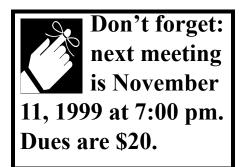


The New Mexico Facetor

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The Prez Sez:

Welcome to autumn in New Mexico! I hope that everyone gets a chance to venture outside and enjoy the cool air and the warm sunshine. This is certainly ideal hiking and rockhounding weather for those who have the time.

As the year draws to a close, I am seeing many changes in the faceting world. Some changes appear to be good, whereas, some changes do not bode well for faceting in the new millennium. I would like to tell you about some of the latter ones and solicit your opinions.

One of our Guild members has called to my attention some of what is being discussed on an e-mail mailing list called the Faceters' Digest. Subscribers to this list can e-mail comments, questions, and solutions to topics related to faceting and can also submit faceting designs and advertisements. The editor/list manager receives all submissions, compiles then into a format, and sends the information to the list of e-mail subscribers. Our Guild member has been reading the Faceters' Digest for quite a while, where he has generously submitted advise to faceters.

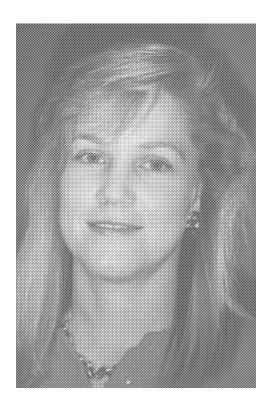
Recently, the Faceters' Digest underwent a change of management with a new person as editor. Coincident with this, our Guild member noticed quite a bit of discussion on the digest regarding copyright ownership of faceting diagrams. Some individuals seem to be approaching faceting nowadays with an overly zealous attitude that reeks of the lawyers' mantra, "What's in this for me?" Such people, who will be referred to as "Overly Zealous Lawyer Types" or OZLTs, think that each faceting diagram must be design-patented or copyrighted. The printing of facet designs in newsletters, like the one you are reading now, would first require the newsletter editor to receive written permission from the copyright holder. As any facetor knows, the designer's name is placed on a faceting diagram when it is known, but one rarely sees the designer's address, phone number, or e-mail address listed.

Let us pursue this copyright development a bit further. Does it seem unreasonable that the next move by the OZLTs would be to collect a fee from those faceters who have used a copyrighted design on their personal collection of gemstones? It is sad to think that such a thing could happen when faceters have willingly and gladly shared cutting diagrams in an effort promote faceting. So, let us play devil's advocate here. As many faceters know, it is easy to modify a known faceting design. Sometimes, this is intentional, as faceters use an existing design as a template to create a new design. Sometimes, this happens by accident when the angle or index gear is set incorrectly. Then, shazam! A new diagram appears. Does this modification really count as a new design? Perhaps, the OZLTs will argue that the intent was there in the beginning to reproduce the patented design, and, therefore, is an infringement on the original copyright holder?

Now that I have warmed up this topic, I am feeling quite devilish. Have you ever noticed that nearly all of the faceting diagrams out there were designed around quartz? This makes sense, as it establishes a kind of "standard" used for designs. However, quartz angles are not the angles we would use for other gem materials, like topaz, sapphire, tourmaline, or even cubic zirconia. Prior to actual cutting, a facetor needs to calculate the appropriate angles for the gem material to be cut by using the tangent angle method. An article on calculating the tangent angle method appeared in our newsletter a while ago. After working out the angle on a calculator to modify the quartz angles that accompany a particular diagram, do you still have the original, copyrighted faceting design? Technically, no, you do not. So, do the OZLTs plan on copyrighting the "concept" of the faceting design or just the actual table of angles and index settings?

I now pose the question, what actually constitutes a faceting design? Could this scenario really happen? Think about it. Does it sound too far-fetched to happen in the real world? I would ask you to re-visit other similar "triumphs" of the legal system in our country, and then ask yourself if such a thing as I have described could happen.

The new editor/list manager of Faceters' Digest has implemented a new policy wherein each item submitted and accepted for publication online in Faceters' Digest becomes the property of the International Gem Society, a private legal entity owned by the new editor. The new editor has also granted himself permission to reprint items from the digest in a separate commercial publication that he owns. This setup sounds very suspicious to me. He is clearly taking advantage of the people who contribute freely and generously to faceting and to helping other faceters, and he is doing this without their consent. Unfortunately, as these questions are debated, it is the faceters who lose while the lawyers reap the benefits.



Guild President Susan Wilson



Special Events

The Guild Christmas Party will be held December 11 at Salsa's Latin Grille and Cantina, the restaurant located at the base of the tram that has an absolutely great view of Albuquerque. Cocktail hour is from 5:00 p.m. until 6:00 p.m., and we will order our dinner entrees after that. Door prize drawings will commence after dessert. Please remember to bring gifts for the door prize drawings. We are invited to stay as late as we want, so plan to dress up and party for this fun-filled event. Please call Ina Swantner with your r.s.v.p.'s for dinner so she can report a head count to the restaurant manager.



Minutes of the NMFG Meeting

July 8, 1999

By Nancy L. Attaway

President Susan Wilson called the meeting to order at 7:15 p.m. and welcomed all members and guests. She asked everyone to introduce themselves to the group.

Treasurer's Report

Treasurer Bill Andrzejewski reported:

Heading	Total
Previous Balance	\$1,189.04
Expenses	\$219.65
Deposits	\$100.00
Balance Forwarded	\$1,069.39

Old Business

President Susan Wilson reminded everyone of the Guild picnic scheduled for September 11 at the home of Paul and Marge Hlava at 11:30 a.m. Everyone planning to attend should bring lawn chairs, meat to grill, and a dish to pass. The picnic is BYOB. We will do another tailgate of items for sale. Waylon Tracy plans to bring a ham, Nancy Attaway will bake her newly famous chocolate cake, and Steve Attaway will furnish a door prize.

President Susan Wilson announced that **Ina Swantner** has volunteered to serve in Bill Andrzejewski's place as Secretary/Treasurer for one year until elections are held in November of the year 2000. Thank you, Ina.

New Business

President Susan Wilson issued a challenge to the designers of faceting diagrams for a new faceting design, the Millennium Cut. The winner will be chosen by a vote at the Guild Christmas Party and will receive a special prize.

Editor Nancy Attaway related that publisher, Jim Summers will no longer be able to publish the newsletter, as he may not be in the publishing business much longer. Nancy hired Alpha Graphics on Juan Tabo to publish it.

President Susan Wilson related that the Summer 1999 issue of *Gems and Gemology* included an informative article regarding the various treatments of emeralds.

