

# The Mexican Connection

By Robert James FGA, GG

Over the past few months there has been much discussion, speculation, comment, and even a lawsuit over a perceived notion that the ISG made a claim that the Beijing 2008 Olympic Andesine is from Mexico. In truth, none of the stories out there reflect the truth of the matter, and the many disclaimers by many of the ongoing studies that the “Olympic Andesine is not Mexican” (Millisenda: CIGem News, March 2009) which are obviously directed at our reports have grossly missed the mark of their intended purpose.

In truth, the ISG has never stated that the Beijing 2008 Olympic Andesine is from Mexico. What we stated is that it tests the same as the known diffusion treated material that we know to be from Mexico. (ISG newsletter 20 Aug 2008) And that statement was based on research we originally provided through our newsletter on 23 July 2008. With the recent reports by the world renowned scientist, Dr. George Rossman, and his team at Caltech confirming that all Chinese red andesine (which must include the Beijing 2008 Olympic Andesine) is diffusion treated, the source of the original transparent yellow feldspar is sort of a moot point since it really doesn't matter where it came from, only that it is being sold as natural and untreated when, in fact, it is neither. The lack of disclosure of the artificial diffusion of copper into andesine to create the color is the real story.

Another truth is that we don't know the true source of the feldspar that others have tested for research and reporting. We do know for sure that they have not tested the feldspars we used for our research reports in July of 2008. But since many folks want to make an issue of the source of the transparent yellow feldspar used by the Chinese to create the artificially colored red andesine, we thought we would share the story of how all of this started.

## The Old Geezer Rule

Those of us in the industry for 30 or 40 years know there are some things that just don't change. One is that any mine that produces a commercially viable gemstone produces a certain amount in fine gem quality, and a much larger amount in dreg material that is either unusable for gemstones, or will produce low quality gemstones. Usually this material is sold in big cheap parcels for just about any price so that the mine owner can get some cash for it.

The second issue is that a commercially viable mine will sell to cutters who buy in wholesale lots, cut the good material in the lot, and sell the broken pieces, undesirable pieces, and poor quality pieces out on the market somewhere to anyone who will buy it in order to bring in some cash from it.

Between these two issues, anyone who tries can find gemstone rough in a wide variety of conditions and prices somewhere out on the market, regardless of how obscure the mine location or how small the mine. Examples just from an eBay search for gemstone rough available:

**12** results found for **Ethiopian opal rough**  
**25** results found for **Danburite rough**  
**10** results found for **Diopside rough**  
**32** results found for **Scapolite rough**

**6** results found for **Petalite rough**  
**4** results found for **Andalusite rough**  
**401** results found for **Tourmaline rough**  
**8** results found for **Prehnite rough**

The point is rather obvious: whether well known or obscure, rough material is usually available somewhere on the market for just about any gemstone.

But what about andesine: **0 results found for Andesine Rough**

And this has been the case for well over a year as we have continued to search out eBay and many other venues looking for rough andesine under many different descriptors and none has ever shown up on the market. Even efforts to get the original owner of the TibetanSun mine to sell rough was turned down. There was and is none available, other than the claimed Tibetan rough we received at the 2009 Tucson show. But it is not possible to Google a search for Chinese red andesine rough for sale and get any viable hits.

The Old Geezer Question for us in July of 2008 was: Where is the rough andesine? With a gemstone that is so plentiful that hundreds of millions of dollars of it are being sold by many television shopping channels and other venues, why is there not a single piece of rough available anywhere on the market?

Today this same thing can be said for Mongolian yellow labradorite that is claimed to exist. If there is enough of it to explain the enormous amount of treated red andesine on the market, why is there absolutely no rough available anywhere? But more on that later.

The bottom line is that in early 2008 and before, many Old Geezers in the market were asking the same questions we asked. It was just not normal market conditions for a gemstone of this magnitude to not have a single piece of rough available anywhere on the market.

The Old Geezer Rule provided indicator #1 of a potential problem with this Chinese red andesine: no rough on the market.

### **The Thailand Connection**

Going back to the Old Geezer Rule brought us to Thailand. Why? Because this is where we started seeing poor quality red andesine for prices far cheaper than the television shopping channels. Off colors, weird inclusions, strange reactions, and just unlike anything being sold by the shopping channels or other vendors.

This took us back to the Old Geezer Rule again: If the Chinese red andesine was being treated in Thailand, we would expect to find a lot of material that either treated poorly or else just screwed up during the treatment process. What would the cookers do with this material? They would sell it cheap to realize some cash for it. And the guys selling it would sell it on the only venue that gave them access to the US and world buyers....eBay.

So we started surfing eBay for weird red andesine.

The very cool thing about the Thai dealers is that no matter how small they are, they take great photographs of their gemstones for their eBay listings. Wonderful close ups that allow us to see intricate detail of the interior of the red andesine. With this we started buying andesine from as many different Thai dealers as we could find on eBay, as well as constantly searching Google for Thai dealers selling cheap red andesine.

Sure enough, the cookers were selling the fine quality products to the television shopping channels and selling the screw ups to their fellow Thai dealers who sold the mistakes for cheap to realize some cash from it.

