

Mercury pollution in gold mining at El Mayal, Neuquen, Argentina.

¹Fasoli, H.J., ²Gamba, M.T. ¹Escuela Superior Tecnica and Universidad de Moron, Argentina. ² SEGEMAR and Universidad de Moron, Argentina.

Small-scale gold mining is traditionally performed in Argentina by means of mercury amalgamation. This is the case for gold exploitations at Cerro Mayal in the North of Neuquen Province, Argentina. In this zone, gold was intensively extracted by individuals as well as by small mining industries since more than two hundred years ago.

In a recent communication we show that gold nuggets found in the main creek at El Mayal can contain mercury in a 1:3 mass ratio respect to gold. Several evidences show that mercury comes from human activity, i.e.: 1) the amount of mercury found in gold nuggets from El Mayal is larger than that observed in gold crystals coming from non-worked places of the zone, 2) the mercury enrichment in the particles is larger in the rims than in the core.

In this work we performed an intensive evaluation of mercury presence in soils, natural waters and plants taken from the exploitation zone as well as from Chos Malal, the most important city situated near El Mayal.

Results show a noticeable degree of contamination. Significant amounts of mercury -below toxic levels - were also found in Neuquen River, one of the most important water stream in the South of Argentina.