Russ Spiering won first place in the gemstone category in the All That Glitters Gem and Jewelry Competition. Russ had carved a large spectrolite in a saddleshape design known to metalsmiths as the anticlastic technique. This exhibited the interference pattern phenomenon of the feldspar from many angles and showed the unique optical properties of the alternating layered structure of the gem. Nancy Attaway won second place with her 13x13x13mm. faceted triangular reddish-pink Nigerian tourmaline that she cut using her original faceting diagram, the "Third Tri".

President Susan Wilson had promised that she would investigate the index of refraction of the Nigerian liddicoatite tourmaline. Using her refractometer, she determined a critical angle of 1.625 to 1.640 for the darker shades of red and 1.623 to 1.638 for the lighter pink shades. Tourmaline generally ranges 1.624 to 1.644.

Steve Attaway mentioned that he received an e-mail from Robert Strickland, the author of GemCad. Robert sent Steve the latest version of GemCad for Windows. Steve will be testing the new copy this fall.

Paul Hlava related that he would beg to differ with the Discover Magazine article on the genesis of Columbian emeralds. A colleague of Paul's, Dr. Terri Ottaway, procurer of minerals and assistant curator for the Royal Ontario Museum, did her Ph.D. thesis on Muzo emeralds. Her research revealed an interesting evolution. Mineralrich, hot saline solutions moved upward through the black shale, depositing the mineral impurities as the water evaporated. The presence of pyrite inclusions in Muzo emeralds enabled the emerald to be more saturated in color, because the pyrite absorbed any iron impurities. Also, the formation of emeralds was not instantaneous, but was actually a slow growth process over a long period of time.

Show and Tell

The show and tell case displayed glittering gems and wonderful new jewelry from our members.

Susan Wilson faceted a raspberry-colored Tanzanian rhodolite garnet in the petal cut round and a small pinkish-red Nigerian tourmaline in the hexabrite cut. She said that faceting the rhodolite garnet was a real pleasure, as she experienced no problems with cutting and polishing it. She enjoyed having a stone do what she wanted it to do. Susan

shallowed the angles for the tourmaline, more than she did for her other one, to enhance the brightness.

Moss Aubrey re-cut the pavilion of five round blue sapphires and four round emeralds. All had been mine-cut. His re-cutting added sparkle to the stones and enhanced the color of the gems. Moss said that he was able to get a 70 - 85% recovery rate. He strongly recommended using a 3,000-grit lap as a pre-polish for the table facets to ensure a complete polish using the ceramic lap with diamond. Moss had also purchased a beautiful and elaborate gold cross set with seven square cut emeralds.

Elaine Weisman displayed a pair of handmade sterling silver fire agate earrings. She had bezel set nice pieces of oval fire agates and accented them with small squarecut citrines that she also bezel set. She added gold balls, soldered with low temperature solder. The citrines brought out the gold tones in the fire agates, as did the gold balls. The earrings were asymmetric, where the fire agate was at the top on one earring and at the bottom on the other. Elaine also showed a sterling silver ring that she made set with a fire agate and accented with a bezel-set aqua and a citrine.

Nancy Attaway faceted a large double-sided ametrine tablet that weighed nearly 100 carats. She said it was difficult and time consuming to polish the two large tables, but persevered with a cerium oxide dyna lap. The tablet will be the handle of the stopper for the ametrine perfume bottle that Steve Attaway carved, and he added more curves to the bottle. Steve and Nancy showed a heart-shape ametrine tablet that Nancy had faceted and Steve carved a hummingbird hovering over three flowers in the pavilion tablet area.

Refreshments

Troy and Eileen Smith brought home-baked refreshments to the meeting, as did Merrill O. Murphy's wife, Jerry, and Rainey Peters. Thank you all very much. Herb and Maria Traulsen and Rainey Peters volunteered to bring refreshments to the meeting in November.

Future Programs

Robert Eveleth of the New Mexico Bureau of Mines and Mineral Resources has agreed to present a history of mining in New Mexico at the November meeting. Many of the Guild members know Bob Eveleth quite well and are familiar with his wonderful storytelling ability and his keen sense of humor. Bob is the resident expert on the mining locales and mining history of our state. The eve-

ning presentation will definitely not be boring with Bob at the helm.

John W. Husler is scheduled for the January meeting. John Husler, staff chemist with the Earth and Planetary Sciences Department at the University of New Mexico, will discuss the use of x-ray fluorescence as a tool for gemstone identification. John Husler appeared in NBC's Dateline television show, broadcast in August of 1998, as an expert who could differentiate genuine turquoise from altered turquoise using mineral content analysis obtained from x-ray fluorescence. At the January meeting, John Husler will explain x-ray fluorescence and how its use can lead to a mineral-content analysis of many gemstones.



Program Speaker

by Nancy L. Attaway

The New Mexico Faceters Guild was very pleased to have facetor Scott Sucher show his remarkable replica collection of sixteen of the noted famous diamonds in history. Scott captured the full attention of Guild members as he related his experience cutting these selected replicas in cubic zirconia, a cutting project that spanned the years between 1980 and 1988. The replicas in his display included the Tiffany, the Dresden Green, the Hope, the Florentine, the Sancy, the Dudley, the Pascha, and nine Cullinan diamonds.

Scott had seen collections of replicas rendered in quartz, including the one owned by the Lazadro Mineral Museum of Lapidary Arts in Chicago. However, Scott believed that the optical properties of cubic zirconia would better mimic those of diamond. The refractive index for diamond is 2.417. The refractive index for quartz is 1.544 to 1.553, much lower than that of diamond. The refractive index for cubic zirconia is 2.17, very close to the refractive index of diamond.

Scott chose to cut only sixteen replicas of the famous diamonds of history. He wanted to eliminate the repetition of shapes found in the total collection. He said that many of these diamonds are clear, having no color. Only several exhibit any color tones. He decided to cut replicas of the ones that showed color and interesting faceting patterns.

Scott, who enjoys historical references on old diamonds, delved into a bit of history regarding some of these famous diamonds. He spoke of the noted diamond mer-

chant, John-Baptiste Tavernier, who traveled extensively throughout Europe and the Middle East during the seventeenth century. Tavernier described a number of great Indian diamonds in his journals. The 112-carat French Blue that Tayernier procured from India and sold to Louis XIV later became the 45.52-carat Hope Diamond. Tavernier also described the huge table facet of the Great Table diamond, which has since disappeared. Scott mentioned the 3106carat rough Cullinan and how it was water clear and considered to be the finest quality of all the famous diamonds. Scott said that the 41-carat pearshape Dresden green diamond is the only large naturally colored green diamond. Scott recommended reading the history regarding the various famous diamonds to discover who they belonged to, how their ownership changed with time, and their particular place or significance in history.

Scott shopped for enormous chunks of cubic zirconia, and sometimes he had to wait months and even years for the rough. He only purchased cubic zirconia made in America. Scott allowed enough rough in each large chunk of cubic zirconia to cut two of the same replicas, just in case he made a faceting error and had to start over again.

