

Geology of subsheets A and G of Bure map sheet (NC 37 - 5)

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ABSTRACT

The study area is located in western Ethiopia, Benishangul Gumuz Regional State. It is bounded by co-ordinates 10°30'-11°00'N latitude and 36°00'-36°15'E longitude, and covers 1500sq.km area.

The map area is underlain by Precambrian crystalline basement (high and low-grade metamorphic rocks and intrusives), Cenozoic volcanic and Quaternary sediments. The high-grade rock comprises only the biotite gneiss where as the low-grade rocks consists of various types of metasediments, metavolcanics and ultramafic rocks. The contact relationship between the high-grade (mid-upper amphibolite facies) and the low-grade (green schist-lower amphibolite facies) rocks is not well established in the field.

The Cenozoic volcanic consists of trachyte and plagioclase-olivine phyric basalt with subordinate rhyolite dykes. Quaternary sediments (alluvial and ellvial soils) unconformably overlie the crystalline basement rocks.

The various types of structural elements observed in the high and low-grade rocks are indicative of at least three phases of deformational events (D_1 to D_3). The earliest pre- D_1 deformation is the gneissosity developed in biotite gneiss and followed by D_1 deformation which resulted in penetrative, easterly dipping NNE-SSW to NNW-SSE striking foliation (S_1) and tight to isoclinal intrafolial folds (F_1). The D_2 is coaxial with D_1 and the D_3 is very wide regional shear zone with shear splays.

The occurrence of some relevant structures (such as shear zone), alteration zones and abnormal silification makes the map area interesting for further study of economic potential. Moreover, there are also construction and industrial materials.