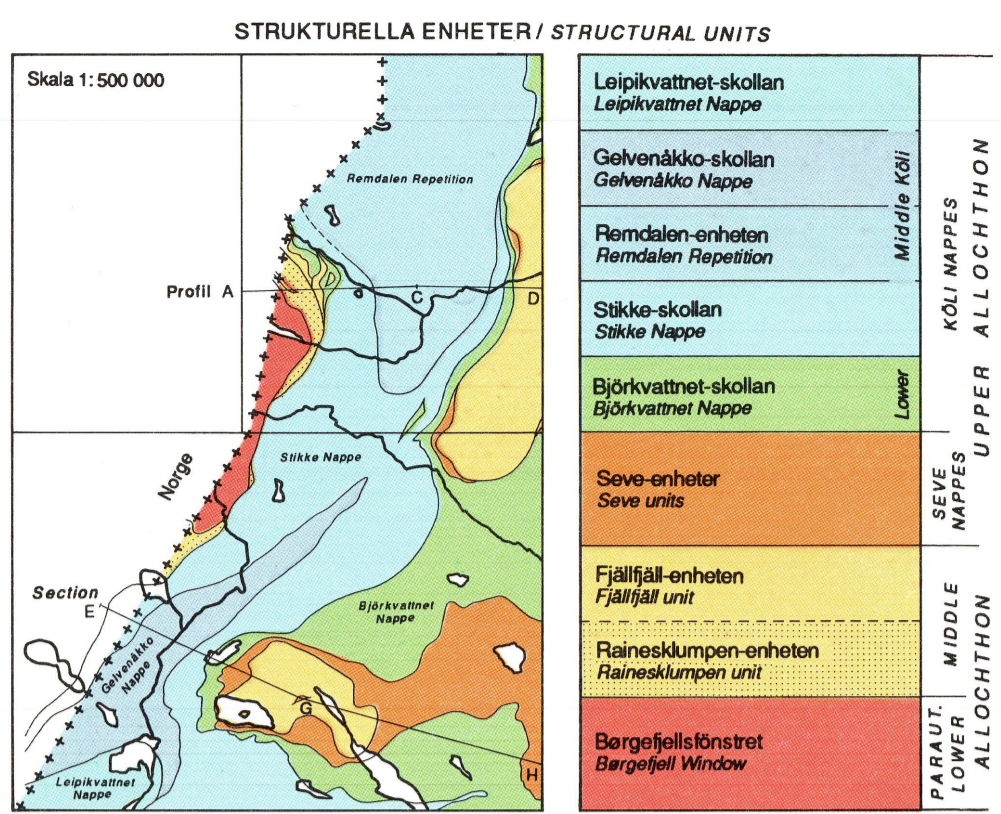


STRUKTURELLA ENHETER / STRUCTURAL UNITS



Sammanställningen av de geologiska kartblad 23E Simpeke samt design- och layoutarbeten har utförts av Ebbe Zachrisson, 1990-1991. Författaren har även svarat för den helt övervägande delen av karteringen...

Stekenjökmalmen är den största komplexa kismalmen i den svenska delen av fjällkedjan. Den upptäcktes 1918, har borrats upp med > 200 borrhällor och beräknas innehålla 20,4 miljoner ton malm med halter enligt tabellen.

MALM- OCH MINERALFÖREKOMSTER / ORE AND MINERAL DEPOSITS

Table listing ore and mineral deposits with columns for Number, Name, Lager, Halter, Sulfur and metal contents, and Storlek. Includes entries like Orek, Kistföreläggningar / Subhålls deposit, and Industriemineralföreläggningar / Industrial mineral.

Referens till kartorna: Zachrisson, E., 1991: Berggrundskartorna 23E Simpeke, 1:50 000. - SGU AI 73-74.

