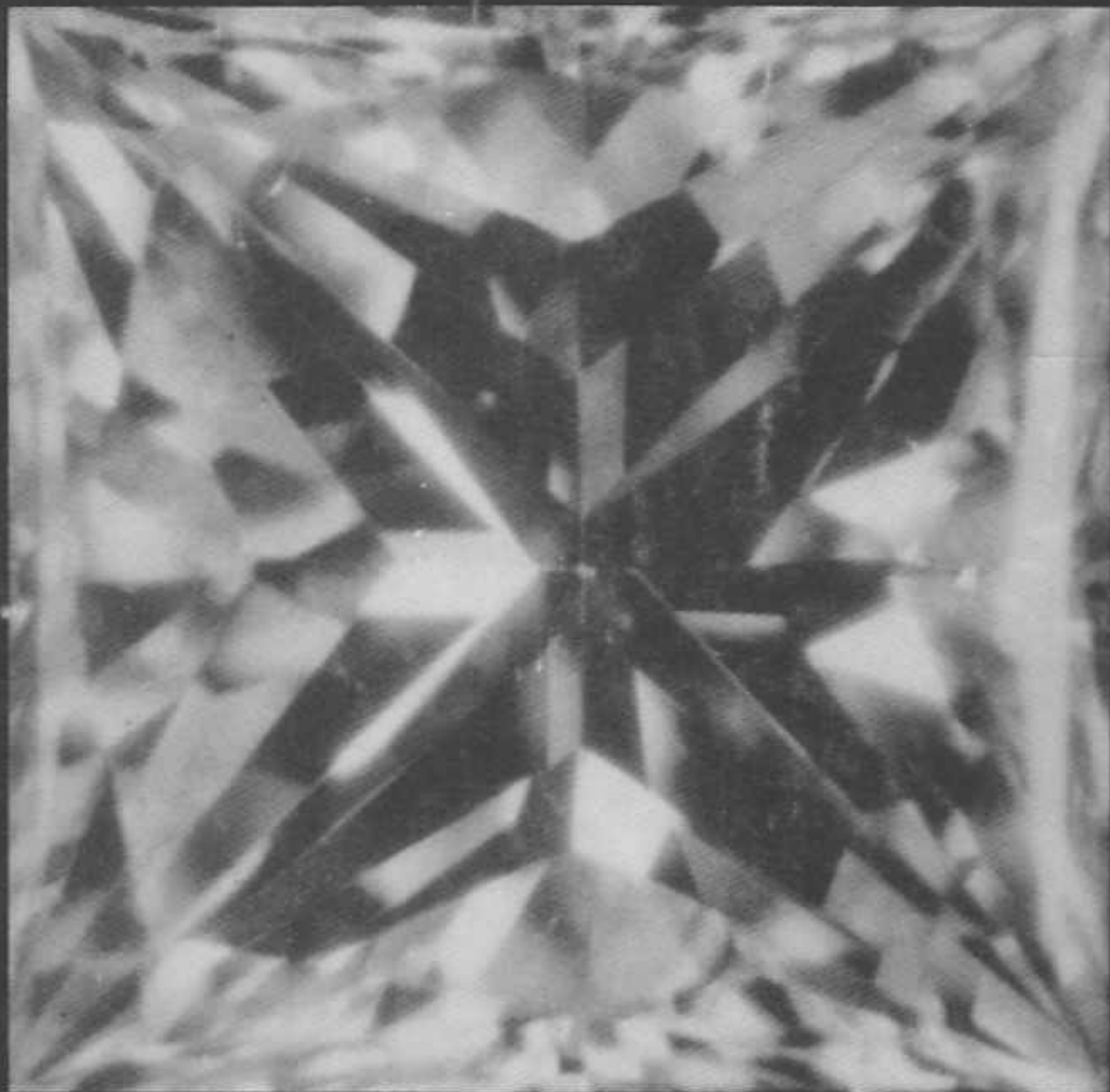


# CORNERSTONE

 ACCREDITED GEMOLOGISTS ASSOCIATION



JULY 1990

*Cover photograph by: Robert L. Rosenblatt*  
*Special thanks to AMBAR Diamonds, Inc. of Los Angeles California*  
*for permission to use their patented "Quadrillion" cut diamond.*

# Table of Contents

<i>President's Corner</i> .....	Pg. 2
<i>Letter to the President</i> .....	Pg. 3
<i>The Tucson Gem Show Dilemma</i> .....	Pg. 3
<i>Letter From the Editor</i> .....	Pg. 4
<i>The Life and Times of AGA</i> .....	Pg. 5
<i>"Gemstone Investment" Policy Statement</i> .....	Pg. 6
<i>Tucson 1990 Doubletree Hotel Annual Conference</i> .....	Pg. 7
<i>Tucson 90; The Adventure Begins</i> .....	Pg. 10
<i>AGA Washington Conference</i> .....	Pg. 11
<i>Valuing Cut Opal</i> .....	Pg. 12
<i>Appraisers &amp; The 21st Century!</i> .....	Pg. 20
<i>Oiling Emeralds</i> .....	Pg. 21
<i>The New Kruss Ultraviolet Spectrascope 2000</i> .....	Pg. 25
<i>First Investigation of Natural and Synthetic Alexandrites With the UVS-2000 Ultraviolet Spectrascope</i> .....	Pg. 28
<i>Doublets Which Simulate Emeralds</i> .....	Pg. 36
<i>European Gemological Laboratory Notes</i> .....	Pg. 38
<i>The Most Common Misconceptions About Flux Grown Rubies</i> .....	Pg. 39
<i>Truth in Appraising</i> .....	Pg. 42
<i>Some Unanswered Questions About 'Nuked' Blue Topaz</i> .....	Pg. 44
<i>GIA - An Open Letter to Accredited Gemologists Association Members</i> .....	Pg. 46
<i>Grelick Corporation Names Officers</i> .....	Pg. 47
<i>Antonio C. Bonanno Et Al - A Rare "Gem" Family</i> .....	Pg. 48
<i>Focus on David Atlas</i> .....	Pg. 54
<i>AGA Member Therese S. Kienstra</i> .....	Pg. 54
<i>Focus on Anna Miller</i> .....	Pg. 55
<i>Spotlight on James Jolliff</i> .....	Pg. 56
<i>Focus on Gerhard Becker</i> .....	Pg. 59
<i>Treasurers Report</i> .....	Pg. 60
<i>Board of Directors for 1990</i> .....	Pg. 61
<i>AGA 1990 Membership Directory</i> .....	Pg. 62
<i>Accredited Laboratory Directory</i> .....	Pg. 74
<i>Supplier Membership Directory</i> .....	Pg. 76
<i>Membership Application</i> .....	Pg. 79
<i>Supplier Membership Application</i> .....	Pg. 81
<i>Videotape Order Form</i> .....	Pg. 83



## PRESIDENT'S CORNER

BY: CORTNEY BALZAN

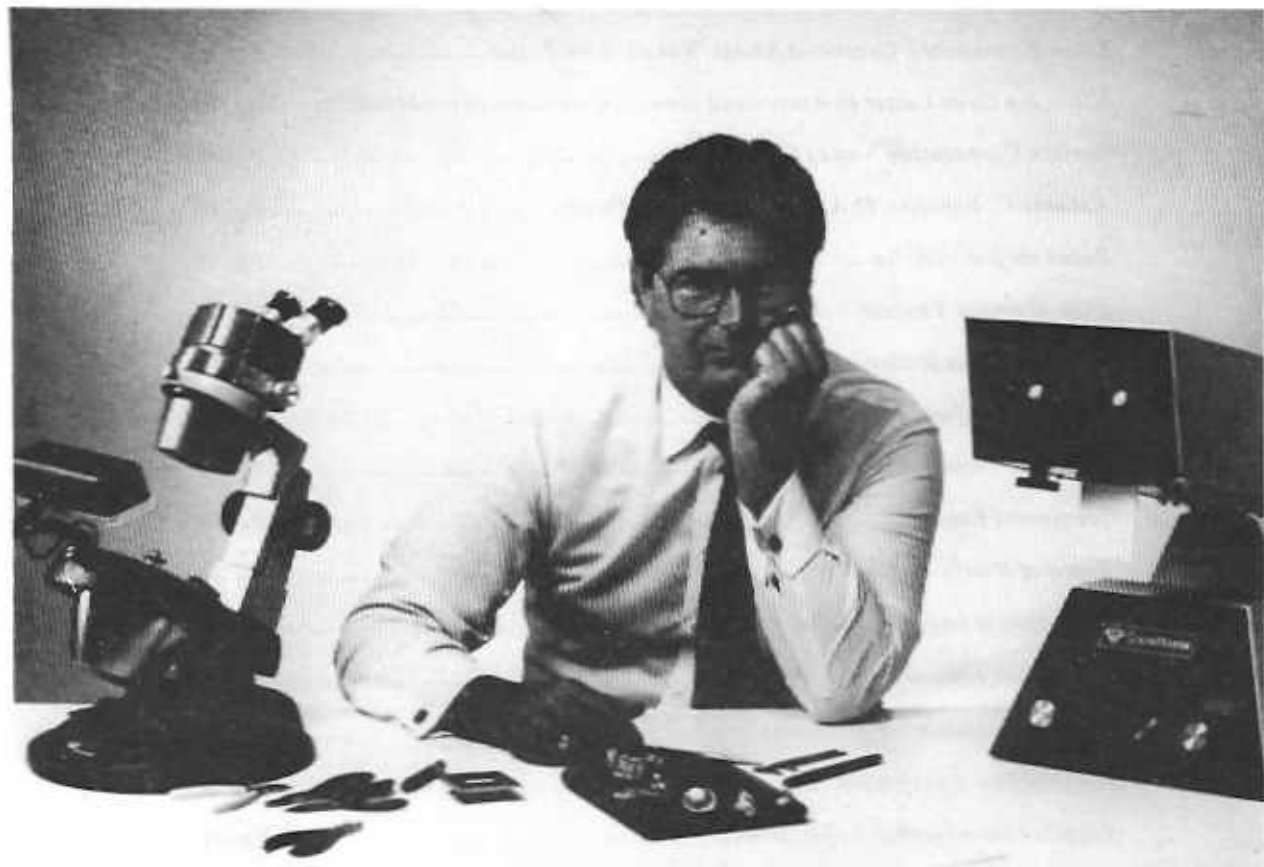
It seems like yesterday I started this post and now it is almost over. As AGA President for 1990, I am very pleased with the prospects for this year. Tucson sets the tone for the upcoming year. Consequently our programming is off to an exciting start.

The Board of Governors and Committee Chairs are committed to sustaining our high level of speakers for you. In addition, we will be holding more seminars to bring excellent speakers closer to our members.

The AGA plans to bring your Association closer to you. I suggest that this year you get closer to your Association, not only by attending events but by participating with committees or even joining a committee. We have many committees that often have need of members willing to devote their time and ideas. The AGA is a volunteer driven organization whose success depends upon steady and creative involvement by many individuals. Our staff of Board Members and Chairpersons will be putting on more events for more people each year and will need your participation to keep up the pace.

In addition to inviting you to be more involved, I also ask you to do something very important for your Association: invite others to join. We seek a broad and diverse gemological membership that reflects the vital needs of our industry. You can be of direct help by recommending new members. Not only will you help your Association, you will do your fellow gemologists a favor by giving them the opportunity to participate with many of the nations premier gemologists. Please remember that this is your Association and needs your support.

I wish you all the best for 1990.



# LETTER TO THE PRESIDENT

February 19, 1990

Mr. Cortney Balzan, G.G., M.G.A.  
Balzan Gem Lab  
915 Lootens  
San Rafael, CA 94901

Dear Cortney,

Just a word of encouragement to thank you for all your hard work and time given as President of the AGA. I appreciate your willingness to serve as you help educate and prepare us as gemologists who are known for keeping abreast of the latest in our field.

This year's AGA Conference in Tuscon was excellent. Not only was the in depth consideration of the Yehuda treated diamonds timely and important, the other areas were helpful also. I especially enjoyed Thom Underwood's software session and learned first hand about the packages most appropriate for my particular needs. (Even though it meant missing Ted Themelis's session.) And the slide presentation from Idar-Oberstein was very interesting, too. Add the dinner dance and social times and it all adds up to a great conference.

Thanks again for your excellent leadership of AGA.

Sincerely,

Karen DeLoach, G.G.

## THE TUCSON GEM SHOW DILEMMA

BY: B.J. CALDWELL

For most of you out there the Tucson Gem Show is an important and lucrative event, whether you are buying, or selling. Sales are good. Prices are excellent. Much variety can be found and at competitive prices. You can find almost ANYTHING that you want or have searched for during the last year. It is a pace setting show for the entire industry. So . . . why does it cause me and other Tucson jewelers such grief.

The GLDA (downtown Holiday Inn) is very lax in allowing ANYONE with ANY type of business license to attend. I have seen real estate people, beauticians, contractors of all kinds, and many more, who are buying gems and fine jewelry at the very same prices offered to me. This practice has caused a severe problem for us here in Tucson. Even our sister city, Phoenix, has been affected. Many dollars are lost to retail jewelers every year as people wait to purchase their jewelry "wholesale" at the Tucson Gem Show.

I am doing what I can as member of the Arizona Jeweler's Association. I would hope that as a member of the Accredited Gemologists Association you will be supportive of the retail jeweler. The AGTA has gone that "extra mile" in keeping their Tucson Show open to the jewelry trade only. No plan is perfect but there are things that can be done. I ask for you to support the AGTA through your purchases and sales. If you have conacts that sell at the GLDA, please bring up the subject. Those dealers are in jeopardy of losing a lot of jewelry store owners as their customers if they sell to the wrong people.

One of our strongest assets is the newtork that we have through the Accredited Gemologists Association. LET'S USE IT!



# LETTER FROM THE EDITOR

DANA RICHARDSON

Dear AGA Members,

This Cornerstone issue marks the 15th anniversary of AGA! For me it marks a milestone as well, my 6th and final issue as editor and publisher. It has been a lot of work, but very enjoyable and educational. It has afforded me the opportunity to meet and really get to know many of our members whom I otherwise might not have had the chance to. I could never have run the publications committee without the help of Robert Rosenblatt, our immediate past president, who was always gladly willing to answer questions, print and reprint articles, gather information and lend help and support. During the last two years I have also had the help of Suzy Crookston who has been the workhorse of the publications - typing in articles, running to and from the printers and post office, processing the mailings, etc. Suzy has been secretary extraordinaire! She is paid with funds from the publications budget, and this Cornerstone would never have existed without her help. The contents of this issue, for the most part, are a product of our members. Many have contributed articles, including new members such as Paul Downing, who did a wonderful presentation at our Tucson conference and is sharing with us his article on opal. Cortney Balzan, our president, has spent hours and hours, phoning and lobbying for members and associates to contribute articles and information. I think he has done a terrific job of bringing you the kind of publication that can make a real impact. In a way I hate to give up this job, but with two small children, one three years and one four months old, plus a business to run and a household to keep up (my husband calls me supermom-I feel more like superdudus), I need a break-at least for a while!

I think it is important to contribute to your community and to your profession. When you give your time you not only benefit others but you get back so much yourself. So don't be afraid to get involved. It's a growing and a learning experience and your life will be all the richer for it.

Darlene Johnson, who has slaved for Cortney and AGA this past year will be taking over the publications. I know she will work hard to keep

you up on all that is new. You can contact her regarding publications at Cortney's office, so..... keep in touch! I wish her great success in her new undertaking.

Thanks to all of you who have helped and offered your support. A few of you even sent letters of encouragement (and even some discouragement!). Thank you Karen DeLoach for your recent letter - it was very much appreciated. Publications has been a great challenge and a great experience for me and I appreciate all your patience and understanding. Not everything got to you in a timely manner, but believe me the efforts and intentions were always there.

I wish you all much happiness and prosperity.

Always,





# THE LIFE AND TIMES OF AGA

BY: ROBERT L. ROSENBLATT  
PAST PRESIDENT

During my association with AGA over the past decade, I've experienced an exposure to the jewelry industry that very few get a chance to enjoy. I first joined AGA in the early 1980's by answering a small classified ad in JCK. There were very few gemological organizations then, save AGS and GIA. Unless you worked for or owned an AGS store, or you were a student or pursuing additional classes, GIA had little to offer it's alumni. Of course times have changed and we have a plethora of industry associations and organizations. They range from send in your \$50 and be a "certified" jeweler to the prestigious Master Gemologist Appraiser program, from huge organizations like the GIA Alumni to AGA with less than 300 members.

From personal experience, very few of these associations offer their members a continual, ongoing exposure to critical gemological issues within the jewelry industry. The extreme ends of the spectrum have jewelers with no prior experience (they were selling shoes the week before) to incomprehensively technical laboratories like AGL or GIA, and very little in between. Appraisal organizations are scrambling to keep up with the legalities of appraisals in a world of ever increasing liability, and spend little time on gemological issues.

What's my point? AGA has a niche in the market place of organizations and associations. Ever since I've been going to board meetings within AGA I've heard people say, "what is the purpose or direction of AGA". I would like to summarize. To me, AGA offers something very unique that is not duplicated in any other organization. AGA offers an open forum, regardless of political bias, to the industry and it's members as a whole. Issues are related and debated, highlighted and discussed, criticized and promoted, all unincumbered by political pressures. Most gemological treatment issues we currently face have extreme political bias from the standpoint of gem purist or manufacturer. Both have points to consider, both have legitimate issues to deal with in the industry and both deserve a vehicle that allows

them open access to the industry. AGA is that vehicle. AGA has always been at the "cutting edge" of issues and technical developments. True, AGA has gone through periods of hesitation and change, positive growth, and complete chaos. Much of this is only a reflection of the gem and jewelry industry. We mirror the trends and changes within the industry. In my experience, the only way I can make wise and sound decisions about my career and business is to have the facts; all the facts, and not just one viewpoint. AGA has continually offered this benefit to me. AGA puts on great conferences, where much needed hands on experience is afforded the participant, and a platform to debate issues critical to my business, are offered in the open. I also found that; the more involved I became with AGA, the more I gained exposure to major industry issues. The more work I did, the more I learned. I still enjoy on-going relationships with professionals in all walks of the industry. This simply wasn't possible before I joined AGA. I was landlocked and in my gemological "ivory tower" with no one to confer with and no chance to get to meet the people who were at the crux of industry issues.

This issue of CORNERSTONE is probably the best AGA has ever produced. We listened to you, AGA members. We've almost entirely dispensed with summary articles of previously published work. Most of this issue is original work and not duplicated in any other publication. We will continue to encourage our members to participate and get involved! AGA is *your* organization. Dig in and help. Send in your points of view, your complaints, your praise, and most of all, tell us what you want AGA to do for you! This issue is late and we know you haven't been receiving regular UPDATE issues. This issue took literally hundreds and hundreds of man hours of work. For an association the size of AGA, this issue has been a mammoth undertaking. Also, you will soon be receiving an all new membership directory and promotional material designed to help you boost your community image as an AGA member. We are putting on more mid-year or mini-conferences than ever. These conferences are designed to give you first hand, hands on exposure to issues you need to know about!

This is an election year.. PLEASE join me in a round of applause and standing ovation for the current board and committies for a job well done. When you get the nomination ballot, "dig in" and GET INVOLVED in AGA. The rewards are all yours!

**For Immediate Release  
to  
General Membership  
of the  
Accredited Gemologists Association**

**Date:** February 6, 1990  
**Subject:** "Gemstone Investment" Policy Statement  
**From:** Board of Directors and Regional Governors

During the annual board meeting held in Tuscon Arizona at the Doubletree Hotel, the board held discussions regarding AGA's stand on issues of gemstone investments by the general public. By unanimous vote, the board decided to make a firm stand against the sale of gemstones to the general public purely for investment purposes. Further the board wishes to discourage members from knowingly taking part in any activities to promote the sale, certification or appriasal of gems to be sold purely for investment purposes to the general public.

Therefore:

**"It is against AGA policy to knowingly promote, certify, appraise, or sell gemstones to the general public purely for investment purposes."**



# TUCSON 1990 DOUBLETREE HOTEL AGA ANNUAL CONFERENCE

BY: CORTNEY BALZAN

This year's AGA Annual Conference played to a packed house at the Doubletree Hotel. The events for the first full day schedule packed the convention rooms from 9:00 a.m. to 10:00 p.m.

The morning session comprised the discussion of Yehuda Treatments. Though the subject touched on lasering diamonds and the new Yehuda Treated Emerald, the focus was on Yehuda Treated Diamonds. The objective was to receive various points of view from association leaders, speaking from their expertise concerning the Yehuda Treated Diamond: identification, evaluation, valuation, liquidity, pricing, certification and disclosure.

The participants represented two internationally recognized gemological laboratories, two appraisal associations, four major trade magazines and the Yehuda Treatment representative.

The four hour session allowed for diverse views based on what the speakers discipline represented.

C.R. "Cap" Beesley, President of American Gemological laboratory and Tom Yonelunas, Director of G.I.A. Gem Trade Laboratory, New York, touched on the certification of Yehuda Treated Diamonds.

Joseph Tenhagen, International Chairperson, Gems & Jewelry for the American Society of Appraisers and Donald Palmieri, President of Gemological Appraisal Association, Inc. and publisher of GAA Market Monitors, touched on liquidity, pricing, valuation and disclosure.

Isaac Landerer, Dialase Inc., manager and marketing arm for Yehuda Treated Diamonds spoke on evaluation, valuation, pricing, certification and disclosure.

Cap Beesley spent many hours of research on and examination of the Yehuda Treated Diamond. The focus was mainly on the polished diamonds and not the rough. His results can be

read in Modern Jeweler.

First, the diamond is treatable only when surface breaks allow penetration from high pressure and vacuum methods. From the face up position the "flash effect" of orange and blue colors gives indication of treatment when rocked back and forth. This should not be confused with the rainbow colors caused by strain or fractures seen in natural untreated diamonds. The crackled fingerprint like texture is another feature characteristic in treated diamonds. This comes from the drying process and may look similar to dried mud in some cases. The flow structure shows a glassy look and sometimes shows trapped bubbles.

The bulk of treated diamonds are in the imperfect category but some SI grades can be made to look like VS grades. The higher grades may slip by the grader unless careful and thorough examination is completed. American Gemological Laboratories will identify and evaluate Yehuda Treated Diamonds with mandatory disclosure of treatment.

Donald Palmieri completed a case study to get his point of view across. His client had purchased a 4 carat plus, pear shaped diamond which she brought into a jeweler (not the one from whom she had purchased the stone) to trade it in on a larger stone. He told her he thought it might be a treated diamond but was unwilling to appraise it, and sent her to Donald. Her attorney brought in the stone wanting to know if it was treated and if so what was its cash value, and what would the cash value be if it was not a treated stone. The original seller had not disclosed that it was in fact a Yehuda Treated Diamond.

Taking the normal professional procedures for valuation, Palmieri sought out comparables on these treated diamonds, liquidity and normal channels for disposing of these stones. Is the market similar to its natural counterpart?

Comparables are basically hypothetical at this date. Palmieri's market contacts were cutters and dealers in the mainstram of buying and selling diamonds. After disclosure of treatment, disposing of the diamond shows market resistance. There is very little realistic market liquidity in the secondary marketplace as compared to their natural counterpart.

Tom Yonelunas of G.I.A. Gem Trade laboratory remarked that no quality grades for certification are given by G.I.A. They would rather not get involved with the guessing game on better

clarity and lower color grades. They grade what is known to them and at this time would rather stay away from the unknown.

Palmieri remarked that if G.I.A. doesn't certificate and grade these diamond for a basis for valuation, where will you get grading for pricing or market information? You can't look to the Rapaport Diamond Report or Diamond Market Monitor because they do not list these treated diamonds. Consequently, regular information is absent in the marketplace.

Joseph Tenhagen will appraise these treated stones. According to him the astute evaluator should first identify and grade them carefully. The beauty of the diamond could improve but the wearability and durability factors may not improve. The fracture that is filled is still present but less noticeable. In otherwords, if the diamond is imperfect and treated to face up as SI, it is still imperfect in nature. The fracture is not removed but filled.

An evaluation based on the diamond's original condition might be a more realistic approach for grading rather than the improved treated appearance. We do have grading conditions given by G.I.A. considering the nature of surface breaks, their size and location, however, assessing what the stone looked like before the treatment might be a difficult proposal. Covering these up can enhance the beauty but not the wearability and durability. There are degrees of imperfect grades. You may improve the imperfect diamond to a better looking imperfect diamond.

The diamond of course has value. Once evaluated properly you can appraise it. The treatment should always be disclosed. Grading, identification and evaluation for valuation purposes on Yehuda Treated Diamonds will become more defined when more of these diamonds are in the marketplace.

Isaac Landerer, sells the Yehuda Treated Diamonds to clients, besides taking in diamonds for treatment. He sells them at the finish treated grades. Isaac contends that a treated SI clarity grade appearance will be sold as such but at a discount from an untreated stone of the same visual clarity. In case the color goes down it will be graded and sold as such. The treatment is permanent and stable with normal wear, although not necessarily to the jewelers torch.

Dialase contends there is market acceptance. Laboratories such as IGL are grading the treated

diamond and giving out certificates. There is demand for Yehuda Diamond Treatments. They will be expanding their facilities to meet this increasing demand.

The reason for such demand is that half of the world's polished and rough diamonds are in the lower grades. Many of these diamonds need improving. The cost of the treatment warrants the improved appearance. The diamond's beauty does improve when conditions are right for treatment. Your client will pay to have their diamond more beautiful. Dialase, Inc. does not intend to mislead anyone and makes their clients sign an agreement which includes disclosure stating that this is a "Treated diamond or Clarity enhanced diamond or Yehuda Treated diamond".

Valid points were made by all the speakers. The one issue everyone agreed upon was disclosure of the treatment. Ideally this must be done all the way along the line from seller to buyer at all points of the distribution chain. There were questions raised that will be clarified in the future when industry discussion leads to acceptable standards.

Video tapes are available for all sessions including the controversial panel discussion by industry experts and trade press. Please see enclosed order form.



*President and Past President Still Recruiting*



*Darlene Johnson & Pam Abramson at the AGA Booth in Tucson*



*Panel Discusses Diamond Treatments*



*Dana & B.J. Greet Guests at the Dinner Dance in Tucson*

# TUCSON 90; THE ADVENTURE BEGINS

BY: GREG BORRELLI

It was with a great deal of anxiety and excitement that I began my 6 day experience in Tucson. I was told to expect a frantic pace of lectures, exhibits, tours and socializing. I was overwhelmed! From the moment we arrived there was constant activity. The various dealers displaying their wonderous new 'finds'. The space-age technology and it's application to the jewelry industry was fascinating. The fierce competition that naturally abounds amongst the vendors. All this intense activity in such a picturesque setting.

I came prepared for swimming pools and hot tubs, what a laugh! As our plane was being pelted by snow that 29 degree evening, I realized that I had better adjust quickly to an unpredictable schedule. I soon adopted a very humble persona and decided my time would best be served listening, digesting and applying the wealth of data offered by the various AGA lecturers.

Don Palmieri hosted a sobering lecture in which he defined the jewelry industry. He was thorough in diagramming the impact of 'wholesale' centers, USAA, television marketing and other deep discounters who have successfully unraveled the traditional mom and pop jewelry market. Survival is based on seizing opportunities. Don stressed issues of disclosure, integrity and service. As the world economy vascelates, the concept of 'investment' goods has re-emerged. To some degree the industry is still rebounding from the catastrophic intrusion by 'boiler room' brokers on the legitimate market.

The Sapphires of Kashmir was an intoxicating exhibit and a very provocative lecture. The political and social unrest in the region lends to the mystique of the rarest of gems. Cap Beesley created a fascinating historical exhibit that traced both the discovery and the sovereignty of Kashmir.

The Yehuda diamond and emerald treatment was presented in a hands-on lecture at the Doubletree Hotel by Isaac Landerer representing Dialase of New York. During his

frank presentation of both his product and service, he repeatedly fielded pointed questions and criticisms with equal candor. The issue of disclosure (gnawed) at many of the attendees and I'm not sure it was ever completely answered. The unveiling of the emerald treatment had the room buzzing. As the many renowned experts in the room agreed, a critical issue of ethics surfaced. The infusion of a foreign substance would no longer deem a stone 'natural' regardless of how improved the finished product became. Consumer confidence has been severely eroded with the advent of the cubic zirconia and yag technology. Couple this with the rampant under carat/karating of merchandise and one is challenged to re-think his future in the industry.

As I write and recall those six days in February I am so grateful for the experience and fully committed to grasping all that I can from the wealth of resources (both human and technological) that AGA offers. I love buying and selling jewelry. I am extremely sentimental and romantic. I am 'as happy as a clam at high tide'.

Thank you all for taking time to share your expertise and anecdotes.





# AGA MINI-CONFERENCE WASHINGTON D.C. AREA

The Accredited Gemologists Association will host a one day, hands on, mini-conference covering diamond and gemstone treatments: IDENTIFICATION (hands on with instruments), GRADING AND VALUATION, and a special panel of experts covering "GEM INVESTMENTS: FACTS, FICTION AND FALLACIES". The conference will be held Sunday, September 16, 1990, at Old Colony Inn in Alexandria, Virginia (6 minutes from Washington National Airport). The panels of experts will consist of some of the most notable laboratory and appraisal practitioners, as well as major dealers who buy and sell such gemstones. In addition to industry experts, government and trade experts will address the legal questions surrounding these issues. Conference attendees will hear pros and cons to the issues of *Gem Treatment* and *Gem Investment*. This conference promises to be one of the most compact, intensive and exciting training capsules offered on these subjects.

