Geology and Mineralization of Hokrila Ore-Occurrence

David maqadze

Davit.makhadze233@ens.tsu.edu.ge

[1]Department of geology, Faculty of Exect and Natural Sciences
Tbilisi state University, University str. 13
[2]Caucasian Alexandre Tvalchrelidze Institute of Mineral Resourses,
Tbilisi state university, Mindeli str, 11

The Upper Svaneti area as a prospective region for gold-polymetallic mineralization has been the subject of special interest for geologists since the 20-ies of the 19th century. In the 80-ies of the last century, in the peripheral part of the Sakeni Intrusive along the regional Alibegi fault was discovered a sizable zone of silica-sericite-chlorite alteration with high gold grades. In the area of Upper Svaneti at similar geological conditions several ore manifestations have been revealed, including sites of the Tetnashera, Memuli, Tskhvandiri, Hokrila.

The most well-studied and prospective among them is the Hokrila ore occurrence which crops out on the lefts slope of the river Hokrila and is hosted by strongly shared, fractured and greizenized granite-migmatite rock complex. Within the distribution boundaries of the ore mineralization ore-controlling Alibegi regional fault is exposed. The North and South fault blocks are built up by different rock types. To the south of the Alibegi fault the Sakeni intrusive, crops out which is the part of the Sofia block. To the North is exposed granite-migmatite series attributed to the Teberda block.
Ore-bearing zone is extended on about 2-3 km. The zone reaches its maximum thickness (500 meters) in the central part (the river Qvani cross-section). To the west and east its thickness reduces to 150-200 meters. The common ore textures are cocarde, banded and vein-disseminated textures. Ore minerals are represented by gold, scheelite, antimonite, arsenic pyrite, sphalerite and galena. Ore-formation processes in the Hokrila ore occurance include following four stages of development: quartz-sheelite, quartz-polysulphide with gold, quartz-antimony and quartz-gold. The gold content in some areas of the ore occurrence reaches 30 g / t, while the average gold content is about 6.1 g / t.