

Gemological Institute of America

(UNITED STATES AND CANADA)
A Non-profit Educational Institution

International Headquarters

341 SOUTH ALEXANDRIA AVENUE
LOS ANGELES 3, CALIF.



Mr. Carroll F. Chatham
70 Fourteenth Street
San Francisco 3, Calif.

Date December 11, 1947

VIA AIR MAIL

Dear Mr. Chatham:

I read with interest the article on synthetic emeralds in "Jewelers Circular Keystone." I was particularly interested in the paragraphs which Frederick Pough had quoted from your communications to him. I was quite surprised by your relegation of the fluorescence test "to the garbage can." I am sorry that neither Dr. Bandy nor myself was at the Institute during your visit of last summer so that we could have discussed this with you. Since that time we have checked numerous natural emeralds from every important world source and have yet to see any but very weak light red fluorescence and this only in two natural emeralds.

Admittedly, there is a possibility that a new emerald source in the future will produce emeralds which fluoresce as strongly as your present product. I have no doubt that if you wish to do so, you could make emeralds that fail to fluoresce. However, at the present time, synthetic emeralds do fluoresce and we have yet to see or hear of a report of natural emerald that has a sufficiently strong fluorescence to cause confusion to a user of this test.

Since your product is so beautifully made and compares so favorably to fine natural material, we doubt that it would be possible to teach a method of identification by recognition of the differences between inclusions in your product and in natural emerald. While the natural gem sometimes shows three-phase inclusions and crystallized pyrite which are not present in your synthetics, failure to find such inclusions is certainly not proof of a synthetic. Most jewelers do not possess magnifying instruments of high enough power to resolve the tiny three-phase inclusions. A test based on fluorescence is not one that we like to use if it can be avoided. However, until such time as fluorescent natural emeralds are found or synthetic emeralds appear which fail to fluoresce, it seems like the best test available to the average jeweler. If you have seen natural emeralds that fluoresced strongly under 3500 Å or have produced synthetic emerald of a quality comparable to your usual material which failed to fluoresce, we would like to know about it. Naturally, we would be ready to call this to the attention of our students and readers of "Gems and Gemology" immediately.

With best wishes for a happy holiday season.

Sincerely yours,

GEMOLOGICAL INSTITUTE OF AMERICA

R. T. Liddicoat
Richard T. Liddicoat
Director of Education

*Would appreciate
your reaction to the
above.*