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**OCCURRENCES OF TWO NEW TYPES OF GEM DEPOSITS IN THE
OKKAMPITIYA - MALIGAWILA GEM FIELD**

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Okkampitiya - Maligawila gem field occurs within the over thrusted rocks of the Highland Complex. This area is underlain mainly by marble, quartzite, pelitic gneisses, migmatites and basic granulites and surrounded by Vijayan granitic gneisses. Geological mapping of the area reveals that the Highland Complex rocks occur as two 'tongue' shaped bodies which are interpreted as rotated thrust nappes. Most parts of the Okkampitiya - Maligawila area is flat and gently undulating and the area is drain by Kumbukan Oya and its tributaries. Topographically, the area is bounded by mountain ranges in the west and north-east.

The main gemstones hosted by Okkampitiya - Maligawila gem field include geuda, sapphires (blue, yellow and colourless), spinel, garnet, tourmaline and zircon in the order of decreasing abundance. Present investigations have shown occurrence of two new types of gem deposits not reported previously from Sri Lanka. Typically, gem bearing gravel and sand deposit occur as thin, discontinuous layers in paleo stream beds and flood plains. However, in the Okkampitiya- Maligawila gem field, most of the gem-bearing gravel and sand deposits are "housed" in solution cavities in the marble beds. The size of these irregular cavities range from several cm to dm on the gentle hill slopes and a few meters on the flood plains and the depth ranges from 3 to 6 meters. Formation of these solutions cavities appear to be controlled by short joints and fractures.

The stratigraphy of the gem bearing 'illama' which has calcite and dolomite as major components besides quartz, suggest that the flood plains underlain by marble, had been flooded, from time to time with gem bearing alluvial sediments. Worn out crystal faces of geudas and sapphires indicate distant provenance, while spinel and toumaline with distinct crystal faces indicate local derivation, probably from marble and pegmatites. Mining techniques used here differ from those used in other gem fields and include widening the cavities with either explosives or drilling and sieving the 'illama' before panning.

In situ occurrences of gem minerals usually, non gem quality, (e.g. corundum, spinel and tourmaline) have been reported but we report here an occurrence of gem quality, in-situ hessonite (grossular garnet) deposit that has been mined since 1997. This small bed of deposit, has now been completely exhausted except the non gem quality remains. The hessonite in the deposit is characteristically massive and is reddish brown to red in colour. It is associated with scapolite, diopside, calcite and quartz. Field and petrography suggest that the garnet may have formed by a metasomatic reaction of the form, quartz +scapolite + calcite -> garnet + CO₂.