This was actually the big mistake that led to this whole diffused andesine thing coming apart. The stones that treated perfectly are extremely difficult to identify as to the treatment, which is why this whole fiasco went on so long. Had the Thais decided to throw the screwed up stones in their fish ponds they might still be going strong with this whole thing. But they decided to maximize profits and sell the andesine that did not treat properly and the wheels started to come off the proverbial train.

## The Testing Begins

When we started receiving the specimens from the various dealers, we first tested for our original purpose: Could the Oregon Sunstone Labradorite be separated from the Chinese Red Andesine by grass roots gemological testing? It took exactly 15 minutes to answer that one: Yes! Various properties could be identified to separate the two using equipment that any home town gemologist would have. Someone on another forum remarked, "If it was that easy someone would have already done it!" But in truth, no one had bothered to put the Oregon sunstone and the Chinese andesine on a refractometer one after the other. The separation was easy, and apparently no one had thought to try that. We did, and the rest of that part of the story is history.

But we were not done. Consumers wanted to know about the question on diffusion. So we continued to test based on known feldspars we had in the lab.

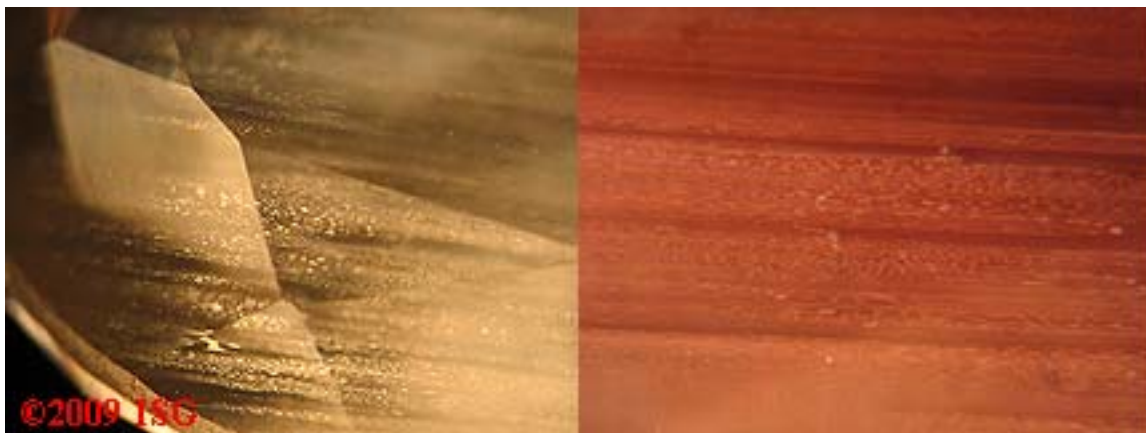
## Further Testing Tells the Story

In June of 2008 we started testing the Chinese red andesine against known feldspars to see if we could find a match. Our first match up was hematite platelets in both the Chinese red andesine and Indian oligoclase sunstone. The rhomboid shape of these is unmistakable and classic to Indian oligoclase sunstone. (Koivula, et al: PHOTOATLAS Vol. 1, pp278). Below right is a platelet from a Chinese red andesine showing deterioration from heating, below right a platelet from an Indian oligoclase sunstone.



We found this feature in specimens from Thailand for a short time and then they stopped appearing except in intermittent parcels we received.

We next started seeing internal features that were indicative of yellow feldspars we had for a number of years in the ISG vault. Below left is an image from a Mexican yellow feldspar, below right an image from a Chinese red andesine.



## **The Industry Grape Vine**

This is a small industry. Not in size or volume, but in the time it takes for information to spread. When word got out that we were investigating the Chinese red andesine for possible treatment we started receiving information from very credible sources that a Mexican yellow feldspar dealer had been going around seeking a buyer for 30,000 kilos. We received this information independently from several sources, along with the information that the shipment had been sold to a Chinese company and shipped to China.

A short time later we received a follow up that the Mexican dealer had visited this same Chinese company's booth at the Tucson Gem Show and remarked at how much red feldspar they had when he had sold them so much yellow, and they had no yellow feldspar at all in the booth. This company was, of course, Andegem, the company who has recently been named as their source for Chinese red andesine by both Jewelry Television and Direct Shopping Network.

We contacted Julie Chen of Andegem to ask her about her knowledge of the situation, to which she stated she had no knowledge of any treatment. The end of that story is not yet told, but perhaps time will eventually provide us with the complete story of the role that Andegem may have played in all of this. I have emails from Julie Chen absolutely denying any knowledge of andesine treatments. If Ms. Chen would like to provide us with an update we will publish it unedited for our readers.

The end result of all of this information was that we had multiple television shopping channels selling hundreds of millions of dollars of Chinese red andesine, and the only source we could find anywhere in the world capable of producing that kind of volume was the yellow feldspar mines in Mexico. And since we had credible information that 30,000 kilos of Mexican yellow feldspar had been shipped to China and suddenly thereafter disappeared from the market, and suddenly there was a huge influx of red andesine feldspar coming out of China....it did not take long to put a reasonable person's 2+2 together regarding what was going on.

