

Structural framework of Paleoproterozoic rocks northeast of Kiruna, Sweden

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The Paleoproterozoic, supracrustal rocks in the Kiruna area in northern Sweden host large, well-known ore deposits. Yet, the structural framework and deformation history of these rocks is poorly understood. Although a number of studies try to unravel the deformation patterns observed in the bedrock around Kiruna (e.g. Vollmer et al., 1984; Witschard, 1984; Forsell, 1987; Talbot and Koyi, 1995), a generally accepted model for the structural evolution of these rocks is lacking. Further, information on the deformational history of the rocks to the northeast of Kiruna is sparse. There, the rocks are affected by folding and faulting within the Kiruna-Naimakka deformation zone (Bergman et al., 2001), but it is unclear through which structure(s) these rocks connect to the supracrustal rocks closer to Kiruna. Considering the ore potential of these rocks, it is important to investigate this.

In the context of the Barents project (<http://www.sgu.se/en/mineral-resources/barents-project/>), integrated geological and geophysical field studies were undertaken in order to understand the deformation patterns observed in the supracrustal rocks. Here, we present results and a preliminary model of the structural framework focusing on the rocks to the northeast of Kiruna.

References:

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