Filled emeralds: please face reality

Viewpoint by Dr H. A. Hanni of the SSEF Swiss Gemmological Institute. This article first appeared in the ICA Gazette published by the International Colored Gemstone Association in April 1993.

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

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

Although I have worked in a gemmological laboratory for more than 12 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... continued on page 78
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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 gemmology classes on how to identify fracture fillings and where are the thousands of trained gemmologists who can identify these fillings?
• Where is the equipment for this identification job?
• 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 jewellery?
• How can you make a guarantee for all the hands that the stone has passed through before it finally reaches you? And all the hands it will pass through after it leaves your possession?

At every stage of the journey from the mine to the jeweller, 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 the 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 and 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 acquired a new meaning long ago. It no longer means filling fractures with oil, it now refers to filling the fractures with any comparable colourless, 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...
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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 used has often
been a natural resin such
as canada balsam or
cedarwood oil. Natural
resins were used because
nothing better existed.
In article in the ICA
Gazette, the writer
Dharmendra Tank said
"... such material must
be designated as treated,
since a foreign material
has been introduced into
a natural stone." 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
Gemological Institute
has decided to accept all
organic fillings in
gemstones, including
epoxy resin, as the normal
case. A comment on the
back of our test report
says: "For enhancement of
gemstones, fissures are
often filled with colourless
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 honour 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 colourless fracture
filling has been widely
accepted in emeralds.

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Emerald, Ruby, Sapphire,
Diamond, Cab, Cut, Beads

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