Scott researched diagrams and studied the pictures and dimensions of the famous diamonds in history from reference books in libraries. He found an original copy of the manuscript from Tavernier and checked his drawings and the height to width to depth ratio. Scott traced every drawing he found, noting the eight-fold symmetry. He calculated the volume to shape density by hand. (Remember, this was during the days before we had GemCad.) Scott noted that the Spoon Maker's Diamond in the crown jewels of Turkey was a pearshape stone with parallel rows of equilateral triangles. His research of the existing diagrams for some of the replicas revealed many errors in design. Scott cautioned cutters about using the designs by Tom Barbour that were published in Lapidary Journal in the early 1960's.

Many references mentioned metric carats, an old unit of measurement. According to George E. Harlow's book, *The Nature of Diamonds*, modern carats are metric, five carats to the gram as defined in 1907, designated with decimal notation. Prior to 1914, there existed many carat standards that usually were measured with fractions of carats, and these could not be converted to metric carats without knowing the standard. (See Ian Balfour's book, *Famous Diamonds*, for more information on this problem.) A carat is now a unit of weight equal to 200 milligrams.

Scott located other cutting data from conversations with several gem and mineral curators. Scott obtained

much of his needed information on the Hope Diamond from the curator of the Smithsonian Museum, who expressed great interest in Scott's faceting project.

Scott held Guild members spell-bound as he explained how he calculated the required measurements for his selected replicas. Not all the angles were available, and Scott had to make some guesses about the cutting angles. To check his designs, Scott calculated the volume of the stone using the density of cubic zirconia and compared that to the volume of the original design. In most cases, he was able to hit his mark within one or two percent error. In some cases, he had to recompute his design many times before he started cutting.

Scott explained how to best cut large chunks of cubic zirconia that weigh over one thousand carats. He used a fine saw blade to minimize damage. He used large globes of dopping wax to hold the stones on the dop. He recommended grinding on coarse grits like the 80/100 or a 260 and then move to a lap with 3,000 loose grit on aluminum, using crystal lube as a carrier. He always used eight inch laps. Scott polished with a Last Lap, a ceramic lap, an ultra lap, a chrome lap, a cerium lap, and an alumina oxide lap. His best polishing results were obtained with 100,000-grit diamond on a tin/lead lap, using also the occasional bit of 50,000-grit loose diamond. Scott said that polishing each facet required a lot of pressure, and he would have to bear the stone down very hard on the polishing laps, especially for the larger facets. He cautioned about using too much crystal lube, however, as he used very little. Scott facets with a forty year old Ultra Tech faceting machine.

Scott logged 90 hours faceting the Cullinan 1 diamond and 150 hours cutting the Cullinan 2 diamond. These two stones were cut from a 3900-carat chunk of cubic zirconia. Scott said that while sawing that chunk of cubic zirconia, it inadvertently split into three pieces instead of two. He barely had enough rough required for the two stones. Scott spent 60 hours cutting the Florentine diamond, a double-Dutch rose, and it became his personal favorite.

Scott graciously extended an invitation to Guild members who plan to cut any replicas of the famous diamonds in history to call him, as he would provide what information he could. The Guild has waited years to hear Scott Sucher speak about cutting these replicas. Scott served in the United States Air Force as a fighter pilot and traveled to many parts of the globe, and it was difficult to schedule him for a presentation during that time. It was truly worth the wait to listen to him explain his methods, problems, and solutions. Scott Sucher's talk was absolutely fascinating.



In the News

DeBeers Splits with Angola

Source: National Jeweler September 16, 1999 and The Economist October 9, 1999

The DeBeers Diamond Cartel, in the interest of peace, will no longer purchase diamonds from Angola. Sanctions against Unita rebels from Angola include a ban on diamond exports and an arms embargo.

South American Diamonds

Source: JCK October 1999

South Atlantic Mining Company currently mines a diamond-bearing river gravel deposit 30 kilometers northwest of Coromandel along a 20kilometer stretch of the Santo Antonio River valley in Minas Gerias, Brazil. This site and two others mark the beginning of full-scale commercial diamond mining in South America. The largest stone found was a 15.8carat near colorless stone valued at \$2,000 per carat. Eight diamonds were found in 600 cubic meters of gravel, and the largest weighed 5.6 carats and valued at \$1,000 per carat. Nearby, Black Swan Gold Mines, Ltd. runs the Gamela alluvial diamond project and unearthed 32.38 carats of diamonds; 18 diamonds from 3,918 cubic meters of gravel and 16 carats from 500 cubic meters of gravel.

Diamonds have been mined in Brazil since the early 1700's. Brazilian diamonds found during the 18th and 19th centuries were shipped to India and sold as Indian diamonds. One of the largest diamonds in the world, which was found in Brazil in 1938, was the President Vargas that weighed 726 carats in the rough.

Synthetic Diamonds to be Sold

Source: National Jeweler September 16, 1999 and JCK October 1999

Gemesis of Sarasota, Florida has been working with scientists at the University of Florida and reports that they can produce consistent quantities of synthetic diamonds. The company will market only fancy-colored synthetic diamonds sold as "cultured".

Using machines from Russia, scientists subject elemental carbon and a tiny diamond "seed" to extremely high temperatures and pressure. During a 50-hour process, the seed grows into a bigger diamond. Unlike mined rough diamonds, synthetic diamonds are grown with facets and lose only 20 to 30% in cutting and polishing. The company hopes to be able to produce "designer diamonds" custom made to a customer's specifications. Tom Moses at GIA examined the Florida synthetic diamonds and said that they are no different than the synthetics already studied at GIA and are detectable using the same methods

Lazare Kaplan Confesses

Source: JCK November 1999

The secret diamond color-enhancing process has been acknowledged to utilize heat and pressure, an annealing-type of treatment. Such treated diamonds will be sold with a full disclosure that explains the process.

American Gem Now Online

Source: JCK October 1999

American Gem Corp. of Montana began a gemstone auction Web site at www.americansapphire.com. AGC is reported to own one of the largest reserves of fancy-colored sapphires from Gem Mountain in Montana.

GIA on Emerald Fillers

Source: National Jeweler October 1, 1999 and JCK November 1999

GIA recently released a study of 39 types of emerald fillers that was published in the Summer 1999 issue of *Gems and Gemology*. The study evaluated the various methods for distinguishing the many clarity-enhancement fillers and listed a set of definitions. GIA discovered that determining the substances used for fillers was not always possible, especially when more than one were present within the stone.

Categorizing the fillers was equally difficult. A clear division between natural and synthetic oils and resins does not exist. However, GIA classified fillers into six substance categories: essential oils, including natural resins; other oils; waxes; epoxy prepolymers; other prepolymers; and polymer resins. To identify fillers, GIA determined the refractive index of the filler, based upon the presence or absence of a flash effect, and then obtained infrared spectroscopy or Ramon microscopy data. Other properties may also be used, including fluorescence.

