



CORNERSTONE

Journal of the Accredited Gemologists Association

EMERALD TREATMENT — A BRAVE NEW WORLD

by Greg Fisher

Starting Over

They have been oiling emeralds in Colombia for generations but the techniques used are still primitive by U.S. trade standards. Since you can't be sure what treatment was used on the stones you purchase there, your first task after importation is to return those beautiful emeralds to their original state. Then you must treat them yourself. If you think of an emerald's interior as a series of caves, your objective is to remove all previous oils and open up each tiny interior crevice in order to make the new treatment as effective as possible. Instead of the fine green emeralds you purchased, you'll be left with green and colorless zoned gemstones.

Removing previous treatments requires extreme caution. The process may be as simple as soaking the lot in acetone or as complex as using an obscure acid in a vacuum to remove all oil, dirt and pol-

ishing compound, as well as natural unessential elements that were caught up in the crystallization process. These solvents are vital for thorough cleaning and range from simple over-the-counter alcohol to controlled complex acids that are used to manufacture and purify illegal drugs; some so strictly controlled that you are almost assured a visit by "inquiring minds".

Once the previous treatment is removed, the emeralds must not be touched. Even oil from your fingers can reduce the effectiveness of the final treatment. If it's not perfect, you start all over again!

Trade Accepted Oiling

The most commonly used oil is colorless, indescribably thick and sticky Canada balsam that is used alone or diluted to a lesser density to make the white voids that appear like cotton balls within the emerald less apparent. This process can be repeated if necessary, i.e., if the oil dried, leaked out via heat, or was damaged.

First a vial of the balsam is heated in water until it becomes liquid and very hot, then the cleaned emeralds are carefully dropped into the vial and completely coated by the balsam. Timing is critical! The emeralds must be removed before the balsam cools.

The next stage will be the first time you touch the emeralds since you began reversing the Colombian treatment. The object of this sticky, delicate operation is to force the colorless oil now coating the outside into the interior as deeply and permanently as possible. But first, you must remove excess oil from the exterior while making sure you leave enough to completely coat the emerald. (My favorite method is to use an alcohol blend.) If too much oil is removed from the completely coated surface, or if the emerald is accidentally touched, you are back to square one and must repeat the entire process.

The coated emeralds are then placed in a vacuum where the air is removed, forcing the surface oil

MEMBER NEWS

AGA is a nonprofit research, education and ethics organization, benefiting professional and avocational gemologists as well as the consumer interest. Membership programs include advanced gemological education seminars, professional computer software reviews and workshops, and the AGA Certified Gemological Laboratory Program.



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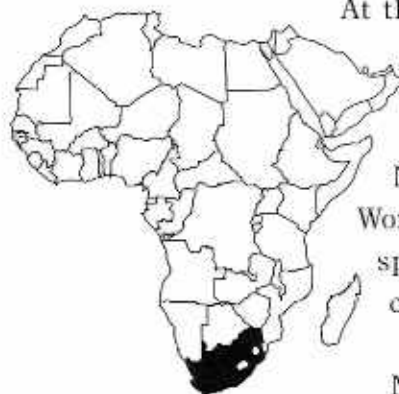
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At the special invitation of the Jewellery Council of South Africa, Anna M. Miller, G.G., International Director of the Master Valuer Program, instructed the Master Valuer 3-day Jewelry Appraising Workshop during Jewellx 1995. She was specifically acknowledged for her contributions to the jewelry industry during a gala ceremony attended by Mike Roman, JA outgoing president. Miller expects the highly successful valuation program to be repeated next year in Cape Town,



Johannesburg, South Africa. Ian C.C. Campbell, Independent Coloured Stones Laboratory, and Anna M. Miller, G.G., talk about the future of the Accredited Gemologists Association. Miller and Campbell were attending a meeting of the Gemmological Association of South Africa where Campbell made a presentation of mineralogical "Art-scapes".

MEMBERSHIP COMMITTEE

submitted by Stanley Cohen

The membership committee has been busy since Tucson where the AGA conference and our booth at the convention center generated considerable interest in our organization. Of the 37 AGA membership packets that have been shipped since then, we have had 11 new memberships.