## **The Mexican Connection**

At this point we purposefully began comparison testing of the Chinese red andesine and known Mexican yellow feldspar, to see if there were any properties that matched. Based on recent information that has been forthcoming of other studies, we have confirmed that our original tests were indeed accurate. Here is the overview:

### **Raman Microscope**

By Raman scan we were able to separate the various types of feldspar of moonstone, amazonite, oligoclase, andesine, and labradorite. Of additional note was the different scans results for Oregon Sunstone Labradorite and the Mexican yellow feldspar we had in the office. And with over 500 specimens to test we had a pretty complete set of scans to be able to compare. The one issue that kept repeating itself was that the red andesine we were testing always produced the same identical Raman scan to the known Mexican yellow feldspar. Regardless of the Thai source or Chinese source, or the color of the stone of red and green, the Raman scans were identical. And this has been confirmed recently with our acquisition of another half kilo of feldspar, rough and faceted, direct from the source of the Casa Grande mine in Mexico. This was a unique matching up of our Raman scans of known feldspars as other feldspars from other locations provided unique Raman scans that differed from our Mexican/Chinese Raman scans.

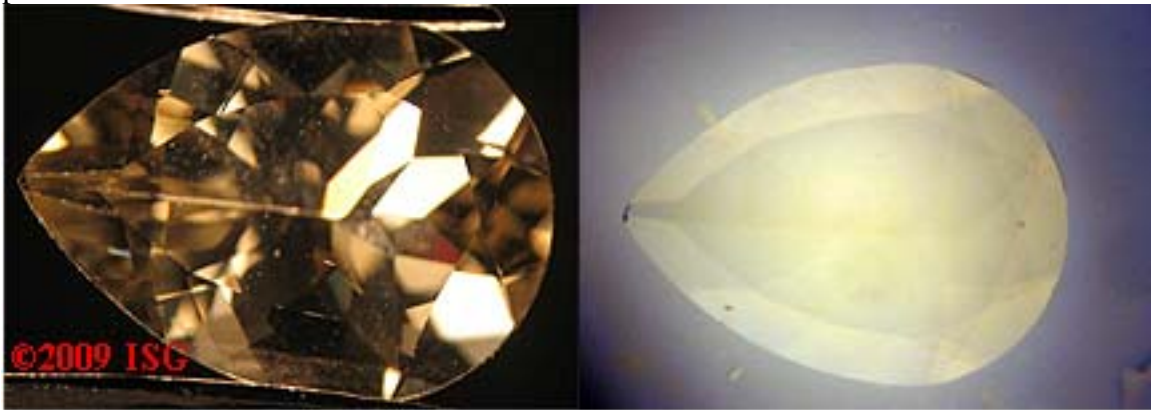
### **Internal Characteristics**

We next started higher magnification inspection of the internal characteristics of the Mexican feldspar and the red andesine. We first compared the natural Mexican yellow feldspar in our office to yellow transparent to translucent feldspar we were getting from Thailand. We found small differences.

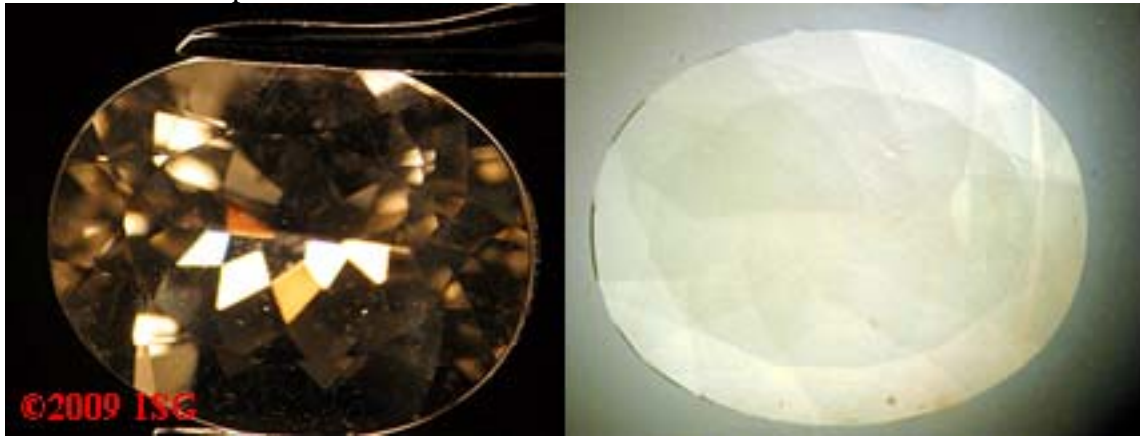
As shown by this recent acquisition of this yellow transparent feldspar from Casa Grande, Mexico, the Mexican feldspar is glass clear in its natural state.



