvirnaftogas OGPD, veterans and retirees of the enterprise, as well as many active citizens, including the regional ethnographers and historians. The very first and the main task of the organization is to create a museum of History of Nadvirna Oilfield Area, renamed into the Museum of Galician Oil Fields.

There are a lot of achievements during the year; a number of models of the oil equipment of the nineteenth and twentieth centuries were created, a number of scientific expeditions were conducted, many archival documents were found, and the work at the creation of the museum under the open sky is underway.

We believe that the museum will become a bridge between the past and the future of oil and gas industry and a testimony of continuity of the best traditions of all generations of the oil employees in Galicia.

Get involved in preserving the history of the oil fields of Galicia and the historical memory of the best representatives of the petroleum refining industry of Ukraine. See the detailed information on the museum web-site at <http://oilmuseum.org.ua/>

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