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Textural and Mineralogical Interpretation at the North of San Vicente

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The study area is located to the north of the San Vicente (MVT) deposit in the department of Junin, Chanchamayo Province. It corresponds to the sub-Andean area of Peru. It is geologically located in the Pucara Group, which is dolomitic limestone. It is of Triassic-Jurassic age and is related to intrusive rocks such as the San Ramon Granite and Tarma Granodiorite. The samples in the study area were described macroscopically and show mineralogy mainly of dolomite, sphalerite, pyrite, and calcite in smaller percentages. Samples show zebra and breccia texture; we selected some samples for thin sections and briquettes in order to do a microscopic description and interpretation. The interpretation of macroscopic and microscopic samples follows.

Sample SVN-4 has a zebra texture and occurrences of three possible paragenetic sequences of dolomite. Dolomite I (dlm I; 65%) is displayed as subhedral crystals with irregular shapes and microlithic aggregates which form part of the host rock (dolomite), while dolomite II (dlm II; 30%) is observed as crystalline aggregates with a size under 2 mm and is moderately replaced by dolomite III (dlm III; 5%), observed as subhedral and euhedral crystals with sizes less than 3 mm. Metallic minerals such as pyrite (traces) have cubic, irregular shapes and granular aggregates with sizes up to 1.2 mm. They fill cavities associated with dolomite III (dlm III). The interpreted paragenetic sequence is dolomite I-dolomite II-dolomite III-pyrite (py).

Sample SVN-1 has a breccia texture. Dolomite appears in three stages. The first (dlm I; 20%) is observed with subhedral crystals and microlithic aggregates which form part of the host rock (dolomite), while dolomite II (dlm II; 30%) is observed as crystalline aggregates with banded texture and sizes less than 1.5 mm. Also, it is replacing the host rock and being moderately replaced by dolomite III (dlm III; 10%), with subhedral and euhedral crystals with sizes less than 2 mm. Metallic minerals such as sphalerite (I, II; 40%) are present as massive extensions and replacing sphalerite I (ef I), showing a massive and relict texture. Organic matter is also present, associated with dolomite II (dlm II) by filling interstices between the two generations of sphalerite (ef I + ef II). The interpreted paragenetic sequence is dolomite I-dolomite II-sphalerite (ef I + ef II)-dolomite III.

Atomic absorption analysis of Cu, Pb, Zn, Fe, Cd, Mn, and Ag was used. It shows a high content of Zn in the samples, but with disseminated pyrite in its structure, making geometallurgical evaluation difficult.

Based on mineralogy, textures, assemblages, and geochemical results, this area has textural characteristics and mineralogy similar to the site of the San Vicente (MVT type) deposit; therefore, we can conclude a possible continuation of the mineralization to the north of the San Vicente deposit.