## The sulphide ores in the Alvdal-Tynset region, SE Norwegian Caledonides

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A number of copper-bearing sulphide ores are located in the Tynset-Alvdal region, central Norway. Most of the investigated ores are located on the southern parts of the Tron mountain, but the Baugsberget mines were also included in the study. All ores were discovered after King Christian IV initiated a national search for metals, ores and minerals in 1632. They were mined in small scale from the $17^{th}$ century until the early $20^{th}$ century. In many cases, the local farmers discovered and operated the mines themselves. When the mines closed in 1911, more than 1200 tons of copper ore had been mined.

The ores are hosted in supracrustal units in the lower parts of the Seve Nappe Complex in the Upper Allochthon of the Caledonides (Ramsay & Siedlecka, 2001). This tectonostratigraphic position is located *above* the Tännäs augen gneiss and the metasedimentary Hummelfjell Group of the Middle Allochton, but *below* a zone of solitary ultramafic bodies that connect the Vågåmo ophiolite in Gudbrandsdalen and the Feragen ultramafics. The latter zone separates the Seve Nappe Complex from the VMS-bearing turbidites of the Røros district in the Köli nappes. In this way, the Tynset-Alvdal copper ores occur at a lower tectonostratigraphic level than anywhere else in the Norwegian Caledonides.

All ores are stratiform and probably syngenetic with the supracrustal sequence. The ores in the Tronsvangen and Baugsberget mines are hosted by mica schists, are small and irregular and are mainly Cu dominated (up to 8.5 % Cu), locally with Zn-Cu dominated parts. The dominating ore minerals are pyrite, chalcopyrite, pyrrhotite, sphalerite and possibly galena. In contrast, the ores in the Klettgruva, Vesle-trond and Grøtådalen mines are hosted in the overlying green-schists and share many features of proper VMS ores. The dominating ore minerals are pyrite, chalcopyrite, pyrrhotite and possibly sphalerite.

The geological environment of the ores is correlated with similar ore-bearing environments and tectonostratigraphic positions in the Ramundberget, Grönfjället and Vargtjärns-stöten areas (Härjedalen) and Rengen (Jämtland), Sweden.

### References:

Ramsay, D., and Siedlecka, A., 2001: Berggrunnskart ALVDAL 1619 II, M 1:50 000, foreløpig utgave, NGU.