OPTICAL TRANSFORMATION IN 'GEUDA' STONES DURING HEAT TREATMENT

R,N. Ediriweera, S.I. Perera
Ceylon Institute of Scientific and Industrial Research, Colombo 7.

Some years back Sri Lanka gained prominence due to the variety of stone called "geuda", which was found to show a spectacular improvement in optical quality on heat treatment. Geuda is the term used to describe a milky stone of basically the same composition as blue sapphire, but not of gemstone quality.

A large number of 'geuda' stones have been heated for varying time periods at different temperatures ranging from 1200- 1900°C, while being spectroscopically examined at different stages of the heat treatment process. The data presented in this paper clearly shows the optical changes occuring within different kinds of 'geuda' stones during different stages of heat treatment. A significant feature in the spectroscopic data is the gradual development of a broad abosrbption band beyond 560nm. The cause of the blue colour in the heat tretaed 'geuda' stones is thus identified as the $(Fe, Ti)^{6+}$ bi-particle [1].

Reference

Eigenmann, K., and Gunthard, Hs. H., (1972) Chemical Physics Letters, 13(1) : 58