Evergreen Topaz

Source: National Jeweler October 16, 1999

National Jeweler featured an advertisement for evergreen topaz, which is now available from Rio Grande, Nagalle, and Livingstone in calibrated sizes. According to Rio Grande's latest catalog for gems and findings, evergreen topaz is chemically heat-treated during a diffusion process and is not irradiated. The green color saturation is stable and permanent. Leslie & Co. of San Diego markets evergreen topaz.



Selling Jewelry on Ebay

By Will Moats

What is Ebay? Ebay is a company that conducts auctions on the internet.



Although Ebay acts as the auction host, it does not get involved with the actual transaction between buyer and seller. This article will not address Ebay's

long list of rules and terms; the reader is directed to review such detailed information at Ebay's web site at (http://www.ebay.com/).

Ebay offers the advantage of 24 hour, every day service with a world-wide customer base of literally millions of people. Just about anything you can imagine has been offered for sale on Ebay. Although I am not one of them (yet), there are people who claim to make their living selling only on Ebay.

Selling Tips

On any given day, thousands of jewelry items are for sale on Ebay. That is a lot of competition. What can a seller do to increase the odds of actually selling merchandise?

Pictures - First and foremost, you cannot sell jewelry on the internet without pictures of your product. Digital cameras, with macro mode capability, are convenient and fast. However, the downside is that they are terrible at faithfully reproducing the colors of your jewelry items. Especially for the more expensive pieces, it may be better to take standard photographs which can be scanned to create digital image files (the JPG or JPEG file format is best).

Title of Items - Try to write item titles such that potential customers doing searches will easily find them. Be careful. "Earring" and "earrings" are not the same thing when conducting a search. Spell all words correctly!

Category - Usually, I choose the category for fine jewelry, regardless of the price of the item being sold.

Item Descriptions - Tell your potential customers in detail what they will get and be honest. Give dimensions and weights of stones and jewelry pieces, and the type or

grade of metals. Disclose any gemstone treatment. Avoid excessive use of fancy HTML programming language, especially when it greatly increases the loading time of your item web page.

Timing - My experience is that most jewelry will sell, if its going to, on the last day of the auction. This happens regardless of how long your auction runs. Therefore, three to five days will generally be an adequate auction duration for inexpensive items. For expensive items, where the customer base is smaller, use the maximum time of ten days.

Keep in mind that most people cannot spend much time shopping on the internet during weekdays. Thus, it is important that the last day of the auction be a Sunday, giving most of your potential customers the maximum amount of time to find your product and bid on it. Try to make the auction end on Sunday night and not in the afternoon.

You will likely experience a big drop in internet sales during the summer months. This is because people spend less time surfing the web when the weather is good.

Pricing - This is an auction. Start your minimum bid low enough to encourage bidding. Unless you set a reserve price, you will be obligated to sell items in cases where only the minimum bid was met. Due to the large amounts of competition on Ebay for jewelry, it is common that you will get only one bid (the minimum) for most items.

Credit Cards - If you can accept credit cards, be sure and state so in the item description. If you plan to sell items costing more than \$25.00, the ability to accept major credit cards is a big advantage. However, credit card services are not easy to get through traditional banking institutions for small, and, especially, for new businesses. The startup costs can easily be \$1,000 to obtain such services from smaller credit card service providers.

The merchant bank accounts now being sold over the internet may be a more affordable solution. However, I have no experience with them and cannot report on their reliability. Competition on the internet will eventually drive the cost of credit card services downward to more affordable levels.

Terms - You need to provide selling terms as part of your description. For example, below are my usual terms:

Terms: Payment is required in advance, within fourteen days of closure of the auction. Payment must be made in U.S.A. currency. Personal checks, cashiers checks, and

money orders are accepted. There is a five-day hold on personal checks to allow them to clear. Please add \$2.00 for shipping/handing (postage will be adjusted for foreign buyers). For New Mexico residents only, please add 5% tax. We appreciate your business and want you to be happy with your purchases from us. We know it is not easy to judge color and other aspects of jewelry from a scanned image. If you are not 100% satisfied with your purchase, you have seven days from receipt to return the item for refund (less shipping & ebay fees; damaged or altered items will not be accepted).

Feedback - You want your customers to be happy and to post positive feedback about you. This encourages other potential customers to trust you and buy your products. The best way to encourage a customer to post positive feedback for you IS FOR YOU TO POST POSITIVE FEEDBACK FIRST for your customer. Always post positive feedback for all customers that complete their business transactions. Never post negative feedback without trying very hard to reach resolutions with the customer.

If you sell frequently on Ebay, there will undoubtedly be customers who do not carry through with the transaction. That is why you should ask for payment in advance. Ebay has special refund rules in such cases for selling fees. I have found that the vast majority of the Ebay "community" are honest people who fulfill their obligations.

Shipping - No one likes to be gouged on shipping costs. Try to keep them as low as possible. For inexpensive items, I ship within a few days of receipt of payment (even when paid with personal checks). Customers love fast service, and they will give positive feedback for it.

Other Information and Tips

Sales - You will not likely sell everything that you list on Ebay. I usually sell about half of the jewelry items that I list. Most of my items are sold for less than \$20.00 (I cannot take credit cards, which undoubtedly makes it more difficult for me to sell more expensive items).

Ebay Fees - As a seller, you will pay fees to Ebay. Again, the reader is directed to review detailed information about fees at Ebay's web site. The most common fees are those for listing and those paid only when an item is sold. You pay the listing fee even if an item does not sell (for inexpensive items, these are generally a dollar or less). The fee paid after an item sells is a percentage of the sale price and varies, depending on the magnitude of the final sale price. The cheaper the final sale price, the higher the fee and vice-versa (the highest fee is 5%, automobiles

and real estate have special fee schedules). In my experience, selling on Ebay is less expensive than selling at a jewelry show. Even if you only get the minimum bid for your jewelry items, your profit margin can still be larger for your Ebay sales compared to your jewelry show sales.

Ebay has an option to bill sellers monthly by automatically charging their credit cards. I find this works best for me. Ebay will mail you a statement of their charges so you can check for billing accuracy.

Gross Receipts Taxes - Although you must report your sales to out-of-state customers to the New Mexico Department of Revenue and Taxation, you do not need to charge such customers and do not need to pay gross receipts taxes on the items sold. This is not true for New Mexico customers, who must pay gross receipts taxes for the items they buy (the taxes must be figured with shipping costs included).

Record Keeping - I do all my record keeping in a dedicated notebook. If you sell numerous items at frequent schedules, then it is nearly impossible to keep track without written records of who purchased what, who has paid, and when items were shipped.