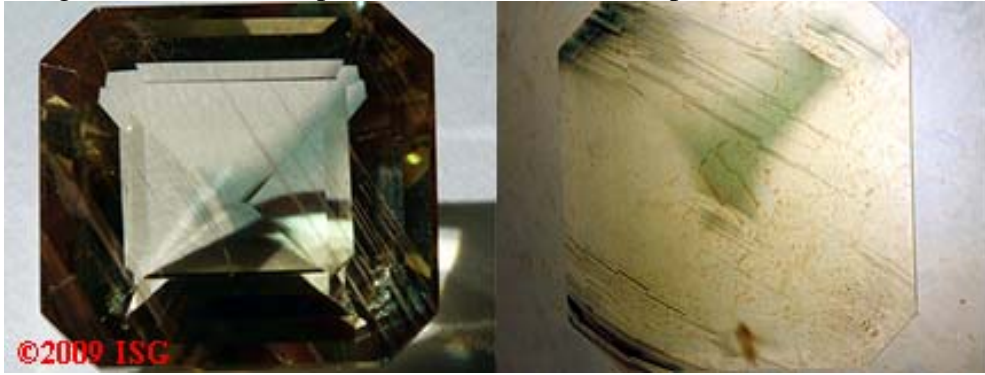
Below is an example of the Mexican yellow feldspar in air and our now infamous Dixie cup immersion cell. We used this cup, just for your information, to demonstrate that grass roots level equipment can properly identify this material. It is not required to have expensive equipment if you have proper training. Below is a natural transparent yellow feldspar from Mexico.



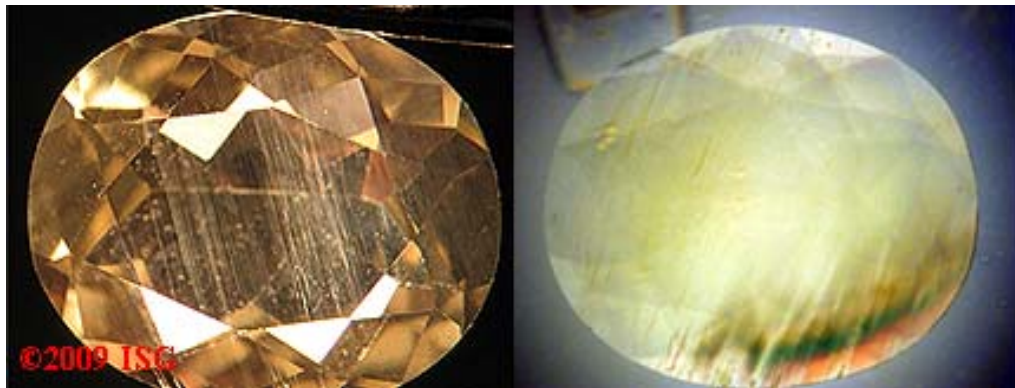
Note that there is nothing showing in the immersion cell. This will become critical to the investigation. Below is another natural Mexican feldspar in the same immersion cell.



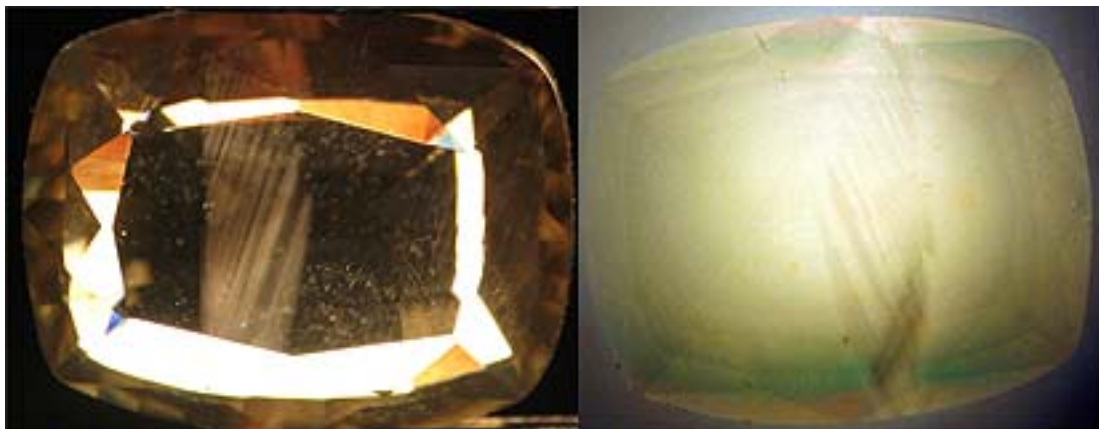
Now the first problem. We were buying what appeared to be transparent yellow feldspars from Thai dealers, and they appeared to be in good order until we placed them in the Dixie cup immersion cell....



We started seeing indications of gemstone treatment gone bad. As you will note above left, this stone has a green area down the keel line at the back. And in the immersion cell it became obvious that this was originally a transparent yellow feldspar that was subjected to treatment that did not react properly. Certainly there was nothing natural about this formation. So we tested others.



The above pictures told the story as we would find out. Two issues with image. #1 above left is that the stone is no longer glass clear but has lines running through it that are enlarged lamella and is rather foggy, and #2 in the immersion cell above right shows the now diagnostic green core and red outer rim that is diagnostic for diffusion treatment efforts. (Millisenda: CIGem News, March 2009) The main issue here is that the treatment only worked in a small outer portion of the stone. So it was sold cheap on eBay by a Thai dealer who we assume purchased it from the cooker who needed to get some cash out of it. The image panel you see above is clear evidence that the feldspar used to create the Chinese red andesine was originally transparent yellow. A recent purchase from another dealer in Thailand further demonstrates that these yellow feldspar that failed to treat continue to be sold by the Asian gemstone markets. Note the enlarged lamella running through the center of the stone below left, and the immersion cell demonstrated the diagnostic green core / red rim formation that cannot be seen by the unaided eye.