There will be several panels during this seminar which will include:

#### IDENTIFICATION

with panel members

- Robert Crowningshield  
Executive Vice President GIA Gem Trade Labs
- Douglas Jaffe  
American Gemological Laboratory
- Ted Themelis  
President Gem Lab Inc.

#### GRADING AND VALUE

with panel members

- Douglas Jaffe  
American Gemological Laboratory
- Alfredo Molina  
Molina Fine Jewelry
- Donald Palmieri  
President Gemological Appraisal Assoc.

#### GEM INVESTMENTS-FACT, FICTION AND FALLACY

with panel members

- Robert Friedman  
Federal Trade Commission
- Joel Windman  
Jewelers Vigilance Committee
- Notable diamond and gemstone dealers

#### LEGAL LIABILITY

with panel members

- Robert Friedman  
Federal Trade Commission
- Joel Windman  
Jewelers Vigilance Committee

There are other panel members and speakers being lined up as well, and this should prove to be a very important seminar! Hope to see you there.

Refreshments and lunch are included. Cost of the conference is \$150.00 for non-members (includes a 6-month free introductory membership to AGA to qualified gemologists and students), and \$100.00 for members of the Accredited Gemologists Association and Gemological Appraisal Association.

For further information contact:

Donald A. Palmieri, G.G.  
Director, Education and Accreditation Division  
666 Washington Road  
Pittsburgh, PA 15228  
(412) 344-5500

## OTHER UPCOMING MINI-CONFERENCES

#### SAN FRANCISCO CONFERENCE

AGA PRESENTS DROR YEHUDA

and will include a panel with the trade press, ASA and GIA

Sunday July 29th

Contact Courtney Balzan (415) 454-8553

#### PHOENIX AREA CONFERENCE

AGA PRESENTS DROR YEHUDA

at a dinner seminar

Monday July 30th

Contact Alfredo Molina (602) 277-9780

#### MIAMI CONFERENCE

AGA PRESENTS DROR YEHUDA

Sunday October 14th

Contact Tom Seguin (813) 756-8787





# Majestic Gems & Carvings

## VALUING CUT OPAL

by

**Paul B. Downing, Ph.D**

Author "Opal Cutting Made Easy" and "Opal Adventures"

*Author's note: The opinions presented here are mine or my interpretation of the others discussed. They do not necessarily represent those of the American Opal Society or Barrie O'Leary.*

"Isn't this a lovely stone. I just brought it back from Australia. The man told me it was a rare black opal. He gave me a real buy. How much is it worth?" Lord protect me!

The question of value comes up continually. And it is never an easy one to answer. First we must determine what is meant by value. In a very real sense, the answer to the lady's question above is "whatever you paid for it" since having purchased the piece, she determined that it was worth the money to her at that time. However, she is more likely to be asking how much an equivalent stone would sell for in the United States. In other words, she is seeking some estimate of market value. Appraisers define market value as the amount paid by a knowledgeable willing buyer and accepted by a knowledgeable willing seller who is unrelated in family or business. In fact, there are all sorts of market values; wholesale and retail. The "retail" price you would pay at a gem and mineral show may be different from the "retail" at a jewelry store.

## FACTORS WHICH INFLUENCE VALUE

In an attempt to answer the question of market value, let me first outline the many factors which influence this value.

**BASE COLOR** - The background color of the stone. This background color may be part of the precious opal, a patch behind the color, or another kind of stone. Background colors include black, semi-black, crystal, semi-crystal, white, orange, grey, brown and boulder brown.

**FIRE COLOR** - The color or combination of colors which are produced when light is diffracted out from the stone. Red, orange, green, and blue are the most common fire colors found in pure form or in combination.

**FIRE INTENSITY** - The brightness of the fire coming from the stone. To be assessed independently of either of the above factors.

**FIRE PATTERN** - The pattern made by the play of color. Patterns are infinite and no two are alike, but they can be generally categorized as follows.

*Pinfire* - Small pinpoint circles of fire. When viewed from the side this pattern often looks like the side of a pin. The side view is called columnar fire.

**Flashfire** - Larger areas of fire, usually irregular in shape.

**Broad Flashfire** - Sheets of color usually covering a large section or all of the stone's surface.

**Rolling Flashfire** - Sheets of color which roll across the surface of the stone as it is moved.

**Harlequin** - Sets of angular or square blocks set closely together. Fancy patterns that are not regular are also especially valued but not true harlequins.

**RARITY** - Some stones are rare or unusual and need to be given special attention. Yowah opal commands a premium because of rarity. Crystal from Lightning Ridge Australia is also valued more highly than other crystal because of rarity. Andamooka solid opal is valued more highly because of its reputation of being more stable than other opals.

**WEIGHT** - Other things being equal (and they never are) a larger stone is more valuable per carat than a smaller one. However, if the stone is quite large the value per carat declines somewhat because it may be too large to use effectively in jewelry or because total price restricts the market to be a few buyers.

**CUT** - The overall shape and quality of cutting. This includes:

**Shape** - Oval; calibrated or standard size oval preferred, baroque or irregular non-oval outline and proportionality (for example stones cut fat to gain weight are less attractive).

**Dome** - Flat, low, medium, high top of cabochon. A high dome on bottom of stone is objectionable.

**Inclusions** - Spots visible to a practiced eye. These include sand, common patch with no color, black feathers and cotton (white spots). These detract if visible from top of stone but are of little significance if on the back.

**Fractures** - Cracks in the stone, even very tiny ones, are seriously faulted as are chips.

**Polish** - Absence of scratches and a clear high shine. Lack of polish on back may not detract from the stone.

**CONSISTENCY OF FIRE**- The ideal is a stone that shows good fire in all directions as you turn it or pick it up. A stone which shows color only in one direction is called highly directional and should be faulted. There is, of course, a continuum from non-directional to highly directional.

## WEIGHING THE FACTORS

Now that I have listed the factors which are likely to influence the market value of a stone, it is necessary to discuss how much weight to give each. This is where the fun begins. While most opal experts would agree with the list of factors presented above, none would agree completely on the degree to which each influences market value. Furthermore, the influence will depend upon what market you are assessing. For example, red multicolor is the most preferred and thus most valued in the United States, while green-blue is most preferred in Japan.

In the following discussion I will present my experience for the U.S. market and compare it with two other sources. These sources are Barrie O'Leary's book *A Field Guide To Australian Opals* and the American Opal Society's (AOS) *Opal Appraisal Kit*. The former is an Australian market perspective but is still very useful. The latter is a system for appraising opal which includes a set of 15 standard stones used to calibrate the three most important factors in market value: base color, fire color, and fire intensity. There is another booklet published in the U.S. which offers guidance to valuing opal but the author refuses to allow any quotation from it for any purpose.

**BASE COLOR** - Everybody agrees that a black base color is more preferred than any other. But beyond that opinions differ as you can see below. Value is listed from highest to lowest.

AOS	O'LEARY	DOWNING
Black	Black	Black
Crystal	Black Crystal	Top Crystal
Semi-Crystal	Semi-Black	Semi-Black, Boulder
Semi-Black	Crystal, Fire (Mexican?)	Crystal, Semi-Crystal,
Grey	Top White	Top White
White, Orange, Jelly	Grey, White, Boulder	White, Grey

O'Leary rates black at 30 points and crystal at 10 points in his system (The maximum points available are 93 as I read his system). In my opinion it is at least twice as valuable as equivalent top crystal and may be ten times as valuable or more in special cases. By top crystal I mean a clear crystal stone that is so full of color that you cannot see through it to your hand when it is laid on top of the space between two fingers. Crystal which can be seen through will tend to wash out on your hand. Hence it is less valuable. In my opinion it is not until base color gets to semi-black that greyiness is more valuable. Boulder opal used to be inexpensive but as supply has dwindled and demand increased, prices have shot up. O'Leary's lower rating here may reflect the fact that his book was published in 1977.

**FIRE COLOR** - The American market prefers reds about 2 to 1 over green-blue stones. All three sources seem to agree fairly closely here. The listing below is just an order of preference in each case. I do not intend to imply that colors on the same line across have the same value in each system.

AOS	O'LEARY	DOWNING
Red Multicolor	Red-Blue	Red-Blue
Multicolor	Red-Multicolor	Red-Multicolor
Orange-Green	Orange-Green	Multicolor,
Green-Blue	Green-Blue	Orange-Green,
Blue	Green	Red-Green
Red-Green	Blue	Blue-Green
	Indigo	Blue
	Purple	

I have had to interpret O'Leary and there is some inconsistency in his ordering (p. 117 and 119). In general, I find people like red-green in a loose stone but it does sometimes wash out when set in yellow gold. One of my good friends, a GIA appraiser, agrees with the AOS.

**INTENSITY** - Everybody agrees that brighter color is more valuable. O'Leary gives extra points to what he calls a "night stone", one that holds its colors even in very poor light, but only gives 6 of 93 points to intensity. I believe it is more important than that.

**FIRE PATTERN** - All agree that Harlequin is most valuable.

AOS	O'LEARY	DOWNING
Harlequin	Harlequin	Harlequin and
Rolling Flashfire	Pinfire	Other Fancy
Flashfire	Flashfire	Patterns
Pinfire		Rolling Flashfire
		Broad Flashfire
		Flashfire
		Pinfire

The AOS Kit does not actually mention flashfire so this is my interpretation of their meaning.

**WEIGHT** - All agree that a small stone is less valuable than an equivalent larger stone, but there is no factor given by O'Leary or the AOS. It is my experience that stones over 1 carat are about 20-30% more valuable per carat than smaller stones and that large stones (10 carats) are about twice as valuable per carat as equivalent one carat stones. However, once stones become quite large value per carat actually declines. How the largest stones reduce in value is a case by case thing.

**CUT** - While I personally prefer baroque stones (stones of irregular shape), I have to agree that ovals are more easily sold when loose, especially if they are a standard size. In my experience, baroques are hard to sell unset, but sell faster than ovals when set. I think this is because most people cannot imagine how a baroque stone will look when set and do not have a custom jeweler in whom they have confidence. O'Leary gives a flat topped stone 1/3 the value of a high dome. I think this is quite excessive but I agree flat is less valuable. Again a flat stone is easier to sell if set. This is especially true of a patch and color stone with color only on the top of the stone. The AOS states that such a stone cannot be given a high rating (above 4 in their appeal factor) no matter how bright it is. I don't entirely agree with this assessment. In fact, many of the well-known, highly valuable Lightning Ridge stones are flat-topped. Some flexibility is required here. All agree that imperfections on the face seriously detract from value but imperfections on the back of the stone are not very objectionable.

**CONSISTENCY OF FIRE** - This factor is important, all agree. Most stones are brighter and/or of better pattern from one direction. This is why I spend so much time on orienting the fire in my book *Opal Cutting Made Easy*. A directional stone is less valuable, perhaps as much as half as valuable in some cases. O'Leary calls this factor trueness and gives it 6 points if very true and none if it has no color from at least one direction.

## APPRAISING OPALS

I have talked at length to opal experts in the U.S. and in Australia. All agree that placing a market value on an opal is more difficult than valuing any other gemstone. The primary reason is that each opal is unique. This is in great contrast to diamonds where many stones are virtually identical.

The second reason is that there is no standard terminology that is accepted by all merchants and appraisers. Opal terminology is as varied as the dealers, and to make matters more difficult, many dealers use the same words to describe different things. Some use a grading system of A, AA, AAA, etc. Others call stones commercial, good, fine, gem. The problem is one person's gem grade is another's commercial grade.

## TERMINOLOGY

There is no doubt that the terminology used to describe opals is confused. In large measure this is because there is no one widely accepted set of definitions. The definitions I provide here are my understanding of common usage among the Australian opal experts. This does not mean that they are the only set of definitions, for they certainly are not. I believe my definitions are consistent with those of the Australian Gem Industry Association (AGIA) as used in their *Opal Certificate*. In the U.S. three sets of terminology have been published in addition to mine. The GIA published several pages of definitions in its *Gem Reference Guide*. An appraisal manual for all colored stones, including opals, called *The Guide*, includes a different list of definitions. The American Opal Society in their *Opal Evaluation Kit* provide the third list of definitions. There are other lists of definitions as well. Barrie O'Leary's *Field Guide to Australian Opals* presents another set of definitions.

Each set of definitions is somewhat different. It would be nice if the industry could adopt one set of definitions and use it consistently. This would reduce the confusion I find in the market place. There are two areas where I find the greatest inconsistency in the use of terms; base color, especially black, and the harlequin pattern.



## BLACK OPAL

One of the most commonly confused terms is the black background color of some opals.

"Do you have any black opal?" the lady asks. "Of course," Bobbi answers and directs her to a lovely large pendant with a full range of colors. "That's not black, it has all those colors in it," the lady responds and Bobbi starts another education session on the meaning of the term black opal. The lack of understanding of this term is widespread indeed, even among opal dealers and jewelers. Many light stones are inappropriately called blacks. Some people consider any stone from Lightning Ridge a black, but in reality most of the stones produced there are not black opal by the standards used by the Lightning Ridge Miner's Association.

When we went to Lightning Ridge we wanted to find out what the experts on the Opal Advisory Service of the Lightning Ridge Miner's Association defined as black opal. Ted Priester, Secretary of the Association, states that there is a great deal of confusion about what constitutes a black opal, even among the miners. The miners call many stones blacks when, in fact, the Association would not define them as black.

What, then, does the Lightning Ridge Miner's Association consider a black opal? According to the Association, a stone is a black opal only if "...it shows a dense black background when viewed from the top of the stone." The black must come from the opal, not from another material such as the ironstone of boulder opal. Ted says that it does not matter what the stone looks like from the back. A black back does not make the stone a black, just as a white or gray back does not preclude it from being a black. It's what's up front that counts. The most preferred black is one that shows a midnight blue tint on the black with the other colors on top of this blue-black background. This is the best gem black. Old timers speak glowingly of stones they found or have seen by saying "Ah, it had the blue." Such is enough to identify it as something really special.

Ted showed us a set of stones which were pure patch (non-precious opal) but which ranged in background color from crystal (water clear like glass) and white to jet black. Next to the white was a light gray (termed a gray), then a medium gray (termed a semi-black), and three degrees of black ranging from slate to pure jet black. Each Saturday morning the Lightning Ridge Miner's Association offers a grading and valuing service to its members. Each cut stone is compared to these background stones and only those which meet this standard are graded as black opals. It is interesting to note that the Lightning Ridge Miner's Association definitions are identical to those of the American Opal Society except for the breakdown of black opals into categories.

The Gemological Institute of America in its *Gem Reference Guide*, part of its Gem Identification and Colored Stone Grading Course (GIA, 1988), defines black opal as "translucent to opaque with play of color against a black, dark grey, blue, green, brown or other dark body color." Thus, they are more inclusive than the Lightning Ridge Miner's Association or the American Opal Society but agree that the base color should be dark.

How much is a true black opal worth? As always, this is a very difficult question. The very best gem grades of cut black opals are worth \$5,000 to \$15,000 per carat or more in 1989. Some really nice Lightning Ridge black opals can be purchased at \$400 to \$1500 per carat, cheaper than the best gems but still quite beautiful. Some say a black is worth 3 to 5 times the value of a crystal of equivalent quality but I have never seen two stones "of equivalent quality" since black looks so different.

To sum up, according to the Lightning Ridge Miner's Association and most other sources, to be a black the background of an opal must look dark from the top of the stone. This dark background must come from the natural unaltered stone and the stone must be all opal. It need not be black on the back. A black back does not make the stone a black opal. No boulder opals are blacks, nor are doublets, triplets, or the treated matrix from Andamooka (made black by sugar and acid). Also, since the background of the Honduras opal is basalt, these are considered matrix opals rather than black opals.





The GIA definition of black seems to allow boulder opal as a black if it is dark. There is a difference of opinion among opal people in Australia. One dealer points out that dark boulder is true black because there is a thin layer of black patch opal between the fire lines and the ironstone matrix.

Black opals are found in many fields, in addition to Lightning Ridge. We saw a spectacular black mined within a block of downtown Coober Pedy one recent trip. And of course, Mintabie has produced many excellent blacks over the last several years. Some of the best black opal I have ever seen has come from Virgin Valley, Nevada.

## HARLEQUIN FIRE PATTERN

Another frequently confusing term is harlequin. The term comes from the costume of the buffoon in a "commedia dell'arte, traditionally presented in a mask and parti-colored tights" (The American Heritage Dictionary). Used as an adjective it means "having a pattern of brightly colored diamond shapes". In opal it is used for a rare regular square pattern of colors. The strictest definition allows only these regular squares; however, terminology has been broadened over the years. GIA defines a harlequin as "broad, angular, close-set patches of color (*Gem Reference Guide*). O'Leary defines the term as "a regular mosaic-like (fire) pattern in rounded, angular, or roughly square patches of about equal size" (p.23). Thus, he allows roundish patterns as well. The problem is that when you allow for "roundish" patterns you have no real guideline any more. The inevitable end result is that people term all sorts of stones as Harlequin.

## INTENSITY OF FIRE

One of the most interesting phenomena in opal valuation is the difficulty in assessing intensity of fire. Most valuers believe that they can remember what different intensities look like, but in fact they cannot. It is common for one person to describe a stone as having intense fire while another might describe it as very intense or fairly intense. It is also common for a single valuer to label a stone as intense and sometimes later label the same or an equivalent stone as very intense. I do not mean this as a criticism. It is just that the mind cannot be calibrated to remember and use variations in intensity consistently over time.

One of the problems jewelry appraisers face is that they have no standard set of stones to use for comparison. The American Opal Society did produce such a standard set but only a few Opal Evaluation Kits have been sold. And at the time of this writing, no kits are being produced. Appraisers have no standard of reference. This complicates matters as one person might describe a stone as bright while another might describe that same stone as fairly bright or brilliant. And the estimated price will vary accordingly.

It is this problem that has led me to produce some prototype kits which contain opals of three intensities. I borrowed the idea for using stones to judge intensity from the American Opal Society's *Opal Evaluation Kit*. Since their kit is not available any longer and was quite expensive (\$800.00) when it was being produced, I plan to offer a simpler, less expensive alternative. My kit will include a set of opals to be used to measure intensity. I use two stones each of three intensities. I neglect the lowest intensity range as anything below intensity Level 2 as not very high quality opal. I also neglect the highest intensity. Including higher intensity opals in the kit would make it far more expensive. I feel that you can see that a stone is more intense than intensity Level 4 and grade accordingly. I use two stones of each intensity because each has a somewhat different character. This allows the valuer to compare the stone to be valued to two different types of stones. The result should be a more consistent evaluation.

In addition to the set of stones, the kit will include a discussion of the factors which influence value such as I present here. At this stage I have not decided if I will offer actual pricing guidance or leave that to another effort.

## PRICE TRENDS

Prices for opal continue to be somewhat of a mystery. Here at the Tucson shows you will undoubtedly see seemingly equivalent stones at widely varying prices. I do not expect this to change any time soon. There is no set universal terminology so it is difficult to compare on that basis. There have been several attempts over the past ten years to produce a standard so that stones could be accurately compared. For various reasons, mostly because it is an almost impossible task, all efforts have failed. Still a standard set of stones by which to judge intensity would be an improvement.

Since there is no recognized standard, it is not easy to determine price trends. All that can be offered is a general impression. I base this impression on my own observations and the opinions of Australian and Hong Kong opal dealers with whom I am in frequent contact. Clearly opal prices have been on the rise over the 1980's. The general estimate is 30% per year. However, I feel that the prices of top stones have gone up far more than that, while lesser stones have not gained much in price over the ten year period.

As a parting note, it is useful to observe that very few really top stones make it to the U.S. market. Most go to Japan. Among the Australian opal dealers, we are thought of mainly as purchasers of low and middle grade stones. In fact, some of the top stones that did make it to the U.S. years ago are migrating. I have seen several important estate pieces sold to Japanese dealers.

## OPAL'S FUTURE IN THE U.S.

Perhaps it is my optimism but I feel we are in the early stages of a wave of popularity for opal. Many Americans have visited Australia and many more want to. These visitors usually purchase opal which they show off to their friends and relatives. The reaction is almost always positive. I am convinced that jewelers are way behind this trend. The few jewelry stores which carry a good display of quality opal jewelry are doing very well. As the word spreads and more jewelers carry quality opal, the boom will start.

The foregoing constitutes the basis for a talk given to the Accredited Gemologists Association at their 1990 Annual Tucson Hands On Conference, February 5, 1990.

For further information contact:

**Majestic Gems & Carvings, Inc.**  
**3412 Monitor Lane**  
**Tallahassee, Florida 32312**  
**Telephone (904) 385-3732**  
**FAX (904) 385-8736**

Copyright 1990 by Paul B. Downing. All rights reserved. No part of this paper may be used or reproduced in any manner whatsoever without written permission of the author.





*The Downings*



*Opal Master Stones*

# APPRAISERS & THE 21ST CENTURY!

BY: THOM UNDERWOOD

Gems and Jewellery Appraisers are fast approaching the 21st century in their use of technology for gemology and appraising. We now have high powered microscopes, colorimeters, thermal diamond testers, high resolution video cameras, monitors and much more. Much of this equipment has computer chips at their heart helping provide us information with accuracy and speed. The use of the computer to record, manipulate, process and produce reports is inevitably the next step for appraisers.

One year ago there were more than two dozen programs that could be listed as aides to appraisers and jewelers and now there are many more. As a result of this mushroom of software, it seemed appropriate as an organization to begin to evaluate these programs for our members.

Last year we formed the Software Review Committee. Our current members include:

Leo Schmied  
Charles Zawacki  
Young McQueen  
Robert Rosenblatt  
Jelks Cabaniss  
Thom Underwood

In the November issue of the AGA UPDATE you saw the results of nine months of evaluations. We evaluated eight programs using a complex system to insure that we gave you useful information. We are pleased with the results and many of you have expressed your appreciation.

Interest in our Committees' effort has reached the ears of the trade publications. JEWELERS CIRCULAR KEYSTONE contacted us and asked us to produce an ongoing software review segment for their publication. Board of Governor approval of the agreement has now extended the life of the Software Review Committee, and the work!

The first review for KEYSTONE will be out in August! We will continue to publish reviews and update our members through

CORNERSTONE as well.

## SHOWS

The Tucson/90 Accredited Gemologists Association Conference was the first educational effort the Software Review committee attempted. Writing our report seemed easier and more certain than organizing the seminar. In this case, the teamwork and commitment paid off. Our evening Software Symposium for appraisal software attracted six software producers. Most of you who attended the Tucson conference this year stopped by to look at software and "get your hands wet". You took the opportunity to "meet the makers" and discuss the issues of computerization.

## PLANS FOR THE FUTURE

We are ready for the 90's! Are you? The Software Review Committee is moving ahead with plans to continue to serve you with updated information and addressing your computer needs and questions. We strongly feel that the next frontier for Appraisers will be the usage of computer technology as part of their service. Our goal is to help you prepare for that.

You know what we are up to! Now let us know what you want! Are there specific areas you would like us to research? What about the issue of automated pricing? Is there software you currently use that may be helpful for the rest of us? Let us hear from YOU! Call or write:

Thom Underwood  
c/o Currie & Underwood, Inc.  
3957 Goldfinch Street  
San Diego, CA 92103  
(619) 291-8850





# OILING EMERALDS

BY: TED THEMELIS

The purpose of 'oiling' flawed or poor quality emeralds is a) to reduce the visibility of flaws and internal imperfections and b) to improve its overall color appearance.

The process is based on the ability of an oily substance to be a) induced into the emerald through its crevices/cracks, and b) infill the void.

It is a prerequisite that the emerald to be oiled must have some cracks/crevices/fissures that 'break' into its surface, in order to allow the infill oil to enter into the emerald substance. Selection of suitable emeralds that will accept the oiling treatment is primarily based upon the nature and size of these cracks/fissures.

## 1. INFILL SUBSTANCE

The most commonly used infill substances may be organic or synthetic oils, oleoresins, or epoxy/resin based substances. The most popular and widely used infills are described as follows:

### a) Cedarwood oil (1)

Cedarwood oil is extracted from Juniper vs. Virginiana and other species of cedar. It consists mainly of cedrene (a terpene, a form of turpentine) and cedral (cedar camphor). These isometric hydrocarbons may be present in any ratio, that can be adjusted/modified under the proper distillation process. Cedarwood oil should not be confused with Cedar Leaf oil, which has completely different chemical and physical properties.

Cedarwood oil is transparent, colorless to slightly yellowish; specific gravity is about 0.94-0.95; refractive index 1.495-1.510; volatile; somewhat viscid (thick, sirupy, and sticky); insoluble in water; sensitive to other than normal room temperature; its properties may alter at the exposure to light.

Cedarwood oil is soluble in ether and in pure alcohol. These liquids may be used as solvent agents during the cleaning process of emeralds with cedarwood oil infill.

### b) Canada balsam (2)

Not exactly an 'oil', the balsam Canada is actually a solution of a resin in an essential oil, such as turpentine, extracted from the North American balsam fir tree *Abies balsamea*. It consists of about 28% various volatile organics (pinene, nopinene, b-phellandrene), 45% resin acid, and 27% resinous neutral compounds.

Canada Balsam is transparent, yellowish to slightly greenish, viscid and slightly fluorescent. On exposure to air it gradually solidifies to a solid, noncryst mass. Density varies from 0.980 to 0.994; refractive index is about 1.52-1.54; insoluble in water.

The viscosity rate of the Canada balsam, along with other physical properties, may be precisely reduced, by mixing Canada balsam with benzene, chloroform, xylene, ethyl acetate etc; these agents are used to reduce its thickness, thus reducing its viscosity. On the other hand, its viscosity may be increased by using various distillation processes.

A 'neutralization' process may be performed to adjust the ratio of the various constituent compounds (especially turpentine), decrease its fluorescence and bring the pH to its desired level.

Depending on the size of the cracks/fissures/crevices of the emerald, and other criteria, the infill Canada balsam solution may be prepared accordingly.

Classical application of the Canada balsam in oiling emeralds is described as follows: laboratory-prepared Canada balsam having viscosity of about 500 centistokes may be thinned to about 50-60 centistokes under heat; at this point it may enter into the emerald having low viscosity; at cooling, its viscosity increases considerably, thus creating a 'barrier', which prevents the infill from exiting from the emerald.

Canada balsam is completely soluble in ether, oil turpentine; about 90% dissolves in alcohol. All these substances may be used as cleaning agents for emeralds oiled with Canada balsam.

Canada balsam and cedarwood oil may be mixed in an approximately 1 to 3 ratio and used as an infill for oiling emeralds. In fact, Canada balsam has been mixed with various other oils for completely different types of infill. The results are not known.

### c) Other oils used as infills



### c) Other oils used as infills

Various oils have been used as infills for oiling emeralds, as follows: coconut oil, palm oil, mineral oil, olive oil, castor oil, whales' oil, peanut oil, corn oil, etc. These oils have refractive indices lower than 1.50 making them less desirable candidates. In addition, their low viscosity creates additional problems, causing the oil to dry quickly and exit from the emerald.

The infill process method is essentially the same, as described above.

## 2. EPOXY/RESIN PROCESS

Perhaps one of the most popular methods in oiling emeralds is the 'Opticon' process. Opticon is a synthetic processed polyester epoxy/resin fracture sealer that when heated to low viscosity, obtains high penetration properties, much like oil. When it is cooled it crystallizes, thus the treatment is more stable than oil treatments. Opticon is transparent, light amber in color, slightly fluorescent, with a refractive index of about 1.545.

In many respects, Opticon may be compared with Canada balsam. The infill process is the same as with other oils/resins.

Simple Opticon process is not a permanent treatment. Hardener (1 part) may be mixed with (10 parts) Opticon. It is said that this treatment is stable to light and atmospheric exposure.

Experience shows that removal of the Opticon/hardener mixture from the voids, after the oiling process, is very difficult. Ethyl-based, ketones and other solvents have been used with limited success. For this reason, most of the treaters rarely use Opticon with hardener agents.

Opticon is available under the trade-name 'Opticon resin No. 224'.

## 3. CLEANING PROCESS

Previously oiled emeralds must be cleaned thoroughly, before the new oiling process begins. Regardless of the infill substance used, in almost all cases, various sediments/remnants are deposited into the cracks/crevices, which should be removed. If oil substance is used, then the cleaning is a relatively easy task. If the infill substance consists of resin(s), or an epoxy/resin based infill substance, then the cleaning process becomes progressively more

difficult. If a hardener agent is used in conjunction with any of the above infill substance(s), then the cleaning process would be very difficult.

Before any oiling process begins, the cleaning process is an essential step.

One of the common practices to extract the undesirable foreign substances out from the previously oiled emerald, is a relatively easy task: the emeralds are pre-soaked in a suitable vessel containing the appropriate reacting solvent solution. Heating the solution to a low temperature, i.e. 250 F, will probably react better with the infill substance and speed up the cleaning process.

Selection of the appropriate solvent liquids depends upon the nature/type of the infill oils used during the oiling process. Solvents used successfully by the author are ketone-based cleaning agents, methylene chloride, super saturated xylene, lacquer thinner and others.

There is no cleaning process that will extract all the foreign substances at once. Cleaning processes are repeated several times, ranging in time from several hours to several days; there is no specific rule/pattern to be followed.

## 4. OILING PROCESS

Simple oiling process is accomplished by 'injecting' laboratory-processed natural or synthetic oil/resin into the emerald, through its surface cracks/crevices.

For simple 'oiling' emerald process, the 'infill' substance may be oil or liquified resin or a combination of these. This will depend upon the type/size of cracks found in the surface of the emerald substance, as well as the degree of stability and preparation of the infill.

