

Utilization of biochar as a cover material in mine waste areas

Pertti Sarala^{1,2} and Raija Pietilä¹

¹ Geological Survey of Finland, P.O. Box 77, 96101 Rovaniemi, Finland

² Oulu Mining School, P.O. Box 3000, 90014 University of Oulu, Finland
e-mail pertti.sarala@gtk.fi

Good mineral waste coverages and landscaping solutions in northern mining industry will be developed and tested in the project 'Utilization of biochar in dry cover material and landscaping of mine waste areas' (Biopeitto) funded by the European Regional Development Fund. From the perspective of sustainable development and regional well-being, the solutions that will minimize the costs for environment and increase the local livelihoods should be developed in the northern region itself. Testing biochar, mine wastes and other rest materials as the component of mineral waste cover in tailings and waste rock pile solutions are environmentally important. The tests aim at finding the best ways to improve cover material's long-term durability and stability, prevent erosion, and improve the sustainability of water management, carbon balance and nutrient economy. Benefit of the use of biochar is its' local production which diminishes the transport and storage costs and opens new possibilities to develop local entrepreneurship. Tailings are produced in large quantities by the mining industry and it might be more economical and beneficial to use the waste as a resource than treat it as a waste. Available materials needed to improve tailings properties such as wood, fibre and bio sludge but also other rest materials from other industries should be tested to enhance their valorisation. The project is led by the Geological Survey of Finland and other research partners are the Natural Research Institute Finland and the Oulu Mining School of the University of Oulu.