

# Why epoxy-filled emeralds must be accepted

I read the opinion of Mr Dharmendra Tank about epoxy-filled emeralds published in "ICA Talks Back" in the February 1993 issue of the ICA Gazette. His viewpoint on fracture-filled emeralds is opposite to mine.

I would again like to explain to him and other ICA members the ideas which led me and others to a general acceptance of including emeralds with fractures filled with epoxy resins in the category of what is called "oiled emeralds" without an individual disclosure of every stone treated in this particular way.

I am in favor of a general disclosure of this widely used enhancement process, which has been performed for many years with varying substances.

What one might wish to happen for ethical or business reasons is one thing. What is feasible and practical and can be accomplished under the conditions of a normal business day is quite another.

Although I have been working in a gemological laboratory for more than twelve years, I have never met an emerald of more than one carat which did not possess fine fissures or fractures.

Needless to say, all fractures contained foreign substances such as oil, resins, fats, paraffins, or epoxy resins. I agree that the extent of the treatments and the result of the treatments can widely vary, but the question here is quite different.

How can you identify the substances present in all the fractures in all the fine emerald and all the greenish crumbling stuff which is also emerald all around the world? Who is doing this identification job and where are the police forces to punish those who do not disclose? Where are the gemology classes on how to identify fracture fillings and where are the thousands of trained gemologists who can identify these fillings? Where is the equipment for this identification job? And who will pay the expense of checking every single emerald in the world?

Who has ever kept guard next to an emerald crystal from the moment it leaves the parent rock until it is set as a faceted gemstone in a piece of jewelry? How can you make a guarantee for all the hands that the stone passed through before it finally reached you? And all the hands it will pass through after it leaves your possession?

On every stage of the journey from the mine to the jeweler, emeralds are immersed in different liquids, for cleaning, for judging, for enhancing. Every owner wants the stone to look better than the price that was paid for it.

This means that with each change of hands there is potential for fracture filling. Can you imagine what a cocktail of oils, resins, epoxies, and other substances accumulates in the openings of the fractures? Even a good chemist is not in a position to identify such a small amount of such a complex material.

And if the filling can be identified what should we call it?

Shall we say the fractures contain opticon from the mine, plus petrol from the saw, plus lap oil from the cutting wheel, polishing compound, and oil from the last oiling performed after cutting plus the substance from the very last oiling, say Canada balsam resin, before the stone is set?

I feel that the term "oiling" as used in the trade long ago acquired a new meaning. It no longer means filling fractures with oil, it now refers to filling the fractures with any comparable colorless fracture filling material which enhances the appearance of the stone.

Please face reality! All cut emeralds are treated stones! They may be treated with different substances to different extents but they are all treated. It may be that you do not know or do not wish to know but if you use a microscope and look with trained eyes into emeralds you will find the fractures filled with something every time. And it really does not matter what the filling is, as long as the stones are not repaired or glued together.

It is hypocritical to speak about the good old days when everyone used oil. For many years, the so-called oil has often been in many cases a natural resin such as Canada balsam or cedarwood "oil." Natural resins were used because nothing better existed.

In his article, Mr Tank says that "...such material must be designated as treated, since a foreign material has been introduced into a natural stone." The traditional fillers are also foreign substances in the emeralds! What emeralds are you going to sell if not treated

ones?

I would like to offer to investigate the fracture filling of ten emeralds which Mr Tank selects randomly from his lots. We will perform a free analysis and I am sure he will be surprised by the results.

The SSEF Swiss Gemmological Institute has decided to accept all organic fillings in gemstones, including epoxy resin, as the normal case. A comment on the back of the test report says: "For enhancement of gemstones, fissures are often filled with colorless substances." In this way, the consumer is informed of this common trade practice.

If, in an uncommon case, an emerald has no fissures or no filling, we would honor this exceptional case by the phrase "no indication of fracture filling" on the front side of the test report.

I have not yet seen an invoice from the trade in which the manner and extent of treatment was indicated, either for emeralds or for other gemstones with fracture filling such as tourmalines which are filled with hot paraffin in a vacuum. Therefore I cannot assume that the community of gemstone dealers is going to change its habits so dramatically.

These are the reasons why colorless fracture filling has been widely accepted in emeralds.

## What do you think?

What do you think about filling the fractures of emeralds with epoxy resin and other issues facing our trade? Let your fellow ICA members know by sending your opinion to the ICA Gazette.