ISG International School of Gemology

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Microscopes Part 1

Introduction

If there is one thing we need to always remember about the study of gemology and gemological equipment it is this: Gemology is a business, it is not a science. Yes, science is a part of gemology. And yes, we need a level of scientific knowledge, study and information in order to properly accomplish the business of gemology. But make no mistake, gemology is a business. We don't all get big government grants to do studies of gemstones. We don't have a long list of major universities establishing gemology departments and offering tenured positions for gemology professors. And we don't have the single most important thing that goes with any proper scientific entity…uniform standards. **We don't have any uniform standards.** No certifying bodies and no industry recognized authority that oversees a science called "gemology". No, gemology is not a science….gemology is a business. The business of selling gemstones.

What we do have are quite a few respected scientists who have retired from other fields and come into the gemology field as sort of a pseudo-retirement type of participation. The problem is that these outstanding individuals come to the gemology field and try to impose the scientific regimens of their previous scientific worlds on the world of gemology. The result is very frustrated scientists and very frustrated gemologists. Partly because the scientists get frustrated with the total lack of any kind of uniform standards or qualifying bodies to oversee the gemology industry, and partly because the scientists try to bring standards to the gemology field that are unrealistic to the field itself. And I say all of this with all due and proper respect to the scientists as we have some wonderful folks who have joined us in the past 20 or 30 years from other fields. But here is the problem: money. Being employed by a major university and having millions of dollars of government grant money to buy high tech equipment and do high tech research is great if one is studying rocket science or atomic energy. But there is nothing like this in gemology. The common folk in this industry don't have huge government supported grants to buy equipment. This all comes to a boil when the scientists who have migrated to this industry post up information that makes the grass roots level of this industry feel that they cannot do proper gemology without the very expensive and high tech equipment. This includes…..microscopes.

An example is the GIA and Gem Instruments. When I first attended the GIA in 1978 we were taught that the only good gemologist was a gemologist who owned Gem Instruments equipment. This was very expensive, even in 1978. But the teaching was that if you were not equipped with Gem Instruments equipment, you were not a properly equipped gemologist. The result was that a lot of folks (myself included) spent huge amounts of money on reference books, gemological equipment and various other items that could only come from Gem Instruments according to our training.

Then I read about a guy named Dr. Bill Hanneman who was making viable gemological tools out of plastic tubes,

flashlights and colored film filters. According to the folks at the GIA, Hanneman was a kook. WAAAY out there!

Of course the problem was that Hanneman's equipment worked wonderfully and was very cost effective.

Then I heard about this guy named Alan Hodgkinson who developed a method of doing gem identification using nothing but the gemstone and a distant light source. Once again, the GIA folks touted that this was absurd.

Of course, the problem once again….Hodgkinson was absolutely correct.

And perhaps the most profound was when I had the honor to work with Ian Mercer, former Director of Education of the Gem-A, in Tucson at the Gem-A booth at the AGTA Gemfair. Ian spent a lot of time explaining to me that gemology was not based on expensive equipment or a lot of reference books, but rather based on a well-trained gemologist using a minimum amount of equipment. His explanation was simple regarding the Gem-A concept of training: **"We want to be able to drop you into a field in the middle of Africa, with nothing more than what you can carry in your pocket, and you be able to do gemology."** He went on to tell me that a properly trained gemologist can identify more than 85% of the gemstones out there, including rough, using nothing but what they can carry in their pocket.

Now, you may be asking yourself what all of this has to do with learning how to use your microscope? Here is the answer…..

The concept that you need to spend big money on a microscope in order to do big business is a myth. A created concept by the people who sell microscopes to sell you an expensive microscope. Sure, owning a high tech microscope is nice and something we all want to own eventually. But the key is that if right now, what you own is a $395.00 student microscope, you can do serious gemology with that microscope if you stop wishing for the expensive models and start learning how to get the most out of what you have.

The industry perception that only expensive microscopes can do expensive gemology is bogus.

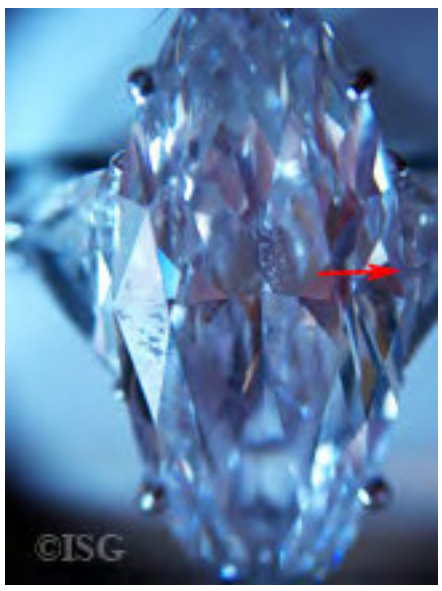
Here is an example:

Just over a year ago I was flown to London to perform a damage evaluation on a 10.57ct D/IF marquise diamond valued at just over US$1,400,000.00. Yes, that is $1.4million dollars. It was too expensive to ship that diamond to me here in San Antonio, so the European insurance company spent $10,500.00 to bring me to London to do the evaluation there.

