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# Research on the Operation of High-Viscosity Deposits

Bekjonov Rozisher Soatmurodovich
Nazarov Sanjar Soibnazar ugli
Sheraliyev Elbek Bakhriddinovich
Karshi State Technical University, Karshi Uzbekistan


**Abstract**

**Oil and gas have been known to humanity for a long time, and the consumption of products obtained from them in the national economy and the need for them have been increasing year by year.Oil has been used in Uzbekistan since ancient times. Due to its characteristic pungent smell, oil has been used in the fight against agricultural pests.**

**Keywords: Field, product, high oil viscosity, carbonate reservoirs, geologic model, waterflooding, kerosene.**

## Introduction

The first oil field in Uzbekistan was opened in 1904, and it was mined from a depth of 278 m in the Chimyon oil field in the Fergana Valley (formerly Vankovsk). About 130 tons of oil were released from it per day. In the same year, an oil refinery was launched near the Altiariq railway station. There are also opinions that the emergence of the oil industry in Uzbekistan begins from this date. Kerosene is mainly obtained from refined oil. Kerosene and residual kerosene were loaded on carts and camels and sold in the markets of Central Asia, Afghanistan, China, to cotton processing factories in Tashkent, Andijan, Kokan, oil growers and residents. Oil residues were used as fuel in railway transport. Later, several mines were opened in the Fergana basin (in the fields of Yorkoton and Moylisoy near Chimyon), the Chimyon-Altiariq oil pipeline was built, and the oil refinery was expanded. During this period, Russian and foreign capital took full control over oil production, oil processing, and sale of oil products. In 1913, a total of 13 thousand tons of oil was extracted. After the October coup in former tsarist Russia, oil fields and oil refining enterprises were transferred to the state, and exploration and operation of oil fields were transferred to the power of the Soviets. In the following years, new oil fields were opened and put into operation quickly. The Altiariq plant has been expanded. In that period, the infrastructure of the oil industry was created in the republic. In 1941, 196,000 tons of oil were extracted, and in 1945, 478,000 tons of oil. By 1950, oil production in Uzbekistan reached 1 million 342 thousand tons. Since the 50s of the 20th century, mechanization tools have been used in oil fields, and turbine drilling has been introduced. In 1959, more than 1 million 460 thousand tons of oil were

extracted from 9 oil fields in Fergana Valley and Surkhandarya Region. At that time, the oil fields found in the Bukhara-Khiva regions were put into operation, and the oil and gas production department was established on their basis. At the beginning of the 70s of the 20th century, oil production decreased as a result of the depletion of reserves in some oil fields. Deep wells had to be dug to find new oil fields. 5,200 m deep oil wells were drilled in Vorukh, 5,670 m in Gumkhana, 5,805 m in Chust-Pop, and 6,006 m in Mingbulok.

As can be seen from the given information, the first oil and gas fields in Uzbekistan were discovered and put into operation in the Fergana swamp. The first use of gas in our republic began in Fergana. In 1944, a gas pipeline was laid from the Andijan mine in the Fergana Valley to the city of Andijan, and in 1951, gas extraction from the Polvontash mine began. In 1933, a deep exploration well was drilled in the Khovdok field in Surkhandarya, and in 1934, oil came out from a depth of 158 m. 75-100 tons of oil per day started coming out of 4 drilled wells. Also, in 1936, the Uchkizil field was opened on the north side of Termiz city, and in 1939, the Kokaydi oil field was opened. Later, Lalmikor, Amudaryo, Koshtor, Mirshodi, Gajak oil and gas fields were explored. After the regions of Fergana and Surkhandarya, geological exploration was carried out in the Bukhara tectonic step of Western Uzbekistan. The history of the composition and development of the gas industry in Uzbekistan began mainly in 1953 with the opening of the first gas field in the Setanlantepa region in the Kyzylkum desert. A large amount of work has been carried out in the oil and gas regions of Bukhara region. On October 17, 1956, a powerful gas fountain erupted from a 600-meter well in Gazli square. With this, a new era has begun in the gas industry of Uzbekistan.

Later, Shortan, Zevarda, Pomiq, Alan, Kokdumaloq, North Ortabuloq, Kuruk mines were discovered and put into operation in the Bukhara-Khiva region.

In the years of independence, a number of gas condensate fields such as Urga, Sharqiy Berdakh, Uchsoy, Surgil were discovered in Ustyurt region, and some of them were put into operation. It is appropriate to directly connect the development and progress of the oil and gas industry in

Uzbekistan with the independence of our Republic and reflect on the significant achievements made in this field in the following years.

After the independence of the Republic of Uzbekistan, the development of the oil and gas industry became an important issue. On December 23, 1992, the oil and gas industry and all related enterprises and organizations were united under a single management and the Uzbekneftgaz Corporation was established. In 1993, oil erupted from the very deep layers of the Fergana basin (Mingbulok structure) (exploration and drilling operations are ongoing). The oil industry of the republic has the ability to fully satisfy the oil requirements of the national economy. In particular, after the opening of the Kokdumalak oil and gas condensate field, the Bukhara oil refinery was completed in 1996 in the Karavulbazar district of the Bukhara region in cooperation with the French company TEKTER. In 1997, the Uzbek-US joint venture "Uz-Texaco" was established, specializing in the production of high-quality lubricating oils. In 2000, the Fergana oil refinery was completely renovated. This plant specializes in the production of lubricants and fuels, more than 30 technological oils are produced, and the Altiariq oil plant was re-equipped in the fuel direction. High-octane gasoline (including B-92 aviation gasoline), diesel fuel, coke, paraffin, additives to motor oils, motor and drive oils for light vehicles (compressor, turbine, spark oils) at oil refineries of Uzbekistan more than 50 types of oil products such as kerosene, bitumen, fuel oil are produced. New technologies are being mastered in accordance with the program of mastering the production of new types of products. In the following years, the volume of oil (along with gas condensate) production in our country increased dramatically. In 1991-2003, extraction of oil and condensate in Uzbekistan increased 2.8 times (2.81 million tons in 1990, about 7 million tons in 1995, 7.9 million tons of oil and gas with condensate were extracted in 1997) and in 1995 the oil import was terminated and an opportunity was created to ensure the oil independence of the republic. After Uzbekistan achieved oil independence, there was no need to import oil and oil products from abroad. As of January 2001, 13 mines in the conservation area are under exploration. In 2000, Uzbekistan produced 7.53 million tons of oil and gas condensate. 1.7 million in oil refineries. tons of gasoline, 1.9 mln. tons of diesel fuel, 0.4 mln. tons of kerosene, 1.7 mln. tons of fuel oil produced.

The increase in oil production leads to the development of industry, transport and agriculture, while the demand for motor fuels and oils, bitumen and coke, and liquefied natural gas has grown rapidly and petroleum products in order to improve the volume of production, their quality and increase production efficiency, to increase the republic's export of oil products at the expense of internal reserves, to increase the capacity of the oil refining industry, to accelerate the oil refining process, to increase the product type and improve the quality of oil and gas processing and the petrochemical industry are facing huge challenges. The republic's oil refining industry fully meets these needs for now.

Fergana and Altiariq oil refineries are working at full capacity, 8.6 mln. tons, Bukhara oil refinery 5 million per year. tons of oil processing capacity. In recent years, Fergana NQIZ has been supplying Central Asia with lubricants due to the full use of existing capacities.

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