This situation resolved two issues:

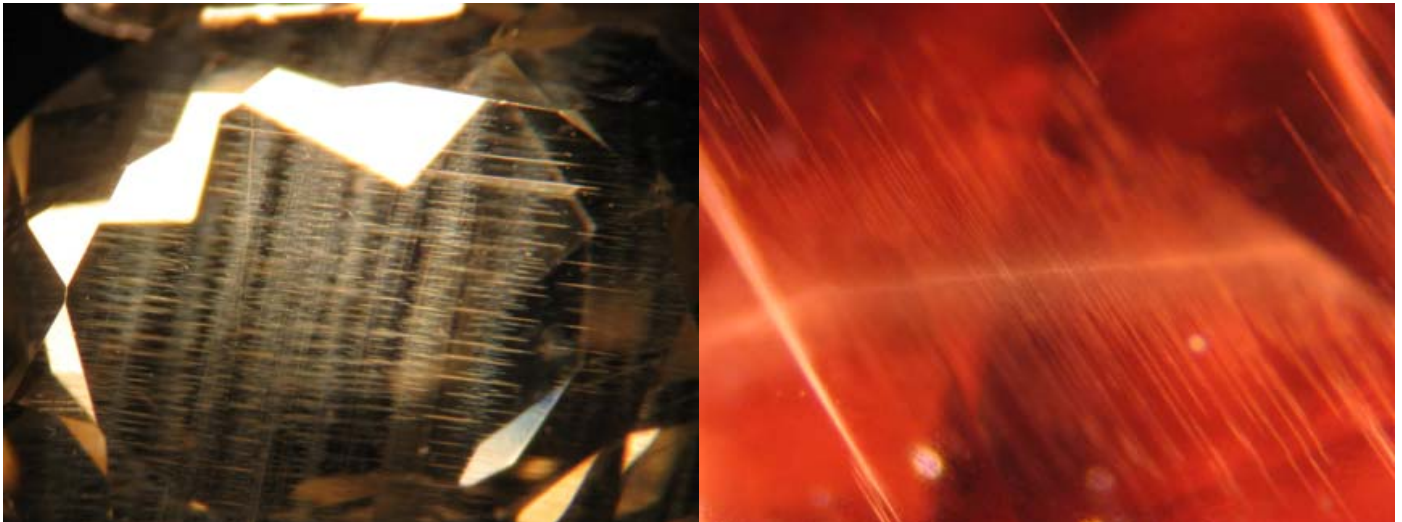
1. By Raman we had identical scans of the red andesine and Mexican yellow feldspar. And the red andesine did not match with any other known feldspar Raman scan we could produce or find.
2. By immersion cell we could verify that it is indeed yellow transparent feldspar that was being used as the source for the diffusion treated red andesine.

And once again, a search of known (read: proven) sources of yellow transparent feldspar demonstrated the only sources available that could produce the volume required for the andesine markets, were in Mexico.

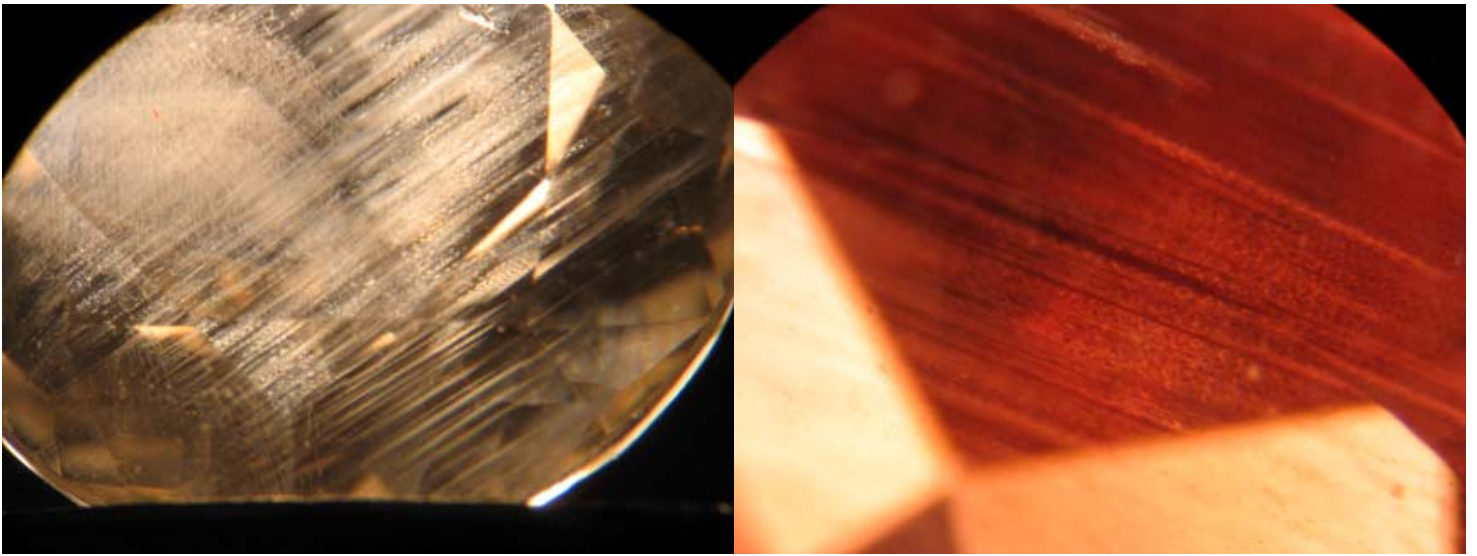
And once again, we had credible reports that 30,000 kilos of Casa Grande feldspar had been shipped to China and the Chinese suddenly started producing red andesine on the market.

