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**ALLUVIAL PLACER MINERALS IN THE WALAWE GANGA BASIN
WITH SPECIAL REFERENCE TO GEMSTONES AND GOLD**

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Sri Lanka's gemstones have been among the most known gemstones in the world. Most of the gemstones of Sri Lanka come from the south-western part of the country, however, north-central and southern parts have also contributed largely. In the Walawe Ganga basin which lies at the boundary zone between the Highland Complex and the Vijayan Complex a variety of gemstones occur. They include precious stones such as blue-sapphire, ruby, star-sapphire, star-ruby mainly and also cat's eye and alexandrite. Various colours of spinel, zircon and tourmaline and chrysoberyl, topaz and gem quality quartz which fall into the semi-precious category are also common.

The gemstones invariably occur in the placer sediments which are characterized by mostly rounded or sub-rounded quartz pebbles and gravel. These sediments mainly occur in the stream-beds and flood plains. In addition to the gemstones the interface zone between the gem-bearing layer and the underlying 'malawa' contain variable amounts of gold particles. The gold particles vary from dust size particles to nuggets weighing more than 1.5g having a length of about 7mm. The composition of gold grains varies from almost pure gold to natural gold-silver alloy known as electrum having Au to Ag ratio of 3:2. The gold content in the sediments goes up to levels as high as 9g of gold per ton of sediment which could be considered as economical concentration for exploitation.

The rocks of the area fall well within the Highland Complex consisting of crystalline limestone, charnockite, quartzite, garnet granulitic gneiss, biotite gneiss and schists containing graphite and garnet. The rocks are commonly intruded by dykes and numerous pegmatites and quartz veins. The weak structural zones such as fractures and shears are characterized by sulphide bearing mineralization and some alteration assemblages. These mineralized alteration zones, intrusive rocks and skarns of the area appear to be the source of gem minerals and gold.