Prior to oiling, the emeralds are cleaned thoroughly as described above; then, the emeralds are placed in a capsule together with the selected infill substance. High vacuum (26 or more in the mercury) is applied to extract all the air from the capsule. Immediately following, high pressure (300psig-2000psig or more) is applied, forcing the infill substance to be induced into the voids created by the various cracks/crevices. The practice of applying heat at about 250 F during the pressure stage is desirable, resulting in improvement of the penetration. After cooling, the emeralds are retrieved from the capsule and cleaned thoroughly. Finally wax or vaseline is applied,

completing the process.

The above method describes the general practice used in oiling natural or synthetic emeralds in Columbia and elsewhere. The actual process depends upon the individual configuration apparatus used.

#### 5. THE USE OF GREEN-COLORED DYES

It is possible to mix various green-colored organic dyes with any of the above described infill substances. Thus, the color as well as the clarity is improved dramatically. Many green beryls and "light green emeralds" (that barely qualify as true emeralds), are processed this way. Eventually, the green-colored infill substance dries/fades in time, revealing the true identity of the processed beryl.

#### 6. STABILITY/THE USE OF PLASTICIZERS

All of the above described oiling infill treatments are not permanent processes and are not stable to light and normal atmospheric conditions, unless various 'plasticizers' are used. These substances, known also as 'stabilizers', are added to the infill substance in various amounts in order to increase its viscosity and prevent the oil from exiting from the emerald. Plasticizers may also be applied near (or just below) the surface of the emerald after the initial oiling process. Finally, gentle polish completes the processing cycle.

In time, plasticizers lose their initial strength and eventually dry out, causing the development of small whitish particles within the void as sediments, producing an undesirable appearance; thus, a long-term painstaking cleaning process would be required.

Generally, the practice of applying plasticizer-hardener substances, during or after the initial oiling process, is avoided.

#### 7. RESULTS

The clarity/color improvement may be slight to moderate to dramatic, depending on the nature of the cracks/crevices, the infill oil substance and the methods/technique used.

Although the above described method produces satisfactory results, many emeralds are incompletely oiled. This is due to the fact that a) the air is not taken completely out of the cracks/crevices during the vacuum process and b) the infill oil is forced into the cracks/crevices via a combination of air/oil

pressure, instead of oil pressure.

It is understood that not all emeralds will accept and retain the same amount of oiling; this is due to the fact that not all crevices and other voids have the same dimensions. Thus, the results may vary. Microscopic examination will reveal the poorly or incompletely oiled emeralds; thus, these rejected emeralds may be cleaned and re-oiled using an oil substance with analogous viscosity in relation to the cracks/crevices/voids.

#### 8. DETECTION OF OILED EMERALDS

The detection of oiled emeralds is a fairly easy task using immersion microscopy techniques. Since the refractive indices of all infill substances do not match perfectly with the refractive index of the beryl, observation on the cracks/crevices will reveal the two media substances (beryl and infill). Furthermore, oil/resins and Opticon mixed with green dyes will reveal localization of the green color, under immersion microscopy.

#### 9. EFFECT OF OILING

Caution should be exercised in handling emeralds and emerald-jewelry.

\* Since a successful 'oiling' process 'masks' the flaws, cracks, etc., the stone-setter is not aware of the imperfections and he may severely crack/damage the emerald.

\* If the stone is heated during the jewelry fabrication process, it may char and produce considerable and irreversible damage.

\* Cleaning emeralds using simple solvents such as benzene, ether-based substances, etc. especially under ultrasonic, is not recommended. The cleaning process may remove the infill oil from its substance, thus revealing all previously hidden clarity imperfections.

\* The practice of keeping oiled emeralds wrapped with cotton, enclosed in stone paper, is not recommended. Cotton will probably absorb the oil in time. Keeping oiled emeralds hermetically enclosed in plastic bags is not recommended either.

\* Exposing oiled emeralds to strong heat-producing lighting conditions such as flood lights, will cause the infill oil to dry-out very quickly, turning opaque.

#### 10. TRADE ACCEPTABILITY

The majority of the emeralds in the marketplace are oiled using the Cedarwood oil or similar processes. Simple oiling process is accepted and regarded as common practice.

The practice of sealing the infill using the well-practiced methods, creates the false sense of 'stability', and is regarded by many as unacceptable to the gem trade.

The induction of green-colored infill is regarded by many as an 'unscrupulous trick' and totally unacceptable to the majority of the gem traders.

#### 11. REFRACTIVE INDICES OF VARIOUS SUBSTANCES USED FOR EMERALD OILING PROCESSING

SUBSTANCE	REFRACTIVE INDEX
Coconut oil	1.445 to 1.455
Palm oil	1.455 to 1.465
Mineral oils	1.465 to 1.475
Castor oil	1.475 to 1.485
Cedarwood oil	1.495 to 1.520
Canada balsam oil	1.520 to 1.540
Clove oil	1.530 to 1.540
'Opticon'	1.545
EMERALD	1.57 to 1.58

#### BIBLIOGRAPHY

- (1) The Merck Index, 10th Ed. p. 973
- (2) The Merck Index, 10th Ed. p. 137

Gemlab Inc. (est. 1979), is primarily engaged in gemstone enhancements and the manufacturing of gem instruments. The founder-owner Ted Themelis, has developed advanced methods for oiling emeralds under ultra vacuum/pressure, as well as techniques for ultra-high temperature heat-treatment of rubies and sapphires.

(c) Copyright 1990 TED THEMELIS

*Members of the industry who would like to have their emeralds oiled, (re-oiled) should contact:*

*Ted Themelis  
P.O. Box 6333  
Clearwater, FL 34618  
Telephone & Fax: (813) 447-1667*

#### *Oiling Process Service Fees:*

*Trial run (up to 10 carats) - \$175.00  
Individual stones: \$100 upwards  
Batch process: \$275 for each batch process  
(or part thereof) of the same classified material,*

*up to 300 carats*

#### ABOUT THE AUTHOR

Ted Themelis received his Bachelor of Science degree from the City University of New York in 1975. He has worked extensively in the development, engineering, and manufacturing of innovative gemological instruments. Since 1979, he has worked in various gemstone enhancement experimental projects with emphasis in the heat-treatment of ruby and sapphire, as well as in oiling processes of emerald. He has traveled extensively to the most inaccessible gemstone mining districts in Burma, Sri-Lanka, Thailand, Pakistan, India, Nepal, Tanzania, Kenya, S. Africa, Venezuela, Columbia, and elsewhere.

Ted served as the Director of Research and Development (1984-1986) of the Accredited Gemologists Association in the USA. He has published numerous papers and studies in the field of gemology: research, identification, treatments, inclusion characteristics, etc.





# THE NEW KRUSS UTLRAVIOLET SPECTROSCOPE UVS 2000 AND ITS USE IN DISTINGUISHING BETWEEN NATURAL AND SYNTHETIC RUBIES

BY: JOHN ALLAMAN  
RESEARCH DIRECTOR  
SARASTOA INSTRUMENTS

With the appearance of new synthetics on the market with inclusion patterns which cause ever increasing problems of differentiation, more attention has been paid over the last few years to ultraviolet absorption spectroscopy as a method of analysis. The results of systematic investigations carried out by G. Bosshart and K. Schmetzer on natural rubies from a variety of sources and on available synthetic stones have been illustrated in the form of population zones and extinction curves. The curves were recorded using ultraviolet spectrophotometers of the type common in scientific laboratories, instruments of this kind not usually being available in gemologists' laboratories for financial reasons. The UVS 2000 ultraviolet spectroscope is the result of further developmental work by the Kruss company on one of its older models and is specially designed for use in gemological laboratories. With this instrument it is possible to carry out analyses starting in the visible region of the spectrum and continuing down into the ultraviolet region at around 250 nm. Analyses carried out on natural and synthetic rubies, the spectra of which will be described, compared and discussed below, confirm Bosshart's and Schmetzer's findings. Further systemic investigations are also planned on other stones in order to establish the potential scope of application of the ultraviolet spectroscope.

First of all, a few details on the instrument itself. As in all spectroscopes, the main elements consist of a light source, an entrance slit and a prism which are all assembled in the same outer casing. The ultraviolet light source is a mercury vapour lamp which emits a line

spectrum, and not a continuous spectrum as is the case with incandescent light. The light beam is transmitted through a quartz prism (Suprasil) which splits it up into the individual spectral lines, and these are displayed on a fluorescent screen with an integrated scale. On the right-hand side, the scale is in the form of a normal wavelength scale (range: 600 - 250 nm). On the left-hand side, there is a reference scale numbered from 1 - 17, each number corresponding to a wavelength of the Hg spectrum (with the exception of line 13 which represents a dense concentration of several lines). In practice, it is easier to work with the reference scale, as it facilitates comparison of the spectra.

When a gem is inserted into the instrument, characteristic absorption occurs, causing the line of the Hg spectrum either to become faint, be fully absorbed or to pass through.

Compared to the previous model, the new instrument offers a number of significant advantages:

- intense illumination of the stones by the use of a new condenser
- sharp definition of the Hg spectrum with increased dispersion (length of spectrum =50 nm)
- measurement range: 580 - 250 nm
- option of using polaroid or reflex cameras showing a date reading on the reverse side of the film
- both unset and mounted gems (subject to certain restrictions) can be examined
- new design, simple operation, compact form.

An important factor in the assessment of spectra is not only the number of lines present, but also their relative intensity.

In order to test the reliability of the spectrum readings, the following stones were examined:

- |                     |                       |
|---------------------|-----------------------|
| a) Natural rubies   | 1. Burma              |
|                     | 2. Siam               |
|                     | 3. Ceylon (two types) |
|                     | 4. Kenya              |
|                     | 5. Tanzania           |
| b) Synthetic Rubies | 1. Verneuil           |
|                     | 2. Chatham - first,   |

- second, third and fourth generations
3. Knischka - the older synthetics and the most recent generations (two types)
  4. Ramaura (two types of different colours)
  5. Kashan (two types of different colours)
  6. Inamori
  7. Lechleitner ruby on a Verneuil core

All the spectra shown below were recorded using an identical slit setting and exposure time. The findings are as follows:

A comparison of the ruby spectra shows two predominant transmission types:

1. Stones with the most intense lines in the visible region of the spectrum (lines 1 and 2 = approx. 560 and 530 nm).
2. Stones with maximum transparency in the ultraviolet region between 312 and 295 nm (lines 8, 9 and 10).

All the natural rubies are in the first category. The only exceptions here are the Kenya rubies with highest absorption at line 6 (360nm) and 8 (312 nm).

Typical examples of the second category are the synthetic Verneuil rubies, the Chatham synthetic Type 2-4 and the synthetic Lechleitner rubies on a Verneuil core. With these stones, lines 1, 2, 4 and 5 are completely absent. Line 3 (diffused transmission between 460 and 490 nm) is only faintly present in the Verneuil, Chatham 2 and Chatham 4 stones. In the case of the three Chatham generations, the ultraviolet transparency increases sharply from type 2 to type 4 and is in the latter just as high as in the Verneuil rubies in the maximum range (312 - 295 nm). The Verneuil rubies show a transparency extending farther into the ultraviolet region than is the case with any other stones. Line 14 (approx. 275 nm) is still faintly discernible, whereas it no longer appears with the Chatham and Lechleitner stones. The first Chatham generation - grown on natural corundum - does not fit into this transmission pattern. The transparency is extremely low over the whole range of the scale (and was the lowest of all the rubies examined) with maximum transmission values appearing at line 1 and 2.

The most transparent of all the rubies examined were the light red Kashan synthetic rubies.

Down as far as line 12 their transparency (with the exception of line 5 = 400 nm) is almost comparable to that of quartz (Hg spectrum). However, their absorption is considerably higher as from line 13 (280 nm). The final line which is still just discernible is 16 (approx. 257 nm).

Kashan rubies with a deeper colouring show significantly lower transparency. Line 5 (400 nm) - which is already faint as compared with the Hg spectrum in the case of the lighter-coloured stones - is no longer present and transparency ceases at line 12 (approx. 387 nm). The most intense line is 8, with lines 9 and 10 slightly fainter and having an intensity approximately equal to that of lines 1 and 2. There are certain similarities with the transparency of Kenya rubies, but differences are evident at line 4 and 6 (430 and 360 nm). In the case of the darker Kashan synthetic rubies, both lines are equally faint as compared with the Hg spectrum, whereas, with the Kenya rubies, the absorption is significantly higher at line 4 (430 nm) than at line 6 (360 nm). In addition, there are no further lines visible below 10 (295 nm).

Two extremely different types of absorption were observed with the Ramaura synthetic rubies. Most of the Ramaura stones show two maximum transparency values, the most pronounced being at line 8 (approx. 312 nm) and ranging from line 6 (360nm) to line 10 (approx. 295 nm). The second maximum value is at line 1 - 3 (560 - 480 nm). The second type of Ramaura synthetic ruby, which has a purple tint, has a maximum transparency value at line 6 (360 nm), lines 1, 2 and 8 being considerably fainter and lines 3, 4 and 7 extremely faint indeed.

Knischka synthetic rubies originating from earlier production (grown on own material) have a very similar spectrum to that of the purple-tinted Ramaura rubies. Only lines 1, 2 and 3 (560, 540 and 490 nm) are the more intense in the Knischka rubies. With the most recent generation of Knischka rubies (1986, spontaneous nucleus formation), there are two colour types, each with different spectra. The lighter-coloured type is very similar to a second generation Chatham synthetic, with line 8 (approx. 312 nm) having the highest intensity. Line 6 (360 nm) is rather more distinct than in the Chatham 2, and lines 1, 2 and 3 are only very faintly discernible. The second type, which has a pronounced purple tint, show a relatively evenly distributed transparency ranging from 560 - 360 nm, but with line 5 absent. This is the only ruby where line 3 has the highest intensity,



with a broad dispersion ranging from 480 - 450 nm. Line 7 (333 nm) is still just discernible in outline. Below this level there is no more transparency.

With the Inamori synthetic rubies the maximum transparency values range between 360 and 312 nm. In these stones lines 6 and 8 are of almost equal intensity. The spectrum of these synthetics is very similar to that of the Kenya rubies, but fine distinctions are to be found in the slightly fainter lines 1 and 2, whilst line 3 shows a marked dispersion towards 450 nm in contrast to the Kenya rubies. In addition, with the Inamori rubies the last emission line is 12 (approx. 288 nm) which is still just discernible, line 11 being totally absent.

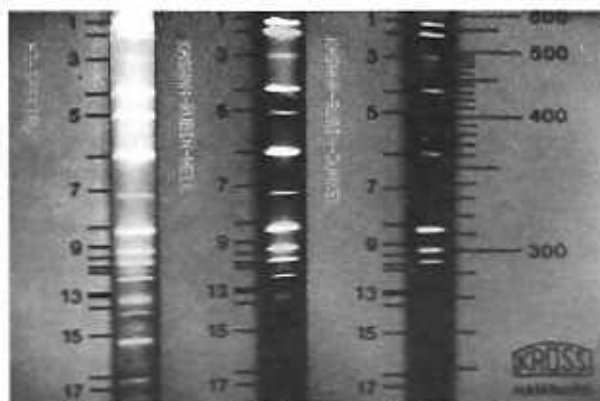
It is evident from the ultraviolet spectra illustrated in this article and from the discussion of the differences between them that the UVS 2000 ultraviolet spectroscopy is an excellent instrument for distinguishing between natural and synthetic rubies. Since microscopic inclusion patterns no longer ensure a reliable diagnosis, this instrument should prove to be a valuable addition to the existing range of gemological instruments, especially as it is just as easy to operate as a spectroscopy which only covers the visible region of the spectrum. It should in the future occupy an important position in gemological laboratories and also feature prominently in gemology training courses. Although differentiation between Inamori rubies and Kenya rubies by analysis of the spectrum alone may cause difficulties, a reliable diagnosis can also be made in this case with the help of a gem microscope.

These observations apply only to rubies. Further investigations are planned to determine the extent to which ultraviolet spectroscopy using the UVS 2000 is capable of distinguishing between other synthetics such as sapphires, emeralds, alexandrites, amethysts etc. and their natural counterparts.

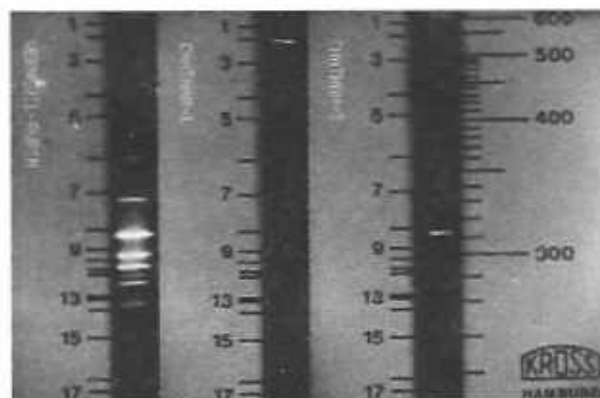
#### Bibliography:

Bosshart, G. (1981): Die Unterscheidung von echten und synthetischen Rubinen mit UV-Spektralphotometrie  
- Z. Dt. Gemmol. Ges. 30, 157 - 159

Schmetzer, K. (1985): Distinction of natural and synthetic rubies by ultraviolet absorption spectroscopy  
- Z. Dt. Gemmol. Ges. 3/4 101 - 129

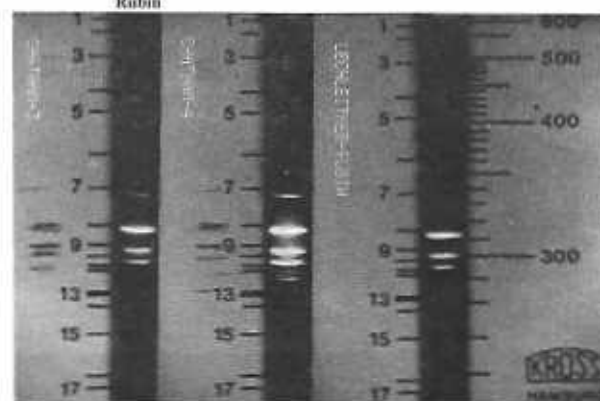


HG-Spektrum



Kashan-Rubin, hell

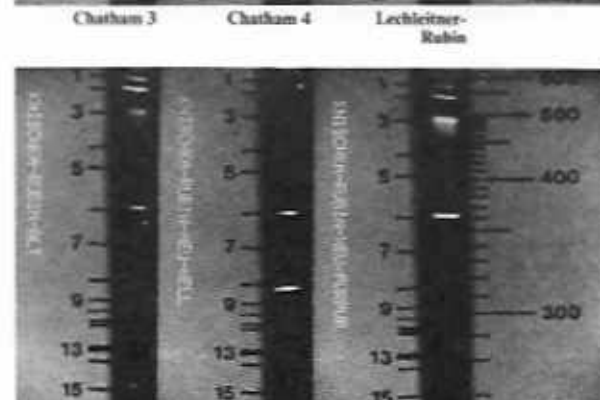
Kashan-Rubin, dunkel



Verneuil-Rubin

Chatham 1

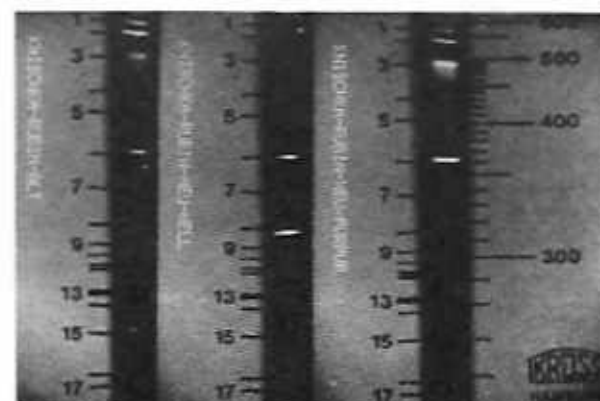
Chatham 2



Chatham 3

Chatham 4

Lechleiter-Rubin



Knischka-Rubin, alt

Knischka-Rubin, neu, hell

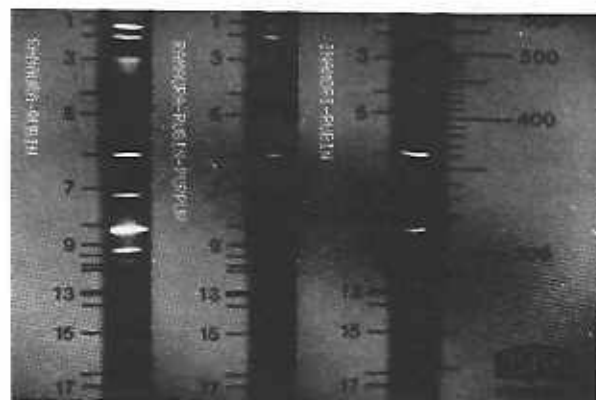
Knischka-Rubin, neu, purpur

# FIRST INVESTIGATION OF NATURAL AND SYNTHETIC ALEXANDRITES WITH THE UVS-2000 ULTRAVIOLET SPECTROSCOPE

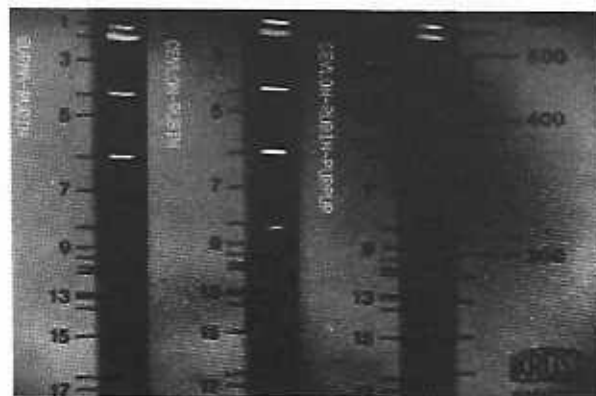
BY: DIPL. MIN. W. GALIA



Siam-Rubin      Kenia-Rubin      Tanzania-Rubin



Ramaura-Rubin      Ramaura-Rubin, purpur      Inamori-Rubin



Burma-Rubin      Ceylon-Rubin      Ceylon Rubin, purpur

There is already an impressive documentation, based on measurements made on rubies and emeralds, of the potential offered by the UV-spectroscopy in differentiating between natural and synthetic stones. It is now intended to investigate whether UV spectra of natural and synthetic Alexandrites can also be used for differentiation purposes.

With this aim in view a variety of Russian, Ceylonese, Brazilian (including stones from the new Hematita deposits) and Tanzanian (Lake Manyara) alexandrites were examined and their spectra compared with a broad selection of synthetic Alexandrites (from Creative Crystals, Inamori, Seiko and also synthetic stones of Russian origin).

In order to obtain comparable intensities, all the stones were examined at the same slit setting and the spectra photographed at the same aperture setting and exposure time, and under identical illumination conditions. (Tonal colour differences between the spectra are due to the use of different films.) The UV spectrum of quartz (berg crystal), which has a known ultraviolet transparency and is used for technical purposes, served as a reference spectrum. As the source of ultraviolet light a mercury vapour lamp emitting discontinuous UV light was used. This light is transmitted via a quartz optic through the stone being examined. That part of the UV light which has not been absorbed is projected on to a fluorescent scale where it is visible as bands and can be identified with the help of a wavelength scale and a reference scale.

Illustrated below are 6 spectra of 4 synthetic stones (Inamori, Creative Crystals, Seiko and a synthetic stone of Russian origin) and 6 spectra of natural stones from different sources,

together with the reference spectrum of berg crystal.

Comparison of these spectra give the following results:

With the exception of the Creative Crystals stones, the synthetics show a distinctly higher UV transparency than the natural alexandrites. One type of synthetic alexandrite from Inamori in particular shows pronounced UV transparency which is virtually comparable with that of quartz. A second, slightly less transparent type shows significant faintness at band 4 (430 nm), whilst band 5 (405nm) is completely absorbed. With this type, bands 13, 14 and 15 (approx. 280, 276 and 260 nm) are also significantly fainter and line 16 (approx. 257 nm) is no longer visible.

Synthetic alexandrites of Russian origin have a spectrum which is virtually identical with that of the Inamori Type 2 stones. Only line 15 (approx. 268 nm) is missing. The Seiko synthetic alexandrites show a somewhat lower degree of UV transparency which extends to spectral line 8 (approx. 312 nm), which means that these stones are significantly more transparent than natural alexandrites irrespective of origin.

Synthetic alexandrites manufactured by Creative Crystals show the lowest UV transparency of all the synthetics. The last visible line is spectral line 6 (360 nm), but there are minor differences between the paler and the more intensely coloured synthetic stones. In the case of the paler stones manufactured by Creative Crystals the spectral lines 4, 5 and 6 are all of equally high intensity, whilst, with the deeper coloured synthetic alexandrites, line 4 and 5 are significantly fainter as compared with line 6.

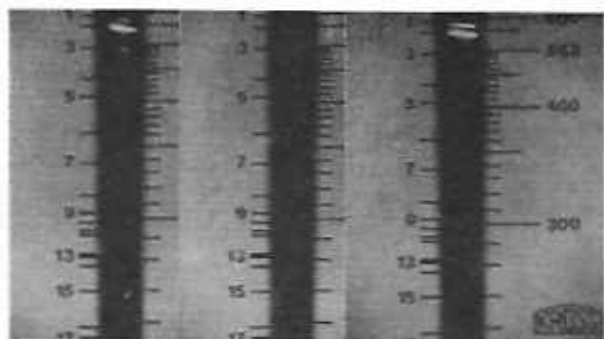
A comparison of the spectra of natural alexandrites with the synthetic stones from Creative Crystals shows a similarity between the paler synthetic stones and the spectra of Ceylonese alexandrites, and also between the deeper-coloured varieties from the same manufacturer and Type 2 Tanzanian (Lake Manyara) alexandrites. Although the oldest synthetic alexandrites (manufactured by the flux growth technique) can only be differentiated microscopically from natural alexandrites by their typical inclusion features (wisplike patterns, twinning planes, platinum platelets), the UV spectroscopy is nevertheless of great value, as natural alexandrites from all other sources have spectra which differ from those of modern synthetic alexandrites.

Among the natural alexandrites, the stones from Ceylon and Tanzania show the highest degree of UV transparency. In both cases the stones become abruptly opaque to UV light as from 360 nm (Spectral line 6 is the last visible line). With the Ceylonese stones this line is approximately of the same intensity as line 4 and 5, whilst, in the case of stones from Lake Manyara, it is significantly fainter. In this case it is necessary to differentiate between two types of absorption. In the first, spectral line 4 (430 nm) is only faintly visible and line 5 (approx. 405 nm) is completely absent. In the second type, both lines are present, line 4 being somewhat more intense than line 5.

Natural alexandrites of Russian and Brazilian origin are either virtually or completely opaque to UV light. They can be easily distinguished from all synthetic stones. In the case of one Brazilian alexandrite (exact origin not known) and in the natural Russian alexandrites spectral line 6 (360 nm) can be discerned faintly as the last visible line, lines 4 and 5 being completely absent. In this respect they show certain absorption similarities with Type 1 Tanzanian alexandrites. Alexandrites from Hamatita (Brazil) show only spectral lines 2 and 3, both more or less equally faint. No spectra of Rhodesian alexandrites could be recorded. With the UV spectroscopy it was not possible to demonstrate a single line either in the visible or in the ultraviolet band.

The following conclusions can be drawn from these investigations of the spectra of natural and synthetic alexandrites: the UV spectroscopy is of considerable assistance in differentiating between natural and synthetic alexandrites, especially modern synthetic products. It is possible to distinguish Inamori, Seiko and Russian synthetics from all natural alexandrites without difficulty. It is particularly important to note that alexandrites from Hamatita, which have in a short period of time gained a high reputation in the market because of their high quality, can be distinguished very easily from all synthetic stones. It is only in the differentiation between Ceylonese and Tanzanian alexandrites and synthetics manufactured by Creative Crystals that the spectra do not produce clear results. In this case a gem microscope is necessary for the diagnosis. However, the investigations with alexandrites show that the UV spectroscopy can be of considerable assistance in differentiation here, as has already been established in the case of rubies and emeralds.

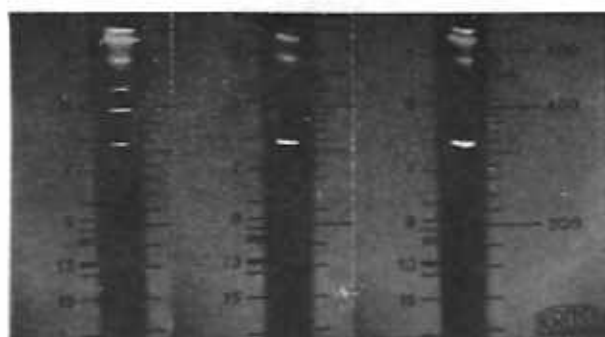
Some of the natural and synthetic alexandrites examined were kindly made available to the author by Prof. Dr. Bank.



