

ASSESSMENT OF GEM OCCURRENCES WITHIN THE MONERAGALA DIVISIONAL SECRETARIAT AREA

W.G.C.N. Wewegedara* and R.M.N.P.K. Jayasinghe

*Gem and Jewellery Research and Training Institute, 75/5/A, Weliwita, Kaduwela.
chandimawgen@gmail.com*

The area under jurisdiction of the Moneragala Divisional Secretariat falls within the Moneragala District of the Uva Province. As revealed in the Moneragala-Panama 1:100,000 scale Provisional Geology Map published by the Geological Survey and Mines Bureau, the rock types of the area are characterized by those of the Vijayan Complex. This study attempts to assess the gem-bearing potential of the area. The map showing the gem-bearing potential of the area incorporates the results of studies of the geomorphology, lithology, local geological structure, and mining history as well as validation by GIS and satellite imagery. Auger sampling was carried out in probable gem-occurring locations as identified from the preliminary map. The mineral percentages of two size fractions, namely, 125 to 250 microns and 250 to 500 microns of the auger samples were examined under the microscope and the map was updated accordingly.

Alluvial gem deposits associated with Kumbukkan Oya, Kuda Oya and the Randana in-situ residual deposit are the promising gem-occurring localities identified and evaluated in the study area. Kumbukkan Oya gem-occurring locality is found to contain 4.7% of tourmaline, 2.8% of spinal, 7.5% of garnet, 1.7% of zircon and 0.5% of corundum while the associated minerals are quartz, feldspar, mica, hornblende and ilmenite. At Kuda Oya the gem minerals consist of 6.4% of tourmaline, 2.3% of spinal, 2.9% of garnet, 1.2% of zircon and 0.3% of corundum gem varieties while rest being quartz, feldspar, mica, hornblende, rutile and ilmenite and at Randana in-situ residual gem minerals consist of 1.7% of tourmaline, 4.2% of garnet, 4.3% of zircon and 0.1% of corundum while the rest consist of quartz, feldspar, ilmenite and rutile. Textural features, both, of sediments and gem minerals of the Kuda Oya alluvial gem-occurring area display less transport-induced effects than those of Kumbukkan Oya secondary gem field. The source rocks of the gems may be the country rocks of the area comprising predominantly khondalite, garnetiferous gneiss and calc gneiss (skarn). At Randana, the sediments being of a residual in-situ deposit the minerals display angular grains contained within poorly sorted sediments. Approximate extents of the gem-occurring areas are; Kumbukkan Oya 600 ha, Kuda Oya 158 ha and Randana 12 ha.

Keywords: Gem-occurring, Mineral percentage, Geology, Geomorphology