

ESTIMATE OF THE MERCURY EMISSION IN ARAÉS SMALL-SCALE GOLD MINING, NOVA XAVANTINA, MT (1982-1995)

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In the latest 1980s and in the early 1990s there were in the gold mining area of the Araés, in central-eastern of the Mato Grosso State, Brazil, approximately 500 miners garimpeiros. Initially, the gold mineralization was founded in association with intensely altered rocks and afterwards exploited in the primary mineralization of the quartz vein. The Mercury were used for the separation of the fine gold particles through amalgamation after a gravimetric preconcentration step and the amalgam Hg-Au mixture roasted. The Hg emission in small-scale gold mining is estimated through utilization of the gold ore production dates and Hg Emission Factor (EF) (amounts of Hg released into the environment to produce 1,0 kg of gold).. The gold production in Araés area mining between 1982 and 1995 reached 225 kg and 413 kg, in accordance with official dates and estimates, respectively. However, the garimpeiros records indicate a considerably greater gold production, approximately of the 7 t Au and Hg EF of the 0,6. These values gives an indication of around 4,2 t Hg released into environment Araés mining area. In spite of the uncertainty related to the Hg production values in the Araés mining area, the results point that a significant amount of Hg was emitted into the environment of this area.