Alexandrit  
Brasilien

Alexandrit Bra-  
siliens Hematita

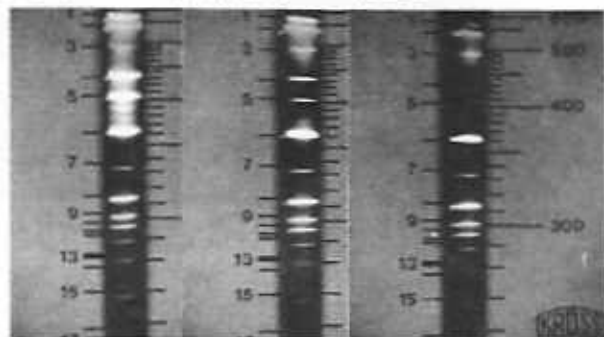
syn. Alexandrit  
Russland



Alexandrit  
Ceylon

Alexandrit  
Tanzania

Alexandrit  
Tanzania Typ 2



Quarz

Inamori Typ 2

synth. Alexandrit Typ 1



synth. Alexandrit  
Creative Crystals (bell)



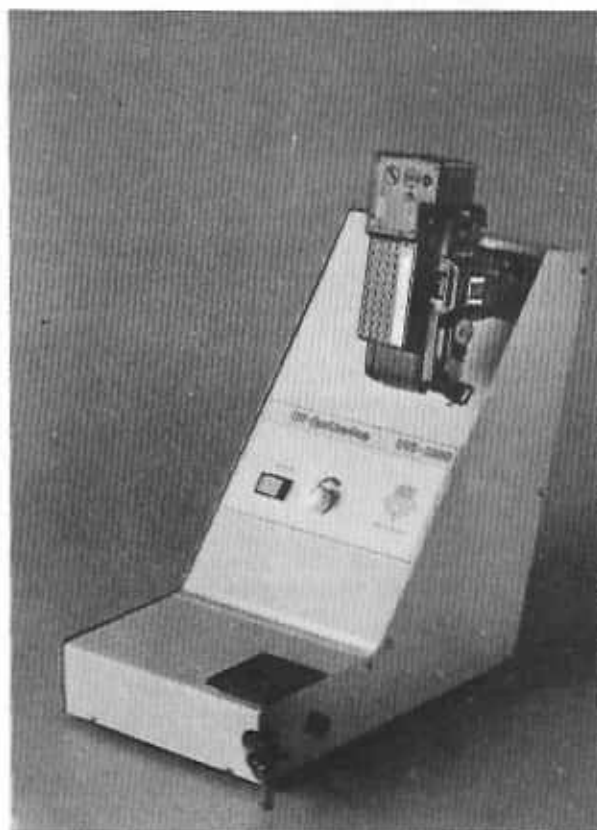
synth. Alexandrit  
Creative Crystals (bunkel)



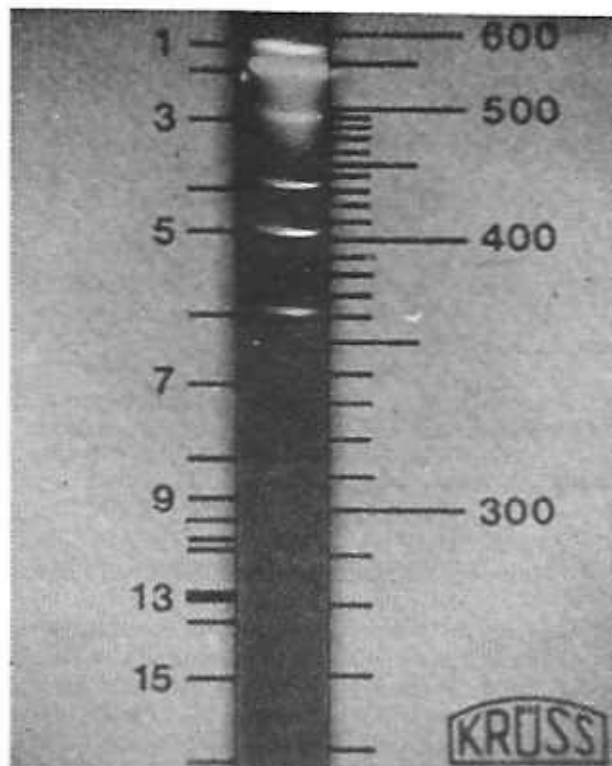
synth. Alexandrit Seiko



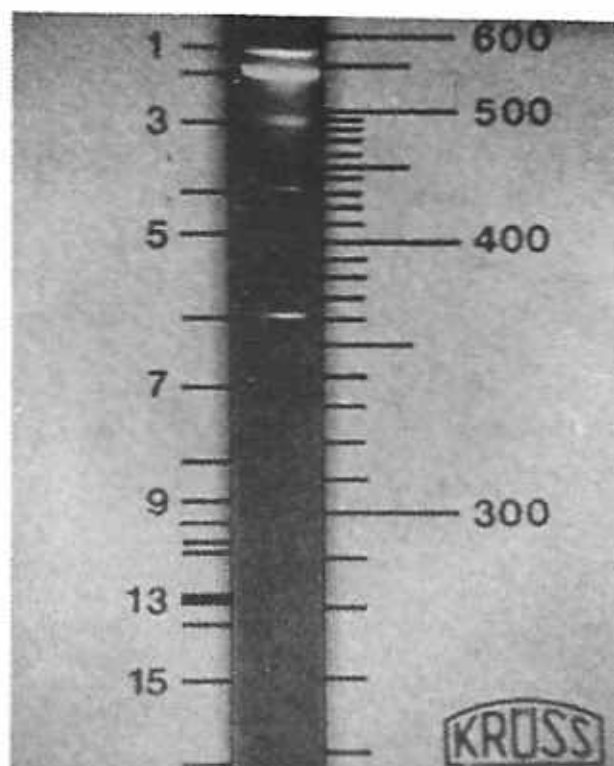
synth. Alexandrit Russland



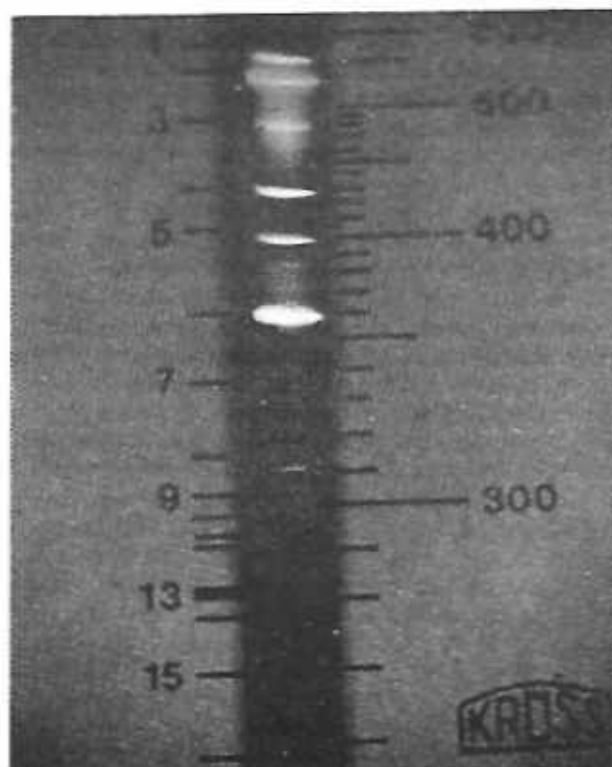




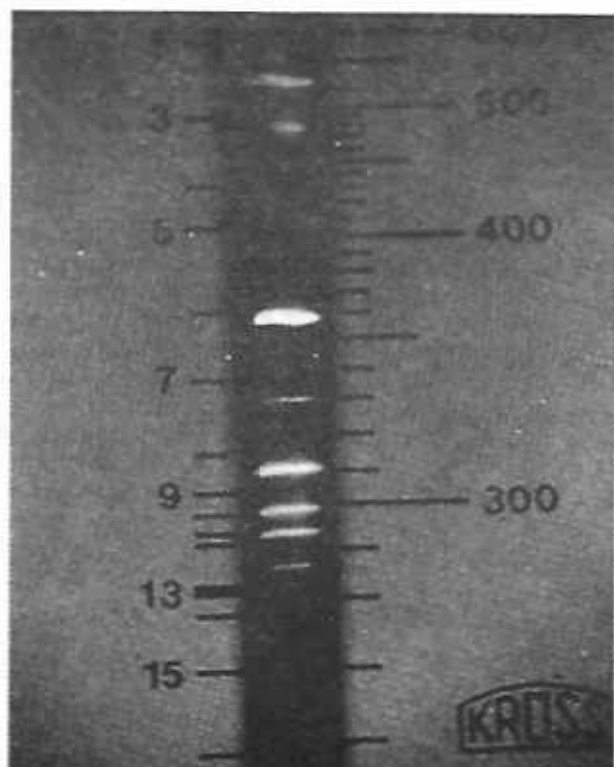
synth. Alexandrit  
Creative Crystals (hell)



synth. Alexandrit  
Creative Crystals (dunkel)



synth. Alexandrit Seiko



synth. Alexandrit Rußland

# FIRST INVESTIGATIONS OF NATURAL AND SYNTHETIC EMERALD WITH THE NEW KRUSS UV SPECTROSCOPE

W. GALIA

The new UVS 2000 UV spectroscopy manufactured by Kruss has already been shown to be extremely effective in distinguishing between natural and synthetic rubies. This article describes how it can be used for differentiating between natural and synthetic emeralds or, at the very least, as a useful auxiliary to microscopic examination.

The investigations showed that there was overlapping in two cases. One of these can be easily solved by microscopic examination, the other could in theory cause problems if no inclusions are present. In another case the UV spectra are extremely similar. However, the great majority of the stones can be easily classified as genuine or synthetic.

## How the instrument functions

**Principle and method of operation:** the light from a mercury vapour lamp is transmitted through a quartz optic on to a quartz prism and split up into its spectrum. This discontinuous spectrum (line spectrum) is made visible on a fluorescent scale which is calibrated as a wavelength scale (in nm) and as a reference scale (line 1-17). If a stone is inserted into this beam, it exhibits characteristic absorption or transparency to the light from the mercury vapour lamp. In this way the lines appearing on the scale are, depending on the transparency or absorption, maintained at their full intensity, become fainter or are extinguished altogether.

Unfortunately the author was not able to examine the new synthetic stones manufactured by Suwa-Seikosha in time for the publication of this article.

## Results of the investigation

In the greater part (10 out of 13) of the natural emeralds examined, a relatively high degree of UV absorption was noted. In all these 10 cases (all the Brazilian stones, and also stones from Zambia, Mozambique, Pakistan and Sandawana) reference line 6 is the last visible Hg line and is present in varying degrees of intensity. This absorption pattern was not encountered in any of the synthetic emeralds examined, and the aforementioned natural stones cannot therefore be confused with synthetic stones.

In the case of two other natural stones (Nigeria and Afghanistan) UV transparency is present down to around 332 nm (reference line 7). Both spectra are practically identical.

With two synthetic stones, namely Gilson and Lechleitner 1, Type 1 (coated Lechleitner) the last visible lines appear at 332 nm (line 7). As the intensity in the visible region is identical to that of the Hg spectrum, there is a possibility of confusion between Nigerian emeralds and synthetic Gilson or Lechleitner-1 emeralds on the basis of the spectral analysis. The Lechleitner emerald is easily identified microscopically because of its synthetic overgrowth, while the Gilson emeralds are distinguishable by the characteristic form of the wisplike inclusions and flux droplets, and Nigerian emeralds show two- and three-phase inclusions. In the absence of inclusions the gemologist would in both cases obtain zonal stripes, and, when measuring light refraction, obtain in both cases values of  $< 1.57$ . However, one practical difference is the colour: Nigerian "emeralds" are, because of their low chrome content, pale green in colour, whilst Gilson synthetics have for commercial reasons an intense emerald green colour.

Columbian emeralds are the only natural emeralds in which the transparency extends to around 313 nm (line 8). No lines are present below this. In 5 synthetics line 8 is also the last visible Hg-line, but the spectra are virtually identical in only three synthetics, Lechleitner 1, Type 2, Lechleitner 4 and Inamori, to the extent that the possibility of confusion exists when the spectra are compared. Lechleitner and Inamori emeralds produced by the older techniques can easily be distinguished from Columbian emeralds. In the absence of inclusions the light refraction ( $< 1.57$ ) would in the case of Lechleitner 4 and Inamori indicate synthetic stones. With more recently produced Inamori emeralds with a light refraction of  $> 1.57$  it would be necessary to use other methods of differentiation. Although Lechleitner 3

synthetics and synthetic emeralds of Russian origin have the same number of lines as Columbian emeralds, it is nevertheless possible to distinguish between them. With Columbian emeralds the line down to 360 nm (reference line 7) appears at full intensity and line 7 and 8 are only marginally fainter. With Lechleitner 3 emeralds lines 4, 5, 7 and 8 are significantly fainter, but line 6 (360 nm) is present at full intensity. With the Russian synthetic the absorption is even higher, so that line 7 is also significantly fainter.

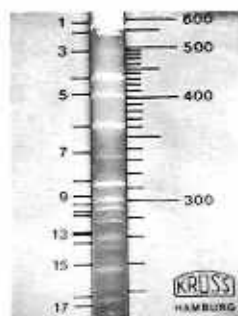
The UV spectra of all the other synthetics cannot be confused with those of natural emeralds. The two oldest synthetics (IG Farben and Zerfass) are absolutely untypical. With these, only line 3 appears very faintly and there is the vaguest hint of two further lines. These are the only stones with such high absorption in the visible region between 400 and 500 nm that lines 3, 4 and 5 are completely absent. It is interesting to note that both spectra are completely identical, which points to their common origin (development by Prof. Nacken).

Among the older synthetics Chatham emeralds show the highest transparency, extending from the visible region down to 288 nm (reference line 12), only lines 4 and 5 appearing at a slightly fainter intensity. Synthetic emeralds from Linde show significantly higher absorption than Chatham emeralds in the visible region, whilst in the UV region low transparency can be detected down to 280 nm (reference line 13).

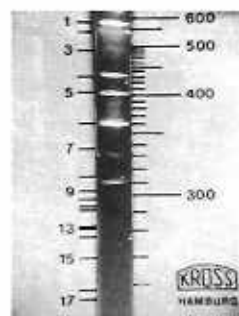
With the new Australian synthetic emeralds low transparency is also present down to 288 nm. It is interesting to note that a comparison with the Hg spectrum shows a relative faintness of all lines, which is uniform over the whole spectral region. The spectra of the three Australian synthetics "Australia", "Byron" and "Regency" are identical with each other. In summary it can be said that, whilst not all synthetics can be distinguished reliably from genuine stones with the new UV spectroscopy, it is nevertheless a valuable new instrument, used in conjunction with the gem microscope, for verifying microscopical findings.

### Acknowledgments

The natural and synthetic emeralds examined in this investigation were kindly made available by the companies J. Petsch, Gebr. Bank, L. Haag K. Wild and F. Klein, Idar-Oberstein. Thanks are also due to Mr. U. Henn and Mr. Th. Lind for making other samples available.



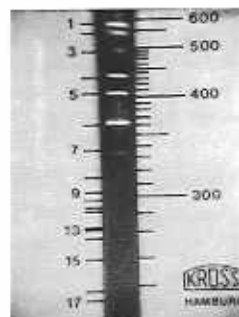
HG-Spektrum



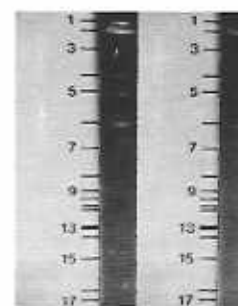
Smaragd - Kolumbien



Smaragd - Sandawana



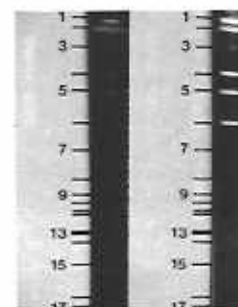
Smaragd - Afghanistan



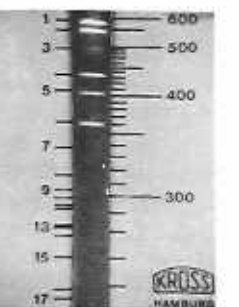
Smaragd - Carnaiba



Formiga



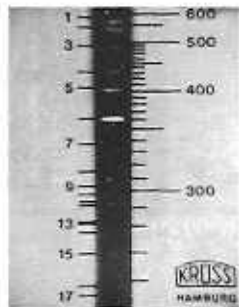
Smaragd - Itabira



Goyas



synth. Smaragd Chatham



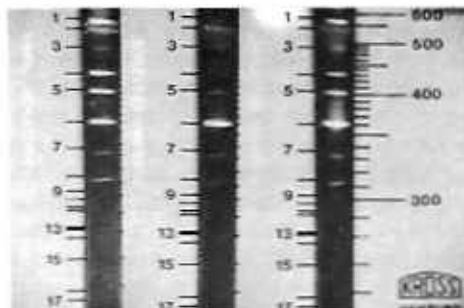
synth. Smaragd Gilon



synth. Smaragd Inamori



synth. Smaragd Linde



Lechleitner 1/  
Typ 2    Lechleitner 3    Lechleitner 4



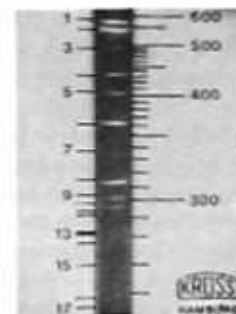
Smaragd - Pakistan



Smaragd - Nigeria



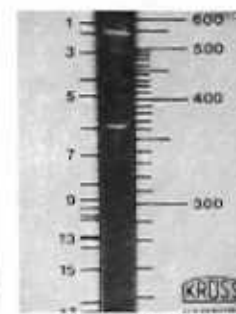
australische Smaragd-Synthese



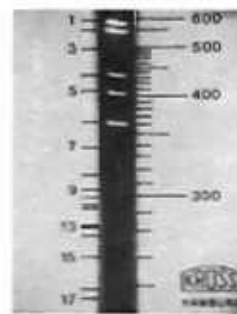
synth. Smaragd „Byron“



synth. Smaragd „Regency“



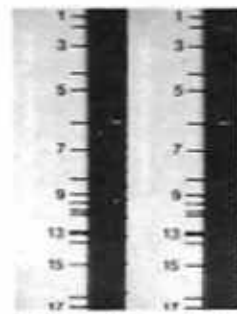
synth. Smaragd Rußland



Smaragd - Sambia



Smaragd - Moçambique



synth. Smaragd  
IG-Farben



Zerfass  
Lechleitner 1/  
Typ 1



# DOUBLET WHICH SIMULATE EMERALDS

BY: IAN C.C. CAMPBELL, F.G.A.  
(INDEPENDENT COLOURED  
STONES LABORATORY)  
MEMBER AGA

## Abstract:

*Parcels of faceted emerald simulants, released into the South African market toward the last quarter of 1989, visually look like emeralds. If these composites are set with hidden girdles, an over-quick or careless examination could result in an incorrect identification. One parcel consisted of at least 80 carats of stones by weight, and it was from that parcel that a number were examined because of their comparatively large size and, in at least two cases (B & D in the photograph below), of convincing appearance to natural stones. Such stones have been seen in the past, but only singly or a few at a time - not in large parcels as recently seen.*

## Introduction:

A relatively large parcel of these faceted composites were offered to the laboratory's client for R80,00 per carat at trade level (approximately U.S. \$31,00/ct). The client was informed categorically that they were natural emerald doublets (in spite of size!), both pavilion and crown being natural emerald, and glued at the girdle plane. This in itself was strange, because the recoverable whole stones from the pavilions alone (in relation to the larger stones) would be significant in terms of both size and financial return. This was realised and an identification was called for. Afterwards the seller still insisted that the components (received from a source in Western Germany) were genuine emerald in spite of clear cut evidence that they were not.

Sizes ranged from sub-carat to in excess of 8,00 carats per stone. See figure 1. A = 6.098, B = 5.656, C = 8.754, D = 6.059 carats. C is shown in this photograph as being over-blue, although it did in fact have a strong blue overtone to its green body colour.

## Gemmological Test Results:

**Absorption Spectrum:** (Raynor variable slit, hand held spectroscope). Transmission in the blue to yellow wavelengths and varying degrees of strong absorption in the red to orange, and violet (and in some cases higher blue) wavelengths.

**Refractive Indices:** Relate to beryl - 1.570-1.574 to a high of 1.589-1.596 with birefringence ranging from 0.004 to 0.007.

## Microscopic Examination:

- i) Inclusions in all 4 stones compatible with beryl, and quite variable among stones: rough spiky ones, concentration of specks in cloud form, apparent irregular rough shaped negative inclusions (A facet cuts across one which appeared hollow - could have contained liquid.) Also orientated 2-phase liquid/gas inclusions and parallel tubes.
- ii) Spherical gas bubbles in some (but not all) cases at the junction plane.
- iii) In some cases green stained, surface reaching, internal fractures.
- iv) Blotches and specks of concentrated colouring matter in the junction plane of all stones, and streaks in one.
- v) Side view (immersed): obvious thin, concentrated colouring medium of unknown type. Comparatively thick in darker appearing stones.
- vi) Side view (immersed): Each segment colourless or very pale green to blue shades - one has a crown which has inclusions similar to a Zimbabwe type (very pale) aquamarine.

See figure 2 & 3 for general appearance of inclusions.

*Comments: This is by no means a new subject and has been reported on before. However the stone(s) could be somewhat misleading, and refractive indices do overlap with emerald. If the girdle plane is covered by a bezel type setting and is carelessly examined a mis-identification could be the result.*

Figure 2

Stone A. Beryl composite simulating emerald.  
As seen through crown.

Figure 3

Stone A from side, immersed.  
Striations in stone are reflections of tweezers.  
Note spreading at each end, of colouring matter at joint

From: The South African Gemmologist  
Volume 4, No 1  
February 1990



Figure 2  
Stone A Beryl composite simulating emerald.  
As seen through crown.

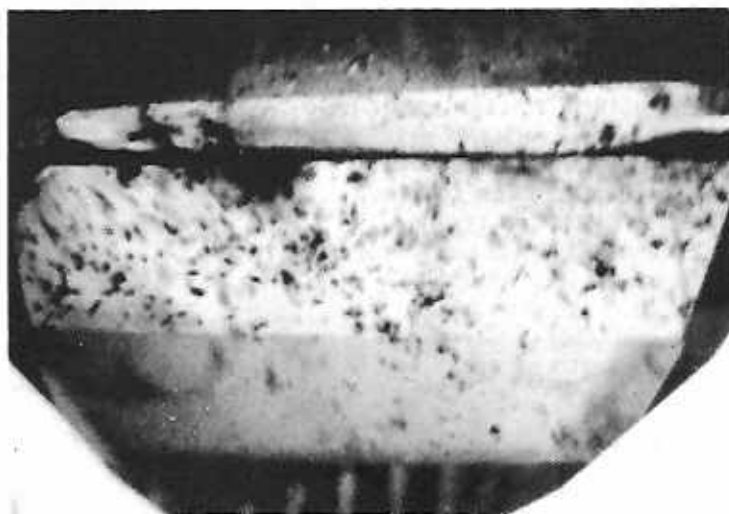


Figure 3  
Stone A from side, immersed.  
Striations in stone are reflections of tweezers.  
Note spreading at each end, of colouring matter at joint.

# INFORMATION FROM NEWSLETTERS, ALERTS, ETC.

## ICA LABORATORY ALERTS:

No. 23, Nassau, K. Sept. 1989. *Weakly Radioactive Spinel Triplets*: Yellow-green colour (peridot simulation). Manufactured in Europe. Two layers colourless spinel cemented together with a green lead- and uranium-containing glass. The uranium provides the colour and the radioactivity. Although single stones are harmless, significant activity is given off by parcels containing many such stones. Be aware of this.

No. 24, Thibaudeau, G. Oct. 1989. *Glass Imitating Emerald*: Obtained for a relatively high price as thought to be a natural emerald. Gemmologically tested by Brodman Gemmological Laboratory in Montreal, Canada. Wt. 74,75 cts. RI. 1,54 approximately. S.G. between 2.28 and 2.38. Singly refractive. Green dye in fractures, mica flakes attached with soft glue together with very small crystals. Green dye can be removed. Large bubbles and curved striations internally.

No. 25. Huddlestone, R.V. Dec. 1989. *Impregnated Black Opal*: Two broken pieces of polished black opal with mainly green and blue flash. 3.60 and 0.34cts. Inert under LW and SW ultraviolet. Microscope (10 x to 60 x). Black substance in fissures. Result: Natural black opal impregnated with unidentified black substance which peels away on the tip of the probe (while under magnification). Treated to enhance the contrast of colour play and considered by Huddlestone Gemmological Consultants to be fraudulent. Black substance not analysed.

No. 26. Bank, H., Henn, U. Nov. 1989. (ICA report Dec. 1989.) *Flux Grown Synthetic Red Spinel from USSR*: 13.14 cts. RI is 1,716 and SG 3,60 (both similar to natural) Coloured by Cr +. Absorption bands at 543 and 412 nm. Tension cracks which cause an undulous extinction. Black particles, probably representative of flux residues also observed under microscope.

No. 26 Update. Koivula, J.I., Kammerling, R.C. Dec. 1989. *Flux Grown Synthetic Spinel*

*from USSR*: Follow-up from Bank's and Henn's original report (page 27). Another one seen in U.S.A. and purchased in Denver, Colorado. 17. 19 cts. Purplish red well-formed octahedron (one truncated octahedron point). RI 1,719. SG 3,58 ± 0,01. Fluorescence: Strong orangy-red under chelsea filter. Absorption (nm) - 400 to 450 (general), weak band between 580 & 630, fine line near 680, and fluorescent line at approximately 690. Dark brown to black flux inclusions, strain associated iridescent fractures internally. No water content (infrared spectrometry). Inclusion-free stones would be difficult to identify by conventional means.

No. 27. Bank, H. Henn, U. Dec. 1989. *Dyed Transparent and Translucent Quartz as Imitation for Emerald, Ruby and Blue Sapphire*: Artificial colouring in probably heat-induced cracks. Milky quartz for translucent material. Seen faceted, cabochoned and as beads.

From: The South African Gemmologist  
Volume 4, No 1  
February 1990



# European Gemological Laboratory

Institute for Certification of Diamonds and Precious Stones

Antwerp — New York — Los Angeles

July 12th.1989

Concern: Technical details about the Yehuda treatment

---

## Clarity up-grading

Black piques can be removed or converted into white gletzes by "deep boiling" and laser drilling.

Now, white gletzes can be removed or made invisible by Yehuda treatment.

The purpose of the treatment is to render gletzes or cracks invisible. Raising clarity grade from P2 to Si or from Si to VS. is generally achieved.

## Durability

Yehuda treatment increases the strength of the gletzed diamonds. The treatment is permanent, extremely strong and durable.

Once the treated diamond is set in a jewellery piece it will not be damaged by normal use or cleaning process, including ultrasonic cleaning.

The process may be reversed only by a very high temperature of 1000°F (during repolishing) and by "deep boiling" in strong acids, especially when combined with high pressure. In this event the stone can be retreated easily.

## Identification:

The treatment can be detected by looking for a faint rainbow seen at the profile of the invisible gletz.

This faint rainbow can be seen with the aid of a luppe or a microscope when examining from the bottom or the side of the stone.

It is easier to identify a treated stone than to find a VS or VVS in a stone.

When a rainbow occurs naturally, it can be seen at the face of a gletz and not from the profile.

NOTE: The EGL laboratories are allowed to accept and to certify such stones on the express condition that they mention in the comments of the certificate: "CLARITY ENHANCED TREATED DIAMOND"

30 West 47th Street/Room 205

New York, N.Y. 10036





# THE MOST COMMON MISCONCEPTIONS ABOUT FLUX GROWN RUBIES

BY: VIRGINIA L. CARTER

In 1987 I joined Judith Osmer as an active partner in the J.O. Crystal Company. Judith had started the Company in 1983 to produce and distribute her Ramaura Cultured Ruby. Things had gone well . . . in fact they were jumping when I got here. My job was to learn as fast as I could and to help continue orderly growth in the fastest growing big-little company in the West.

The misconceptions which are discussed below are not just attitudes which Judith and I have encountered in the trade. They are, in many instances, deep seated beliefs which some gem traders and jewelers hold, sometimes despite scientific and/or G.I.A. training. I have to confess that Judith has had to knock some of the ideas out of my own head!

So here they are, the seven most frequent misconceptions we encounter.

## 1) "In The Laboratory Anything Is Possible."

Well, not quite. In fact not even close! Judith is often asked to grow bigger rubies, cleaner rubies, different stones, cheaper stones, etc., etc. It is as if being in the laboratory makes all things possible. What seems to be missing is an appreciation of the fact that the immutable laws of nature apply just as firmly in the laboratory as elsewhere. These laws are as true in our laboratory as they are in any ruby mine. Judith cannot make just anything happen. She is limited by natural laws of science which have been painstakingly established over centuries. They have been discovered, not made. If you are smart enough to figure out how to apply them, (as Judith has in the instance of making the Ramaura Cultured Ruby), then you may be able to make things happen according to natural laws in an unnatural environment, i.e. the laboratory. The Ramaura Cultured Ruby is made by using the same natural laws which cause rubies to form in the earth. There are the same limitations of size and clarity. I wish Judith could beat the laws of physics and do better, bigger, clearer and more. Wishing doesn't make it so.

## 2) "The Inclusions In Ramaura Cultured Rubies Are Put There Intentionally."

This is probably the view of people who know flame fusion ruby and how unlike natural ruby it appears. When they discover that Ramaura rubies have a host of different inclusions, many of which look very much like natural inclusions, they look at Judith with wonder and tell her how smart she is to do that. Judith would love to take credit but knows that you know better. Her ruby is grown by establishing a set of conditions in the lab which are closely similar to those which occur during the formation of natural ruby. The Ramaura Cultured Ruby grows because it must, in the way it must. Sometimes it grows too fast, trapping flux inclusions. Sometimes it develops internal cracks creating fingerprints and feathers. Just like natural ruby, the fewer the number and prominence of the inclusions the more valuable is the stone. So it isn't that Judith puts inclusions in her stones. She works to find growth mechanisms which minimize their numbers.

