Fedir Lysenko and Discovery of the Dnipro-Donets Petroleum Super-Basin: The Lost Name of the Pioneer

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Search and Discovery Article #70413 (2024)**
Posted June 25, 2024

*Adapted from extended abstract based on oral presentation given at AAPG Europe Regional Conference, May 28-29, 2024, Krakow City, Poland.
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Abstract

The Pripyat-Dnipro-Donets late Devonian paleo-rift basin (DDB) is the number one oil and gas producing hydrocarbon province in Ukraine, and Belarus, too. Almost 300 oil and gas fields have been discovered in the Ukrainian part of this basin. Main producing reservoirs are Carboniferous and Permian, and to much lesser degree the Triassic and Jurassic age. Cumulative production totaled ~ ca. 3.3 TCM of gas and more than 70 MMT of oil and condensate. Devonian targets are still recognized as the most challenging, despite ca. 60 years of exploration efforts by several generations of petroleum geologists. The first sub-commercial oil within the DDB was produced from the Devonian caprock of the Romny salt diapir in 1936. This first discovery was result of work by the exploration team led by Ukrainian geologist Prof. Fedir O. Lysenko (1887-1938). Drilling was started at Mount Zolotukha, Chernihiv Region (now Sumy Region), in order to discover gypsum and potassium salts. In the summer of 1936, the first oil shows were discovered in the core, and a year later, in 1937, during the test of the well No. 2-bis of Romny, the first sub-commercial oil was encountered. This marked the discovery of a new petroleum province in Europe.

Due to a terrible irony of fate – Fedir Lysenko did not learn about his discovery because he was arrested on May 22, 1937 in the hospital ward on charges of ‘sabotage and intentional damage’ because of drilling accidents. His library, his scientific works, and personal correspondences were also seized. On September 3, 1937 Lysenko was sentenced by Stalin’s ‘troika’ to be executed. His discovery was insidiously appropriated by other people in Russia, first of all, Aleksandr Schlichter, and these narratives are still pervasive. Not until November 28, 1956 was he posthumously rehabilitated, but the Soviets did not recognize his great scientific achievements.

Fedir Lysenko was an extraordinary, versatile, and creative person. He simultaneously worked in many directions: he headed the Sector of Non-metallic minerals at the Institute of Geology of the Academy of Sciences of the Ukrainian SSR. He also headed the Mineral exploration
department of the Ukrainian Geological Committee, the Mining and geological terminology section at the Institute of Ukrainian Scientific Language, and taught a course on plastic materials at the Kyiv Art Institute.

This story is a tribute to Dr Vasyl Sozansky (1932–2014), a well-known Ukrainian petroleum geologist and abiotic petroleum origin supporter, who studied the fate of Prof. Lysenko and restored the hidden historical justice.

Keywords: Ukraine, Devonian caprock, first oil, Stalin’s ‘troika’, stolen discovery.

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Abstract

Fedir Lysenko, a prominent Ukrainian geologist, was one of the key figures in the discovery of the Dnipro-Donets petroleum super-basin. This discovery played a significant role in the development of Ukraine's oil industry. The article discusses Lysenko's contributions to the field, the conditions for the establishment and development of the Ukrainian oil industry, and the challenges faced by Lysenko during his time.

Keywords: Fedir Lysenko, Dnipro-Donets petroleum super-basin, Ukrainian oil industry, political repression.

Introduction

Fedir Lysenko was a prominent Ukrainian geologist whose work significantly contributed to the discovery of the Dnipro-Donets petroleum super-basin. This discovery played a pivotal role in the development of Ukraine's oil industry, and Lysenko's contributions are often overlooked. This article aims to shed light on Lysenko's role in the discovery and his subsequent repression by the Soviet authorities.

Lysenko's Contributions

Lysenko's work was crucial in the discovery of the Dnipro-Donets petroleum super-basin. In 1937, during the test of the well No. 2-bis of Romny, the first sub-commercial oil was encountered. This marked the discovery of a new petroleum province in Europe. Lysenko's work was characterized by a deep understanding of the geological structure and potential for oil reserves.

Conditions for the Establishment of the Oil Industry

The establishment of the oil industry in Ukraine faced numerous challenges. The Ukrainian Geological Trust was summoned to the People's Commissar of Heavy Industry of the USSR, Sergo Ordzhonikidze, and the Ukrainian Geological Service was disestablished. The geological structure of the Dnipro-Donets super-basin was complex, with reservoirs of Carboniferous and Permian age, and to much lesser of Triassic and Jurassic age. Cumulated production totaled to ca. 3.3 TCM of gas and more 70 MMT of oil and condensate. Devonian targets are still recognized as the most challenging, despite of ca. 60 years.

The Ukrainian gas was supplied to Moscow, Leningrad, Minsk, Riga, Vilnius, Chisinau, and other cities in the country. For decades, Ukraine was considered the center of the birth of the world's oil industry, has high oil and gas potential, and therefore in the future will rightfully become the world's leading oil-producing state.

The Political Repression

Fedir Lysenko was not immune to political repression. He was sentenced to death and exiled to Butyrka prison, where he fell into the hands of the NKVD investigators. While in the hospital, Lysenko continued to develop materials on the oil potential of the Romny structure, prepared a scientific report on the first Ukrainian oil in Romny for the International Geological Congress in Moscow “On the oil and gas content of Ukraine”, and was arrested on the basis of false evidence. The execution of Lysenko was a terrible blow to the Ukrainian oil industry, with more than 100 wells drilled on the Romny structure in different years by the Soviet and Germans (during the WWII), but with no success.

Conclusion

Fedir Lysenko's work and discovery of the Dnipro-Donets petroleum super-basin remain a testament to his contributions to the development of Ukraine's oil industry. His story serves as a reminder of the challenges faced by geologists and the importance of preserving their contributions.

References