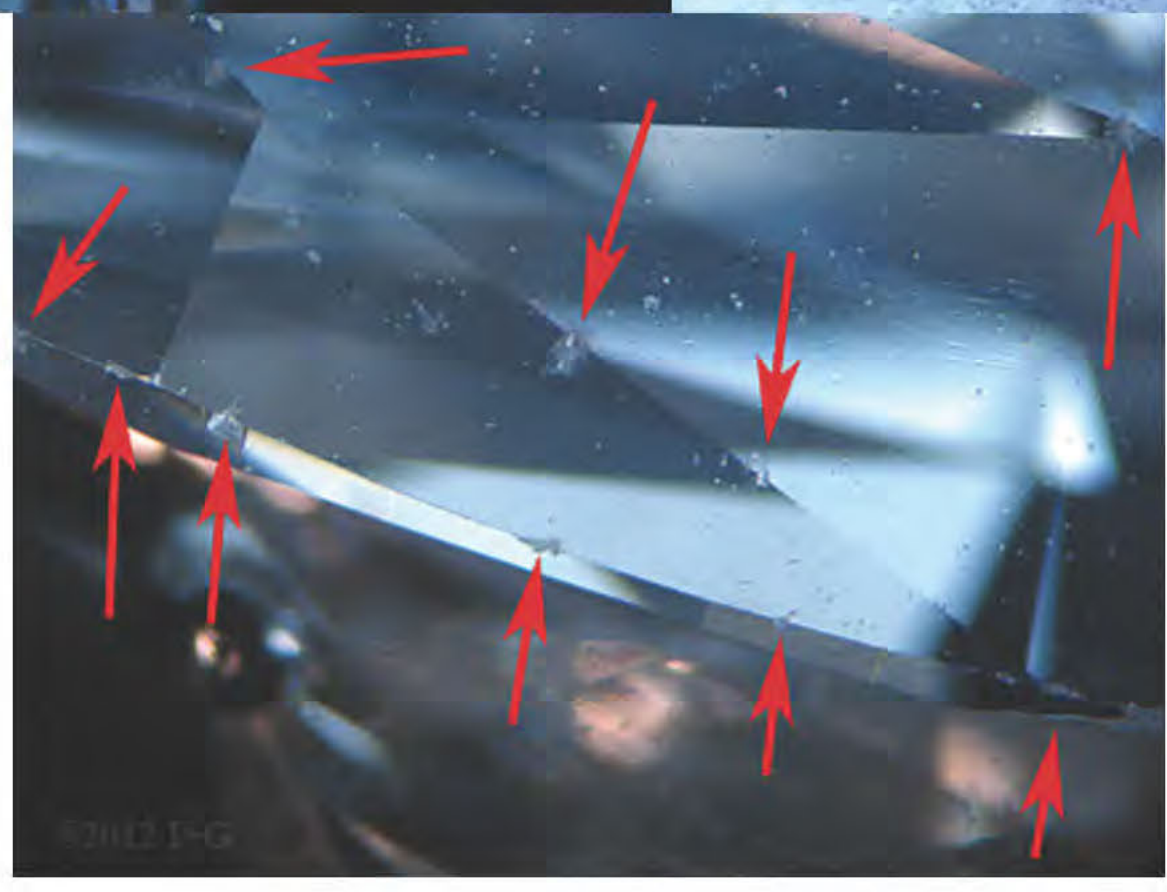
While packing, I realized that my Meiji Techno GEMT5-BFDF would not fit into my carry-on luggage, and no way could I check it in baggage. What to do? I had to leave the next morning and needed to take a microscope to London to perform this evaluation. The location was in a barrister's office just a stone's throw from Buckingham Palace, so it was not the place to appear cheezy in my work, but I still needed a scope I could pack in my suitcase. (I forgot that the base on the GEMT5 had been redesigned and would not fit).

So….I took the only scope I had…one of the $395.00 Student Microscopes that we provide to our ISG students in the ISG Gem Equipment Package (seen at left),

and with it I took my 5 year old Canon A520 hand held camera. So off I went to do a damage evaluation of a million dollar diamond for one of Europe's largest insurance companies, in a posh London attorney's office….with a total of $495.00 worth of gemological equipment in my suitcase.



As you can see at left, the diamond was too big for the field of vision of the scope. But the scope was totally up to the task based not on its cost, but on how it was used. Below are the images of this diamond showing that not only did it have two main impact events, but I was able to document a total of over 14 damage events to this stone that were due to a manufacturing design problem. Not an error, but a problem. Additional images are below all from this student microscope.



The main point of this "Microscopes: Part 1" is to instill in everyone the concept that million dollar gemology can be done with $395.00 microscopes if the gemologist is properly trained. The key to doing good gemology is being a good gemologist, not on how expensive your equipment is. Ian Mercer, Dr. Hanneman and Alan Hodgkinson (and many others) have all been absolutely spot on with their points that good gemology is done by good

gemologists, not by expensive equipment.

In **Microscopes Parts 2 and 3** I am going to show you how to get million dollar gemology out of whatever microscope you own. Go clean it up. Dust it off. Put it back on your desk and stop sitting around wishing you had something better. If I can do a million dollar damage evaluation with a $395.00 student microscope, you can to.

Next week we are going to learn how to get the most from your microscope by setting it up properly, adding features to your scope inexpensively that the expensive scopes have, and how to properly care for your microscope.

For now, be proud of whatever microscope you have. Let's forget the industry PR machine and start learning how to get the most from what we have…….

Practice, Practice Practice.....

Robert James
President, ISG

If you would like to have a copy of these reports on PDF for your reference, please click here: ISG Microscopes Part 1 PDF

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