

Press Release 3/2019:

FinnCobalt reports successful flotation testwork results at Hautalampi Mine project

FinnCobalt (a.k.a. Vulcan Hautalampi Oy) is pleased to report that it has received positive results from the metallurgical flotation test work completed at the Geological Survey of Finland's Mintec-laboratory, located in Outokumpu town, Finland.

The flotation test work successfully verified and confirmed the earlier 2007 completed test work series. The other objective of the test work was to produce copper- and nickel-concentrates in the industrial scale Mini Pilot Plant process. The combined nickel-cobalt concentrate will later be tested aiming to produce battery chemicals in the leaching – solvent extraction -precipitation test work series. These leaching test works will be done at Outotec Oyj Metallurgical laboratories.

The bench-scale flotation test work was able to produce a high grade copper concentrate 26.2% Cu with a recovery of 78.8%. For the industrial scale process a copper concentrate with a grade 25% Cu and recovery 80% or higher is expected. Gold and silver grades were 5.8 g/t and 38.8 g/t respectively.

The aim of the nickel-cobalt bench scale flotation test work was to produce a nickel concentrate with a grade of 6% Nickel with maximum recovery and suitable for leaching.

This target was achieved as the concentrate grade of Ni 6.2% with recovery 79.8% and cobalt grade 1.5% with recovery 77.6% was produced already after the 1st cleaning stage. The test work was done in the open circuit so in the industrial scale process recovery up to 90% should be possible as the cleaner tailings can be recirculated to the process.

Deleterious element grades in the concentrates were low. The average arsenic contents in the cleaner nickel concentrates were about 0.05 – 0.06 % and 0.03 % in the final copper concentrate.

The sulphur grade in the rougher flotation tails was low about 0.4 %, which means that potential for acid mine drainage is very low.

The test work will continue with the nickel-cobalt concentrate leaching – solvent extraction – precipitation tests at Outotec Oyj's metallurgical laboratories. For this purpose some 40-50 kgs of Nickel-Cobalt concentrate has been produced in the Mini Pilot Plant run at the Geological Survey of Finland Mintec –laboratory.

Outokumpu 14th March 2019

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