J. Int. Environmental Application & Science, Vol. 10(1): 65-69 (2015)

Impact of Mine Tailings on Surrounding Soils: Case of Draa Lasfar Mine, Marrakech- Morocco

Barkouch Yassir*, Alain Pineau

1Laboratoire de Toxicologie et d'hygiène Industrielle, 1 rue Gaston Veil, 44035, Nantes Cedex, France; 2 Laboratoire Régional du diagnostic épidémiologique et d'hygiène du milieu –Marrakech – Maroc.

Received February 13, 2015; Accepted March 31, 2015

Abstract: The present study represents a first insight into the Draa Lasfar mine (Marrakech - Morocco) to assess the degree of polymetallic pollution caused by anthropogenic activities (like mine extraction) and consequently the possible diffusion of heavy metals and to predict the risk of their mobility in the surroundings of the mine area. The edaphologic parameters pH and electrical conductivity (EC) were measured according to standard methods, whilst heavy metals concentration was atomic absorption spectroscopy (AAS). Contamination factors (CF) and pollution index (IP) were calculated in order to estimate the anthropogenic contribution of target pollutants determining Cd, Cu, Pb and Zn as the main pollutants in this region. The results showed the polluted areas at the vicinity of the mine, especially two rural communities (Ouled Bou Aicha and Tazakourte) of about 5790 ha, probably linked to increasing mine activities and the lack of appropriate measures to counteract its effects causing a progressive pollution of water and soil with heavy metal emissions in this studied region.

***Keywords**: Contamination, heavy metals, soils, mine area, mine tailings, Marrakech*

*Corresponding: E-Mail: yassirbark@yahoo.fr; Tel: 00212600811888;