## 3) "Lab Grown vs. Flux Grown vs. Created vs. Cultured . . . They All Mean Pretty Much The Same Thing."

There are shades of meaning in these varied adjectives and all are now in common use to describe rubies which are not of natural origin. Those shades are important to those of us who want to convey as much accurate information as possible, as simply as possible. Rubies are produced in the lab using two methods, flux and flame fusion. The latter results in very inexpensive ruby which bears only a passing resemblance to natural stones. It is produced in large volume for use in inexpensive jewelry and in industry. To say "Lab Grown" fails to distinguish between these two methods. "Flux Grown" implies "Lab Grown" but the term is only understood by scientists and gemmologists. To say "Created" is equivalent to saying "Lab Grown" with the added feature of sounding omnipotent. We have settled upon "Cultured" because the general public knows that it means people were involved in the process, that the product is the same as its natural counterpart and that it grew out of a nutrient solution, (as pearls do).

## 4) "These Stones Will Swamp The Market!"

Flux grown rubies and emeralds make up, at the very most, 1% of the number of their natural equivalents which are newly mined and faceted each year. The growth technique is both

difficult and costly. In a way our Ramaura Cultured Rubies are boutique items. World wide production of flux grown stones not only doesn't swamp the market . . . it cannot keep up with demand.

5) "Corundum Is Corundum Is Corundum."

If you compare flame fusion with flux grown ruby and cannot see the difference, then save the money and buy the cheaper goods. It is argued by gemmologists with less self interest in this than I, that the reason the Ramaura Cultured ruby looks so much like a natural is because of the low number of dislocations in its lattice structure. Unlike flame fusion ruby, which is produced by quickly melting and refreezing aluminium oxide and chromium, the Ramaura is grown by slowly precipitating a ruby from a supersaturated solution. There is no seed, no forced growth. The crystal lattice forms with great regularity. With few dislocations there is little to scatter light. Looking into the resulting stone you are able to see its heart.

6) "They' Make Us Put A Dopant Into The Ramaura Cultured Ruby"

Judith dopes her ruby to help in its identification. The fluorescence is shifted toward yellow-orange when compared to natural ruby fluorescence. All Ramaura Cultured Ruby is doped. None have ever been on the market without the dopant. The test is a good one but must be applied carefully and always in direct comparison with a natural ruby. Some Ramaura rubies show the effect more strongly than others because they grew late in the growth cycle when the concentration of dopant was highest in the flux. All Ramaura rubies show the effect of the dopant. In applying the test be careful to darken the room, use a mineral lamp at long wavelength and do a direct one-on-one comparison with a natural ruby. No one makes us add the dopant. We do it because we are proud of the Ramaura. We know that in the long run it would be harmful to the industry and to our business if Ramaura Cultured Rubies could not be distinguished from naturals.

7) "If You Make Them, They Should Be Cheap!"

Compared to the cost of natural rubies the Ramaura Cultured Ruby is not expensive, only 5-10% of the price of a natural of comparable quality. The price ranges from \$50 to \$350 per carat depending on size and grade. Ramaura rubies are relatively expensive to produce.

They require a very pure platinum crucible in which to grow. They take months to form and all that time they are sitting in electric furnaces at around 3000 degrees F. The power bill is enormous! The cutting yield is low since the cutters must select regions from the rough to avoid as many of the inclusions as possible. When you add up the numbers it is easy to see why \$135/ct for a 1 carat Fine grade Ramaura is a very good deal.

Business was at an all time high in 1989 and so far in 1990 things look even better. That being so, it is quite likely that sometime soon, if it hasn't already happened, you will be running into a Ramaura Cultured Ruby in connection with your own business. We hope it is a happy and profitable encounter.

## ABOUT THE J.O. CRYSTAL COMPANY

The J.O. Crystal Company was formed in 1983 by partners Judith A. Osmer and Virginia L. Carter, to produce rubies for use in fine jewelry. The Company is a pioneer in the field of duplicating natural gemstones in the laboratory. With the head office in Redondo Beach, California and production laboratories in Long Beach, California, the Company grows and distributes the Ramaura Cultured Ruby worldwide. A companion product, the Gilson Cultured Emerald is also distributed by the Company.

Public interest and acceptance of the Ramaura Cultured Ruby is paralleling the remarkable history of widespread acceptance of cultured pearls around the world in the first several decades of this century.

### JUDITH A. OSMER

Ms. Osmer was employed for 25 years as a research crystal grower specializing in laser materials. She attended U.C.L.A., majoring in Physical Sciences/Mathematics, and worked for the Hughes Research Laboratories and the Aerospace Corporation in Los Angeles. Her list of publications includes more than a dozen research papers on crystal growth.

The flux technique by which the Ramaura Cultured Ruby is grown is unique. It produces a



ruby which grows by spontaneous nucleation in a manner very similar to that in which natural ruby grows. The Ramaura Ruby is considered by experts to be the most natural appearing of all the created gemstones.

#### VIRGINIA L. CARTER

Ms. Carter has recently moved from silent to working partner at the J.O. Crystal Company. Her most recent position was Senior V.P. of Drama, Embassy Television in Hollywood. Her 14 years in show business were preceded by a decade of research in experimental physics at the Aerospace Corporation in El Segundo, California. Educated at McGill University in Montreal, Canada, and at the University of Southern California in Los Angeles, she is the author of more than 20 technical papers and is the recipient of a number of Emmy and Peabody awards for her work in television.

FOR FURTHER INFORMATION: Contact Virginia L. Carter, The J.O. Crystal Company, 111 Bia La Circula, Redondo Beach CA, 90277  
PH# (213) 437-1645



*Judith Osmer*



*Virginia Carter*

# TRUTH IN APPRAISING

BY: THOMAS CHATHAM

PRESIDENT, CHATHAM CREATED GEMS  
PRESIDENT, GEMSTONE CRYSTAL  
GROWERS ASSOCIATION

In the late 1970's and early '80's we had natural gemstones, and those that were not natural. "Non-natural" stones were anything from glass to synthetic . . . all of which were considered fake by some people's understanding.

Because "demand is the mother of invention" we found ways to turn white topaz blue, cloudy sapphire clear, fractured diamond less flawed (to the eye), rubies a little more red, emeralds a little less oily, and laboratory grown gemstones a lot more saleable. Without these improvements to availability, the industry would certainly have far fewer products to sell, and the consumer less to buy.

But these developments have not been without problems. Change has occurred so rapidly, our industry has advanced product without adequate terminology and explanation. So, for the past two years, a coalition of industry representatives have worked to produce a manual aimed at helping the retailers describe to the general public, in simple and clear terms, enhancement developments.

Laboratory grown gemstones and imitation stones have been, and continue to be, a controversial part of this effort. One of the hottest issues concerns the word "synthetic". There is growing agreement among the various trade organizations, including the Federal Trade Commission, that the word synthetic is misused, badly misunderstood, and counter productive. One word with two almost opposite meanings. A gemologist may correctly identify a synthetic as a gemstone that possesses the same properties as natural, but the general public has an altogether different opinion. Common usage (including dictionary definitions) interprets synthetics to mean artificial or imitation products.

And this issue becomes counter productive when it interferes with a sale, or creates problems after a sale (perhaps even "returns"). When a consumer receives an appraisal marked

"synthetic", their immediate reaction is to believe they were misled by their salesperson. At the point of purchase, they were satisfied the laboratory grown gemstone was "real". Now they believe it is an imitation.

Finally, the jewelry industry is on the threshold of adopting new terminology to describe gemstones born in a laboratory: "Laboratory Grown" gemstones. Although this would seem to be a rather obvious choice, the results should mean increased retail sales. Not having to use the term synthetic will allow salespeople to present more positive, encouraging information to customers. Lost sales will turn into profits gained. Everybody wins.

This new terminology for the 90's is being supported and promoted in a supplemental manual written under the auspices of the Jewelers of America. To be truly effective, this manual needs to be endorsed by all segments of our industry. This must include appraisers. Granted, all gemologists have been taught that laboratory grown gemstones are indeed synthetic. And gemologically they are. But we must keep in mind, the general public has not had the benefits of a gemological education. Appraisers are not being asked to alter the ultimate description and value of a gemstone; rather, make contemporary consumer perceptions. After all, isn't our objective increased sales and more satisfied customers?

The bottom line is this: gemologists are being asked to consider the consequences of their actions - - or in this case words. You have always played an integral role in the fine jewelry industry. And hopefully, you will continue to do so. The consuming public relies on our knowledge and on our honesty. They are too often confused by the facts, and alarmed by the negative publicity our industry has been subjected to (much of which has been warranted). There is enough doubt and suspicion already. We don't need to create any more. Consumers want, no, need to know what it is they have purchased. They most certainly have the right to an appraisal that is fair, accurate, and understandable. It might not be an appraiser's responsibility to help make a sale, but it certainly isn't appropriate for an appraiser (or appraisal) to be at fault over the loss of a sale.

So come on! Let's eliminate appraisals that are akin to a prescription a doctor gives his patient - - where only the trained eye of a professional pharmacist can decipher its meaning. Spell out what a lab grown stone is and where it comes





from. Help that customer comprehend what they own. Jump on the jewelry industry bandwagon. Support "Laboratory Grown" gemstones, and don't use the word synthetic.



# SOME UNANSWERED QUESTIONS ABOUT 'NUKED' BLUE TOPAZ

BY: JANE EVERHART

Though the Nuclear Regulatory Commission (NRC) has recently taken some positive steps on the "nuked" blue topaz issue - namely, licensing two distributors to test and distribute imported blue topaz and thus, hopefully, controlling to a certain extent the "super hot" stones that have been filtering in from other countries from time to time - there are still unanswered questions that give rise to misgivings about this product.

For instance, what made the NRC decide that 15 bequerels of radioactivity is OK for the human body to absorb and not 16 or 17 bequerels? And do you really trust the NRC to decide for you how much radioactivity your body can absorb? This is the same genre of folks who brought you Agent Orange, diethylstilbestrol (DES) and the Dalkon Shield.

The other day I was holding on to a strap on New York's subway when I saw, sitting below me on her mother's lap, a tiny Hispanic child, perhaps nine months old, wearing tiny earrings in her pierced ears, as is the custom in many Hispanic families - and I recognized the eery glow of London blue topaz. I looked at her small head and wondered how many millirems it could absorb, what amount of radioactivity was pulsating into her tiny lymph nodes, and I tried to remember what I had read about the amount of millirems of radioactivity permissible per pound of body weight.

I have other concerns, too. The NRC won't allow nuked gems to be cut and polished in the U.S. on the grounds that inhalation of the radioactive dust is dangerous. But there is no such rule in Thailand, where much of the blue topaz is being cut today, and where young children do much of the polishing.

And what about the gems that need to be held in lead containers for as much as 10 years before they can be released - where are they being held? Or are they being dumped into Third World countries as are so many of our other unwanted products?

**Consumers Should Be Told**

Another important question the government needs to address is that of disclosure. Consumers should have a choice of whether they want to wear nuked gems or not, and if they aren't being told, they don't really have an informed choice.

I'm also concerned about the spurious assurances of safety that appear in various industry publications. One publication recently ran the headline "BLUE TOPAZ IS SAFE, SAYS NRC". What the NRC actually said is that they *only* consider blue topaz safe if it comes from an NRC-licensed reactor or distributor.

But even the NRC can say some pretty foolish things at times. For example, at one seminar, NRC's John Hickey said that the risk of wearing blue topaz for an X period of time is equivalent to the risk of driving from New York to California in your car. Well, wait a minute. When I get out of my car after a cross-country trip, that's the end of it. The risk is over. But radioactivity is stored in the body's organs and stays there forever (your body doesn't "cool down" with time as inert matter does).

Nor does your cross-country car trip have an effect 20 years from now. But cancer is a slow-developing disease; the radioactivity doses you get *now* could result in cancer 20 years down the road.

## Beware of False Comparisons

Or take the chart that recently appeared in one magazine, comparing the risks of wearing blue topaz to the risk of being exposed to natural gas heaters and fertilizer products. That's about as foolish as saying that jogging in Central Park at night is safer than sticking your head in an oven. Beware of such spurious comparisons. They can engender a false sense of security.

Moreover, that particular chart was prepared by an employee of the University of Missouri's nuclear reactor, which does most of the nuking of gems in this country and makes a huge profit doing it. The chart is also attributed to an organization called the National Council on Radiation Protection which, I believe, is a public relations group. One would question the objectivity of both of these sources.

## Scientific Testing Needed

Another thing I've been concerned about is that no scientific tests have been done on the effects of wearing gems on a living organism. Why

hasn't the F.D.A. tested irradiated blue topaz on laboratory rats? They've done it with saccharin and many other substances, both external and internal. Even cosmetics are tested on laboratory animals. How much effort would it take for scientists to tape blue topaz of various radioactivity levels to the skin of a laboratory animal and see what effect it has on the animal after a month, six months or a year?

Until such tests are done, all we have to go by is the research done by scientists at atomic plants. A recent article in the *New York Times* reported that Dr. Alice Stewart, a British epidemiologist, discovered as far back as 1975 that workers at one atomic plant, exposed to radiation levels less than half the federal safety limit of 5 rems per year for atomic workers, suffered a third more than the expected levels of pancreatic cancer, lung cancer and multiple myeloma, a rare bone marrow cancer. The government suppressed this information for years, Dr. Stewart charged.

It's better to be safe than sorry. I say, test the material first and then sell it. But not until retail jewelers say this - demand it, in fact - will there be any conceivable action.

#### **A Journalist's Responsibility**

I believe it is a journalist's responsibility to bring questions of this kind to the attention of readers: it is an ethic that has brought down a lot of criticism on my head from those who would rather these questions be kept under wraps. A whistle-blower's lot is generally not happy one.

While it is true that journalists can sometimes change history, as Woodward and Bernstein did when their Watergate articles toppled a presidency, usually it's a thankless job and sometimes a dangerous one. After my series of articles about nuked blue topaz were published, I received some veiled threats to my life. They concerned me enough to alert my family.

It is apparently an occupational hazard. Some 53 journalists were killed worldwide in 1989 - twice as many as in 1988. The *New York Times* wrote in an editorial titled "Killing the Messenger"; "Journalists who are risk takers are witnesses who provide the first rough draft of history. When they are silenced, jailed or censored, understanding is dimmed and information lost."

And the *Wall Street Journal* wrote in a recent article defending journalists: "Journalists

rightly believe that in a democratic system they have a responsibility to educate and inform the public . . ."

I'm looking forward to the time when most trade publications feel that way, too, and aren't afraid to tackle these risky topics with courage.

*Jane Everhart is the editor of the Rapaport Diamond Report, a subscriber - supported publication. She has been covering the jewelry industry for 15 years and has won several awards from the New York Business Press Editors Association for her articles - most recently, first prize in the category of Reporting on Controversy for her article "Nuked Blue Topaz - How Safe is Safe?"*



Office of the President

**An Open Letter to Accredited Gemologists Association Members**

Spring, 1990

Esteemed Colleagues:

I am writing to extend a personal invitation to join me and our fellow gemologists for the International Gemological Symposium in June of 1991. By now, many of you have read about this celebration of GIA's 60th anniversary. Its theme, *FACING THE FUTURE*, sets the tone for an educational event that will be worldwide in purpose, scope, and impact.

Symposium will offer us the opportunity to assess industry-specific concerns and progress, as well as to share global thinking and gemological camaraderie. Many of the sessions are directly focused on issues that you confront daily. In *FACING THE FUTURE* you will find:

- more than 50 presentation and panel discussions,
- over 100 of the industry's most acclaimed figures,
- highly significant topics related to **Diamonds, Colored Stones, Jewelry History, Jewelry Design and Technology, Information Systems, Economics, Marketing and Research**, and
- dazzling social events at very special locations.

You belong here. Symposium will be the educational event of the decade . . . one you certainly must attend.

I look forward to seeing you in Los Angeles, June 20-24, 1991.

Sincerely,

GEMOLOGICAL INSTITUTE OF AMERICA

William E. Boyajian

ps/ To be included on our VIP mailing list, act now. Contact our Symposium office:  
800/421-7250.





*B  
i  
l  
l  
  
B  
o  
y  
a  
j  
i  
a  
n*



*Gary Grelick*

## **GRELICK CORPORATION NAMES OFFICERS**

Buffalo, New York - Grelick Corporation is the new parent company of Bomi Gemstone Importers, the international jewelry business founded in Buffalo 55 years ago.

Robert A. Grelick is president and AGA member Gary R. Grelick is vice president of the corporation, and the two are partners in Bomi, which has expanded its corporate headquarters here, with new offices on the main floor of the Ellicott Square.

In addition to its Buffalo operations, Grelick Corporation has export offices in Hong Kong, Thailand, Israel and Sri Lanka.

Gary Grelick is a graduate gemologist with degrees from the Gemological Institute of America, Great Britain and Japan. He is author of the reference book "Diamond, Ruby, Emerald and Sapphire Facets," now in its fifth printing.

Send Inquiries to: Gary R. Grelick  
(716) 856-4108



*Robert Grelick*

# ANTONIO C. BONANNO ET AL A RARE "GEM FAMILY"

Antionette BONANNO Matlins  
(S. Woodstock, Vermont)  
Kenneth BONANNO  
(Fredericksburg, Virginia)  
(Karen BONANNO Wright,  
Phoenix, Arizona)  
Kathryn BONANNO  
(New York City)

The name Antonio C. Bonanno is well known to members of the Accredited Gemologists Association and, indeed to gemologists throughout the country. One of the founding fathers of our association, and recently acknowledged in The Diamond Registry (a New York-based industry newsletter) as "one of the founding fathers of the science of gemology," Tony has been working with gems and minerals for over 50 years, and teaching and appraising since 1950.

For those who don't yet know Tony, he is the Founder and President of National Gem Appraising Laboratory outside Washington, D.C., a firm noted for forensic gemology, photomicrography, appraising and identification of gemstones. He is also Director of the Columbia School of Gemology, which has been teaching gemology to Washington area jewelers, hobbyists, and collectors since the mid-1950's.

Tony's story is an interesting one. While in elementary school, he was introduced to chemistry by a schoolmate (who would also be a lifelong friend). He practiced his hobby in the basement with "chemicals" he purchased from the local druggist for anywhere from 5 cents to 10 cents a packet (they came in packets similar to parcel papers used by gem dealers today). One day a neighbor moved and Tony went looking through their trash to see if they'd thrown out anything he might want (scavenging is something at which Tony is still adept!). Sure enough, he found some rocks which he took to school to have his science teacher, (yes, he says, they really had a 'science' teacher in junior high school in Washington when he was a boy) identify. She was unable to identify them, but suggested that Tony take them to the museum

(what is now called the Smithsonian, but was then called the National Museum).

He did just that, and, upon arriving, went directly to the curator, Dr. Foshag, who proceeded to identify the rocks and then show him around the Hall of Gems. "When I saw some of the fantastic specimens there," Tony tells, "I couldn't help asking Dr. Foshag if the museum by any chance had any 'duplicates' he could give me for my collection (which at that very moment I decided I wanted to start). Dr. Foshag sent me to see a wonderful man James Benn, who gave me my first three 'real' specimens - a fantastic cluster of calcite crystals that I still have; a piece of radium ore which I thought was worth millions since radium was selling at the time for \$6 million an ounce (of course what he gave me was worth about a nickel), and a third specimen I can't remember."

From that time on, Tony went to the museum on a very regular basis to look at the gems and minerals. One day a boy scout approached him while he was studying one of the exhibits and invited him to join the museum scout troop. "I was I tough Italian kid and there was no way I was joining any 'sissy' scout troop . . . until he mentioned that James Benn was the scoutmaster. That's all I needed to hear. I joined the troop because of Jimmy and because we got lots of free specimens from the museum 'duplicates'!

Tony developed very close relationships with both Dr. Foshag and Jimmy Benn. They instilled in him his passion for knowledge about the physical world and encouraged his study of chemistry and physics, geology, crystallography, mineralogy and, in particular, the study of gems. But there were a couple of incidents, in particular, that Tony recalls that really determined his future.

The first, he says, occurred shortly after joining the scout troop. He brought in his mother's "diamond" earrings for Dr. Foshag to see. "My mother was so proud of those earrings," he recalls. "They were one of her most prized possessions. You can imagine my shock, and indignation, when Dr. Foshag told me the stones were NOT diamonds, but colorless topaz!" Then, about a year later, he traded a local bookseller several fine, old books for several 'fantastic faceted gems' (of course, Tony thought he got the best end of the trade) and rushed in to show his wonderful treasure to Dr. Foshag. "Dr. Foshag didn't even have to examine them," recalls Tony. "He knew immediately what I had. DOUBLETS, he pronounced. I was furious. It



"Dr. Foshag didn't even have to examine them," recalls Tony. "He knew immediately what I had. DOUBLETS, he pronounced. I was furious. It was bad enough that my mother had been duped, but I swore at that moment it would never again happen to me. That's when I made up my mind to learn everything I could about gems. Dr. Foshag and Jimmy Benn never saw the end of me from that day on. That's when my real pursuit of gemology began!"

Tony has never stopped studying, collecting, and teaching. He was Charter Member #8 of the Lapidary Club of Washington, D.C. (which became the Washington Gem and Mineral Society), and was one of the first Americans to become a Fellow of the Gemmological Association of Great Britain with distinction.

Most of us are familiar with the many honors Tony has been bestowed over the years. What comes as a surprise to some, however, is that while he was working so diligently in the field of gemology he also produced six children. And gemology must have been in the blood, because today four of Tony's six children are actively involved with gems and jewelry. They often work together, but they also bring their own unique, individual interests and talents to the field.

We decided to talk to each of them and find out what they are doing today, what attracted them to the field and what their future goals are. We will start with the oldest (sorry, Antoinette) to reveal this fact) and proceed to the youngest.

#### Antoinette BONANNO Matlins

"From the time I could walk until I left for college, I can't think of any place I would rather have been than on rock collecting trips with Dad, or accompanying him to the lapidary and gemology classes he gave four nights a week," says Antoinette. As an adult, however, she chose a different path for a career (which began as a remedial reading teacher, then veered off into advertising and marketing where she became a vice president in a major New York advertising agency). "I never even considered the field of gems and jewelry professionally," Antoinette admits. "It was the 'investment' scams that began to appear in the mid-seventies (ending in disaster for so many by 1981) that got my attention, and started the adrenalin flowing," she remembers.

"Understanding the business as I did, it was hard for me to imagine how so many seemingly intelligent people could fail to see how risky

gem investment schemes might be for them. In discussing it with my husband one afternoon and commenting on the stupidity of it all, he helped me realize that it wasn't so much a matter of stupidity as it was a result of ignorance.

That started Antoinette thinking, and it didn't take long for her to discover one important reason why there was so much ignorance on this subject in particular. She discovered there were books for the layperson about everything EXCEPT GEMS.

That's when Antoinette got the idea that she and her father should write a book. A book she thought was not only needed, but in the light of the 'investment fever,' also very timely. And as a result of writing the first book, which led to a number of media appearances and lectures, she began to see that there was another area in which she might be able to serve an important function. Educating the public. And she's thrown herself full-time - and full-force - into doing just that, and more. Antoinette has taken an active role in educating not only the public but the trade as well, through articles in consumer magazines (for her latest, see Conde Nast's TRAVELER, May 1990, trade publications including the gemology column in National Jeweler, workshops, lecture tours, media appearances, and last but not least, the important books she and Tony have written.

In terms of books, Antoinette convinced her father (and that was no easy task) to work with her on their first book, published by Crown Publishers and titled THE COMPLETE GUIDE TO BUYING GEMS. "But he wanted to write the quintessential gemology textbook, and I wanted to write something readable and practical for the layperson. It was a constant tug-of-war, but I won," Antoinette beams. And anyone who knows Tony knows what an accomplishment that was in and of itself! In all seriousness, Antoinette believed that there was already enough technical material, but virtually nothing for those without a scientific inclination.

Antoinette's goal was to fill the gap. So the next thing she knew, she found herself catapulted into the gem and jewelry industry. Six months after publication of The Complete Guide, she resigned from her prestigious advertising position to focus full-time on her new goal. She and her husband set up their own publishing company, GemStone Press, to publish other books on gems and jewelry



written by Antoinette and Tony, as well as other authors (their books are distributed by Van Nostrand Reinhold). Their first publication was a revised, updated softcover edition of The Complete Guide, titled JEWELRY & GEMS: THE BUYING GUIDE (\$14.95, now in its fifth printing with 100,000 copies in print). This was followed by another "first" this past Fall, GEM IDENTIFICATION MADE EASY (\$29.95) a non-technical book for the jeweler, serious collector, and beginning gemologist on gem identification, which they've succeeded in simplifying. Initial reviews have been outstanding. Their latest is ENGAGEMENT & WEDDING RINGS: THE DEFINITIVE BUYING GUIDE FOR PEOPLE IN LOVE, which has just been published, a book written to take couples through the entire process to make it more enjoyable . . . to "remove the fear and restore the romance". And, we've been told, two more books are in the works.

Antoinette keeps a schedule that many would consider impossible, but, she says, she has to make up for lost time. In addition to the books, she relentlessly produces articles, press releases, and letters, and meets a full media schedule to make sure people are kept well informed and up-to-date. She makes frequent appearances on national TV including shows such as Good Morning America, The Today Show, Regis Philbin's Shows, Hour Magazine, as well as numerous local and regional TV and radio programs. She was selected by N.W. Ayer this past fall to be the media spokesperson for DeBeers.

Her articles and comments have appeared in publications such as Gems & Gemology, National Jeweler, Jewelers Quarterly, Gems & Jewelry, Aurum, Asian Jewelry, Tiffany Magazine, Forbes, U.S. News & World Report, Business Week, SAVVY, Brides, Modern Bride, Changing Times, Lears, SELF, The Robb Report, and she wrote the chapter on "Gemstones" in the just published Encyclopedia of Investments, 2nd Ed. (Warren, Gorham & Lamont, N.Y.), to make sure people considering gems as investments were fully aware of the complexities and risks.

What she loves most, however, is lecturing and giving workshops. "I love to share with my audiences what's going on in the jewelry business, to describe everything from the world's most exciting gems, to unusual pieces that have come up for auction, to new gems making their debut in Tucson (like to Paraiba tourmaline), to the latest treatments or scams,"

says Antoinette.

She is represented by two national lecture bureaus, and her schedule includes major shows such as the AGTA show in Tucson, the Dallas Market Center Show, and the Chicago Jewelers Show as well as "spouse" programs for major corporations, Royal Viking and QE2 "World Cruises," and women's and garden clubs. Following this year's Tucson show, she was booked by one of her lecture bureaus for a four-city tour in Northern California -- San Rafael, Sacramento, Walnut Creek and Oroville. She was amazed at the size of the audiences -- her smallest was about 400 people, and her largest was almost 2000 (at the Sacramento Civic Center, which she admits was her largest ever, and gave her a real case of stage fright). But despite the occasional stage fright, "It's exciting to know that so many people are interested in gems and jewelry," she adds. "I love to answer their questions and open their eyes to all the alternatives available today."

When it comes to trade workshops and lectures, Antoinette also feels it's important to impress upon her audience the need to get out into the world to know what's really going on. "I'd never miss Tucson," she says "and I try to view every major piece coming up at the "Magnificent Jewelry" auctions held each October and April in New York, and when time permits, in Geneva. I also usually attend the Watch, Clock and Jewelry Fair each year in Basel."

According to Antoinette, "It's the only way to keep your finger on the pulse of our industry -- to get a feel for the trends, observe new design techniques, keep up with new gem materials, and truly understand quality differences and prices. For example, the industry price guides, while reliable for most of what you will encounter, aren't reliable when it comes to gems of exceptionally rare quality and/or size," she stresses. "When it comes to such gems, auctions are one of the primary sources today, and the only place in some cases where one can find a 'comparable.' If you've actually examined such pieces, you'll be in a position to know how to evaluate another that might be similar, should you need to. However, if you've never viewed one, you may do your customer or yourself a disservice by over- or under-evaluating it. I recommend going to the major auctions to view important gems, make notes in the catalogs, and then keep them in a library for reference," she advises.

And if what we've described isn't enough, there are two more areas that keep her busy: working



with major retailers and industry organizations in the areas of staff training and developing consumer information; and conducting gem and jewelry searches for private clients.

In the area of staff training, one of the most innovative retailer programs she's been involved in is the J.C. Penney's direct-broadcast training. She's done three "direct broadcasts" where she is taped live in Dallas and appears simultaneously in J.C. Penney stores all around the country. A series of regional, in-store workshops for sales staff are currently being planned.

And with regard to her gem searches, they run the gamut from the mundane to the sublime, but this is the area that has shown the greatest growth recently. She attributes this to all the work that has gone into everything else she's been doing. It's taken time and perseverance, she told us, and more 18 hour days, seven days a week, than she cares to remember. But just prior to Christmas, she told us, she had a \$750,000.00 week . . . with just one client. "Dad, Karen and Kathy were all involved with me on this one. Possibly our most exciting 'family affair!'"

When asked "How do you do it all?" she simply replies, "I love what I'm doing . . . and Dad passed on to me a real passion for the field. It's really great to be able to do something you really like."

#### Kenneth BONANNO

Ken demonstrated an interest in science at a very early age. He was conducting chemistry experiments in the basement of his home while still in elementary school, and he helped build a car from the ground up with a neighbor when he was only 12. He likes retailing, however, and so he went into partnership in an antiques business. He became increasingly interested in gems as more and more customers became interested in antique and estate jewelry.