We need input from all of our

members. Please let us know how we are serving your needs. If we are being successful in this endeavor, give us your feedback. If we are falling short in any regard, please give us your suggestions and constructive criticism. We need to hear from you; we need your participation. This is YOUR organization.

Either contact Leo Schmied, your AGA President 615/584-4034 or

Stanley Cohen, your AGA Membership Chairmen 817/346 - 2611.



Welcome New Members!

Susan B. Eisen, GG

Susan Eisen Jewelry
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534 W. Third Avenue, #120
Portland, OR 97204

Todd A. Gimble, GG

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Kathleen B. Mayer, GG

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Knoxville, TN 37919

Richard Revesz, GG

32 Ross Place
Tappan, NY 10983

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14685 N. W. Hunters Drive
Beaverton, OR 97006

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into the cracks. (There are a variety of methods used to do this and in each, timing and pressure are critical.) When watched through a plastic dome or window, the emeralds appear to boil as the air is removed from the internal cracks and crevices and is replaced by the oil. When the "boiling" stops and the bubbles cease, it's time to judge your skill and luck. The emeralds, still a sticky mess, are finally reminiscent of the fine green Colombian emeralds you started with.

When the "boiling" stops and the bubbles cease, it's time to judge your skill and luck.

Now the next step in the process begins. Using alcohol and a head loupe, excess oil is gently rubbed from the surfaces. You must be extremely careful. If too much is removed or if the emerald is rubbed too hard, oil can be pulled from the crevices that have just been filled. If you don't remove enough, the smooth crystalline faces of the emerald will be unnecessarily sticky and visually cloudy.

When all goes well, you have ready-to-market, trade accepted emeralds. While GIA's Gem Trade Lab doesn't mention colorless oiling of emerald unless specifically asked, your customer can be advised that the stone has been oiled and assured that no colored oil is within the stone. If you keep records, you can say when it was oiled.

The U.S. Federal Trade Commission guides, *Jeweler's Vigilance*

Committee recommendations, and AGTA disclosure advice is not addressed here. However, the various emerald dealers that were involved in the establishment of the guidelines have always insisted that colorless oiling didn't need to be disclosed because it is not a "color" treatment; the object has been to fill fissures, cracks, and breaks and, thus, lower the relative relief of the fractures and make them less noticeable.

Canada balsam, cedar wood oil, and dozens of other oils have been used with varying degrees of success. Both Canada balsam and cedar wood oil have a slightly lower refractive index than emerald, so the search was on to find an "in-fill" substance that would mask even more, and be more durable and permanent than these colorless oils. That's where we are today.

Opticon

Opticon, an epoxy resin with a higher refractive index, is an improvement over colorless oils. In the final stage of this treatment, a hardener is added that seals the Opticon within the emerald.

Before the advent of Opticon, emerald treatments were defined in the *Jewelry Industry Guide for Natural Gemstones, Synthetic Stones, and Imitation Stones* as:

- Oiling — the penetration of colorless oil into voids and faults to improve appearance

- Stabilization — the use of a colorless bonding agent (commonly plastic) within a gemstone to improve durability and appearance

After Opticon, the term "oiling" was no longer all-encompassing and new words entered the trade's vocabulary — epoxies, plastics, epoxy resins, plasticine, glassine, plasticizers, hardeners, low-polymer resins, complex polymer sealants — along with new waxes and Vaseline-like substances to finish off the outside of the emerald before final presentation for sale.

While durable, these new treatments have a downside when compared to the earlier oiling techniques — the emerald is "as is" forever; problems can't be retreated; and, disclosure is close to impossible.

