

**Composition of groundwater near
Au-Ag-Cu-Zn-Pb and Zn-Pb
mineralizations in the Ostrobothnian
schist area, northern Finland**

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Water samples were taken from boreholes, ponds and streams in connection with ore exploration project in northern Ostrobothnian schist area, northern Finland. Samples from bedrock, glacial deposits and waters were analyzed by XRF, AAS, ICP-AES and ICP-MS. Redox potential, pH, electrical conductivity and temperature of water samples were measured in the field.

Waters in the vicinity of a narrow quartz vein with Au-Ag-Cu-Zn-Pb mineralization were very acid (pH 3.47-5.92). Aluminium and heavy metal contents were very high. For example Cd contents varied between 5 and 26 ppb, which are highest values ever met in Finnish waters. Many heavy metal values exceeded the upper permissible limit for drinking water in Finland.

Waters in the vicinity of carbonate-hosted Zn-Pb mineralization show high contents of Ca, Mg, Mn, Sr and Ba, but Al and heavy metal contents are at much lower level than in the vicinity of quartz vein.