

CHARACTERIZATION OF INDIAN AND SOUTH AMERICAN EMERALDS AND GEOLOGY OF RAJASTHAN EMERALD BELT

RANAWAT, P. S. Department of Geology, MLS University, Udaipur, India

The western Indian State of Rajasthan has been the source of big, quality emeralds for centuries. Rich hauls of gems were recovered from placer and mother loads, and now the mining activity in the belt of ultramafic rocks in the Precambrian formations is at standstill. Jaipur, Rajasthan, is one of the most important trading and gem cutting centers of the World. Jewelers regularly approach us to identify stones; lately the need to distinguish between the Indian (re-cut) and South American gems has been felt. Indian emeralds contain carbonic fluid inclusions and show red fluorescence while the South American samples studied showed halite bearing aqueous fluid inclusions and they did not display fluorescence. With the help of these two non-destructive techniques it is possible to identify the source of the gems. Similar characterization of emeralds from various locations of the world would be of great importance. Emerald mineralization, in Rajasthan, occurs in altered ultramafic rock intruding the Proterozoic formations of Rajasthan, close association of pegmatite is the second locus for its prospecting.