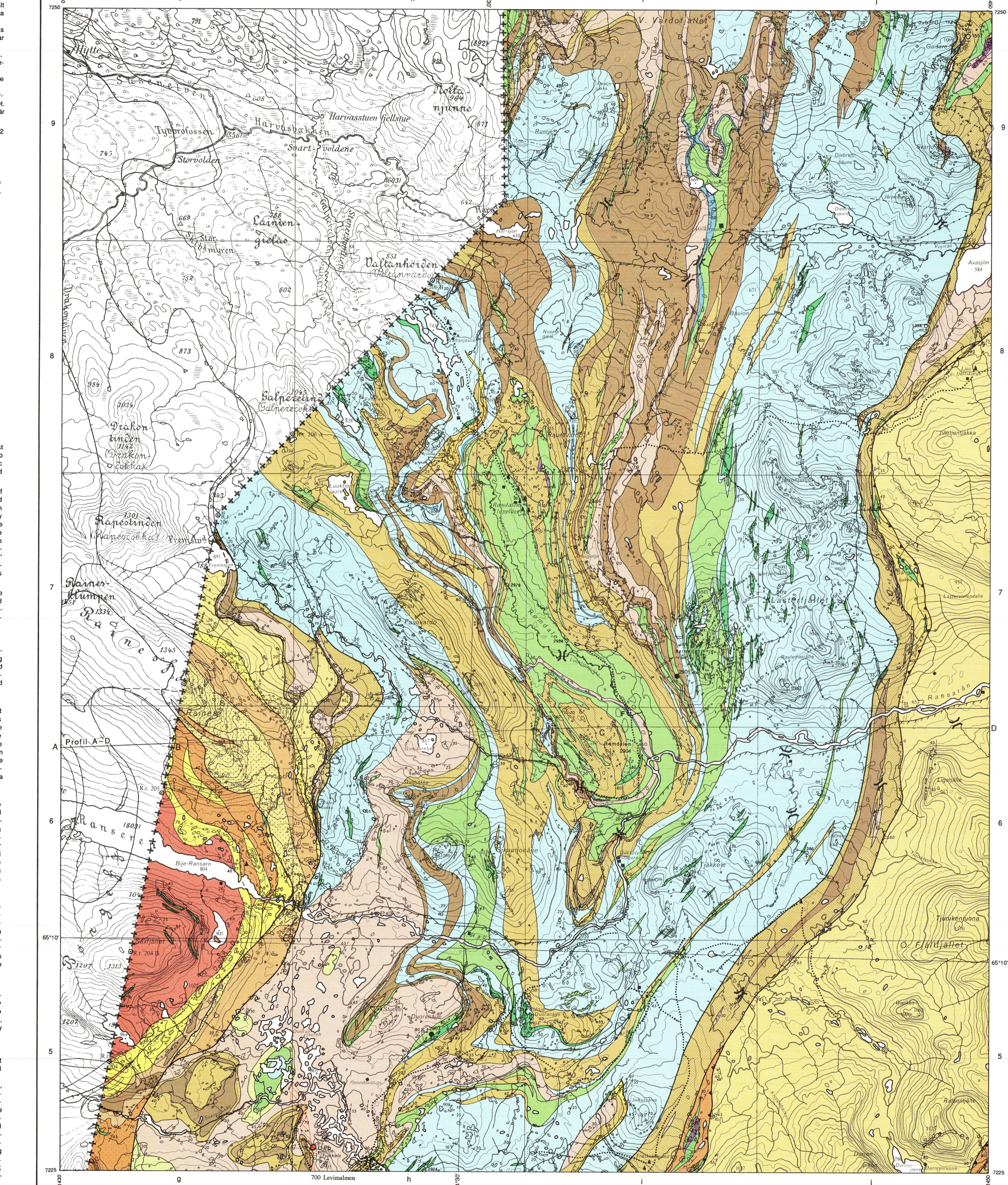
DESCRIPTION

The bedrock within the map sheets 23E Simpeke forms part of the Scandinavian Caledonides. Most Caledonian rocks in Scandinavia are allochthonous and have been thrust east- or southwards onto the Baltoscandian platform.

The geological units distinguished on the maps are principally lithologic or lithostratigraphic in character. The rock sequence regionally forms a tectonostratigraphy where the different, generally faulting units are separated by major and minor thrusts.

The higher-grade rocks in the structurally lower part of the Upper Allochthon are included within the Seve Nappes. Within the map area they are represented by a sequence of gneiss and mica schist, amphibolite, marble and minor graphitic schists.

Regionala flyktningar saknas, men omfattande elektromagnetiska markeringar (slingmar) har utförts över huvuddelen av den mellersta Källberggrunden (utom den lära nordostligaste delen, B-9, -J).



Legend for Upper Allochthon / Övre Skollberggrunden / Övre Källbergarter / Köli Rocks. Includes categories like Metagabbro, Ultramafiska bergarter, Kvarterarerolyt, and Glimmerskiffer.

Legend for Middle Allochthon / Mellersta Skollberggrunden / Middle Allochthon. Includes categories like Meta-arkos, Kvarter, and Glimmerskiffer.

Legend for Lower Allochthon / Parautochton eller Undre Skollberggrund / Parautochton or Lower Allochthon. Includes categories like Gråfyllit, Glimmerskiffer, and Kalkskiffer.

Legend for Symbols / Beteckningar / Symbols. Includes symbols for U/Pb, Radiometrisk åldersbestämning, Fossil-lokal, and Häll, observerad yta av blottat berg.

Legend for Seve units / Seve-napper. Includes categories like Seve-napp, Källbergarter, and Glimmerskiffer.

