

OIL SHALE NEWS

UTILIZATION OF WASTE ROCK FROM OIL SHALE MINING

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The most important mineral resource in Estonia is a specific kind of oil shale – kukersite. Waste rock which is produced during oil shale extraction or separation in a plant is usable for different purposes.

The main problem concerning the properties of aggregate is its low resistance to fragmentation and to freezing and thawing, which are caused by weak oil shale particles. It is essential to find ways to extract oil shale and limestone separately and to prevent oil shale residuals in mined waste rock.

This study shows that resistance to freezing and thawing determines the fields of aggregate utilization. Tests have shown that properties which depend on the content of oil shale are correlated with the resistance to freezing and thawing. Determined was the maximum heating value of the aggregate which is usable for road building. Based on heating value,

some limestone interlayers are usable in civil engineering and road building. Some other interlayers can be used for backfilling the areas mined already. A rapid way to estimate aggregate resistance to freezing and thawing is to determine the heating value of aggregate.

Knowing the properties of aggregate and applying selective mining and crushing methods, it is possible to utilize more waste rock of oil shale mining.

The study is a part of the investigation Sustainable Mining Conditions, the project Min-Novation, and other mining waste studies in the Department of Mining of Tallinn University of Technology.

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