

Geology of subsheets Q and W of Bure map sheet (NC 37 - 5)

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ABSTRACT

The Precambrian rocks, Palaeozoic glacial sediments, Mesozoic sandstones, Tertiary volcanics and Quaternary sediments are exposed in the study area. The Precambrian rocks are separated into the high-grade migmatized and granitized amphibolite facies terrane in the east and greenschist-amphibolite facies rocks terrane in the west in which the contact between them is tectonic. The D1 and D2 deformation structures are only confined to the high-grade terrane while the D3 and D4 deformation phases are responsible for the development of greenschist-amphibolite facies rocks. The D5 and D6 deformation structures are intra-plate (post-suturing), which followed the D4 deformation.

The Palaeozoic glacial sediments represent siltstones and silty-sandstones with discontinuous horizontal beds/or laminations and with erratic distribution of boulders and unconformably overlie the Precambrian rocks. The thin conglomerate layers are intercalated with sediments. The Mesozoic sandstones are horizontally bedded/or laminated, occasionally cross-bedded and unconformably overlie the Precambrian rocks in the study area. The Tertiary volcanics unconformably overlie the Precambrian rocks, Palaeozoic glacial sediments and Mesozoic sandstones. They are columnar jointed and separated into the pyroxene-olivine-plagioclase phyric basalt (Tv1) and leucite-nepheline-aegirine phyric basalt (Tv2) in which the Tv2 lava flow contains the fragments of Tv1. The Quaternary sediments derive from all the rock types.

Chalcopyrite-pyrite and gold (?) mineral associations, apatite, iron and granites are the economic minerals present in the Precambrian terranes and further exploration has been suggested.