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Evaluation of heavy metals in abandon gold mine of Dutse-Maru using X-Ray fluorescence technique**Abubakar A, Girigisu S, Christopher E, Mande G and Samuel O**

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Soil samples in abandon gold mine of Dutse-Maru of Maru local government area of Zamfara State were collected and analyzed with the use of energy dispersive X-Ray arrangement to determine the level of heavy metals concentration contained. The choice of Dutse-Maru abandons mine for analytical assessment was informed by the strategic drainage pattern of the site in relation to the Sokoto River which is empty. The presence of elevated heavy metals in the site can be of health implications to the users of the river. The major elements in the samples were found to be Fe, Mn, Cu, K and Ca. The ranges of concentrations of these elements in stated order are 28270-315366 ppm, 582-4462 ppm, 645-20506 ppm, 51193-56395 ppm and 14879-39528 ppm. The element that occurs in trace proportion relative to these stated ones in the accessed samples are Mn, Ti and Zn. It can be observed that Fe occurrence in raised proportion at many folds above permissible level is a potential treat to users of the river at its lower end. However an overall observation reveals that there are no immediate health risk signals from the preliminary results so obtained.

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