

Geology of subsheets B and C of Bedessa map sheet (NC 37-16)

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ABSTRACT

The area is situated in Oromiya Regional State of Eastern Ethiopia. Geologically it is underlain by crystalline basement rocks consisting of gneiss and marble, Mesozoic sedimentary succession that include both siliciclastic and carbonate rocks, Tertiary volcanic rocks and Quaternary superficial deposits covering 8 %, 72 %, 10 % and 10 % from the whole area, respectively.

The Precambrian rocks of the area are grouped into Amphibolite facies Biotite gneiss, Granitic gneiss and Marble. These rocks show a general NS oriented foliation with some exception of NW foliation. At few localities the biotite gneiss and the marble show minor folding.

The Mesozoic sedimentary rocks of the area are divided into five map units. These are, from oldest to youngest:- the Lower sandstone, Transitional unit, Lower limestone, Upper limestone and Upper sandstone. They differ from one another in lithology, texture and fossil contents. Stylolites and cross beds are observed in these units. The features shown in these units indicate different kinds of depositional environments. The Lower and Upper sandstone assigned to a fluvial origin deposit, the Transitional unit is deposited close to a siliciclastic shoreline and the Lower and Upper limestone indicate shallow water environment.

The Tertiary volcanic rocks found in this region are also classified into two, Lower and Upper basalt, based on mainly their textural variation. Well-developed columnar jointing and spheroidal weathering is observed on these units. Thick black soil and red sandy soil represent the Quaternary deposit in this area.

Economically the area is recommended for dimension stone and road construction purpose due to the presence of marble, micritic limestone and columnar jointed basalt.