

## **DISTRIBUTION OF TRACE ELEMENTS IN THE WEATHERING MANTLE AT FAZ. PISON GOLD MINE, AM, BRAZIL**

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At the Fazenda Pison mining area (garimpo) gold is extracted from the weathering mantle developed over gold-bearing quartz veins hosted by acid volcanic rocks. In the primary ore particles of Au with about 20 % Ag are associated mainly with pyrite, bismuth minerals and, in a lesser proportion, chalcopyrite and galena. The Bi content in the richest ore sample (Au = 234 ppm) reaches 5354 ppm. Other elements with positive correlation with gold are V, W, Mo and As. The mineralization is covered by a weathering profile that comprises, from top to bottom, a loose clay soil, a ferruginous duricrust, a saprolite and a weathered rock horizon. In the weathered rock and saprolite the contents of Bi, Ag, Cu, As, Mo, W and V are lower than those in the primary ore; the correlation coefficients of these elements with gold is lower too. Bi is almost totally depleted ( 5 ppm) from the saprolite up to the surface. In the duricrust, together with Fe, three of elements associated with gold in the primary ore attain their maximum values (V = 1689 ppm, Mo = 11 ppm, As = 53.4 ppm) and could be considered as pathfinders for gold in this sample medium. In the soil no element associated with gold in the primary ore presents any significant signal.