Ken decided he needed to study gemology and so he enrolled in his dad's gemology course, at his school - Columbia School of Gemology - where he earned the title "PG" (Professional Gemologist), and then went on to take his examinations from the Gemmological Association of Great Britain, becoming an FGA (Fellow of the Gemmological Association). He set up a laboratory for his own use (he doesn't do appraisals) and focuses his time on buying and selling fine antique and estate jewelry. "I love older pieces because the workmanship is

usually so fine. I really appreciate the fine detailing -- the use of enamelling, engine-turning, engraving, milgraining, granulation, and so on," Ken explains. He also points out that in his opinion, while diamond quality may not be as high or as well-matched in some older pieces, they often have a more interesting or distinctive character than most of today's diamonds. And, when well-proportioned, he likes some of the old-European cut and old mine-cut diamonds very much. In terms of colored gems, he enjoys the variety of stones used in older jewelry, and the quality. "I've seen some very fine sapphires and rubies, demantoid garnets, and red spinels in old pieces, the likes of which you seldom see today. Of course," he adds, "often the stones aren't what they appear to be, but I think I have a somewhat different attitude than many when I encounter something especially well 'faked' . . . I have a real appreciation and, to some extent, respect for their ingenuity," Ken laughs.

After all is said and done, Ken's acute eye and scientific background have given him an unusual ability to recognize and evaluate the unusual and unique. And for him, that's what it's all about.

#### Karen BONANNO Wright

Karen became involved in gems and jewelry in early 1974 when she took her father's gemology course. She was the first of Tony's children to formally study gemology at his school. "It was a dreadful experience," Karen recalls, "because he constantly called on me to answer questions and if I didn't know the answers, he embarrassed me tremendously in front of the class. He expected me to know ALL the answers since I'd been around it all my life!" Somehow Karen survived, took her examinations and received her PG title and, you guessed it, her FGA.

Now she was faced with the question, what was she going to do with her gemological diplomas? She really had no idea and, as a widow with two small children, was concerned about going to work full-time. A friend and fellow student discouraged her from staying home and letting her mind stagnate, as he put it, and encouraged her to do something in the field so that she would keep her mind stimulated. Thus, in October 1974, Karen started working with her father in his appraising lab and school of gemology. "He wasn't really my first choice for a job," she admits, "but then I decided I'd never get fired if I had to take off work with sick kids, or whatever."

Or, so she thought. As she explains, "working with my 'genius' father -- as so many people described him to me -- was NOT (and still isn't) easy! He always expects me to know what he is thinking and to have all the answers. For example, he expected me to know a diamond had been lasered, even though I'd never seen a lasered diamond, and so on. I QUIT five times during the first six years together. But if you talk to him he'll tell you he definitely FIRED ME"!

Whatever the case, Karen always returned to work within a couple of days and is grateful for the wonderful opportunity she has had working with her very special father. She truly enjoys what she's doing and is very proud of what she's accomplished in the field. First, she's especially proud of the diploma she earned from her father's school, which she says was a harder achievement than passing the exam for the FGA. She joined AGA and became a Master Gemologist Appraiser and is now a Senior Member of the American Society of Appraisers. She is also a member of the Association of Women Gemologists' and a recipient of their "Diamond In The Rough" award.

But the award she enjoyed most was an all-expense-paid trip to London. "I entered a contest in Tucson a couple of years ago," she tells us. "I had to appraise a suite of 'crown jewels' and jewelry belonging to the 'rich and famous.' I won the contest by arriving at a valuation that came closest to its actual value. The London trip was wonderful. I spent lots of time viewing the British Crown Jewels, meeting with colleagues at the Gemmological Association, and visiting pubs."

Besides doing appraising work at National Gem Appraising Laboratory and teaching at Columbia School of Gemology, Karen also works two days a week for a local retail jeweler, doing appraising, and does trade shows across the country. "I think having retail experience is essential for a complete understanding of the field as an appraiser." And," she continues, "I've learned an incredible amount by being out in the market place, working the gem shows." Karen suggests that more people in our business should spend time at trade shows. "I have a much broader knowledge of the dealer trade," she explains, "and how it works, what's available (and who has what) as a result of working these shows (many know her from "Day Gems"). She also sells loose diamonds and colored stones and agrees that the most exciting moment was this past fall when she shared with her father, Antoinette and Kathryn the thrill of

a \$750,000.00 sale. "If I could only have one of those every six months," she dreams. As we all do.

But the most exciting part of Karen's career is just beginning. In June, Karen got married and moved to Tempe, Arizona, just outside Phoenix. "I plan to open 'National Gem Appraising laboratory WEST' and a branch of Columbia School of Gemology, probably in Scottsdale. I think there's a real opportunity for an independent laboratory in this part of the country, as well as for a gemology school." She is looking forward to the challenge, although she admits she's a little nervous about it. But this is something she really wants to do. And she's looking forward to carrying on the Bonanno tradition in Arizona. And, she hurriedly adds, she would welcome help from any and all AGA members in her new neighborhood!

#### Kathryn BONANNO

Kathryn is the youngest of the Bonanno's, and the most petite. But despite her 5 foot/80 pound stature, she is making herself felt in New York City. Kathryn was recently brought into the firm of Habsburg, Feldman, Inc., as head of gem and jewelry valuations for the United States operation. Habsburg, Feldman, a highly respected Geneva-based auction house, is well known throughout Europe and has offices also in London, Paris, Tokyo, and Hong Kong. They opened a Fine Arts department in New York about 18 months ago, but the jewelry department is new. They expect their first important New York jewelry auction to take place in October.

Having started in the field taking her dad's gemology course (which by now should be no surprise to anyone), at Columbia School of Gemology - and earning the title "PG" (Professional Gemologist) there, she immediately took her examinations from the Gemmological Association of Great Britain, received her diploma, and became an FGA like the rest of the Bonanno family (and, like her Dad, with distinction). She worked in the laboratory with Tony for several years thereafter, doing gemological testing, appraisals, and as a teaching assistant.

Kathryn lived abroad for sixteen years (primarily in Italy, Hong Kong, and England), expanding her overall knowledge and experience even further until she returned to the U.S. and settled herself in New York City. She worked in New York "on the street" 47th



Street, of course), where, upon being mugged one evening on the corner of 47th and Sixth Avenue, she took off in pursuit of the mugger and retrieved her wallet. "That's when I knew I could handle New York," she smiles victoriously. She was recruited from 47th Street which, she's quick to point out, was the most valuable learning experience she's ever had, to be the gemologist for a very fine Madison Avenue jewelry salon where she remained until several months ago, at which time she joined the firm of Habsburg, Feldman.

"I really love the scientific side of gems," says Kathryn. "I'm perhaps more like dad than the rest of the family in that way. I'm also a lot like him in being something of a perfectionist, and in wanting to know the answers. And I'm determined to get them," she adds. We certainly can't disagree with her here -- some of you may remember Kathryn from the conference in Tucson!

She sees a tremendous opportunity at Habsburg, Feldman, which is already the third largest international auction house in terms of dollar sales. "Our goal is to set new standards as far as gem and jewelry auctions go. In addition to being very thorough and giving much more personalized attention to our clientele, we are planning to become much more selective than others. This may take some time, but I'm confident we can do it," she adds. "We want to build a reputation that will result in buyers and sellers alike having more confidence in buying and selling through Habsburg, Feldman than they currently do at most other auction houses. I think the days of dealers picking up gems and jewelry for virtually nothing are over. As more and more people outside the jewelry industry look to the auction house as a source of fine, beautiful jewelry, prices will get stronger. That's good for the seller." And there's still plenty of room for buyers to get "very good value," too, Kathryn believes.

Kathryn also spends a lot of time with her Dad, and with Antoinette and Karen, sharing information on what they've seen and what's going on in the field. "We have our own little 'network'," Kathryn points out, "that proves to be invaluable at times. Each of us has insight into different areas of the business, which we share with each other," she continues, "gemological developments and issues, wholesale trade, retail trade, consumer issues, trade publishing, consumer publishing, media and public relations, education, and so on." Kathryn shared with us that one day they plan to put it all together. But she wouldn't give any

hints as to just what they're planning.



*Tony Bonanno*



*The Bonanno Family at Tucson 1990*



## FOCUS ON DAVID ATLAS

GG, CG, ASA  
MASTER GEMOLOGIST  
APPRAISER

AGA member David Atlas has been a great supporter of AGA this past year. He has lectured twice for AGA along with Martin Rapaport on his specialty of old cut diamonds and proper diamond grading. David was secretary of his local AGS Guild and Vice-president of his local ASA chapter. He graded several ASA Senior Member exams as part of his Board of Examiner's duties with ASA and worked with Joe Tenhagen on reviewing the Master Gemologist Appraiser program for ASA. He was also a co-instructor in this program. "It was gratifying to see the man from Dialase in New York City come to speak at our AGA Conference this year as I believe I suggested this as a good topic and actually suggested who to contact on this subject. We had excellent press coverage for AGA by hosting this forum. AGA members also had a hands on look at not only clarity enhanced diamonds but at clarity enhanced emerald improved by this newest of treatments."

Besides the educational endeavors, David successfully traveled to London and to several cities in the U.S.A. to purchase estate jewelry which he uses in running his memorandum estate jewelry business which supplies many retailers all over the country.

As Philadelphia's "Consumer problem specialist" in the jewelry business, David's firm is kept busy examining diamonds that are contemplated for purchase or have just been purchased in order that consumers know they have been fairly treated. As wholesale jewelers they can remain objective since they do not sell their own items to members of the public. They also appraise and grade many loose diamonds for retail stores in advance of sale so that the gems can be accurately represented. Most recently they have been hired by the local District Attorney and by the FBI to appraise jewelry confiscated in drug raids. No doubt this will be a busy area of business in the future for big cities.

"There is no end to what we can see or learn. Every year brings us more information and experience. A sincere effort will be made to help AGA members if they have a question or two they need some help in answering."

## AGA MEMBER THERESE S. KIENSTRA

A GEMOLOGIST'S LIFE IN THE  
FAST LANE

Therese Kienstra had a busy 1989, beginning with the annual Tucson Gem Show where she expanded her library, adding an original first edition of *The Book of the Pearl* by Kunz and a first edition of *Chinese Jade Throughout the Ages* by Nott. In March she accompanied Anna Miller to Chicago to view all the collections at the Lizzadro Museum and an Egyptian Exhibit at the Chicago Art Museum. The next month it was on to Basel, Switzerland for the Jewelry and Watch Fair, then to Paris for a week of research at the Place de Vendome, Rue Saint Honore and Le Louvre des Antiquaries.

Therese moved her business to larger facilities equipped with fine laboratory conditions including controlled light temperatures, white walls, white desks and lab tables, the only other color in the room being black or gray. She spoke at Lindenwood College for a Valuation Science class, and later took the role of Chairman of the Gems and Jewelry Program for the American Society of Appraisers International Conference 1990. In August she attended the Chicago JA show and in September began her term as Saint Louis Chapter Secretary for the American Society of appraisers.

A week in New York began on Sunday with a summary presentation of Sotheby's and Christie's Auction activity at a seminar for the Society of Jewelry Historians. The meeting, held at the Fashion Institute of Technology featured Francois Curiel, Ben Zucker, Ken Scaratt, as well as Bill Boyajian and Robert Crowningshield. She later attended a party at Ann Paul's (a gemologist for Christie's) given in honor of Ken Scarrat. Therese later viewed the Malcolm Forbes Faberge collection with the lady (Sarah Lichey) who appraised it. She then spent four days with her visiting museums, dealers and craftsmen.

In November Therese became Senior Member of the American Society of Appraisers.

1989 was a very busy year for Therese, and 1990 has been just as busy so far. It's interesting to know what our members are up to, and inspiring as well!



## FOCUS ON ANNA MILLER

Anna M. Miller, G.G., Master Gemologist Appraiser, A.S.A., has been a member of the Accredited Gemologists Association since 1982, the same year she co-founded the Association of Women Gemologists with former AGA member Elaine Baker. Miller served as a Regional Governor in AGA for three years and was a participant in numerous AGA conferences. She was in the second class of AGA members who took the Master Gemologist Appraiser courses and with the group that traveled to Los Angeles to take special instruction in Color Grading from Janice Mack.

Anna Miller is a member of the transition team for ASA that oversees the transference of the Master Gemologist Appraiser program into the American Society of Appraisers. Miller was course developer for Gems and Jewelry programs Levels I, II and III for the American Society of Appraisers Fundamentals of Value programs in 1985, 1986. She instructed those classes for ASA until the Gems and Jewelry portion of the program was incorporated into one overall personal property program. She is still an instructor for ASA in the personal property section.

Miller's first book "Gems and Jewelry Appraising: Techniques of Professional Practice" was released by Van Nostrand Reinhold in 1988. Her second book "Illustrated Guide to Jewelry Appraising: Antique Period and Modern" was released by VNR last December. Both books are leaders in their field, comprehensive, and with expert appraising advice to improve career potential. The books are required texts for the MGA program, used in Gemology schools and classes all over the U.S., and in the Canadian Gemological Appraisal Association classes.

Miller is working on a third book "Cameos Old and New" to be published in 1991 by Van Nostrand Reinhold; and is scheduled to co-author a book on gem values with John Sinkankas, the noted mineralogist.

Involved in international seminars and lecturing on gems, jewelry, gemology, evaluation and consumer buying, Miller has recently returned from 14 days in Cairo, Egypt where at the invitation of a major Egyptian/American company she gave an extensive seminar to

American expatriots and Egyptian nationals. In October, 1990, she will be in Victoria, B.C. to take part in a seminar, and Vancouver to address the Canadian Gemological Appraisers Association.

## SPOTLIGHT ON JAMES JOLLIFF

More than 40 years ago, Jim Jolliff became highly interested in the geology merit badge on his way to becoming an Eagle Scout. This interest sparked a rock hound and gem cutting hobby that was carried out during his thirty-two years of naval service.

In 1981, Jim retired from a very successful career in the naval service where he had achieved national prominence as a naval engineer. In recognition of his expertise, he received numerous military awards up to and including the Legion of Merit. He also received the American Society of Naval Engineers President's Award in 1976, 1978, 1979 and 1981, the Frank G. Law Award in 1981 and the Jimmie Hamilton Award in 1982. He is also proud of the four Freedom Foundation, George Washington Honor Medals presented to him in 1976, 1978, 1979, and 1981. He has been listed in "Who's Who in Engineering" since the early 1970's.

Upon retirement from the U.S. Navy, Jim decided to turn his hobby into a business. In 1982, Jim and Ardythe Jolliff founded Gemcraft of Annapolis and in 1984 incorporated this growing proprietorship, in the State of Maryland, as Jolliff Enterprises Inc. Jim has been active full time in the gem and jewelry business ever since. Not one to settle complacently into a new career, Jim decided he had better become qualified in his newly chosen vocation. He earned a Graduate Gemologist Certificate from GIA in 1981, an F.G.A. (with distinction) from the Gemmological Association of Great Britain in 1982 and an F.C.Gm.A. from the Canadian Gemmological Association in 1984.

This early gemological training proved sufficient to develop a reasonable livelihood in performing services as a gemological laboratory, but in Jim's mind this training was insufficient to permit his doing a first rate job in his expanding gem and jewelry appraisal practice. This led to his successfully completing the education process and testing to achieve "Designated Member" status in ISA in 1985 and ISA - CAPP in Antique Jewelry in 1988. He also studied, was tested, and was designated Senior Member in 1987 and Master Gemologist Appraiser in 1989 by the American Society of Appraisers.

Jim has been a staunch supporter of gem and jewelry appraising educational courses over the past several years. He dedicates 5 weeks of every year to his own continuing education. He has also tried to pass such education on to others by teaching several courses in gemology and antique jewelry at the local community college from 1973 to 1990. He also volunteers as an instructor in gemology in the Anne Arundel County "Explore" program; a program for gifted 5th and 6th grade students and recently spent two days as a guest lecturer at the Lizzadro Museum in Elmhurst, IL. He has also taught a one day course in appraisal theory for NAJA in 1987, 1988 and 1989 with co-instructor, Anna Miller. Courses given at the University of Maine by Joseph Sataloff, at New York University by Joyce Jonas, and the NAJA Annual Conference are his favorites for self education. He also attends selected AGA, ISA and ASA Annual Conferences and has taken most of the one day GIA seminars offered at Tucson, during the February Gem Show.

Dr. "J" as he is sometimes called because of his Doctorate in Engineering (DrEngr) has worked hard in providing educational information to others. In his role as National Education Chairman (1985-1990) for the National Association of Jewelry Appraisers, he organized and ran five successful NAJA national Conferences in Tucson, AZ. Prior to that, he served as NAJA's Ethics & Grievance Co-Chairman from 1982-1985.

As he became more and more convinced that the public would more readily accept appraisers as "professional people" only if tested, he became interested in the American Society of Appraiser's program and has served as a member of the International Board of Examiners since 1987, as Vice President and then President of the Maryland Chapter 1987-1990, and was appointed as an instructor in the ASA-MGA program in 1989.

In addition Jim has written numerous articles for the NAJA bi-monthly magazine, "The Appraiser" as well as several book reviews. He also tested the G-1 and G-XL-18 Gold Testers for NAJA and is currently testing the G-XL-24 Gold Tester by Tri-Electronics of San Diego, California.

Given all of the above, Jim has several strong opinions on the future of the gem and jewelry appraisal and gemological industry.

First and foremost, he believes there is a need



for the various disciplines within the industry - gemologists, appraisers, wholesalers and retailers - to unite in their efforts to do right by the public. There needs to be a definite set of ground rules established so that each segment of the industry is supportive of the other, rather than giving the appearance that they are constantly in direct conflict with one another; a perception currently prevalent among most of the consumer public.

"Customers have the right to know that the merchandise they buy is well made, technically correct in terms of gold karatage or silver content, properly identified and correct in terms of carat weight of gemstones involved, and what if any treatments to enhance the product have been clearly identified. The establishment of guidelines on these issues, and adherence thereto by the industry, should aid in clearing away some of the confusion surrounding the gem and jewelry product as it progresses from manufacturer to wholesaler to retailer to consumer and appraiser."

Secondly, it is his opinion that if such guidelines are to be achieved there must be greater unity among the discipline groupings which make up the industry; primarily in the acceptance of each other's standards, practices, educational programs, tests, ethics, and procedures. For example, within the appraisal grouping, many organizations are pursuing separate educational programs to address issues raised by the public and the trade press concerning ethics, appraisal practices, identification of synthetic materials, valuation methods, etc. "These new programs are costly, time-consuming, and many times simply test an individual's ability to re-state in a testing environment, information which he has been previously tested on elsewhere. As a member of several appraisal organizations, I find myself wondering if such costly testing programs are designed to improve the profession, put money into the hands of sponsoring organizations whose leadership receives payment for teaching the required courses, or both."

Lack of significant progress toward joint cooperation by the appraiser organizations leads Jim to believe that the biggest impediment to unity is simply the fact that organizations view themselves as competing for the consumer public's - and their membership's - limited dollars. He believes that "if we are truly interested in becoming a profession, we must somehow demotivate our desire for excessive growth and profit and motivate ourselves such

that our actions reflect those of an industry that is worthy of obtaining professional stature. Leaders of the various organizations that make up our industry must put aside ego, power, position, and profit wherein such actions are deleterious to the reputation of the industry as a whole".

Thirdly, it is his opinion that the educational opportunities available to industry members have grown dramatically over the past five years - "so much so that a strong, unhealthy competition has arisen among many of the smaller educational groups. With only limited numbers of industry personnel seeking advanced information, many programs have already educated the initial 20% of their active membership and are now finding it difficult to continue their enrollment at levels where the cost/expenditure ratio remains positive. On the other hand, GIA and GAGB have been able to obtain a positive ratio - so much so that there is now a proliferation of young graduate gemologists coming into the industry. Care must be taken that educational vehicles are designed to produce quality gemologists and appraisers. To be successful, the appraiser needs strong understanding of valuation science as it applies to precious metals, gemstones, manufactured wholesale goods, and retail goods. The appraiser must be taught the specifics as well as generalities of the marketplace".

Jim remains a strong advocate for state licensing of personal property appraisers similar to that required for doctors, lawyers, and professional engineers; such licensing to be based on a fixed level of both gemological and valuation science education and a minimum of five years of practical experience. "If we want to be professionals we must be willing to subject ourselves to the rigors placed on groups who are currently judged by the public to be 'professional'. Such licensing should virtually eliminate the unqualified from the profession".

Finally, he asserts that there is a need for everyone in the industry to examine their own ethics. "Everyone is willing to admit there is an ethics problem. We can legislate ethics somewhat through the licensing concept, but there is no educational program, testing program, or certification program in the world that will cause a person bent upon profit through deception and misrepresentation to cease and desist. Thus, if we are to gain professional status in the future, all levels of the industry must strengthen their position with the consumer by truly practicing the standards established in their associations' codes of ethics

and where such codes do not exist, they must be established."

Dr. "J" stongly holds forth that the above issues must be addressed by our industry if we are to be recognized as professionals - a goal to which most members of our industry aspire. He believes that "the initial steps toward making such recognition a reality have been under way for several years in many segments of the industry. Some of these efforts are progressing slowly but surely, while others have been derailed or lost their direction for a variety of reasons. We need a concerted effort to realign our goals under strong, discipline-oriented, umbrella organizations in order to gain a united focus".

Jim was a member of the Accredited Gemologists Association 1982 to 1984 and renewed membership in 1987 to present.





## FOCUS ON GERHARD BECKER

Mr. Becker spoke at AGA's Tucson conference on the carvings of Idar Oberstein.

Nestled in a valley that is skirted by deep green forest and is cut by the river Nahe, the German twin towns of Idar-Oberstein are as quaint and picturesque as befits the world's lapidary capital.

Here the art of gem cutting has flourished for centuries, making this modest community of 35,000 people a true landmark on every gemologist's map.

Occupying an office on Mainzer Strasse in the center of this postcard-perfect town is Gerhard Becker, one of the world's pre-eminent gem carvers whose name has become synonymous with the superbly crafted images of birds and other animals that are created under his supervision. Mr. Becker, who is actually involved in all aspects of gem cutting, is well known all over the world for his lectures and presentations on his hometown's famous craft.

"It was my good fortune," he tells us, "to be born into a family that has been professionally involved in gem cutting - in a direct line - since 1599." Although being a member of a veritable dynasty of gem cutters may have easily prestaged Gerhard's life calling, he points out that his early days in the field were not easy, nor were they preordained. "I went to school in Idar-Oberstein from 1947 to 1963," he says, "and the end of my education marked the period right after World War II, when the economy was full of uncertainties." Although the gem business at the end of the war was not thriving, it was slowly beginning to revive itself, and Becker became confident that following his family's tradition and becoming a gem cutter was the right path to take. "My first exposure to the science of gemology was when my father worked with a doctor's microscope to examine synthetic gemstones, mostly rubies and sapphires produced by the Verneuil method. He always tried to get me more interested in this field, too. He bought one of the first available Rayner refractometers after the war, and it made a substantial improvement in our little laboratory."

Once Gerhard had decided that all his childhood exposure to gemology and jewelry arts was adding up to something, he proceeded to get as well-rounded an education as possible. "As an apprentice I worked for three years in the family company, which was founded by my grandfather, Friedrich August Becker, and bears his name," he relates. During his apprenticeship, Becker was taught by a 40-year veteran of the company, who in turn had been trained by Becker's grandfather. He continues: "After passing the necessary tests at the end of my apprenticeship, I worked for another year as a gem cutter in my family's company in order to gain more practical knowledge before I enrolled in a two-year program at a business-administration school." Following his business training, Becker completed yet another apprenticeship in administration. At that time, having learned two professions, Becker felt he was duly prepared to assume a more active role in the family business. He joined his father, F.A. Becker, in overseeing the company's gem-cutting activities as well as its dealings in gems and gem materials. Becker recalls: "On a small scale my father had already started in his younger days to deal in mineral specimens as a result of his deeper interest in gemology. He was widely known in the industry as a cutter of rare stones as well as a specialist in cutting difficult materials." Becker worked with his father until the latter's death in 1958, and during that time he developed expertise in both running the business and cutting difficult stones. "It was quite a challenge working as a 'jam-peg' faceter with such unusual materials as apatite, euclase, flourite, and sphalerite, among countless others", he comments. In 1961 Becker became sole owner of the company, and as he puts it, "I was faced with an important decision: where to take the company in the future, considering I had to run a business within a fairly small community where several hundred companies were cutting gems, dealing in gemstones, and producing jewelry."

Becker's decision was an adventurous one: to travel to other parts of the world to learn more about the sources of rough gem materials he had been working with throughout his career, and to promote the crafts of his native Idar-Oberstein. He has been very successful in his endeavors and has made quite a name for himself not only in his own community, but throughout the world.

# TREASURERS REPORT

ACCREDITED GEMOLOGIST ASSOCIATION, INC.  
A MEMBERSHIP ORGANIZATION  
STATEMENTS OF REVENUES AND EXPENSES  
FOR THE YEAR ENDING DECEMBER 31, 1989  
BY - DANA RICHARDSON

## REVENUES

Conference fees	\$ 13,360.64
Membership dues	13,296.00
Sale of conference tapes	395.00
Gem lab accreditation	150.00
Miscellaneous	<u>39.72</u>
Total Revenues	<u>27,241.36</u>

## EXPENSES

Conference expenses	13,680.25
Publications	7,997.89
Officer expense	3,612.09
Office expense	1,076.30
Computer development project	394.27
Awards	<u>191.25</u>
Total Expenses	<u>26,952.05</u>
EXCESS OF REVENUES OVER EXPENSES	\$ <u>289.31</u>



# BOARD OF DIRECTORS FOR '90

PRESIDENT - Cortney Balzan  
PAST PRESIDENT - Robert Rosenblatt  
2ND VICE PRESIDENT - Young McQueen

1ST VICE PRESIDENT - Donald Palmieri  
SECRETARY - Craig Lynch  
TREASURER - Dana Richardson

## REGIONAL GOVERNORS

REGION I - Thom Underwood  
REGION II - Kevin Wood

REGION III - James Joliff  
REGION IV - Tom Seguin

## COMMITTEE CHAIRS

✓ ACCREDITED LABORATORY -	Ann Hawken
✓ ADMISSIONS AND MEMBERSHIP -	Tom Gorman
AGANET -	Robert Rosenblatt
CONSTITUTION, BY LAWS -	Robert Rosenblatt
✓ EDUCATION -	Donald Palmieri
✓ ETHICS, GRIEVANCES	Jeff Hurwitz, David Atlas
HISTORIAN/LIBRARIAN -	Cortney Balzan
✓ PUBLIC RELATIONS -	T. William Benedict
✓ PUBLICATIONS -	Dana Richardson
✓ SOFTWARE REVIEW COMMITTEE -	Thom Underwood, Robert Rosenblatt
✓ STANDARDS AND DISCLOSURE -	Cap Beesley
✓ SUPPLIER MEMBER/MEMBERSHIP BENEFITS -	Craig Lynch
✓ TUCSON '90 -	B.J. Caldwell, Dana Richardson, Thom Underwood, Cortney Balzan

For more information on Accredited Gemologists Association, contact:  
Cortney Balzan, President  
International Headquarters 415-454-8556

AGANET 24 hr. BBS Access Number 801-466-9539

# Accredited Gemologists Association

## 1990 Membership Directory

**Lloyd Aaron, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Burt's Jewelers  
1706 N.E. Miami Garden Drive  
North Miami, FL 33179  
USA  
305-947-8386

**Pamela J. Abramson, G.G., F.G.A.,**  
Master Gemologist Appraiser, A.S.A.  
P.J. Abramson, Inc.  
170 East Morse Blvd.  
Winter Park, FL 32789  
USA  
407-644-3383

**Michael Albritton, G.G.,**  
Gemological Institute of America  
1660 Stewart Street P.O. Box 211  
Santa Monica, CA 90404  
USA  
800-421-7250

**Richard M. Allen**  
P.O. Box 21871  
Seattle, WA 98111  
USA  
206-622-7565

**Darold C. Allen, G.G.,**  
Gemological Laboratory of L.A.  
607 South Hill Street Ste. 505  
Los Angeles, CA 90014  
USA  
213-623-3773

**Henry Ancinec, G.G.,**  
2743 Norwalk  
Hamtramck, MI 48212  
USA  
313-875-0673

**Suzanne M. Anderson, G.G.,**  
Ind. Jewelry and Gem Appraisers, Inc.  
8950 Villa La Jolla Ste. 505  
La Jolla, CA 92037  
USA  
619-457-2090

**Luiz Angelo, G.G.,**  
LeDoux  
Av. Atlantica, 1936-CL  
Rio De Janeiro, Brasil  
Brazil  
021-235-5879

**Anne Arnaud**  
2100 Mediterranean, #64  
Virginia Beach, VA 23451  
USA  
804-425-7983

**David Ascher, G.G.,**  
U.S.G.S.  
14081 Yorba St. 3237  
Tustin, CA 92680  
USA  
714-838-8747



**David S. Atlas, G.G., C.G.,**  
Master Gemologist Appraiser, A.S.A.  
D. Atlas And Co., Inc.  
732 Sanson Street  
Philadelphia, PA 19106  
USA  
215-922-1926

**John Baghsarian, Jr., G.G.,**  
72 Azalea Circle  
Jackson, NJ 08527  
USA  
201-542-5444

**J. Michael Baker, G.G.**  
Migrobo Inc.  
405 Town Center Boulevard  
Ridgeland, MS 39157-4803  
USA  
601-968-4460

**Cortney G. Balzan, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Balzan Gem Lab  
915 Lootens  
San Rafael, CA 94901  
USA  
415-454-8553

