ELEMENT DISTRIBUTION PATTERNS IN THE GEM-BEARING SEDIMENTS OF OPANAYAKE AND BOGAWANTALAWA AREAS

S.J.K. Gamage*, M.S.Rupasinghe*
& C.B. Dissanayake*,**
* Institute of Fundamental Studies, Kandy,
* ** Dept. of Geology, University of Peradeniya.

Stream sediment samples were collected at 200 - 400 m intervals from a gem-bearing area around Opanayake and Bogawantalawa - Galboda areas. The dried and seived samples were analysed by X-ray fluorescence spectrometry. A total of 114 samples were analysed for major and trace elements. The average concentrations observed were: La 250 ppm: Ce: 400 ppm: Nb: 250 ppm; Y:35 ppm: Zr: 2500 ppm: Ph: 50 ppm.

From the element distribution maps (geochemical contour maps) prepared, it was revealed that La, Ce, Nb, Y and Zr contents in sediments of the Southward flowing hill-side streams increased downstream towards the main valley near Opanayake where gem pits occur in abundance. Further, the highest local concentrations of some elements tend to overlap in the valley areas. Anomalously high concentrations of Zr, La and Ce (3109; 358; 455 ppm) respectively were found in two localities.

In the Bogawantalawa area high concentrations of Y, Ce, Fe and Pb were found together in some locations while high concentrations of Ti, Y, Zr and Nb occurred together in other locations.

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