Uploading Pictures - You will need to upload the digital image files of your jewelry to your Internet Service Provider's (ISP's) computer. The most popular software to do this is called WS_FTP95. Your ISP website will likely have a link where you can download this software, as well as a link directing you to a webpage where you can obtain the necessary information to properly set up the software. You will have to specify where your image files are located (the "URL" address) on your ISP's computer when you list your jewelry on Ebay. Ebay's website has detailed information on how to do this. For example, mine is http://www.flash.net/~gemstone/ebay/filename.JPG.

Improving Digital Images - Whether you use standard or digital photography, once an image is converted to a digital file, it can be enhanced to improve color reproduction or sharpness using image processing software, such as PhotoStudio or Adobe PhotoDeluxe. Such software can also be used to reduce the size (transform) of images and make them fit better on the computer screen and make the image files smaller as well.

Scanning Images - When scanning photographs, there is no need to scan them at a resolution greater than 100 dpi, if the intended purpose is just to use the images to sell jewelry on the internet. Most computer monitors can

only display at a resolution of about 70 dpi, so you might as well keep the image file size as small as possible. File size increases dramatically as resolution increases. Try to keep yours files to a size of 25,000 bytes or less.

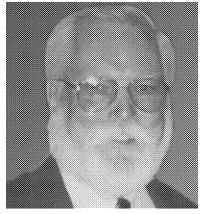
Final Thoughts

For a small jewelry business, Ebay can be a cost effective method to market your products to a large customer base with disposable income. This is especially true for those of us residing in New Mexico, currently the poorest State in the union. I have been selling on Ebay for about two years. Out of the hundreds of jewelry items that I have sold on Ebay, only one (yes, one) item has been sold to a New Mexico customer.



Facet Designer's Workshop

By Ernie Hawes



Designs for the Millennium

Our President, Susan Wilson, has challenged us to come up with designs that can be representative of, or somehow be related to, the Millennium. The Millennium, as everyone knows, is next year or the next, depending on whether one accepts the popular conception or the mathematically correct definition. In any case, the Millennium is about to arrive, and I would like to welcome it with a *Millennium Fanfare* and look back upon the past with the *Millennium Classic*.

Anyway, I have been working on these designs for some time and personally find both of them to be interesting patterns. *Millennium Fanfare* is a twelve-main square cushion, a rather straightforward brilliant pattern. Surprisingly, I could not find this pattern already in the DataVue2 database. It may have been done, but the closest design that I could find is by Fred Van Sant and is called FVS-23 12-

Main Antique Brilliant. The general design elements are the same for the crown and only slightly different for the pavilion. The angles are quite different, and the overall appearance of the finished stones, while similar, are clearly different. I originally worked out the pattern to be cut in quartz, and I have a design that shows quite different angles, but the same overall appearance. It actually has both COS and ISO brightness above the design given here. This is surprising, considering the design angles are for corundum. However, the quartz design quickly displays a window when tilted. This is often an artifact of low angle crowns, as anyone familiar with the various cutting angle experiments probably knows.

The second design, the *Millennium Classic*, is a mixed cut, and in its complete version, requires some careful cutting to get the final facets on the crown. It looks easy, but it takes real skill to get these facets to meet exactly. I put the word "Classic" in the name because the shape reminds me of the settings on some classic old pieces of jewelry.

Included with both designs are preform patterns that will make cutting much easier. Obtaining accurate girdles almost requires a preform, particularly for the *Millennium Fanfare*. The girdle facets on this design are almost, but not quite, equal in width. If you get the length-to-width ratio cut exactly on the *Millennium Classic*, then a preform might not be necessary.

Charles Covill is one of the best and most prolific designers of faceting diagrams. I never cease to be amazed at what he comes up with, and I was very impressed when I received in the mail a disk with at least forty new designs, all with an odd number of mains. We will be publishing many of them in the months to come.

On another note, GemCad has long been a DOS based program. There are problems using it with Windows, especially if you want to print a design. Well, we now have a preview of what the long awaited Windows version will be like, and is it ever an improvement. A Beta version of GemPrint for Windows 95/98 is available for download over the Internet. It does not do everything, but it gives us an idea of what the interface will be like. It will also allow you to quickly print out any design either from DataVue2 directly, or from GemCad. I cannot wait to get the new program.

Happy faceting, and I hope the designs presented here will help inspire your own creative endeavors so that we will see more Millennium designs at our holiday dinner in December.



Gem Myth of the Month



By John Rhoads, D & J Rare Gems, Ltd. raregems@amigo.net

Gem Myth: "Green spodumene is known as hiddenite."

When purchasing gems, we are often presented with "hiddenite" for sale from Afghanistan or Brazil. These gems are usually very large and show a light green hue. When asked if these gems will fade in sunlight, the gem dealer usually hesitates and then says that he is unsure.

True hiddenite is a rare green spodumene that has been colored green by trace amounts of chromium. The original location for this material was Hiddenite, North Carolina. Gems from Hiddenite colored green by chromium display a red hue under a Chelsea filter. They showed a fine medium chrome green, at best. However, the color was stable and did not fade in the sunlight. Sizes of gems from Hiddenite are generally small. We have seen some very fine gems that weighed about three carats, and we have heard of the existence of other gems even larger.

Prices for true hiddenite are expensive. We recall a very fine gem that weighed just over a carat that we saw in Tucson some years back. The gem had been certified by GIA as a chromium-bearing spodumene with medium green color. The asking price for the stone was \$3,000 per carat. We have seen prices for smaller, lower quality gems marked at \$600 per carat. Few hiddenites are available.

We have heard from two sources about small crystals of hiddenite being mined in the vicinity of the original deposit, and some would cut fine gems. We have not seen any of these crystals as yet.

If you are offered a hiddenite in a large size at an inexpensive price, then the gem is most likely a green spodumene and not a true hiddenite. Place the gem in the sunlight for a few days to see if it fades. If the stone remains green, then you are truly fortunate. I would advise that you then have GIA examine it for verification.

Gem Myth: "It is cheaper to buy gems at the source."

This myth always comes up when discussing gem purchases from overseas locations. Inevitably, someone will boast about the amethyst or citrine that they bought on the beach in Brazil for a few cents a carat. Buying overseas at the source does not mean better prices, and sometimes it can end up costing a lot more. Anyone in the gem business can relate horror stories of how a customer was taken advantage of when they purchased gems overseas.

Overseas gem locations often prey upon tourists. When I was in Sri Lanka a few years ago, I stopped at a shop that displayed many loose gems. The owner approached me and asked what gems I was interested in buying. I pulled colorless scapolite out of my head, as I had recently purchased a parcel of that material for \$5 per carat. He told me that colorless scapolites were extremely rare, but that he could sell me one he had for \$30 per carat.