This left us with only one reasonable conclusion: Based on all of the information we accumulated the red andesine we were buying out of Thailand was the same material that left Mexico a few years earlier, and we were seeing it again after treatment.

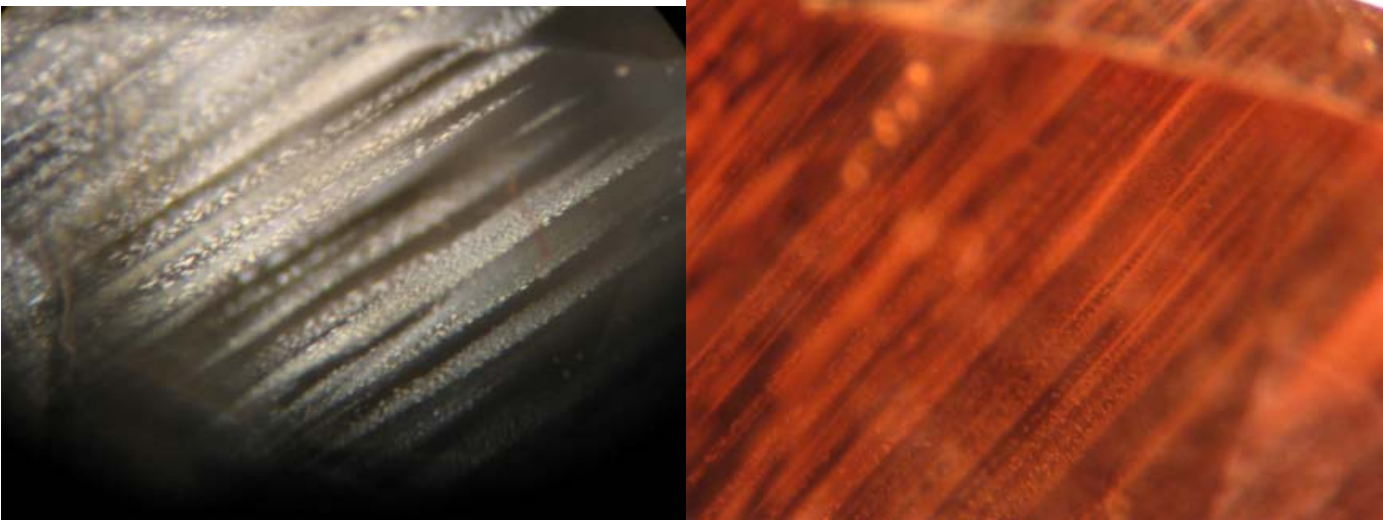
But we did not want to stop there. Based on the internal characteristics of gemstones, particularly feldspars, it is possible to match up internal characteristics for many locations. (Koivula, et al: PHOTOATLAS Vol. 1) So as a further comparison we inspected both the known yellow Mexican feldspars and the red andesine we obtained from Thailand and took microphotographs of the inclusions for comparisons as you see below.



Yellow Mexican above left at 10x and red andesine from Thailand at right at 60x. The inclusions matched perfectly.

