



## **Kohtla mining museum in NE Estonia – a candidate for the future oil shale GEOPARK**

H. Bauert (1) and A. Soesoo (2)

(1) NGO GEOGuide Baltoscandia, Estonia (hbauert@gi.ee), (2) Institute of Geology, Tallinn University of Technology (alvar@gi.ee)

In the Kohtla area, NE Estonia, in the centre of Estonian oil shale mining the Kohtla oil shale museum was established in 2001. The museum provides an opportunity to learn about the oil shale mining in Estonia and visit one of the old underground mine with its all peculiarities, including operational underground mining equipment. An about 450 My old oil shale (kukersite) is probably the most organic matter enriched oil shale in world (organic matter content reaches 40-45 wt%, oil yield as high as to 500 l/t, an average calorific value in open-pit mines is about 2800 kcal/kg). The chocolate-like oil shale is mainly composed of vast accumulations of microscopic remains of fossil alga *Gloeocapsomorpha prisca*, forming beds commonly 10-40 cm in thickness. The Estonia oil shale deposit has been the largest commercially exploitable oil shale deposit in the World since World War II (mined since 1918 already). The annual production peaked with 31 million tons of oil shale in 1980. Most of oil shale is directly burnt as fossil fuel in power plants, however its unique chemical composition makes it a valuable resource for chemical industry as well. At the present the Kohtla area represents a good example of actual relationship between oil shale mining and social and natural environmental impact, with all its negative and positive effects. There are large waist hills nowadays utilize by people for different attractions, large recultivated landscapes with a selection of orchids, nature trails showing different sides of this impact and many nice targets for Palaeozoic fossil lovers. Local traditions in mining, good position within the NE Estonian oil shale mining area, a number of old closed open pit and underground mines which can be accessed by interested tourists, well developed Kohtla oil shale museum infrastructure and necessary human potential to provide high quality service for visitors make the Kohtla museum and adjacent areas a primary target in building up the Estonian oil shale GEOPARK.