

## ***Geology of subsheets F, L and M of Bure map sheet (NC 37 - 5)***

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### **ABSTRACT**

The report deals with the data collected for the on-going 1:250,000 scale regional geological mapping work in subsheet F(Dabi), L(Bure) and M(Finote Selam) of Bure map sheet (NC 37 –5), located in the northwestern Ethiopian Plateau, covering an area of 2250 sq. km.

The geology of the study area is part of the Blue Nile basin and northwestern Ethiopian plateau volcanics. It includes 260m thick Mesozoic lower sandstone (Adigrat Formation), representing the fluvio-transgressive depositional event. Both Tertiary and Quaternary volcanics do occur in the area. The Tertiary volcanics comprise: the stratoid lower and upper basalt with greater than 900m maximum thickness, pyroclastic flow deposits and NW-SE aligned trachytic plugs. The Quaternary volcanics also consists of the NW-SE trending and isolated scoraceous basalt spatter cones and scoraceous basalt flow with SSW flow direction.

The stratoid basalts and pyroclastic flows may be correlated with fissural basalts of Tarmaber-Gussa Formation extruded along the NNW trending fractures. Based on composition and proximity, the NW-SE trending trachytic plugs of the study area are tentatively correlated Tulu-welel trachyte. The Quaternary scoraceous basaltic spatter cones and the basaltic flow are correlated with Quaternary plateau basalt due to their unmodified morphologic features. The shield volcanics of the study area might also be correlated with the Choke series which are related to the same NNW fissures probably reactivated where the intersection of a later ENE fracture created restricted areas of weakness.