

ORPIMENT MINERALIZATIONS IN TUFFACEOUS DOLOMITES IN ALSAR DEPOSIT-SEM-EDS INVESTIGATIONS

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ABSTRACT

Ore mineralization of Sb-As-Tl-Au in the Alsar deposit are localized in different type of lithological units like tuffs, dolomites, silicified dolomites and tuffaceous dolomites. The tuffaceous dolomite (probably from the Tertiary) lie discordantly over the Mesozoic basic rocks in the larger part of the north and south-west parts of the region. The appearances are bright-gray, gray-white to bright-brown colored. They are built up fine-crystalline dolomite which contains variable quantities of very fine granulated gray-white volcanic ash or tuffaceous material. Tuffaceous dolomites form massive, bright colored samples which most frequently appear on the east side of the river. Most of them are strongly tectonized and broken, hydrothermally changed and rather eroded (due to the physical inhomogeneity) and have pseudotexture. The hydrothermally changed appearances are often corroded by the yellow to yellow-brown iron oxides. These massive appearances show very small signs of stratigraphic relations with the Tertiary stratigraphic parts. The mentioned appearances discovered in the central parts of the region, north from the antimony holes, clearly points to their volcanic-sedimentary localization. Here, the massive tuffaceous dolomites contain local intercalations of fine-grained tuffs, wet ash or volcanic glass. The layers are about 2 cm up to 3 m thick.

Stratigraphic thickness of the tuffaceous dolomites is unknown, but according to the extent of uncovering in the north parts of the region, the thickness is estimated to be from 100 to 125 m.

Investigations by the SEM-EDS technique is concluded that tuffaceous dolomites are very common lithological unit for ore mineralizations for arsenic and thallium. Tuffaceous dolomites are mainly composed by the grain of dolomites and grain of volcanic glass-tridymite.

Key words: Alsar, tuffaceous dolomites, orpiment, volcanic glass