

## CURRENT WORLD TECHNOLOGIES FOR PROCESSING OIL SHALE AND METAL-BEARING OIL SHALE OF THE REPUBLIC OF UZBEKISTAN

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*Abstract.* This paper provides for the existing technologies for the processing of oil shale in the world. Of which there are only two installations, the first in Estonia is the Enfenit technology and the second in the People's Republic of China is the Fushun process. Oil shales in Uzbekistan are distinguished by the fact that in addition to the organic part, the mineral component also contains valuable components. The content of useful components such as vanadium, molybdenum, uranium, amounts of rare earth elements and copper. Which, when processed, require complex industrial solutions.

*Purpose of research.* Study of the current technologies of the world for the processing of oil shale and metal-bearing oil shale of the Republic of Uzbekistan.

*Keywords:* oil shale, gold, useful components, complex, extraction.

Oil shale is mainly considered to be a sedimentary mineral composed of organic matter. Until now, the processing of oil shale into world practices was considered as fuel for heat power plants (Estonia) and the production of shale gases

using hydraulic fracturing (USA). As it is known, today the Enfenit technology operates in two states in Estonia, and the Fushun process in the People's Republic of China [1].

In Estonia, when oil shale is processed, electricity and heat are obtained for heating greenhouses, houses, and others. Residual ash is sent to cement production.

In China, oil shale is processed and shale resin is obtained; the remains (ash) are used in road construction and as additives in the construction industry.

Oil shale resources in the Central Asian region up to a depth of 600 meters from the day surface are determined at 93 billion tons, including 47 billion tons in Uzbekistan [2-6].

It should be noted that the composition of oil shale deposits in the republic differ in the content of individual valuable components, namely vanadium, molybdenum, uranium, the amount of rare earth elements and copper. The content of useful components is presented in Fig.1.

#### MINERAL GRADE DIAGRAM

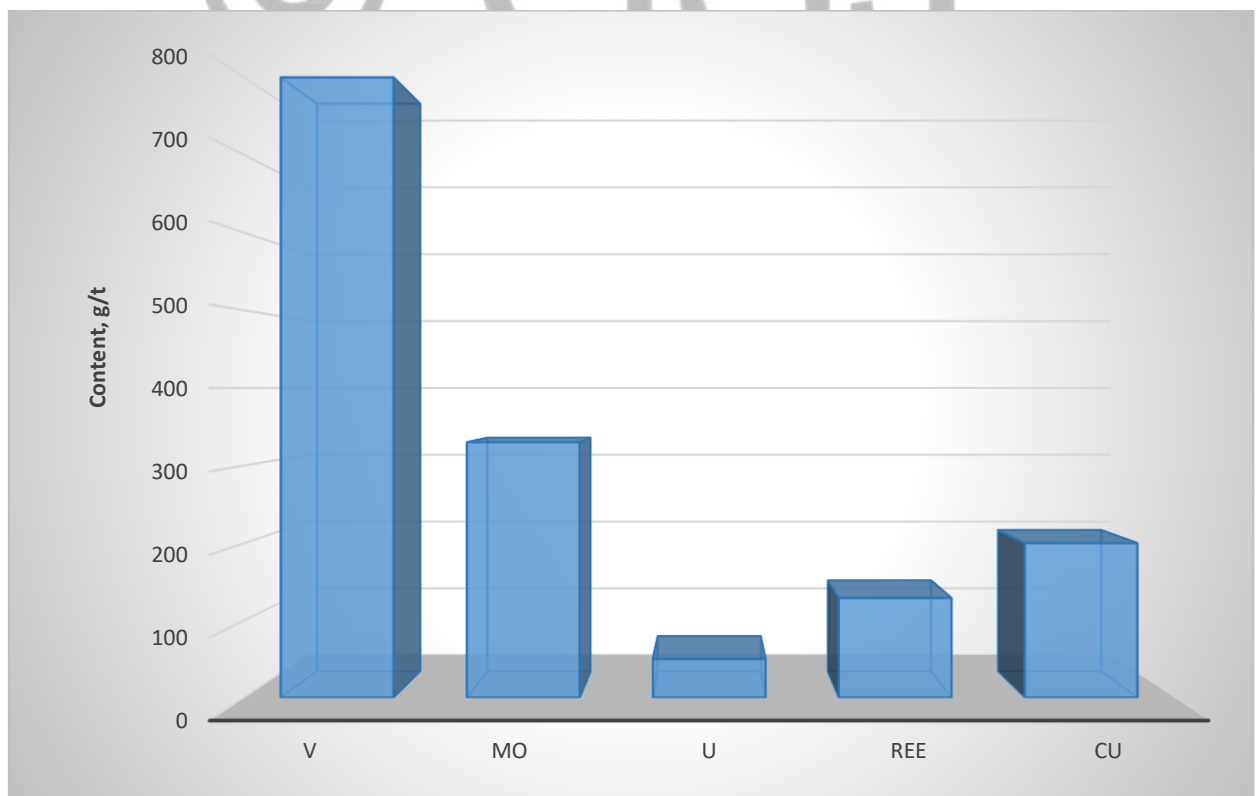


Fig.1.

From the data in Fig. 1 it can be seen that the content of individual useful components, including, in g / t: vanadium 800, molybdenum 330, uranium 50, the sum of rare earth elements 125 and copper 200, respectively.

Thus, the involvement of oil shale deposits of the republic will provide an opportunity not only to obtain shale tar (petroleum products), but also additional minerals.

## BIBLIOGRAPHY

1. Meybaum H., Oil shale volume chain from mining to and products. Estonian oil shale industry. Estonia. Earbook 2018. - P.8-14.

2. Isokov M.U., Turesebekov A.Kh., Borminsky S.I., Vasilevsky B.B., Sharipov Kh.T., Deryugin E.K. Geochemistry and mineralogy of oil shale of Uzbekistan//Ed. B.A. Isakhodzhaev; State Committee for Geology of the Republic of Uzbekistan, State Enterprise "NIIMR", Institute of Geology and Geophysics of the Academy of Sciences of the Republic of Uzbekistan, Ministry of Higher Education and Science of the Republic of Uzbekistan, Tashkent KhTI. -T.: SE "NIIMR". - 2013. S. 78.

3. Isokov M.U., Borminsky S.I., Khozhiev A., On modern technologies for the complex processing of oil shale of the Republic of Uzbekistan // Uzgeoinnovation. – 2012. P. 164-165.

4. Conceptual design of the Sangruntau oil shale processing complex based on UTT-3000 units (based on the Haloter UTT-3000 process) // 17th Intern. conf. "Oil and Gas of Uzbekistan". "Internatijnal Hotel Tashkent", Uzbekistan - Atomenergo-proekt, St. Petersburg. OOO TTU-Ltd. May 15-16, 2013. P.116-124.

5. Golmshtok E.I., Salikhov R.M., Kozhitsev D.V., Petrov M.S., Blokhin A.I., Blokhin S.A., Method and plant for oil shale enrichment // Patent RU 2393199. - Application: 2008131752/15, 08/01/2008.

6. Isokov M.U., Borminsky S.I., Shin V.M., Rustamov A.I. The main directions of geological exploration, laboratory-analytical and technological

research on oil shale in the Republic of Uzbekistan // Sat. abstract Republican sci.-tech. conf. "Priority directions of geological study of subsoil, hydrogeological and engineering-geological studies in the Republic of Uzbekistan". — Tashkent. - 2011. - P. 170–176.

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