In the early to mid-1990s, the "newest" technology became a fact of life when a series of articles appeared that ended whispered rumors among dealers and acknowledged the Yehuda treatment. "Our emerald treatment will never fade away," Yehuda said in an article in *Colored Stone* magazine¹. "You can steam it, put it in an ultrasonic machine, boil it in any detergent you wish, and you can even re-cut it. Moreover, we can take already treated emeralds, take out the old treatment, and give them ours. Flaws and cracks that did not disappear in the old treatment do

disappear after our treatment. Even cracks that do not break the surface. Another advantage is that you can treat emeralds in the rough. A big piece of rough emerald is usually full of cracks, and once you start cutting, it breaks on the wheel. There is a big difference, when taking a 20 carat piece of rough, between getting a 13 or 14 carat cut emerald if treated by us or 20 small stones if not." The article goes on to say that the Yehuda emerald treatment was first seen in the trade near the end of 1989.

All along, the objective was to develop an "in-fill" product whose hardness, durability, and refractive index helped rather than hindered the emerald. Yehuda's treatment accomplished all of this. In addition, the Yehuda name was already recognized as a leader in sophisticated diamond technology and "Yehuda-treated" was an acceptable trade term because we all knew what it meant.

We were now beyond simply sealing the filled breaks; we had an "in-fill" method that was far superior in durability than anything ever used before. Yehuda does not sell emeralds and only treats them for larger manufacturers and dealers. Yehuda's treatment (in emerald) is non-reversible and is as close to permanent as we have today. Naturally, as with all good things, several other laboratories began to offer similar treatments.

Contrary to what I read in the current trade journals I'm seeing more "filled" than "oiled" emeralds. They are an improvement over what we have sold for years. If disclosed for what they are, they are easy to sell and present fewer headaches for the jeweler and dealer, not more!

Future

So how do we improve on improvement? — computer assisted diffusion of emerald? — non-detectable emerald synthetics? — chemical bonding at the molecular level with

a doubly refractive "in-fill" product with an identical refractive index to emerald? — sophisticated vacuum environments that assure no air gap in the treatment itself? The list goes on. React as you will, it is a brave new world, and certainly not all bad!

About the author: Greg Fisher of Gem-sources in Austin, Texas, sells loose colored gemstones to the trade.

Editor's note: This material first appeared on Polygon and was edited with the author's permission for Cornerstone.

¹ "Yehuda Addresses Emerald Questions," *Colored Stone*, July/August, 1990, p.



"I've been putting out a newsletter dealing with my day's activities, but recently all my day's activities consist of putting out the newsletter."

CERTIFIED GEMOLOGICAL LABORATORY PROGRAM

submitted by Sharon Wakefield

Want to Belong To An Exclusive Club? Become a Certified Gem Laboratory



The AGA - Certified Gem Lab Program continues to set the standard within industry association programs. Our member labs meet rigorous requirements for: Education, Equipment, Visual Acuity, and Professional Ethics — and are re-certified biannually. The AGA program has received the ultimate compliment by serving as the model for other certified lab programs.

Do we feel like members of an elite group of industry professionals? You bet! Why don't you consider becoming a certified gem lab? You may already have most, if not all, of the required equipment and education — so why not take you AGA membership on step further, and apply for CGL certification. If you would like more information about the program and certification requirements, contact: Sharon Wakefield via voice - 208/362-3938 for Fax - 208/362-2889.

And Speaking of New Members

Please welcome AGA's newest certified lab member: Craig Walters. Craig owns Finis Gemological Laboratory in Portland, Oregon. He is a Graduate Gemologist, an Accredited Member of the International Society of Appraisers (ISA) and has been active in the state chapters of both the GIA Alumni Association and ISA. Welcome to the program, Craig!



It's That Time Again



Many of you have recently received your CGL recertification packets. To expedite the process, you will find letters and SASE to be distributed to your personal and professional references. By soliciting all the required recertification information in parallel, we can complete the process in a more timely manner. So, please remind your references to return their letters as soon as possible.



"With McBride here as our fall-back, our systems are virtually fool-proof."

APPRAISAL TASK FORCE NEARING COMPLETION OF GUIDELINES

You may have heard of the Insurance Documentation Guidelines being developed by the Appraisal Task Force of the Jewelers Vigilance Committee (JVC). These Guidelines, while not dealing with gemological issues, are relevant to those of us who sell gems and jewelry and produce "appraisals" or reports to be used for insurance purposes.

