

## **MERCURY CONTAMINATION IN THE MINING DISTRICT OF NAMBIJA, AMAZONIAN ECUADOR.**

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The south of Ecuador has a high mining potential especially for gold and polymetallic deposits. The gold production represents 90% of the total mineral resources extracted. The Nambija gold district is located eastern of Zamora, province of Zamora Chinchipe, south of Ecuador. In this district, gold occurrences are known since the pre-colonial times, but only after the early 1980s an intensive small-scale mining with rudimentary techniques has been developed. The gold extraction is carried out by outdoor amalgamation, so that at indiscriminate use of mercury by miners results in the environment contamination. The objective of the present work is determine the concentrations and distribution of total and organic mercury in bottom sediments, soils and mining tailings, in order to define the degree of contamination and compositional modifications, by means of chemical analyses. This study aims also at assessing eventual environmental changes caused by the mining operations in the Nambija district. Little information about the use of mercury by small-scale miners and its dispersion in the environment in Ecuador is available. In this work mean total-Hg concentrations of 2,9 ug/g in sediments, 1,6 ug/g in soils and higher than 150 ug/g in mining tailings have been found. 70 % of the sediment and 50 % of the soil samples have mercury concentrations above the local background of 0,5 ug/g and 0,7 ug/g, respectively, indicating a moderate to high mercury contamination in the Nambija area.