I personally know of several people who had taken a cruise to the Bahamas that stopped in St. Thomas in the Virgin Islands for shopping. These customers purchased what they were told was tanzanite jewelry, but their stones were later determined by gemologists back home to be imitation gems. As the supply of tanzanite dwindles, be very aware of this possibility. This awful practice may appear in the United States in situations where it would be unlikely that the perpetrator would be discovered.

I heard stories from others who had visited countries in southeast Asia looking for gem bargains, only to return with man-made rubies and sapphires that they could have purchased at home for a lot less money. Buyer beware.

It is much easier to be taken advantage of when buying gems overseas, as emotions often assume control of the situation. My advise is to be an educated gem buyer, refrain from purchasing gems on the spur of the moment, and never buy gems under pressure. Always remember that if the price is too good to be true, then the goods offered for sale may very well not be what is labeled and may even be imitations of the genuine article.



Let's Talk Gemstones

By Edna B. Anthony, Gemologist



Edna and Tony

UNCOMMON SOROSILICATE GEMSTONES PART 3

THE EPIDOTE GROUP

Epidote, Allanite, Clinozoisite, Hancockite, Piedmontite

With the exception of orthorhombic zoisite (tanzanite and thulite), discussed in the first article on the sorosilicate class of minerals, the members of the epidote group form in the monoclinic crystal system. Allanite, clinozoisite (the dimorph of zoisite), epidote, hancockite, mukhinite, and piedmontite are members of this group. According to Dr. Joel Arem, mukhinite is a very rare vanadium-bearing mineral [Ca₂(Al₂V)Si₃O₁₂(OH)] that occurs in tiny grains which has not been faceted. It was named to honor the Russian geologist, A. S. Mukin, who discovered it in Gornaya Shoriya. Because the optical and physical characteristics and the chemical composition of the others vary, each will be covered separately. The table of properties will be omitted in this article

 $\label{eq:ca2} \begin{array}{ll} \textbf{Epidote} & \text{Ca}_2[\text{Al},\text{Fe}^{3+}]_3[\text{SiO}_4]_3[\text{OH}] \text{ hydrous calcium iron-aluminum silicate} \end{array}$

Epidote is the iron-rich end member of a solid solution series with aluminum-rich clinozoisite. Fe³ ions occupy the octahedral sites that occur outside the chains of AlO₄[OH]₂ and AlO₆ linked by independent groups of Si₂O₇ octahedra and SiO₄ tetrahedra. The brittle, typically slender, deeply striated, prismatic or tabular, transparent to translucent crystals are frequently twinned and terminated at one end only. Needle-like (acicular) crystals, fibrous and granular, and massive forms occur. The massive forms are generally lighter in color than the crystalline varieties. Its streak is gray. It has a plane of perfect cleavage, a Mohs hardness of 6 to 7, a specific gravity of 3.2 to 3.5, and a conchoidal or splintery fracture. A diagnostic black slag is formed when it fuses with intumescence at 3-4. After ignition, it gelatinizes with hydrochloric acid. Massive material is dull although crystals have a vitreous lustre. Cleavage planes exhibit a pearly lustre. A unique deep green color, shading to black that helps to identify some material, masks a dispersion range of 0.019 to 0.030 and limits its use as a gemstone substance. This dispersion and its double refraction indices of 1.733 to 1.768, with a varying birefringence of 0.015-0.049, do make the lighter green and yellow transparent crystals suitable for faceting as gems. The refractive indices and the birefringence increase with iron content.

Dr. Arem tells us that the low-iron, trichroic yellow-green crystals from Minas Gerias, Brazil have refractive indices of 1.718/1.737/1.743, a birefringence of 0.021, and a specific gravity of 3.3–3.5. Gem quality yellow-brown crystals from Sri Lanka possess very similar characteristics. Material exhibiting the higher indices may be positive, but epidote is usually biaxial negative. Its strong trichroic pleochroism colors include various shades of pale yellow, yellow-green, green, dark brown and colorless. Very careful directional orientation of a specimen usually reveals a very strong line at 4550 and a sometimes a weak one at 4750 in the spectrum. It is not diagnostic.

Epidote usually occurs in high-pressure, low-temperature calcium-bearing metamorphic rocks and as precipitates from magmatic fluids in igneous formations. It is frequently associated with zeolites, garnet, idocrase (vesuvianite), diopside, and calcite. Deposits in limestones that form epidote rocks are called epidosite. Fine crystals of epidote are found in the Ural mountains and in many alpine areas in Austria, Switzerland and France. Finland, Norway, Italy, and Czechoslovakia are other European sources. Kenya, Madagascar, Australia, Japan, Korea, China, Mexico, and the United States produce excellent material for collectors. According to Richard Pearl's book, *How to Know the Minerals and Rocks*, the rare colorless epidote is found at Tierra del Fuego at the tip of South America.

The name **epidote** is derived from the Greek word "epidosis", meaning increase. Dr. Joel Arem in his *Color Encyclopedia of Gemstones* and Michael O'Donoghue in *The American Nature Guides to Rocks and Minerals* state this is a reference to the longer length of one side of the base of the crystal prism than the other. However, in *The Illustrated Encyclopedia of Minerals and Rocks*, Dr. J. Kourimsky interprets it to denote its addition to the mineral system when its differentiation from tourmaline was made by the French mineralogist and crystallographer Rene Just Hauy in 1901. In *Gemstones of the World*, Walter Schumann claims its numerous crystal faces account for the name.

The pistachio green variety of epidote is sometimes called **pistacite**. Basil Booth in *Identifying Rocks and* Minerals mentions a variety called withamite that varies in color from pale yellow to bright red. A search of numerous references reveals nothing more. It is not listed in the Glossary of Mineral Species by Michael Fleisher and Joseph A. Mandarino, so information about its chemical composition, physical, and optical properties and sources are unavailable. The emerald green tawmawite found in Burma and Finland contains chrome. Dr. Arem lists it as epidote, but Michael O'Donoghue states it is a rock. The granite composed of greenish epidote and pink feldspar found in Zimbabwe and in extensive deposits in the United States is called **unakite**. It is used primarily for cabochon and bead material. Switzerland is the source of lovely pink and yellow mixed crystals of epidote, piedmontite, and clinozoisite.

Excellent cutting of fine epidote rough can produce lively gems, usually of less than 5 carats. Cabochons cut from material housing fibrous inclusions can produce cat's-eye stones. An epidote gemstone can be a choice for those who seek the unusual, and it is a specimen found in almost every collector's cabinet.

