

ABSTRACT

The traditional gem minerals of Sri Lanka usually take only the high quality gems for selling and throw away the other remains. However, among these discarded stones, low quality corundum, spinel, zircon, tourmaline, garnet etc. are present. The aim of this research is to find out the areas which are abundant in such minerals, their weight percentages in the washed gem bearing gravel in Ratnapura and Okkampitiya gem fields and whether these minerals could be used for industrial and non-gem ornamental purposes.

Samples were taken from selected locations in Ratnapura and Okkampitiya gem fields. Minerals were identified by using their optical and physical properties, determined their weight percentages in the washed gem bearing gravel and found out economic uses of them.

The dispersion of the minerals in gem bearing gravel in Okkampitiya has a greater uniformity compared to minerals in the Ratnapura gem field. Radioactive minerals are abundant in residual and eluvial gem deposits compared to alluvial gem deposits. Garnet, zircon, spinel and tourmaline are the common gem minerals in the Ratnapura and Okkampitiya gem fields. Non gem quality minerals such as garnet, zircon, spinel and tourmaline are found to be rich in all samples. However, iron rich minerals such as magnetite, limonite, hematite etc. are found to be abundant in Rambuka, Kahawatta, Marapana, Pothupitiya and Kuruvita areas. Gem miners are unaware of uses for these minerals in industrial and non-gem ornamental purposes.