The committee was formed over two years ago and has been working diligently on the Guidelines ever since. The Guidelines are now in their final phase of development and it is hoped that they will be approved by both the Appraisal Task Force and the JVC board by the end of this year. While it would be inappropriate to publish incomplete, yet-to-be-approved Guidelines, Larry Phillips has graciously provided us with a sample of their content.

The Guidelines emphasize the responsibility of the preparer for accuracy in item description and the replacement cost represented.

They point out that any "appraisal", or any other document issued at point of sale has been interpreted as an express warranty under the Uniform Commercial Code (*Daughtrey v. Ashe*, Supreme Court of Virginia, 1992).

Here are a few of the basic tenets of the Guidelines in bullet form:

- Grading subjectivity should be disclosed.
- Reliance on the representations of others as to quality or value should be disclosed, e.g., manufacturers, independent gem labs, etc.
- Any variance between the stated replacement cost and the actual sales price should be disclosed along with the reason for the discrepancy.
- JVC does not recommend inflating the replacement cost for any reason, e.g., inflation.
- The replacement cost estimate should always approximate the most usual actual selling price of the item in the preparer's store, and the preparer must be able to provide the replacement in the event of a loss.

The JVC Guidelines also state that:

- It is improper to report false or misleading replacement costs in order to close sales.
- It is improper to misrepresent quality or exaggerate replacement costs.

- All known past, present, or future interest in the item must be disclosed.
- It is improper to misrepresent one's appraisal or gemological credentials.
- Records should be retained indefinitely.
- The Guidelines are a minimum. The law obviously takes precedence. Insurance companies and professional appraisal organizations may require a higher standard.
- Each document should state that it's intended use is to obtain insurance and that the stated replacement cost applies only to the preparer's store. The date the replacement cost applies and the date the item was examined should also be stated, along with the anticipated replacement method(s).
- All preparers of insurance documentation should aspire to the most complete description possible. Quality, condition, and other factors must be considered in determining what is adequate. A checklist of descriptive elements should be included. Treatments and synthetics must be disclosed. Damage must be disclosed. Photographs are recommended.
- JVC recommends a signed certification statement as well.

That's not all, and none of this has yet been approved. However, you

should be able to get the gist of the guidelines, i.e., know the truth, tell the truth and disclose, disclose, disclose.

One last point. JVC is not a regulatory body, a government or a court. We cannot enforce these Guidelines. Compliance will be voluntary! We won't stop the crooks, but we may be able to show honest folks how do an honest job of "para-appraising" for this one intended use.

When the Guidelines are approved they will be released through Cornerstone along with the industry media and taught by interested organizations (e.g., ASA) and individuals. In the meantime, we invite your comments.



Think About It . . .



"A diamond is a piece of coal that stuck to the job."

Thomas Edison

*"It Don't Mean A Thing
If It Ain't Got That Swing."*

Please send me a membership application for Accredited Gemologists Association

Name _____

Address _____

City _____ State _____ Zip _____

Phone # _____

Application Guidelines

Membership with full voting privileges is available to professionals holding gemological diplomas from accepted institutions.

Associate Membership is available to students of gemology and avocational gemologists.

Supplier Membership is available to providers of goods & services to the gem & jewelry industry.

Membership Dues & Fees

\$25 Processing Fee (one-time, non-refundable) will be retained by AGA.

\$125 Initial Voting Member Dues.

\$75 Initial Associate Member Dues.

\$175 Initial Supplier Member Dues.

Make checks payable to Accredited Gemologists Association, in US funds.

Membership is renewable annually (Voting \$100, Assoc. \$50, Supplier \$150).

Return This Request To:

Stanley Cohen, AGA Membership Chair

4747 South Hulen, Ste 109

Fort Worth, TX 76132

817/346-2611 voice • 817/370-8720

AGA will not discriminate against any applicant based upon race, creed, color, national origin, age or gender. Applicants are required to meet substantial member qualifications, and to adhere to the AGA Code of Ethics.