Allanite (Orthite) [CaCeLa]₂[AlFe]₃O[OH]SiO₄. Si₂O₇ hydrous calcium aluminum silicate

Allanite is of interest primarily to collectors of mineral specimens. It is faceted and cut en cabochon only as a curiosity for gem enthusiasts. This sub-translucent, slightly radioactive substance can be found as bladed aggregates in massive and granular forms or as disseminated grains in igneous rocks, schists, and crystalline limestones. Rare earth elements, such as cerium, lanthanum, thorium, or sodium replace some of the calcium, and

partial substitution of aluminum is replaced by ferric and ferrous iron. Magnesium and manganese occurs in its epidote structure. Dr. Joel Arem and *The Glossary of Mineral Species* indicate that yttrium can also replace calcium. Dr. Kourimsky classifies **orthite** as a variety of epidote and mentions cesium as one of the rare earth elements in its composition.

The complete destruction of its structure by "self-irradiation" leads to an isotropic vitreous material that can absorb fairly large amounts of water. A yellow-brown alteration product frequently coats the usually pitch black, brownish or grayish mineral. The streak is greenish-grey to brown. It fuses with intumescence at 2.5 to a black magnetic glass. Only before fusion does exposure to hydrochloric acid form a gel. Its lustre varies from submetallic to pitchy and resinous. The fracture is uneven to conchoidal. Simon and Schuster's Guide to Rocks and Minerals states that the cleavage is indistinct. The hardness varies from 5.5 to 6.0, and the density varies from 3.5 to 4.2. Dichroscope examination of very thin slices of the material exhibits pleochroism colors of brownish-vellow/ greenish-brown/reddish-brown or deep red-brown/brown/ pale-brown or light green/colorless/green. The basis of its wide range of birefringence [0.013-0.036] is the spread of the refractive indices of the biaxial substance from 1.640 to 1.828.

Allanite was named to honor the English mineralogist Thomas Allan. The Ural mountains, Madagascar, Greenland, Norway, Sweden, Italy, Canada, and several localities in the United States are some of the sources for this mineral.

Clinozoisite Ca₂Al₃Si₃O₁₂[OH] hydrous calcium aluminum silicate

This monoclinic, iron-poor dimorph with zoisite forms a series with epidote. The frequently zoned, transparent to translucent, elongated and poorly terminated, striated crystals are found in regional and contact metamorphic rocks and plutonic formations. It develops as a secondary hydrothermal alteration of the calcic plagioclase materials present in the igneous formations. Deposits in Turin, Italy and Madagascar produce beautiful pink crystals. Gem quality brownish facetable crystals and massive material are found in Baja, Mexico. Grey-green crystals occur in Kenya. Other sources are India, Austria, Czechoslovakia, Italy, Switzerland, Ireland, Iceland, Canada, and in Colorado and Nevada in the United States. Its

basal plane of perfect cleavage, an uneven to conchoidal fracture, the hardness of 6.0, and a specific gravity range of 3.21-3.38 are typical physical properties of the epidote group. Unlike the other members of the group, it exhibits no pleochroism. No fluorescence and an inconclusive spectrum are characteristic. The colorless, pink, light green, yellow, or green-brown crystals exhibit a vitreous lustre and 0.019 dispersion. Biaxial clinozoisite possesses the lowest birefringence [0.005-0.015] and refractive index range [1.67-1.734] of the epidote group. These rise as the proportion of iron increases.

Clinozoisite gems of greater than five carats are rare. Careful consideration should be given to its properties if one chooses to set this unusual stone in jewelry.

Hancockite [Pb,Ca,Sr]₂[Al,Fe]₃Si₃O₁₂[OH]

Few reference works mention this very rare member of the epidote group. From its chemical formula, we know that lead and strontium can replace some of the calcium in its biaxial monoclinic structure. This may be the reason for its greater density of 4.03. Its hardness of 6-7, the plane of perfect cleavage, a conchoidal fracture, the usual absence of fluorescence, and a non-diagnostic spectrum are typical characteristics of the epidote group. The pleochroism colors are tones of yellowish-brown to definite red. The crystals can be brownish, brownish-red, or black with a refractive index range of 1.788 to 1.830 and birefringence of 0.042. Hancockite exhibits a dispersion of 0.019. In the Color Encyclopedia of Gemstones, Dr. Joel Arem tells us that the only "notable" source of the small vitreous crystals is Franklin, New Jersey. Any faceted gem would be of less than one to two carats and a prized item in any gem enthusiast's collection. It is unlikely that hancockite would be used in jewelry.

Piemontite Ca₂[Mn,Fe,Al]₃Si₃O₁₂[OH] hydrous calcium aluminum manganese silicate

This sub-translucent to opaque, monoclinic, biaxial mineral, also called piedmontite, is usually found in metamorphic manganese-bearing glaucophane schists in Italy, France, Sweden, Scotland, Japan and New Zealand. Areas in California, Arizona, Missouri, and Pennsylvania in the United States are other sources. Some quartz porphyries in Egypt and Pennsylvania are colored red by its presence.

Piedmontite is not commonly found in pegmatitic formations nor lavas. It occurs in granular aggregates, dense masses, and as small rod-like crystals. Hardness is 6.5, and its specific gravity varies from 3.45 to 3.52. The basal plane of perfect cleavage, a conchoidal fracture, the lack of luminescence in ultra-violet light, an indistinct spectrum, and the vitreous lustre of this mineral are normal for the epidote group. Crystals of pink, rose red, brownish-red and black show pleochroism colors of red, yellow, and violet. It exhibits the greatest birefringence [0.025-0.073] of the group with refractive index readings of 1.732 to 1.829 and a normal dispersion of 0.19. Piemontite was named for the area in Piemonte, Italy where the manganese mines yield excellent material. Many mineral collections contain specimens; and good material is used for cabochons and inlay work by lapidaries.



New Mexico Mineral Symposium

The New Mexico Institute of Mining and Technology in Socorro announces its **20th Annual New Mexico Mineral Symposium** scheduled for **November 13** and **14** at the Macey Center on campus. Dr. Virgil Lueth is coordinating the event and has arranged for many excellent speakers to give presentations, including **Guild Mineralogist, Paul Hlava**. Paul will address the audience with his interesting talk, "The Causes of Color in Gemstones". General registration is \$22, senior citizens pay \$16.50, and students pay \$13. The fee for attending the Saturday evening cocktail hour and banquet is \$16 for adults and \$6 per child.