**Lewis A. Bannon, G.G.,**  
LaBannon Inc.  
3255 Murphy Lane  
Baton Rouge, LA 70809  
USA  
504-925-8987

**Rodney P. Baril, G.G.,**  
45 Myron Street  
West Warwick, RI 02893  
USA  
401-822-2277

**Austin J. Barker, G.G.,**  
4275 Vanda Drive  
Bonita Springs, FL 33923  
USA  
813-495-0499

**Alice M. Barlow, G.G., F.G.A.,**  
Earth Resources  
10 College Avenue Ste. 111  
Appleton, WI 54911  
USA  
414-735-0202

**Elaine Barnes, G.G.,**  
Leesburg Jewel Brokers  
P.O. Box 587  
Leesburg, VA 22075  
USA  
703-777-1966

**Ronald L. Base, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
P.O. Box 1585  
Upland, CA 91785  
USA  
714-982-7304

**C.R. Cap Beesley, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
580 5th Avenue  
New York, NY 10036  
USA  
212-704-0727

**Burton Belenke, G.G., F.G.A.,**  
House of Diamonds  
18705 Biscayne Blvd.  
Aventura, FL 33180  
USA  
305-371-2721

**T. William Benedict, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
NC Gemological Laboratory  
107 Hunter's Ridge Rd.  
Chapel Hill, NC 27514  
USA  
919-929-9179

**Howard N. Biffer, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Lourdes Gemological laboratory  
Route 6 and Hill Boulevard  
Jefferson Valley, NY 10535  
USA  
914-245-4676

**Paul D. Bischof, G.G.,**  
Earth Treasures  
Circle Plaza Shopping Center  
Eatontown, NJ 07724  
USA  
201-542-5444

**Kathryn L. Bonanno**  
Care Of Habsburg, Feldman  
36 E. 75th St.  
New York, NY 10021  
USA  
212-397-9559

**Kenneth E. Bonanno, F.G.A., P.G.,**  
Bonanno's Antiques  
619 Caroline Street  
Fredericksburg, VA 22401  
USA  
703-373-3331

**Antonio C. Bonanno, F.G.A., P.G.,**  
Master Gemologist Appraiser, A.S.A.  
National Gem Appraising Lab., Inc.  
8600 Fenton Street  
Silver Springs, MD 20910  
USA  
301-588-7770

**Gregory Borrelli, Assoc.**  
San Rafael Loan  
846 4th St.  
San Rafael, CA 94901  
USA  
415-453-4081

**Mr. Bill Boyajian, G.G.,**  
Gemological Institute of America  
1660 Stewart Street P.O. Box 211  
Santa Monica, CA 90404  
USA  
800-421-7250

**Peter Bradley, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Peter Bradley, Inc., Designer Jewelry  
135, The Bell Tower 13499, US 41  
Ft. Meyers, FL 33907  
USA  
813-482-7550

**Marilyn Brooks**  
P.O. Box 1075  
Del Mar, CA 92014  
USA

**Michael M. Brown, Gemologist**  
Michael Brown Gemologist  
1201 S. Baldwin Ave.  
Arcadia, CA 91006  
USA  
818-446-4681

**Jelks H. Cabaniss, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Fauquier Gem Lab  
P.O. Box 525  
Marshall, VA 22115  
USA  
703-364-1959

**Brenda J. Caldwell, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
B.J. Caldwell Jewelers Appraisers  
7225 North Oracle Rd.  
Tuscon, AZ 85704  
USA  
602-742-3687

**David J. Callaghan, F.G.A.,**  
Gemological Assoc. of Great Britain  
St. Dunstons House EC2 V8 AB  
Carey Lane, London  
England

**O. Dee Callaway**  
Edelstone, Inc.  
P.O. Box 488  
Oakton, VA 22124  
USA  
703-830-3924

**Edgar Cambere, G.G.,**  
P.O. Box Seven Lakes 31169  
West End, NC 27376  
USA  
919-673-3156

**Ian Campbell, C.G., F.G.A.,**  
ICSL  
P.O. Box 1354 Randburg 2125  
Republic of South Africa  
South Africa  
011-787-3326

**Thomas H. Chatham**  
Chatham Created Gems, Inc.  
111 Maiden Lane 5th Floor  
San Francisco, CA 94108  
USA  
800-222-2002

**Stanley P. Cohen, G.G.,**  
Charles Cohen Mfg. Jlr.  
4747 South Hulen Street  
Fort Worth, TX 76132  
USA  
817-292-4367

**Neil H. Cohen, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Neil H. Cohen Gemologist  
99 Pratt Street Ste. 211  
Hartford, CT 06103  
USA  
203-247-1319



**Laurie Conner**  
Crystallume  
125 Constitution Dr.  
Menlo Park, CA 94025  
USA  
415-494-0660

**Thomas A. Constantine, G.G.,**  
Gemstone Services  
26949 Chagrin Blvd.  
Cleveland, OH 44122  
USA  
216-467-3143

**Robert Crowningshield**  
Gemological Institute of America  
580 5th Avenue  
New York, NY 10036  
USA  
212-221-5858

**Sharon Damptz, G.G.,**  
Du Page Jewelry Appraisals  
654 Ogden Ave.  
Downers Grove IL 60515  
USA  
312-852-7274

**Robert G. Davis**  
Jewellery By da Vis  
8119 Springfield Village Drive  
Springfield VA 22152  
USA  
703-451-8119

**Alan G. Davis, G.G.,**  
Master Gemologist Appraiser, A.G.A.  
2511 Ponce De Leon Blvd. Ste. 321  
Coral Gables, FL 33134  
USA  
305-567-9434

**Max Davis, G.G., C.G.,**  
Max Davis Jewelers  
5800 Monroe St. Ste. F  
Sylvania, OH 43560  
USA  
419-885-5077

**Karen K. DeLoach, G.G.,**  
Gemological Services  
P.O. Box 2354  
Lakeland, FL 33806  
USA  
813-686-0036

**William Dougherty**  
The Gem Lab  
P.O. Box 20870  
Alexandria, VA 22320  
USA  
703-660-8643

**Richard F. Driscoll, Gemologist**  
Driscoll Appraisal Service  
1218 11th St., N.W.  
Washington, DC 20001  
USA  
202-293-2323

**Steven M. Drouillard, G.G.,**  
1317 South Marion  
Denver, CO 80210  
USA  
303-388-3632

**Richard B. Drucker, G.G.,**  
Gemworld International, Inc.  
5 North Wabash Suite 1500  
Chicago, IL 60602  
USA  
312-263-3342

**Margaret A. Easling, G.G.,**  
Gem Quest Jewelers and Gallery  
P.O. Box 268  
Ojai, CA 93023  
USA  
805-646-3836

**Mark Ebert**  
606 South Olive Street Ste. 925  
Los Angeles, CA 90014  
USA  
213-622-2745

**Chris Evans, G.G.,**  
Evans and Son  
250 South Beach Street  
Daytona Beach, FL 32014-4407  
USA  
904-255-5922

**Jim F. Ferguson, G.G.,**  
Care Of F.D. Services, Inc.  
P.O. 1608  
Goose Creek, SC 29455  
USA  
803-863-0014

**Karen J. Ford, F.G.A.,**  
Master Gemologist Appraiser, A.S.A.  
National Gem Appraising Lab., Inc.  
4330 Thistlewood Terrace  
Burtonsville, MD 20866  
USA  
301-588-7770

**Roland N. Gibbs, C.G.,**  
Precious Stones Trading Company  
P.O. Box 284  
Henderson, KY 42420  
USA  
502-826-0655

**Roy Giles, F.G.A.A., F.G.A., G.G.,**  
P.O. Box E182  
St. James PO 2000  
Australia  
(02) 221-6086

**Mark C. Ginsburg, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Ginsberg Jewelers  
110 East Washington Street  
Iowa City, IA 52240-3976  
USA  
319-351-1700

**Ricki K. Gooden, G.G.,**  
Frank Gooden Co., Inc.  
1102 Grand Avenue #221  
Kansas City, MO 64106  
USA  
816-421-0281

**Tom Gorman**  
J.C. Keppie Company  
800 Penn Avenue 6th Floor  
Pittsburgh, PA 15222  
USA  
800-245-4284

**Melissa Green**  
510 Tarragon Drive  
San Rafael, CA 94903  
USA  
415-472-1317

**Gary R. Grelick, G.G.,**  
Bomi Gemstone Importers  
225-227 Ellicott Square Bldg.  
Buffalo, NY 14203  
USA  
716-856-4108

**David W. Hall, G.G., A.G.A.,**  
Gemological Trading Corp.  
Joshua Green Bldg. 1425 4th Ave.#  
Seattle, WA 98101  
USA  
206-625-0105

**Michele Hallier, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Al Molina Fine Jewelers  
1205 East Missouri  
Phoenix, AZ 85014  
USA  
602-277-9780

**Larry Hancock**  
P.O. Box 238  
Gray, ME 0403903431  
USA  
207-657-3443

**Louis L. Harris, G.G.,**  
Louis Harris Appraisal Service  
3829 West Greenleaf  
Lincolnwood, IL 60645  
USA  
312-675-4361

**Jack Hasson**  
Jewels by Hasson  
Oakbrook Sq. 11618 U.S. Hwy 1  
North Palm Beach, FL 33408  
USA  
407-627-3862

**Ann A. Hawken, G.G.,**  
Ann Hawken Gem Lab Shepherd Mtn. Pl.  
6034 W. Courtyard Dr. Ste. 305  
Austin, TX 78730  
USA  
512-328-9411

**Sarah G. Hendrixson, G.G.,**  
Sara G. Hendrixson  
6908 Bonnie Ridge Drive  
Baltimore, MD 21209  
USA  
301-796-2393

**Henry Ho, G.G.,**  
A.I.G.S. Rama Jewelry Bldg.  
987 Silom Rd. Bangkok 5  
Bangkok  
Thailand





**Kay George Hoch, G.G.,**  
Gem Labs of Alaska  
208 Wendell St.  
Fairbanks, AK 99701  
USA  
907-452-5848

**Ronald H. Hodgson, G.G.,**  
Vestris Gem Services  
1081 Boca Ciega Isle  
St. Petersburg Beach, FL 33706  
USA  
813-360-0244

**William C. Horvath, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
2455 E. Sunrise Boulevard #608  
Ft. Lauderdale, FL 33304  
USA  
305-563-2901

**Margaret A. Howard**  
N Ter National Gems, Inc.  
6708 Whitehall Drive  
Oklahoma City, OK 73132  
USA  
405-721-8554

**Henry F. Howell, Gemologist**  
Howells Jewelers Ltd.  
9616 Nichols Rd.  
Oklahoma City, OK 73120  
USA  
405-755-6220

**Richard Huntington**  
Master Gemologist Appraiser, A.S.A.  
3661 Maryland PKWY 19N  
Las Vegas, NV 89109  
USA  
705-732-1977

**Jeffrey I. Hurwitz, G.G., A.G.A.,**  
Master Gemologist Appraiser, A.S.A.  
Colonial Jewelers  
P.O. Box 674  
Frederick, MD 21701  
USA  
301-663-9252

**David H. Jackson, G.G.,**  
13007 Standish Avenue  
Poway, CA 92064  
USA

**Bruce Jaffe**  
730 N. La Salle  
Chicago, IL 60610  
USA  
312-266-8282

**Terrie H. Jensen, G.G.,**  
P.O. Box 1904  
San Mateo, CA 94907  
USA  
415-579-7900

**Darlene Johnson, Assoc.**  
Balzan Gem Lab.  
915 Lootens Place  
San Rafael, CA 94901  
USA  
415-454-8553

**James Jolliff, CAPP ISA, G.G., F.G.A.,**  
Master Gemologist Appraiser, A.S.A.  
P.O. Box 6558  
Annapolis, MD 21401-0558  
USA  
301-261-8270

**Dr. Peter Keller**  
900 Exposition Boulevard  
Los Angeles, CA 90007  
USA  
213-744-3543

**S.D. Jack Kelsey, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Route 3 Box 529  
Banner Elk, NC 28604  
USA  
704-898-4747

**Theresa B. Kienstra, G.G.,**  
Clayton Gemological Services, Inc.  
8000 Bonthomme Ste. 309  
St. Louis, MO 63105-3515  
USA  
314-862-4005

**Andrew Y. Kim, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
International Trade Laboratory  
650 South Hill Street #229  
Los Angeles CA 90014  
USA  
213-688-7837

**Helen Klages, G.G.,**  
435 Santiago Avenue  
Orlando, FL 32807  
USA  
407-275-0023

**Gene E. Knoske, G.G., F.G.A.,**  
Knoske Gem Laboratory  
740 North Plankinton Ave.  
Milwaukee, WI 53203  
USA  
414-272-4642

**Fred Kohn**  
United Pearl Company  
576 5th Ave.  
New York, NY 10036  
USA  
212-265-3833

**Pansy Kraus, G.G., F.G.A.,**  
P.O. Box 20908  
San Diego, CA 92120  
USA  
619-286-0415

**James Krol, G.G.,**  
Birmingham Gem Service  
251 Merrill Street  
Birmingham, MI 48011  
USA  
313-644-8828

**Edward G. Kuhlman, G.G.,**  
252 Watch Hill Rd.  
Fort Mitchell, KY 41011  
USA  
606-341-4223

**Stewart M. Kuper, G.G.,**  
Ambassador Dia. Brokers and App.  
4668 East Speedway  
Tucson, AZ 85711  
USA  
602-327-8800

**Benard Laves, G.G.,**  
Bernoldis Jewelers  
5228 Burnet Road  
Austin, TX 78756  
USA  
512-452-6491

**Daniel Nathan Lee, C.W., C.G., A.S.G.,**  
120 South State Street  
Clarks Summit, PA 18411  
USA  
717-586-3385

**Robert S. Lefevre, Jr., G.G.,**  
Lynnhaven Gems  
3700 Shore Drive #105  
Virginia Beach, VA 23455  
USA  
804-460-4367

**Clare Leonardo, G.G.,**  
Temptations Jewelry and Gifts  
349 West Commercial Street  
East Rochester, NY 14445  
USA  
716-586-6111

**David M. Levison, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
22 N.W. 1st Street Ste. 101  
Miami, FL 33128  
USA  
305-371-6437

**Marion D. Levy, F.G.A.,**  
1406 Winston Place  
Decatur, GA 30033  
USA  
404-633-6440

**Richard T. Liddicoat**  
Gemological Institute of America  
1660 Stewart Street  
Santa Monica, CA 90404  
USA  
213-829-2991

**Jeane Litchfield, G.G., F.G.A.,**  
Litchfield and Co.  
100 East Andrews Drive #203  
Atlanta, GA 30305  
USA  
404-233-6991

**Lynn Loube**  
Master Gemologist Appraiser, A.S.A.  
1255 N. Hampshire Ave. N.W. #527  
Washington, DC 20036  
USA  
202-659-4299

**Elaine J. Luartes, G.G.,**  
Athena Antiques  
617 Shenandoah Drive  
Brentwood, TN 37027  
USA  
615-377-3442

**Craig A. Lynch, G.G.,**  
17840 N. Black Canyon Hwy #110  
Phoenix, AZ 85023  
USA  
602-377-3442



**Joseph A. Mackley, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Mackley and Co., Inc.  
8906 Kingston Pike Ste. 214  
Knoxville, TN 37923  
USA  
615-693-3097

**William R. Mann, G.G., I.S.A.,**  
4111 Rocky Mount Drive  
Temple Hills, MD 20748  
USA  
301-894-5071

**Kenneth Martin, FASA**  
K.P.M.G. Benchmark Valuations  
345 Park Avenue  
New York, NY 10154  
USA  
212-872-3457

**James J. Martin, G.G.,**  
Crowntique  
8400 South Tamiami Tr.  
Sarasota, FL 34238  
USA  
813-951-0020

**William A. Mathis, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
5050 Poplar Avenue Ste. 634  
Memphis, TN 38157  
USA  
901-767-4367

**Antoinette Leonard Matlins**  
Longhill Partners, Inc.  
P.O. Box 276  
South Woodstock, VT 05071  
USA  
802-457-4000

**Karen McDonald, G.G.,**  
Carats and Crystals  
580 Cypress #N4  
Pismo Beach, CA 93449  
USA  
805-773-0110

**B. Young McQueen, G.G., F.G.A.,**  
Antares and Company  
5613 University Boulevard West  
Jacksonville, FL 32216  
USA  
904-737-2520

**Mona Miller Campbell, G.G.,**  
Pacific Gemological Laboratory  
8888 SW Canyon Rd #201  
Portland, OR 97225  
USA  
503-297-8688

**Anna M. Miller, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
A.M. Miller and Appraisal  
P.O. Box 1844  
Penland, TX 77588  
USA  
713-485-1606

**Stuart M. Mintzer, G.G.,**  
1918 E. Sunrise Blvd.  
Ft. Lauderdale, FL 33304  
USA  
305-764-6750

**Alfredo Molina**  
Master Gemologist Appraiser, A.S.A.  
Al Molina Fine Jewelers  
1205 East Missouri  
Phoenix, AZ 85014  
USA  
602-277-9780

**Mr. Roy E. Morris III,**  
Roy Morris Appraisal  
7345 E. Acoma #300  
Scottsdale, AZ 85260  
USA  
602-948-4866

**Jean Fran. Moyersoer, G.G., F.G.A.,**  
Ubige, S.P.R.L.  
26/08 Ave. General De Gaulle B1050  
Brussels  
Belgium  
(02) 648-0711

**Michael Mulkern, G.G., F.G.A.,**  
Southern Cross Gem Lab  
5644 Westheimer Ste. 280  
Houston, TX 77056  
USA  
713-469-9120

**Dr. Kurt Nassau**  
154 A Guina Hollow Road  
Lebanon, NJ 08833  
USA  
201-582-2589

**Renee Newman, G.G.,**  
501 N. Stoneman #B  
Alhambra, CA 91801  
USA  
818-282-3781

**James O'Sullivan, G.G.,**  
Jaylyn Gemologists Goldsmiths  
P.O. Box 1232 30 S.E. 4th Street  
Boca Raton, FL 33432  
USA  
407-391-0013

**Judith A. Osmer, G.G.,**  
J.O. Crystal Company  
P.O. Box 7000-381  
Redondo Beach, CA 90277  
USA  
213-437-073

**Sandra Marie Overland, G.G.,**  
6415 W. Shaw Butte Dr.  
Glendale, AZ 85304  
USA  
602-878-4990

**Donald A. Palmieri, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
G.A.A.  
666 Washington Rd. Ste. 304  
Pittsburgh, PA 15228  
USA  
412-344-5500

**Vivian J. Patterson, G.G.,**  
G.E.M. Jewelry  
150 West Bay Area Blvd.  
Webster, TX 77598  
USA  
713-338-6676

**W. Wade Petersilie**  
Creative Gold, Inc.  
121 E. Pikes Peak #223A  
Colorado Springs, CO 80103  
USA  
719-634-5244

**Larry Phillips, C.G.A., I.S.A.,**  
Master Gemologist Appraiser, A.S.A.  
Larry Phillips Studios  
801 Marie Park N.E.  
Albuquerque, NM 87123  
USA  
505-265-1400

**Janet F. Post, G.G.,**  
Janet F. Post Jewelry, Inc.  
72 South Palm Avenue  
Sarasota, FL 34236  
USA  
813-364-8809

**Robert L. Praska, G.G., C.G.,**  
Gem Profiles  
416 West Santa Ana  
Fresno, CA 93705  
USA  
209-229-7361

**Martin Rapaport**  
Rapaport Diamonds, Inc.  
15 West 47th Street  
New York, NY 10036  
USA  
800-223-2373

**Ronald C. Redding, G.G., N.G.J.A.,**  
1202 David Drive  
Pelham, AL 35124  
USA  
205-323-7785

**Steven Reiner, G.G.,**  
706 Main Street  
Houston, TX 77002  
USA  
713-227-3907

**John F. Reusch, G.G.,**  
427 East Mitchell Street  
Petoskey, MI 49770  
USA  
616-347-2403

**Dana Lynn Richardson, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Spectrum Gems  
1615 South Foothill Drive  
Salt Lake City, UT 84108  
USA  
801-581-9900

**Edmond Root**  
Jade N Gem Corp.  
610 South Broadway  
Los Angeles, CA 90014  
USA  
800-932-0800

**Charles L. Rose, G.G.,**  
1971 Brierbrook  
Germantown, TN 38138-3907  
USA  
901-754-1934





**David Rosen**  
Sydney Rosen Co.  
714 Sansom St.  
Philadelphia, PA 19106  
USA  
215-922-3500

**Robert L. Rosenblatt, G.G., F.G.A.,  
F.C.Gm.A**  
Master Gemologist Appraiser, A.S.A.  
Rosenblatts  
1400 Foothill Dr. # 150  
Salt Lake City, UT 84108  
USA  
801-583-8655

**Irwin H. Rubin, Gemologist**  
Irwin H. Rubin Gemologist Appraiser  
401 Bellevue Avenue  
Newport, RI 02840  
USA  
401-846-8262

**Arthur O. Russ, G.G.,**  
Arthur Russ, Diamond and Jewelry App.  
225-14-88th Avenue  
Queens Village, NY 11427  
USA  
718-464-6951

**Frank L. Salvesson, G.G.,**  
4522 Wildwood Drive  
Crystal Lake, IL 60014  
USA  
815-459-1906

**Helmut J. Schloffer, G.G.,**  
P.O. Box 941  
Aspen, CO 81612  
USA  
303-925-5955

**Sindi J. Schloss**  
I.G.A.S.  
4160 North Scottsdale Road  
Scottsdale, AZ 85251  
USA  
605-947-5866

**Leo J. Schmied, G.G.,**  
Jewelry Appraisal Services  
148 Amesbury Rd.  
Knoxville, TN 37922  
USA  
615-675-6071

**James S. Seaman, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Midwest Gem Lab of Wis. Inc.  
405 N. Eastmoor Ave.  
Brookfield, WI 53005  
USA  
414-784-9017

**Neil C. Segal, G.G., N.J.A.,**  
P.O. Box 1356 Hillcrest 3650  
Republic of South Africa  
South Africa

**Thomas Seguin, G.G., N.J.A.,**  
Suncoast Accredited Gemology Lab.  
6221 14th Street West Ste. 105  
Bradenton, FL 34207  
USA  
813-756-8787

**Barbara Shaieb, G.G.,**  
Grunewald and Adams  
3565 E. Calle Alarcon  
Tucson, AZ 85716  
USA  
602-327-5747

**James E. Shigley**  
Gemological Institute of America  
1660 Stewart Street  
Santa Monica, CA 90404  
USA  
213-829-2991

**Betty P. Simpson**  
The Jade Lady  
33112 Lake Rd.  
Avon Lake, OH 44012  
USA  
216-933-6553

**Donald G. Sinon, Gemologist**  
118 West Lincolnway  
Cheyenne, WY 82001  
USA  
307-778-7882

**Ben H. Smith, F.G.A.,**  
The Gem Mart  
P.O. Box 1448  
Wilmington, NC 28402  
USA  
919-762-1479

**Judith R. Snow**  
Snow's Jewelers, Inc.  
219 Miracle Mile  
Coral Gables, FL 33134  
USA  
305-661-4650

**Nancy Stacy, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Jewels by Stacy  
P.O. Box 28  
Morro Bay, CA 93442  
USA  
805-772-3533

**Stuart Stanuelli, III, G.G.,**  
2001 Kirby Drive  
Houston, TX 77019  
USA  
713-524-6166

**Karen L. Sternberg, G.G.,**  
3320 Ardley Ct.  
Falls Church, VA 22041  
USA  
703-671-2592

**Robert F. Strogonoff, G.G.,**  
Oceanside Jewelers  
560 Highway A1A  
Satellite Beach, FL 32937  
USA  
407-777-7628

**Dee Jay Strobe**  
Dee Jay Strobe  
P.O. Box 190  
Mt. Holly, VA 22524  
USA

**William A. Taylor, Gemologist**  
W. Taylor Finest Faceted Gems  
113 Martin Street  
Indian Harbor Beach, FL 32937  
USA  
407-773-4885

**Joseph W. Tenhagen, G.G., F.G.A.,**  
Master Gemologist Appraiser, A.S.A.  
36 N.E. 1st Street Ste. 419  
Miami, FL 33132  
USA  
205-374-2411

**Roger C. Trigg, G.G., F.,**  
P.O. Box 23372 7735 Claremont  
Republic of Sough Africa  
South Africa

**Thom Underwood, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
San Diego Gemological Lab  
3957 Goldfinch Street  
San Diego, CA 92103  
USA  
619-291-8852

**Robert Vogel**  
66 Via Holon  
Greenbrae, CA 94904  
USA  
415-925-9758

**Linda Von Philip, Assoc.**  
2954 Bentley St.  
Sarasota, FL 34239  
USA  
813-954-4730

**Paul M. Walker, Assoc.**  
The Greely Corp.  
9718 S. Dixie Highway Suite 7  
Miami, FL 33156  
USA  
305-661-1072

**John J. Wellinghoff, G.G.,**  
John J. Wellinghoff  
5941 South West 48th Street  
Miami, FL 33155  
USA  
305-666-242

**Consuelo M. White, G.G.,**  
The Clay Bezel Jewelers  
216 East 5th Street  
Port Angeles, WA 98362  
USA  
206-452-7130

**David O. Williamson**  
22949 Playview  
St. Clair Shores, MI 48082  
USA  
313-296-9114

**Joann Z. Wobby, Gemologist**  
Richard J. Wobby Jewelers  
124 North Main Street  
Barre, VT 05641  
USA  
802-476-4031

**Kevin Wood, G.G.,**  
The Ringer Inc.  
1514 South 1100 East Ste. A  
Salt Lake City, UT 84105  
USA  
801-466-1630

**Frank A. Wright, G.G., F.G.A.,**  
6052 Magnolia Ave.  
Riverside, CA 92506-3599  
USA  
714-683-7489

**Lise A. Wurm, G.G., F.G.A.,**  
Cresalia Jewelers  
278 Post Street Ste. 202  
San Francisco, CA 94108  
USA  
415-781-7371

**Christine York, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Royal Gem House  
3104 Eldoe, Ste. 202  
Houston, TX 77027  
USA

**Christine York, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
York Antiques and Appraisal Service  
P.O. Box 27903  
Houston, TX 77227  
USA

**Margaret Yusko**  
P.O. Box 426  
Central Square, NH 03222  
USA

**Jean A. Zamot, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
Gems, Etc.  
15951 Carmania Drive  
Whittier, CA 90603  
USA

**Charles A. Zawacki, G.G.,**  
Master Gemologist Appraiser, A.S.A.  
5455 Foxhound Drive  
Naples, FL 33942  
USA

**Geraldine Mary Zwack**  
P.O. Box 57  
APO San Francisco, CA 96346-0001  
USA



# Accredited Laboratories

## **Ann Hawken Gem Lab**

Ann A. Hawken, G.G.,  
Shepherd Mtn. Pl.  
6034 W. Courtyard Dr. Ste. 305  
Austin, TX 78730  
USA  
512-328-9411

## **B.J. Caldwell Jewelers Appraisers**

Brenda J. Caldwell, G.G.,  
Master Gemologist Appraiser, A.S.A.  
7225 North Oracle Rd.  
Tucson, AZ 85704  
USA  
602-742-3687

## **Balzan Gem Lab**

Cortney G. Balzan, G.G.,  
Master Gemologist Appraiser, A.S.A.  
915 Lootens  
San Rafael, CA 94901  
USA  
415-454-8553

## **Birmingham Gem Service**

James Krol, G.G.,  
251 Merrill Street  
Birmingham, MI 48011  
USA  
313-644-8828

## **Jim F. Ferguson, G.G.,**

Care of F.D. Services, Inc.  
P.O. 1608  
Goose Creek, SC 29455  
USA  
803-863-0014

## **Clayton Gemological Services, Inc.**

Theresa B. Kienstra, G.G.,  
8000 Bonthomme Ste. 309  
St. Louis, MO 63105-3515  
USA  
314-862-4005

## **Colonial Jewelers**

Jeffrey I. Hurwitz, G.G., A.G.A.,  
Master Gemologist Appraiser, A.S.A.  
P.O. Box 674  
Frederick, MD 21701  
USA  
301-663-9252

## **Crowntique**

James J. Martin, G.G.,  
8400 South Tamiami Tr.  
Sarasota, FL 34238  
USA  
813-951-0020

## **D. Atlas And Co., Inc.**

David S. Atlas, G.G., C.G.,  
Master Gemologist Appraiser, A.S.A.  
732 Sanson Street  
Philadelphia, PA 19106  
USA  
215-922-1926

## **Earth Treasures**

Paul D. Bischof, G.G.  
Circle Plaza Shopping Center  
Eatontown, NJ 07724  
USA  
201-542-5444

## **Fauquier Gem Lab**

Jelks H. Cabaniss, G.G.,  
Master Gemologist Appraiser, A.S.A.  
P.O. Box 525  
Marshall, VA 22115  
USA  
703-364-1959

## **Frank Gooden Co., Inc.**

Ricki K. Gooden, G.G.,  
1102 Grand Avenue #221  
Kansas City, MO 64106  
USA  
816-421-0281

## **Gem Profiles**

Robert L. Praska, G.G., C.G.,  
416 West Santa Ana  
Fresno, CA 93705  
USA  
209-229-7361