Legend for Middle Källberg / Middle Källberg. Includes categories like Mellersta Köli, Seve-napp, and Glimmerskiffer.

Topografiskt underlag enligt avsaknad av Lamätterverket. Geografiska lägenheten är åskild från Greenwich. Godkänt av sekretessnypning för spridning. Lantmäterverket 1991-09. Printed in Sweden by Ofsetscener AB, Uppsala 1991.

(Continued on the back of this map sheet)

ic metavolcanites (Remdalen Group of Zachrisson 1969) and stratigraphically overlain by the underlying calcareous phyllites (Blåsjö Phyllite of Nilsson 1964, Lasterfjället Phyllite of Zachrisson 1964a). U/Pb zircon dating (Claesson et al. 1988) gives a minimum age of 492 ± 1 Ma for the felsic metavolcanites and trondhemitic intrusions in the type area. Thus, the age of the rocks in the Stikka Nappe is probably Ordovician. The high content of U and V in the graphitic phyllites stratigraphically on top of the stratabound ore horizon (see below) is geochemically correlatable with the alum shales on the platform and provides further support to this interpretation (Sundblad and Gee 1984).

In map-sheet 23E, NE, the structure is complicated by the **Remdalen Repetition** which duplicates part of the stratigraphy and causes a cut out of the Stekenjokk Quartz-Keratophyre in the area between Fasovardo and Rainesfjället. The quartz-keratophyre-bearing unit from Beitsetjenjunje via Rau-revardo to V. Vardojfället, surrounding the Remdalen Syntorm, is correlated with the Stekenjokk metavolcanites. This implies that the dark quartz phyllites and the K-rich quartz porphyry in the core of the syntorm are amongst the lowermost units of the sequence. Attempts to date the porphyry by the Rb/Sr whole-rock method have not proven to be successful. The associated limestone contains palaeozoan fragments (Du Rietz 1941) and is Ordovician or younger in age.

The **Gelvenåtkko Nappe** (Zachrisson 1969) is a completely detached unit containing a rock sequence nearly identical to that of the Stikka Nappe. It is preserved in the core of the Western Syntorm from the culmination at Stekenjokk to the southern edge of the map sheets. The tectonic contact is well established at its eastern boundary and, in the Stekenjokk-Gelvenåtkko area (3g–4h), a large number of drillholes intersecting deeper levels of the Stekenjokk ore body pass through the Gelvenåtkko thrust. The western contact (from 3g and southwestwards) is more difficult to trace.

The uppermost tectonic unit of the area, impinging on map sheet 23E, SW, is represented by the Middle Köli **Leipikvattnet Nappe** (Zachrisson 1969). The thrust at its base is both geologically and geophysically distinct around lake Leipikvattnet. Characteristic rock types in the Leipikvatnet area are polymict conglomerates, coarse fragment-bearing metagreywackes and the Bjurålv limestone. An acritarch microfossil (Dactylofusa spinata) has been extracted from the limestone (Kjellström and Zachrisson 1969), while palaeozoan fragments were reported earlier by Du Rietz (1936).

Stratabound sulphide deposits

Since 1917, the Stekenjokk area has been the centre of exploration and ore investigation activities by the Geological Survey of Sweden in the Caledonides (Högbom 1925, Zachrisson 1971, 1982a, 1984a, 1986). Approximately 25 different mineralizations and more important deposits (see Table) have been investigated by drilling, ca 2/3 of these occurring within the Stekenjokk metavolcanites. The polymetallic massive sulphides, generally with a disseminated stringer zone component, have been interpreted as volcanic-exhalative in origin and related to a late rifting-stage situation in an island-arc setting (Stephens 1980b, 1982, 1989). The ore bodies are stratabound, laterally very extensive and demonstrate both a vertical and a lateral metal zonation. Although principally Cu-Zn deposits they generally exhibit an increased content of Zn, Pb, As, Sb and Ag both towards the stratigraphic top of the ore column (Zachrisson 1982a) and outwards from the exhalative centres (Zachrisson 1984a). Deposits related to mafic metavolcanites of ocean-floor affinity (e.g. Remdalen) and those in the metagreywackes of post-arc (basinal) setting (e.g. Ankarvattnet) show certain chemical differences in relation to the main group of volcanite-hosted deposits. These variations, however, are even better characterized by their Pb isotope patterns (Sundblad and Stephens 1983). The volcanite-hosted deposits provide an isotope modal age very close to the actual age, whereas sulphides in a more sedimentary environment demonstrate a marked increase in radiogenic lead, a pattern that is further enhanced in late veins and segregations.

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NGU = Norges Geologiske Undersøkelse
SGU = Sveriges geologiska undersökning
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External links

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