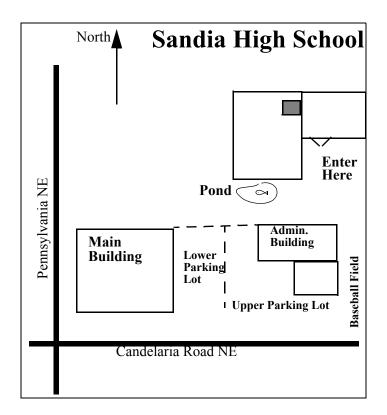
A Change in the New Mexico Faceters Guild Meeting Location

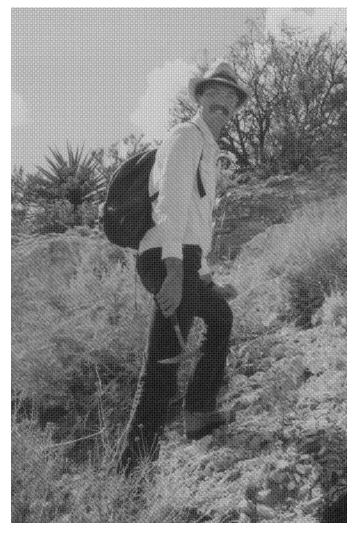
for NMFG meeting date November 11, 1999

Location: Sandia High School

Due to the construction problems at the New Mexico Natural History Museum, Guild member Ernie Hawes has graciously arranged for the New Mexico Faceters Guild to meet September 9, 1999 at 7:00p.m. at Sandia High School, located at Pennsylvania and Candelaria Roads NE. We will be meeting in Room K6, the same geology/astronomy room where we held our faceting symposium a few years ago. Please park at the north end of the lower parking lot.

The science teacher whose room we will be using would greatly appreciate any donations of New Mexico rocks and minerals you may wish to give. Thank you. to those who left mineral donations during the last meeting.





Scott Wilson with his bag full of gem rough.

Albuquerque Gem Artisans Trade Expo (AGATE)
C/O AGM, Inc.
P. O. Box 80784
Albuquerque, NM 87198-0784

Sixth Annual Jewelry and Gemstone Show

Sat., Nov. 20, 1999, 10:00 am - 6:00 pm Sun., Nov. 21, 1999, 12:00 Noon - 5:00 pm

> UNM Conference Center 1634 University, NE - Albuquerque

Meet local, independent artisans who specialize in unique and custom jewelry designs, fine mountings in silver and gold, precision-cut gemstones, carved stones, and beaded jewelry.

For more information, contact Heidi Ruffner 275-5764



Nancy Attaway, Marge Hlava, and Susan Wilson toast the Guild picnic.



Maria and Herb Traulsen at the guild picnic.



October, November, and December

Scott and Susan Wilson celebrated their 7th wedding anniversary October 10. Moss Aubrey will celebrate his birthday October 29. Merrill and Jerry Murphy will celebrate their 59th. wedding anniversary October 30. Becky Hawes will celebrate her birthday November 1. Gary and Rainy Peters will celebrate their 20th wedding anniversary December 23. Congratulations to all.



President Susan Wilson has proposed a design challenge and has asked for a new dazzling faceting diagram to commemorate the new millennium. The Guild will vote for the winning diagram during the Christmas party, and the winner will receive a gift from the Guild.



We exchange newsletters with the following guilds

Anglic Gemcutter, Beaver Creek, Oregon Facets, Portland, Oregon Tacoma Faceters Guild, Tacoma, Washington Stoney Statements, Houston, Texas The Permain Faceter, Midland, Texas Angles, Woodland Hills, California Texas Faceters Guild, Cedar Park, Texas Albuquerque Gem and Mineral Club, Albuquerque, N.M. The Roadrunner, Big Springs, Texas Intermountain Facetors Guild, Port Townsend, Washington The Midwest Facetor, Birch Run, Michigan The Transfer Block, Sacramento, California USFG, Kalispell, Montana Facet Talk, Ashgrove West, Queensland, Australia Calgary Faceters Guild, Saskatoon, Saskatchewan, Canada North York Faceting Guild, Markham, Ontario, Canada Ottawa Gem Facetor's Guild, Ottawa, Ontario, Canada

{Please let me know if I have accidently omitted any group.}



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Troy Smith, Susan Wilson, Steve Attaway, Moss Aubrey, Nancy Attaway, and Ernie Hawes shop at the Tail-Gate during the Guild picnic

TABLE 1. Shows of Special Interest

Name	Location	Date
Old Pueblo Lapidary Club's Annual Gem and Mineral Show/Rocky Mountain Federation of Gemological Societies' annual meeting; "Gems and Minerals of Arizona"	Tucson, AZ; Tucson Convention Center	Nov. 12 - 14
20th Annual New Mexico Mineral Symposium	Socorro, New Mexico; Macey Center	Nov. 13 & 14
AGATE: Albuquerque Gem Artisans Trade Expo	Albuquerque, New Mexico; UNM Continuing Education Center	Nov. 20 & 21
Drags/Deming Rock and Gem Society's 3rd. Annual Gemboree	Deming, New Mexico; Southwestern New Mexico Fairgrounds	Dec. 3 - 5
Rapa River Enterprises	Tucson, AZ	Jan. 27 - Feb. 13
Gem Shows, Inc.	Tucson, AZ	Jan. 29 - Feb. 9
Globe-X: Jump Start	Tucson, AZ; Days Inn	Jan. 29 - Feb. 12
International Gem and Jewelry Show; Intergem	Tucson, AZ; Congress Street	Jan. 29 - Feb. 13
Congress Street Expo	Tucson, AZ; Congress Street	Jan. 29 - Feb. 13
Gem and Lapidary Wholesalers, Inc. (GLW)	Tucson, AZ; Rodeway Inn	Jan. 30 - Feb. 12
Pacifica Trade Shows	Tucson, AZ; Holiday Inn I-10&22nd. Street.	Jan. 30 - Feb. 12
Arizona Mineral and Fossil Show	Tucson, AZ; Best Western/Executive Inn	Jan. 30 - Feb. 12
Gem, Lapidary, and Mineral Show	Tucson, AZ; Downtown Event Center	Jan. 30 - Feb. 12
The Mineral and Fossil Co-Op	Tucson, AZ	Jan. 30 - Feb. 12
Atrium Productions	Tucson, AZ; Four Points Hotel	Jan. 31 - Feb. 12
Tucson International Trade Show; 11th Annual Show	Tucson, AZ	Jan. 31 - Feb. 13
Gem Cast Productions; Tucson Diamond Show 2000	Tucson, AZ; Manning House	Feb. 2 - 5
AGTA Show	Tucson, AZ; Tucson Convention Center	Feb. 2 - 7
GLDA Show	Tucson, AZ; Holiday Inn/City Center	Feb. 2 - 7
Professional Jeweler Tucson Jewelry Show	Tucson, AZ; DoubleTree Hotel	Feb. 3 - 6
Gem and Jewelry Exchange; GJX	Tucson, AZ	Feb. 3 - 8
HBE Gem and Jewelry Show	Tucson, AZ; Tucson Exposition Center	Feb. 3 - 9
Gem and Lapidary Wholesalers, Inc.; GLW	Tucson, AZ; Holiday Inn/Holidome	Feb. 3 - 11
Rio Grande/Catalog in Motion	Tucson East Hilton	Feb. 4 - 7
Tucson Gem and Mineral Society's 46th Annual Gem and Mineral Show	Tucson, AZ; Tucson Convention Center	Feb. 10 - 13