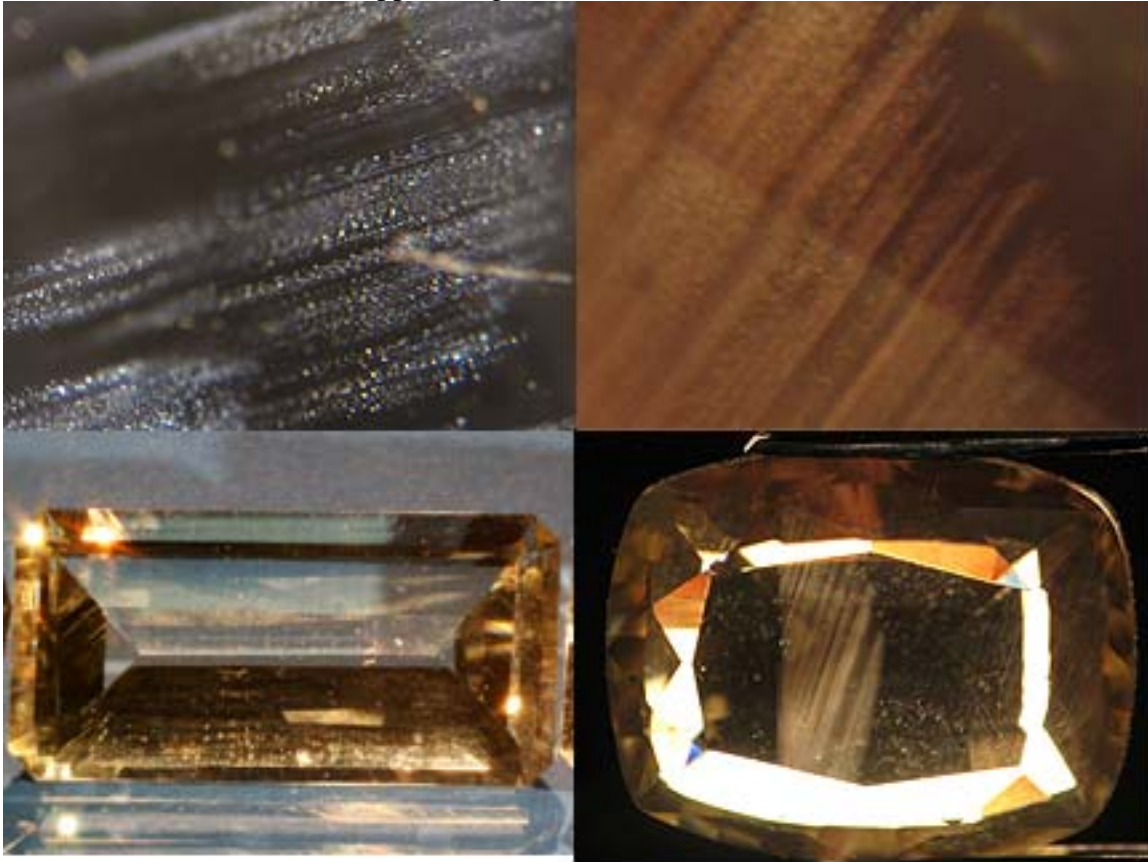


At 10x each this Mexican yellow above left, and Thai red andesine above right show the same distinct features.



And at 30x each, these images above of Mexican yellow feldspar and Thai treated red andesine are unmistakably matched in formation, size, and shape.

And one more from that recent purchase from the Thai dealer from page 6 and one of the new feldspar specimens sent to us direct from Casa Grande Mexico. Note that the internal characteristics match perfectly with the exception of the red diffusion material. Upper images at 90x, lower at 10x.

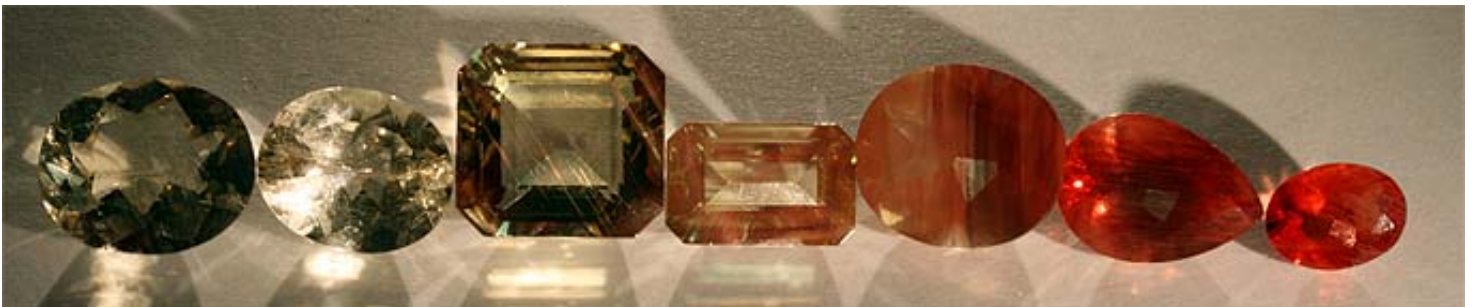


Once again, we had further confirmed the following factors:

1. There were hundreds of millions of dollars of red andesine being sold by the television shopping channels.
2. We had proof that diffusion treatment of yellow feldspar to produce red andesine was taking place.
3. The only known and verified source for enough yellow feldspar to produce what was being found on the market was Mexico.
4. We had credible information that 30,000 kilos of Mexican yellow feldspar had been shipped to China.

As a result we reached the reasonable conclusion that the red andesine found on the market as of that date was Mexican yellow feldspar that had been shipped to China, diffusion treated, and then returned to the US and sold by the television shopping channels.

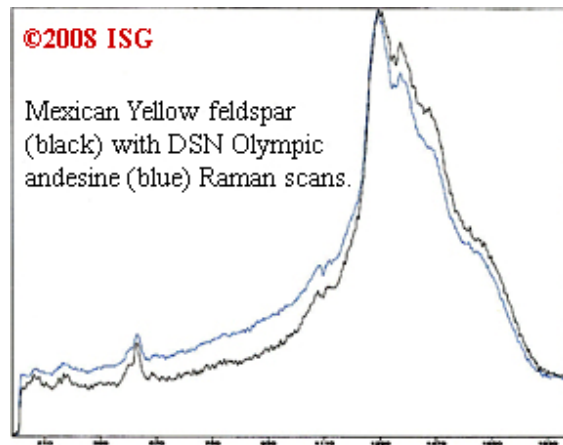
Below is a line up of the progression of treatment results we have found over the last year. This includes the diffusion treatment in its poorest results to some of the best results.



