

Heavy Metals and Trace Elements Analysis in Groundwater around Mahaoya Hot Water Springs

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Groundwater in and around Mahaoya thermal springs found in the Precambrian high-grade metamorphic terrain of Sri Lanka were investigated to assess their geochemical properties with compared to normal regional groundwater of particular area and to produce a data set to develop a model of identification of thermal springs or mixing of thermal and non-thermal ground water. The main objective is this study is to compare the geochemical parameters of thermal springs with nearby cold ground water and interprets the geochemical relationships among them. Samples of low temperature (<35 °C) groundwater from nearby springs, piezometers and open wells were also collected for comparison. All samples were analyzed for their major and trace element compositions using Atomic Absorption Spectrophotometer and standard methods. These waters showed low concentrations of selected trace elements and were comparable to that of geothermal groundwater. Major cation and anion concentrations of thermal springs are similar to nearby cold springs. Close matches of geochemical data from geothermal and dug wells waters confirm the hypothesis of a common source.

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