

ASSESSMENT OF PERSPECTIVE DEVELOPMENT OF OIL SHALE DEPOSITS

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The usage of oil shale does depend on the oil market at operating characteristics of deposits. The aim of the study is assessment of perspective development of oil shale deposits of world

Mineability of the oil shale depends of three know factors: economic-geographical condition of deposit, mining conditions of deposit and quality of oil shale. The assessment methodology was carried out in eighties in last century and used for evaluating oil shale deposits Former USSR.

In 90-ties last century in Estonian Academy of Science a database of the deposits was created. The database includes general characteristics of oil shale's and related rocks, elemental composition of kerogen, chemical composition of the mineral part of oil shale's. Yield of oil shale retorting products is based on the data of 100 oil shale deposits in 28 countries.

Department of Mining of Tallinn University of Technology modified the methodology and used it for analyzing of perspective deposits of word. Economic-geographical condition of oil shale deposit was estimated by density of population (1/km²) resources of deposit (109 t), stripping ratio or depth rate (H/h), oil shale calorific value (MJ/kg), yield of tar (oil) (%) and sulfur content.

Three categories were used for preliminary classification:

Lime oil shale containing dominantly lime minerals in the ballast matter (>60%), (Israel, Syria and Baltic oil shales)

Marly oil shale, Würtenberg (Germany) and Green River (USA) deposits;

Clayey oil shale containing dominantly clay minerals in the ballast matter (>60%) (Estonian graptolite argillite, Alum shale in Sweden, Volga (Russia), Boltõši (Ukrain), Irarti and Bariba (Brasilia), Maomini (China) and Australia occurrences)

Evaluating oil shale by content of organic matter (>20%), oil yield (>20 % per organic mass) and sulfur content (>2%) the suitable oil production areas count for ¼ of evaluated deposits. The best known of them are Estonia and Leningrad deposits, Green River (USA), Irarti (Brasilia), (Boltysch) Ukrain, Maomin (China) etc. This evaluation excluded the mining conditions of the deposits that have nor been exploited.

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