## The Beijing 2008 Olympic Andesine

In July of 2008 the ISG office was approached by consumers regarding the Direct Shopping Network's Beijing 2008 Olympic Andesine being sold as all natural. Given the recent findings by the ISG that the red andesine was diffusion treated, the DSN Olympic Andesine became a focal point for research as consumers sent in their stones, and the ISG purchased stones, in order to test.

Our first test was the Raman scan which produced the now famous image that we shared in our newsletter report. The scans matched the Mexican yellow feldspar just as all of the other red andesine we had tested had done.



Next we turned to the microscope to check for identifiable characteristics that they gemstones might share. In this case we found that the known diffusion treated andesine as seen below contained the same physical characteristics as the Beijing 2008 Olympic Andesine from DSN.

Diffusion treated andesine below



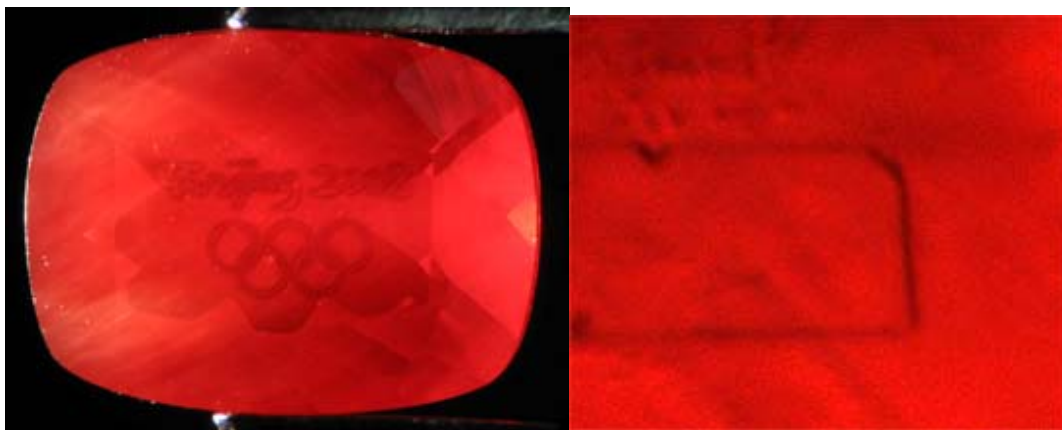
Olympic Andesine below.



And even some of the hematite platelet inclusions that were seen early on in the investigation showed up inside one of the 2008 Olympic Andesine.



Previously documented diffused andesine above left, Indian oligoclase above right



2008 Olympic Andesine above right and left.

As a result of the above we issued our newsletter showing a collection of four Beijing 2008 Olympic Andesines, along with the accompanying documentation that clearly referred to the gemstone as “natural” and did not show any indication of artificial diffusion treatment to create the color. (2008 Olympic Andesine documents).

Although accused in many forums, the ISG has never stated that, “The Beijing 2008 Olympic Andesine is from Mexico”. We did make the following statement that we take directly from our newsletter:

**“Bottom line is that the 2008 Beijing Olympic Andesines that we have from the Direct Shopping Network are exactly the same as all of the other andesine sold by the sellers of this bulk diffusion treated gemstone, and DSN is selling it without proper disclosure as required by the US Federal Trade Commission.**

**If Direct Shopping Network’s scientist or staff would like to submit additional stones to us for testing we welcome them to send them in. And if Direct Shopping Network’s scientist or staff would like to visit the ISG office and get a first hand look at our collection and evidence on this, we welcome that also.**

**But in spite of their claims otherwise, the andesine being sold by Direct Shopping Network exactly matches all of the others we have tested that were, in fact, bulk diffused to enhance the color. And if DSN wishes to continue to claim that their material is natural and untreated, we have just two questions: Where is the rough andesine that you are selling? Where is the mine?”** (ISG Newsletter 20 August 2008)

In fact, the only verification of a Mongolian mine is the GAAJ report (GIA Gems and Gemology, Winter 2008) that has now been called into question by the research of Dr. George Rossman (Dr. Rossman Speaks, ISG newsletter May 09) and others, as the existence of a Tibet Mine is now considered unlikely. Therefore, if that GAAJ report is in error about the Tibet mine, how much credibility can be given their report of the Mongolian mine? We have seen no evidence beyond this GAAJ report that would lend any credibility to the Mongolian mine actually existing. And in fact, it is our belief that all of the current studies of feldspar include specimens supplied directly or indirectly by Direct Shopping Network, Jewelry Television, and/or Andegem...the three main players in the andesine fiasco.

Where, we continue to ask, is the rough Mongolian feldspar on the market? How could hundreds of millions of dollars of this material be out on the market in many places, and not one piece of rough available?

Until this Mongolian source can be better documented, it must be considered with the same suspicion as the Tibetan mine that has been so widely questioned by the experts.

Summation:

The bottom line to all of this is simply: So what? The issue of where the original transparent yellow feldspar is from is of little importance considering the fact that this material is being artificially diffusion treated with copper and sold as all natural to consumers world wide.

Where this yellow material is from makes little difference to what is happening to it once the treatment is complete. Of greater importance is that it is being sold in the hundreds of millions of dollars without proper disclosure, which is specifically described as a deceptive trade practice by the US Federal Trade Commission.

That is what we said in the beginning, and what we say now.

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