

EGU22-2962, updated on 20 Aug 2022

<https://doi.org/10.5194/egusphere-egu22-2962>

EGU General Assembly 2022

© Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.



Geology, mineralization, and alteration of B prospect of the epithermal Au-Ag deposit in central Thailand: A study on Chatree's peripheral deposit for further gold exploration.

Sirawit Kaewpaluk, Abhisit Salam, Thitiphan Assawincharoenkij, Takayuki Manaka, Sopit Poompuang, and Surachat Munsamai

Department of Geology, Faculty of Science, Chulalongkorn University, Bangkok, Thailand

The B prospect is located at the southeast of the Chatree gold-silver deposit. The mineralization is hosted in the Late Permian-Early Triassic Chatree volcanic sequence consisting of volcanoclastic and volcanogenic-sedimentary rocks ranging in composition from basaltic andesite to rhyolite. At the study area, the total thickness of volcanic succession is about 300 meters, and the succession can be divided into three main stratigraphic units from bottom to top, namely, 1) porphyritic andesite unit (Unit 3), 2) polymictic intermediate breccia unit (Unit 2), and 3) volcanogenic sedimentary unit (Unit 1). The ore zones are mainly confined to polymictic intermediate breccia and volcanogenic sedimentary units (Units 1 and 2). At least three stages of mineralization have been identified, namely 1) quartz-pyrite (Stage 1), 2) quartz-chlorite-calcite-sulfides-electrum (Stage 2) and 3) quartz-calcite (stage 3) veins/veinlets. Gold occurs chiefly in Stage 2 mineralization which is characterized by typical vein textures of low sulfidation epithermal deposit (e.g., crustiform, colloform banding, comb textures). Pyrite is a primary sulfide mineral with minor sphalerite, chalcopyrite, and galena. Gold occurs as electrum with fineness ranging from 506 to 632 ppm. The hydrothermal alteration at B prospect is composed of two main types: 1) quartz-adularia (silicic alteration) assemblage close to ore zone, and 2) adularia-quartz-illite-calcite-chlorite (phyllic alteration) assemblage distal to ore zone. Based on characteristics of mineral assemblages, textures, and alterations the mineralization at B prospect can be classified as a low sulfidation epithermal gold-silver style deposit.