

## **DISTRIBUTION OF ORGANIC AND INORGANIC INGREDIENTS IN ESTONIAN OIL SHALE SEMICOKE**

A. TRIKKEL<sup>a,\*</sup>, R. KUUSIK<sup>b</sup>, N. MALJUKOVA<sup>b</sup>

<sup>a</sup> Department of Inorganic Chemistry,

<sup>b</sup> Department of Chemical Engineering  
Tallinn University of Technology  
5 Ehitajate Rd., 19086 Tallinn, Estonia

*At oil production in vertical retorts large amounts of a solid retorting residue – semicoke – are formed and stored in ash piles. Producing activated carbon could be one possibility for utilizing residual carbon present in semicoke. A series of experiments with some semicoke samples accompanied by their SEM and EDAX analysis was carried out in order to elucidate the distribution of carbon and mineral part in semicoke and to estimate the bonding between organic and mineral matter as well as possibilities for their separation for subsequent enrichment. The distribution of key elements in Estonian oil shale semicoke particles was characterized, and the possibilities for carbon extraction were analyzed. The effect of additional thermal treatment of semicoke samples was estimated, and preliminary separation tests using selective grinding were carried out.*

---

\* Corresponding author: e-mail [atrik@staff.ttu.ee](mailto:atrik@staff.ttu.ee)