

Guidelines for Lithospheric Origins of Emeralds

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Gem emerald is a green variety of beryl whose colour is produced by traces of Cr and V. Besides the quality of green colour, clarity and size, the geographic origin has also been acceptably a key role in their prices. Emeralds from some specific origins, such as Colombia, are traded with high value in jewellery industry. The paper provides guidelines for indicating emerald lithospheric origins, which include key signatures of gemological characteristics, internal features and mineral inclusions, optical spectroscopic absorptions together with their mineral chemistry data. The integrated technical evaluation could be used to designate the mineral paragenetic environments of emerald samples, which finally lead to their probable lithospheric origins. Unlike other mineral exploration procedures, minerals such as gold and gems are already known by their precious natures, which normally appear and are traded among the local people before any exploration action has taken place. Emerald, in particular, is still associated to the primary sources. Results of the research provide not only key characters for the geographic origin determination of gem emerald samples but also the exploration guidelines for their deposits.