## **ICSL**

Ian Campbell, C.G., F.G.A.,  
P.O. Box 1354 Randburg 2125  
Republic of South Africa  
South Africa  
011-787-3326

## **International Trade Laboratory**

Andrew Y. Kim, G.G.,  
Master Gemologist Appraiser, A.S.A.  
650 South Hill Street #229  
Los Angeles CA 90014  
USA  
213-688-7837

## **Jaylyn Gemologists Goldsmiths**

James O'Sullivan, G.G.,  
P.O. Box 1232 30 S.E. 4th Street  
Boca Raton, FL 33432  
USA  
407-391-0013





**Larry Phillips Studios**  
Larry Phillips, C.G.A., I.S.A.,  
Master Gemologist Appraiser, A.S.A.  
801 Marie Park N.E.  
Albuquerque, NM 87123  
USA  
505-265-1400

**Lourdes Gemological Laboratory**  
Howard N. Biffer, G.G.,  
Master Gemologist Appraiser, A.S.A.  
Route 6 and Hill Boulevard  
Jefferson Valley, NY 10535  
USA  
914-245-4676

**Mackley and Co., Inc.**  
Joseph A. Mackley, G.G.,  
Master Gemologist Appraiser, A.S.A.  
8906 Kingston Pike Ste. 214  
Knoxville, TN 37923  
USA  
615-693-3097

**NC Gemological Laboratory**  
T. William Benedict, G.G.,  
Master Gemologist Appraiser, A.S.A.  
107 Hunter's Ridge Rd.  
Chapel Hill, NC 27514  
USA  
919-929-9179

**National Gem Appraising Lab., Inc.**  
Antonio C. Bonanno, F.G.A., P.G.,  
Master Gemologist Appraiser, A.S.A.  
8600 Fenton Street  
Silver Springs, MD 20910  
USA  
301-588-7770

**Neil H. Cohen Gemologist**  
Neil H. Cohen, G.G.,  
Master Gemologist Appraiser, A.S.A.  
99 Pratt Street Ste. 211  
Hartford, CT 06103  
USA  
203-247-1319

**Rosenblatts**  
Robert L. Rosenblatt, G.G., F.G.A.,  
F.C.Gm.A.  
Master Gemologist Appraiser, A.S.A.  
1400 Foothill Dr. #150  
Salt Lake City, UT 84108  
USA  
801-583-8655

**Royal Gem House**  
Christine York, G.G.,  
Master Gemologist Appraiser, A.S.A.  
3104 Eldoe, Ste. 202  
Houston, TX 77027  
USA  
713-960-0988

**San Diego Gemological Lab**  
Thom Underwood, G.G.,  
Master Gemologist Appraiser, A.S.A.  
3957 Goldfinch Street  
San Diego, CA 92103  
USA  
619-291-8852

**Spectrum Gems**  
Dana Lynn Richardson, G.G.,  
Master Gemologist Appraiser, A.S.A.  
1615 South Foothill Drive  
Salt Lake City, UT 84108  
USA  
801-581-9900

**Suncoast Accredited Gemology Lab.**  
Thomas Seguin, G.G., N.J.A.,  
6221 14th Street West Ste. 105  
Bradenton, FL 34207  
USA  
813-756-8787

**U.S.G.S.**  
David Ascher, G.G.,  
14081 Yorba St. 3237  
Tustin, CA 92680  
USA  
714-838-8747

**Frank A. Wright, G.G., F.G.A.,**  
6052 Magnolia Ave.  
Riverside, CA 92506-3599  
USA  
714-683-7489

**York Antiques and Appraisal Service**  
Christine York, G.G.,  
Master Gemologist Appraiser, A.S.A.  
P.O. Box 27903  
Houston, TX 77227  
USA  
713-960-9766

# Supplier Members

## **Applications Systems Corp.**

60 Temple Place  
Boston, MA 02111  
USA  
617-426-2918

## **Bellisma, Inc.**

Robert F. Bluck  
3448 Longmeadow  
Sarasota, FL 34234  
USA  
813-371-2141

## **Compulink**

Mark Kanim  
3300 Overland Ave. Ste. 210  
Los Angeles, CA 90034  
USA  
213-204-5121

## **Cowans Retail Systems**

Christine Workman  
165 West 2950 South  
Salt Lake City, UT 84115  
USA  
801-486-2151

## **D. Atlas And Co., Inc.**

David S. Atlas, G.G., C.G.,  
732 Sanson Street  
Philadelphia, PA 19106  
USA  
215-922-1926

## **Diascience Group**

Isaac Landerer  
580 5th Ave. Ste. 401  
New York, NY 10036  
USA  
212-221-5985

## **File A Gem, Inc.**

120 West 11th Street Box 539  
Baxter, KS 66713  
USA  
316-856-3800

## **Otto Frei &**

**Jules Borel Co.**  
126 2nd St. P.O. Box 796  
Oakland, CA 94604  
USA  
800-772-3456

## **G.A.A.**

Donald A. Palmieri, G.G.,  
666 Washington Rd. Ste. 304  
Pittsburgh, PA 15228  
USA  
412-344-5500

## **GRC**

60 E. 3rd Ave.  
San Mateo, CA 94401  
USA  
415-348-6341

## **Gemdata**

Peter G. Read  
68 Forest House Russell Cotes Rd  
Bournemouth,  
England  
(0202) 23209

## **Gemlab, Inc.**

Ted Themelis  
P.O. Box 6333  
Clearwater, FL 34618  
USA  
813-447-1667

## **Gemological Products Corp.**

Jeff Wildman  
2834 Colorado Blvd. #4C  
Santa Monica, CA 90404  
USA  
213-398-2567

## **Gemological Research Corp.**

Joe Hensley  
60 E. 3rd Ave.  
San Mateo, CA 94401  
USA  
415-348-6341

## **Gemprint Computer Systems**

Craig Carnevale  
24W500 Maple Ave. #202  
Naperville, ILL 60540-6057  
USA  
800-621-2002

## **Griffith Gem Lab**

Alfred P. Griffith  
1069 Via Verde Ste. 170  
San Dimas, CA 91773  
USA

## **J.E.M.S.**

Bryan Herzog Bob Turner  
215 West 1st Street Ste. 105-73  
Tustin, CA 92680  
USA  
714-262-9112

## **Jewelry Appraisal Writer**

Allen T. Smith  
16 Russell Rd. #33  
Albany, NY 12206  
USA  
518-438-8872



**KIS Software**  
Gary Thompson Ed Iavelle  
9518 West 58th Ave.  
Arvada, CO 80002  
USA  
1-800-553-6226

**Longhill Partners, Inc.**  
Antoinette Leonard Matlins  
P.O. Box 276  
South Woodstock, VT 05071  
USA  
802-457-4000

**MacJewel Vertical Market Solutions**  
Bill Bryant  
#1 Main St. P.O. Box 171  
Duncans Mills, CA 95430  
USA  
707-865-2950

**Majestic Gems and Carvings**  
Paul Downing  
3412 Monitor Ln.  
Tallahassee, FL 32312  
USA  
904-385-3732

**Nebula Lumi Loupe**  
P.O. Box 3356  
Redwood City, CA 94064  
USA  
415-369-5966

**Networks Unlimited Inc.**  
Patty Harper  
119 N. 2nd St.  
Killeen, TX 76541  
USA  
817-628-1638

**New World Software**  
1654 San Thomas Aquino Rd.  
San Jose, CA 95130  
USA  
408-866-5003

**Polygon Network, Inc.**  
Jacque Voorhees  
P.O. Box 1885 121 Dillon Mall  
Dillon, CO 80435  
USA  
800-221-4435

**Rapaport Diamonds, Inc.**  
Martin Rapaport  
15 West 47th Street  
New York, NY 10036  
USA  
800-223-2373

**Rapidata**  
Sheila Miller  
628 1/2 6th St. Ste. 211  
Rapid City, SD 57701  
USA  
605-348-0766

**Sarasota Instruments**  
John Allaman  
1960 Main St.  
Sarasota, FL 34236  
USA  
813-366-4646

**Step Stone Jewelers Database**  
Daniel Rubenstein  
852 5th Ave. Ste. 208  
San Diego, CA 92101  
USA  
619-233-STEP

**The Gemtrack Group**  
Kenneth David  
P.O. Box 633  
Mahopak, NY 10541  
USA

**The Jewelry Judge Appraisal System**  
David N. Knight  
91 Station St. Box 302 LIS 3CS  
Ajax, Ontario  
Canada  
416-683-7204

**Ubige, S.P.R.L.**  
Jean Fran. Moyersoer, G.G., F.G.A.,  
26/08 Ave. General De Gaulle B1050  
Brussels  
Belgium  
(02) 648-0711

**United Pearl Company**  
Fred Kohn  
576 5th Ave.  
New York, NY 10036  
USA  
212-265-3833

**Vance Info. Systems**  
Audi Vance  
2818 Clay St.  
San Francisco, CA 94115  
USA  
415-922-6539





# ACCREDITED GEMOLOGISTS ASSOCIATION

## MEMBERSHIP APPLICATION

*(Please type or print all information)*

- FULL MEMBERSHIP  
 ASSOCIATE MEMBERSHIP  
 SUPPLIER MEMBERSHIP

FOR OFFICE USE ONLY: \_\_\_\_\_

Mr.  
 Mrs.  
 Miss

NAME \_\_\_\_\_

LAST                                      FIRST                                      MIDDLE

RESIDENCE: \_\_\_\_\_

STREET/POST OFFICE BOX

PREFERRED MAILING: \_\_\_\_\_

CITY                                      TELEPHONE #

\_\_\_\_\_

STATE/COUNTRY                                      ZIP

BUSINESS: \_\_\_\_\_

STREET

PREFERRED MAILING: \_\_\_\_\_

CITY

\_\_\_\_\_

STATE/COUNTRY                                      ZIP

DIPLOMA(S) HELD: \_\_\_\_\_

DATE(S) CONFERRED: \_\_\_\_\_

SPECIAL AREA(S) OF INTEREST: \_\_\_\_\_

GEMOLOGICAL AFFILIATIONS: \_\_\_\_\_

SPECIAL AWARDS OR HONORS      BOOKS:      MANUSCRIPTS: \_\_\_\_\_

DATE \_\_\_\_\_ SIGNATURE \_\_\_\_\_

### SUBMISSION REQUIREMENTS

- Application form filled out completely, marked FULL MEMBERSHIP or ASSOCIATE MEMBERSHIP; preferred mailing marked RESIDENCE or BUSINESS.
- Professional conduct code, signed. (Retain one copy for your files.)
- Dues fee of \$125.00 domestic; \$135.00 (U.S. Currency) Overseas; \$175.00. Supplier Member. This includes a one time application processing fee of \$25.00 and a full years' dues. Make checks payable to: ACCREDITED GEMOLOGISTS ASSOCIATION.
- Photocopy of your Gemologist, Graduate Gemologist, or F.G.A. Diploma. Associate member applicants—photocopy of student letter of acceptance. Supplier Member—State type of business.

Tom Seguin, G.G.  
 Bayshore Office Building  
 6221 14th Street West, Suite 105  
 Bradenton, Florida 32207  
 (813) 756-8787





THE ACCREDITED GEMOLOGIST'S ASSOCIATION (A.G.A.) IS AN INTERNATIONAL NON-PROFIT ORGANIZATION DEDICATED TO PROFESSIONAL STANDARDS OF EDUCATION, RESEARCH, IDENTIFICATION AND EVALUATION OF GEM MATERIALS AND JEWELRY. ALL APPLICANTS FOR MEMBERSHIP ARE REQUIRED TO READ AND SIGNIFY THEIR ACCEPTANCE OF THE FOLLOWING CODE OF ETHICAL CONDUCT, AND INDICATE THEIR WILLINGNESS TO ADHERE TO THIS CODE.

## I. PROFESSIONAL CONDUCT

- A. It is incumbent on every member to refrain from giving any counsel or making any report on any gem or article with which he is not thoroughly familiar, unless (1) the client is aware of those limitations and/or (2) he consults with another who is competent to assess and evaluate the gem or article.
- B. A client should be counseled of the need for periodic reassessment of the value of his items, because of continued price fluctuations in the market.
- C. Every member agrees to make every possible effort to keep abreast of new developments in the field of jewelry and gemology.
- D. Consultations in performing gemological duties, including any reports, are confidential and any disclosure should only be made after obtaining written approval from the client.
- E. The gemologist is in a position of trust and, due to his professional knowledge and training, must accept the special nature of the relationship with his client.
- F. It is unprofessional practice to give off-handed opinions, which tend to belittle the importance of careful inspection, testing and analysis.
- G. It is unethical practice for a member to suppress any facts, data or opinions which he may be called upon to give in a court of law, or to overemphasize any facts, data or opinions so as to unfairly influence a decision or bias a case for either party.
- H. It is unethical practice to serve more than one party with respect to the same situation unless all parties previously agree to this.
- I. It is unethical to reduce a previously quoted fee in order to supplant another gemologist or appraiser after the other's quotation for professional services has been revealed.
- J. A member of A.G.A., aware of the questionable conduct of another member, has an obligation to report the matter to the Grievance Committee for appropriate action.
- K. Any conduct, practice, self-laudatory advertising, or other questionable gemological practice using misleading or inaccurate claims and promises detrimental to the establishment of public confidence in gemological work is considered unprofessional.
- L. The gemologist should have no interest or contemplated future interest in the purchase of items reported on, in order to avoid any suspicion of bias. The full revelation of pertinent facts is mandatory.

## II. GEM IDENTIFICATION AND APPRAISAL REPORTS:

- A. Should contain the results of a sufficient number of tests (e.g., R.I., S.G., U.V., examination with microscope, spectroscope) to establish the identity of the material in question, unambiguously.
- B. Should indicate (where feasible) special characteristics of the material examined, such as natural origin vs. synthetic or vice versa, or if material is dyed, assembled, reconstructed, irradiated, etc.
- C. Should utilize standardized grading criteria where applicable, and indicate the grading system used.
- D. Should avoid confusing terminology that tends to perpetuate incorrect gemstone names, or which can be misconstrued by layman as representing something other than that which is intended.
- E. Should be in writing only, with the gemologist retaining a copy of the report as a permanent record.
- F. Should indicate the purpose of the report (e.g., estate appraisal, replacement value, etc.).
- G. Should present a thorough qualitative and quantitative statement, including mention of special markings, hallmarks, age, historical significance, provenance, uniqueness, etc.
- H. Should present the truest possible value, along with a statement as to whether the stated value includes an increment for inflation and, if so, what the increment is.

## III. FEES

- A. It is recommended that fees are to be computed on the basis of a per hour rate or on the basis of a charge per item. It is consistent with professional practice to have a minimum fee, or that consistent with the experience of the appraiser or gemologist doing the work.

I HEREBY AFFIRM WITH MY SIGNATURE THAT I ACCEPT THE ACCREDITED GEMOLOGIST ASSOCIATION CODE OF PROFESSIONAL CONDUCT TO BE VALID AND I AGREE TO USE IT AS A GUIDELINE IN PERFORMING GEMOLOGICAL ACTIVITIES. I UNDERSTAND THAT THE A.G.A. MAY TERMINATE MEMBERSHIP OF ANY INDIVIDUAL WHO IS FOUND TO BE PERFORMING GEMOLOGICAL WORK INCONSISTENT WITH THE STANDARDS OF PROFESSIONAL CONDUCT SET FORTH ABOVE. I UNDERSTAND THAT MEMBERSHIP IS GRANTED ONLY TO ELIGIBLE INDIVIDUALS WHO ARE DULY ELECTED BY A.G.A. AND DOES NOT EXTEND TO BUSINESS ASSOCIATES UNLESS THEY ARE INDIVIDUALLY ELECTED TO MEMBERSHIP.

(Professional seal or stamp may be shown below)

Signature \_\_\_\_\_

Date \_\_\_\_\_

Address \_\_\_\_\_

(NOTE: Keep one copy, sign and date the other and return to A.G.A. with any fees)

# ACCREDITED GEMOLOGISTS ASSOCIATION

## SUPPLIER MEMBERSHIP APPLICATION

Please fill out the following information in addition to the regular application

Company Name \_\_\_\_\_ Telephone # \_\_\_\_\_  
Current Employees Names \_\_\_\_\_

Type of Business (i.e. product to the trade)  
\_\_\_\_\_

List three references who can be contacted (business only - please give address, phone, and person to contact if any).

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_

Please be sure you have filled out the regular application attached including the code of ethics and return with check to:

It is not necessary to attach a copy of gemologists diploma, as none is required.

## SUPPLIER MEMBERSHIP DESIGNATION

**DUES:** \$150.00 per year. \$25.00 one time application fee.

**WHO CAN JOIN:** Any company which supplies materials to the gemological trade (e.g. trade journals, stones, findings, tools, equipment, etc.). The company must be in good standing within the trade.

**STATUS:** Non voting status.

**MEMBERS:** All employees currently working in the company.

**CERTIFICATE:** Made out in companies name and membership is advertisable in all publications.

- BENEFITS:**
1. Economical price to join A.G.A.
  2. All employees can attend the A.G.A. Tuscon conference at the member price.
  3. The company receives all "A.G.A. UPDATE" and "CORNERSTONE" publications.
  4. The company receives a membership roster which is a great source for some of the most respected and reputable people in the trade. Company also receives one complete mailing label run at no charge (additional runs purchased seperately).
  5. The company is listed under "SUPPLIERS" in all of our publications.
  6. The company can register for "first come, first serve" booth space at the location where our conferences are held.
  7. Access to latest developments and research in gemology and a "test market" for new products, plus all the other benefits which go along with being a member of such a fine organization as the Accredited Gemologists Association.

**Note:** This designation may not be used by companies who supply a product to the public, it is for suppliers to the trade only.

ACCREDITED GEMOLOGISTS ASSOCIATION  
1400 FOOTHILL DRIVE #150  
SLC, UT 84108  
801-583-8655

THE ACCREDITED GEMOLOGISTS ASSOCIATION (A.G.A.) IS AN INTERNATIONAL NON-PROFIT ORGANIZATION DEDICATED TO PROFESSIONAL STANDARDS OF EDUCATION, RESEARCH, IDENTIFICATION AND EVALUATION OF GEM MATERIALS AND JEWELRY. ALL APPLICANTS FOR MEMBERSHIP ARE REQUIRED TO READ AND SIGNIFY THEIR ACCEPTANCE OF THE FOLLOWING CODE OF ETHICAL CONDUCT, AND INDICATE THEIR WILLINGNESS TO ADHERE TO THIS CODE.

## I. PROFESSIONAL CONDUCT

- A. It is incumbent on every member to refrain from giving any counsel or making any report on any gem or article with which he is not thoroughly familiar, unless (1) the client is aware of those limitations and/or (2) he consults with another who is competent to assess and evaluate the gem or article.
- B. A client should be counseled of the need for periodic reassessment of the value of his items, because of continued price fluctuations in the market.
- C. Every member agrees to make every possible effort to keep abreast of new developments in the field of jewelry and gemology.
- D. Consultations in performing gemological duties, including any reports, are confidential and any disclosure should only be made after obtaining written approval from the client.
- E. The gemologist is in a position of trust and, due to his professional knowledge and training, must accept the special nature of the relationship with his client.
- F. It is unprofessional practice to give off-handed opinions, which tend to belittle the importance of careful inspection, testing and analysis.
- G. It is unethical practice for a member to suppress any facts, data or opinions which he may be called upon to give in a court of law, or to overemphasize any facts, data or opinions so as to unfairly influence a decision or bias a case for either party.
- H. It is unethical practice to serve more than one party with respect to the same situation unless all parties previously agree to this.
- I. It is unethical to reduce a previously quoted fee in order to supplant another gemologist or appraiser after the other's quotation for professional services has been revealed.
- J. A member of A.G.A., aware of the questionable conduct of another member, has an obligation to report the matter to the Grievance Committee for appropriate action.
- K. Any conduct, practice, self-laudatory advertising, or other questionable gemological practice using misleading or inaccurate claims and promises detrimental to the establishment of public confidence in gemological work is considered unprofessional.
- L. The gemologist should have no interest or contemplated future interest in the purchase of items reported on, in order to avoid any suspicion of bias. The full revelation of pertinent facts is mandatory.

## II. GEM IDENTIFICATION AND APPRAISAL REPORTS:

- A. Should contain the results of a sufficient number of tests (e.g., R.I., S.G., U.V., examination with microscope, spectroscope) to establish the identity of the material in question, unambiguously.
- B. Should indicate (where feasible) special characteristics of the material examined, such as natural origin vs. synthetic or vice versa, or if material is dyed, assembled, reconstructed, irradiated, etc.
- C. Should utilize standardized grading criteria where available, and indicate the grading system used.
- D. Should avoid confusing terminology that tends to perpetuate incorrect gemstone names, or which can be misconstrued by layman as representing something other than that which is intended.
- E. Should be in writing only, with the gemologist retaining a copy of the report as a permanent record.
- F. Should indicate the purpose of the report (e.g., estate appraisal, replacement value, etc.).
- G. Should present a thorough qualitative and quantitative statement, including mention of special markings, hallmarks, age, historical significance, provenance, uniqueness, etc.
- H. Should present the truest possible value, along with a statement as to whether the stated value includes an increment for inflation and, if so, what the increment is.

## III. FEES

- A. It is recommended that fees are to be computed on the basis of a per hour rate or on the basis of a charge per item. It is consistent with professional practice to have a minimum fee, or that consistent with the experience of the appraiser or gemologist doing the work.

I HEREBY AFFIRM WITH MY SIGNATURE THAT I ACCEPT THE ACCREDITED GEMOLOGIST ASSOCIATION CODE OF PROFESSIONAL CONDUCT TO BE VALID AND I AGREE TO USE IT AS A GUIDELINE IN PERFORMING GEMOLOGICAL ACTIVITIES. I UNDERSTAND THAT THE A.G.A. MAY TERMINATE MEMBERSHIP OF ANY INDIVIDUAL WHO IS FOUND TO BE PERFORMING GEMOLOGICAL WORK INCONSISTENT WITH THE STANDARDS OF PROFESSIONAL CONDUCT SET FORTH ABOVE. I UNDERSTAND THAT MEMBERSHIP IS GRANTED ONLY TO ELIGIBLE INDIVIDUALS WHO ARE DULY ELECTED BY A.G.A. AND DOES NOT EXTEND TO BUSINESS ASSOCIATES UNLESS THEY ARE INDIVIDUALLY ELECTED TO MEMBERSHIP.

(Professional seal or stamp may be shown below)

Signature \_\_\_\_\_

Date \_\_\_\_\_

Address \_\_\_\_\_

(NOTE: Keep one copy, sign and date the other and return to A.G.A. with any fees)

# Accredited Gemologists Association

## *video tape presentations*

Tucson and mini-conference library series, available now on VHS video cassettes. Please be advised that these presentations are *NOT* broadcast quality. Most are digitally processed and enhanced with fully edited sound tracks, making them very suitable for educational use. Tapes are copied on receipt of order with payments. Please allow 3 to 4 weeks for delivery. All tapes except the most current year are \$19.95 to members and \$24.95 to non members. Current year tapes are \$25.00 to members and \*\$50.00 to non members. Receive a 10% discount on orders of ten tapes or more. Prices include postage.

*\* a credit of \$25 will be applied toward membership enrollment if completed application, documentation and payment for \$100 is received with order.*

---

Name: \_\_\_\_\_

Mailing Address:

\_\_\_\_\_ street

\_\_\_\_\_ city \_\_\_\_\_ state \_\_\_\_\_ zip

Daytime phone ( ) \_\_\_\_\_

Total amount enclosed:

*check* (payable to AGA) \_\_\_\_\_

*visa / MC card #* \_\_\_\_\_

*expiration date* \_\_\_\_\_

*authorized signature* \_\_\_\_\_

Mail to: Robert Rosenblatt  
Rosenblatt's  
1400 Foothill Drive, #150  
Salt Lake City, UT 84108

FROM 1986:

----- VALUATION SCIENCE Dr. Richard Rickert-director valuation science, Linwood College  
----- INCLUSIONS, NATURES HALLMARKS Joseph Tenhagen, Master Gemologist Appraiser, ASA Tenhagen  
----- Gems  
----- DETECTION OF HEAT TREATED GEMS C.R. "Cap" Beesley, AGL  
----- IRRADIATION, AN IN DEPTH PRESENTATION Dr. Kurt Nassau, Bell Laboratories  
----- HEAT TREATMENT PROCESS, AN IN DEPTH PRESENTATION Dr. Kurt Nassau, Bell Laboratories  
----- COLOR DESCRIPTIONS Sue Johnson, Gemological Institute of America  
----- PEARLS, GRADING AND PRICING Freddy Kohn, United Pearl Company  
----- GEM RESOURCES OF CHINA Dr. Peter Keller, LA County Museum  
----- A MINERALOGIST'S VIEW TOWARDS GEMSTONE IDENTIFICATION Dr. Abraham Rosenzweig,  
----- Mineralogist  
----- THE FGA PROGRAM David Callaghan, Gemological Association of Great Britain  
----- PANEL DISCUSSION ON HEAT TREATMENT Dr. Kurt Nassau, Ted Themelis, C.R. "Cap" Beesley, Donald  
----- Palmieri, David Federman  
----- LUNCH WITH NEIL The future of AGA by Neil Cohen, President (available free with the purchase of any  
----- two tapes).  
----- ANNUAL AGA MEMBERSHIP MEETING Hear what those who attended think of AGA and where it ought  
----- to go in the future. Lively discussion on treatment disclosure.

FROM 1987:

----- TREATMENT DISCLOSURE C.R. "Cap" Beesley American Gemological Laboratories  
----- HOW TO BUY OVERSEAS Michael Albritton, Park Albritton  
----- THE EXPERT WITNESS - PREPARATION AND PERFORMANCE David S. Atlas D. Atlas and Co.  
----- LUNCH - THE FUTURE OF GIA Bill Boyajian President, Gemological Institute of America  
----- COMPUTERS MAKE MONEY Rod V. Wagner Gemsystems International  
----- AN ANSWER TO FAIR MARKET VALUE Donald Palmieri Gemological Appraisal Association  
----- THE GEMS OF PAKISTAN VALUABLE INFORMATION ON NEW FINDS Heads of State Gem Corp. of  
----- Pakistan  
----- WHAT ARE DIAMOND PRICES? Martin Rapaport Rapaport Diamonds, Inc.  
----- WHAT IS "REAL" TODAY RECOGNIZING SELLING OPPORTUNITIES Thomas H. Chatham Chatham  
----- Created Gems  
----- SOME THOUGHTS ABOUT JEWELRY DESIGN Margaret Ann Howard N-Ter-National Gems Inc.  
----- COMMERCIAL GEMSTONE TREATMENT Judith A. Osmer J.O. Crystal Gems  
----- PRESENT STATE OF THE DIAMOND MARKET Jean-Francois Moyerson GPR  
----- LUNCH - THE FUTURE OF THE MGA PROGRAM Mr. Roy Morris III, International Vice President,  
----- American Society of Appraisers  
----- PERIOD JEWELRY: A HISTORICAL PERSPECTIVE Mark Ebert  
----- DON'T OVERLOOK THE OBVIOUS Antonio Bonanno and Antonette Matlins  
----- JADE FASHION '87 Edmond Root Jade N Gem Corp Betty Simpson The Jade Lady  
----- USING THE GUIDE MORE EFFECTIVELY Richard Drucker Gemworld Price Guide

FROM 1988

.... A SYNTHETIC EMERALD UPDATE Robert Crowningshield GIA  
.... DETECTION OF HEAT TREATMENT Al Molina Jewels by Olson  
.... ETHICS IN THE INDUSTRY Sallie Morton Morton Jewelers, Jewelers Vigilance Committee  
.... ROUGH TO POLISHED, A DIAMONDS JOURNEY Tom Gorman J.C. Keppie Co.  
.... PERIOD JEWELRY Michelle Hallier Jewels by Olson  
.... GIA GEM TRADE LABORATORY DISCLOSURE POLICY Tom Gorman J.C. Keppie Co.  
.... CHEMICAL VAPOR DEPOSITION DIAMOND Laurie Conner Crystallume of Palo Alto, CA  
.... SEPERATION OF NATURAL FROM SYNTHETIC GEM-QUALITY DIAMOND James Shigley, PhD.,  
.... Stanford University; Director of Research GIA  
.... COUNTRY OF ORIGIN C.R. "Cap" Beesley American Gemological Laboratory  
.... THE TERM "CULTURED" IN SYNTHETICS Virginia L. Carter J.O. Crystal Company  
.... AN IN DEPTH LOOK AT JADE Betty Parker Simpson ("The Jade Lady") The Jade Collector  
.... SYNTHETICS AND THEIR ROLE IN THE MARKET Dr. Kurt Nassau Bell Laboratories

FROM 1990

\*Members pay \$25.00 per tape, non-members pay \$50.00 per tape

----- CLARITY ENHANCED DIAMONDS PART I TREATMENT PROCESS Isaac Landerer  
----- CLARITY ENHANCED DIAMONDS PART I INDUSTRY PANEL DISCUSSION (meet the press)  
----- CLARITY ENHANCED DIAMONDS PART II TREATMENT ISSUES C.R. "Cap" Beesley  
----- CLARITY ENHANCED DIAMONDS PART II APPRAISAL ISSUES Joseph Tenhagen  
----- CLARITY ENHANCED DIAMONDS PART II CASE STUDY Donald Palmieri  
----- DISPUTE RESOLUTION IN APPRAISING Dexter McBride  
----- EVERYTHING YOU WANTED TO KNOW ABOUT OPALS Paul Downing

TO ORDER, PLEASE SEE FORM ON FRONT