



**The Official Newsletter of the New Mexico Faceters Guild**

# NMFG

## Show and Tell

Pine cone earrings and necklace made of sterling silver by **Elaine Price**. Elaine is inspired by the beauty of nature and experiments in casting plant materials in silver.



**Dylan Houtman** presented a variety of gemstones (shown on the cover page), a description of most can be found in the *Show and Tell* column on page 4. To the right is another picture of his Mexican Bytownite in a modified portuguese cut.



A Hummingbird bail by **Steve Attaway**. **Nancy Attaway** cut the kite shaped aquamarine set in this bail. The adjacent pictures shows the Hummingbird design before it was scanned and transferred onto the bail design (note bail waxes for size comparison).



**Scott Wilson** continued on his Halite crystal during the February workshop. The pictures show the pavilion in pre-polish and the polished result. Scott used antifreeze with alumina on a wax lap for polishing.

## The New Mexico Faceters Guild

### Guild Officers 2004-2005

**President:** Dylan Houtman  
**Vice President/Programs:** Ernie Hawes  
**Secretary/Treasurer:** Bill and Ina Swantner  
**Guild Gemologist:** Edna Anthony  
**Guild Mineralogist:** Paul Hlava  
**Workshop Chairman:** Ernie Hawes

**Newsletter Editors:**  
 Carsten Brandt

**Newsletter Production:**  
 Wild Rice Press  
 P.O. Box 1355  
 Cedar Crest, NM 87008  
 (505) 286-2094

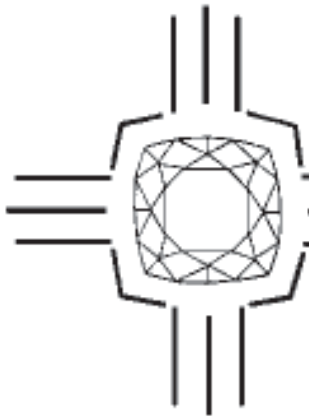
**Purpose of the Guild:** The purpose of the New Mexico Faceters Guild is to bring together persons who are interested in faceting or faceted stones. We promote the art and science of faceting and provide a means of education and improvement in faceting skills. Finally, we provide a means of communication between those persons involved in or interested in faceting as a hobby.

**Guild Membership:** Dues are \$20.00 per calendar year (January through December) for newsletter issues sent by e-mail. Hard copies of newsletter issues sent by US mail are \$30. Please see the membership application/renewal form on the last page of the newsletter.

**Meetings:** The Guild meets now on the second Monday of odd numbered months at 7:00 p.m. at the New Mexico Museum of Natural History, 1801 Mountain Road N.W., Albuquerque, NM. Workshops are generally held in even-numbered months. Date, time, and place are given in newsletter. Also, any change in guild meeting times or dates will be listed in the newsletter.

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**The next meeting of the New Mexico Faceters Guild will be March 8, 2004.**



# The New Mexico Facetor

Volume 24, No. 7, January/February, 2004



NMFG President Dylan Houtman

## The Prez Sez:

by Dylan Houtman

Hello,

at the last guild meeting I was asked about faceting Kunzite. A couple of weeks ago, while watching my favorite TV channel, they were showing some large production cut Kunzite. I noticed something about how the stones were cut: The girdles are cut and polished as one surface, with a cam or something similar. Then the girdle line was defined: pavilion and crown will be cut at a slightly greater angle than the pavilion and crown girdle facets.

From my experience cutting material with perfect cleavage, the most difficult part is to form the girdle and the point of the culet. Using the above technique would leave one with just the culet to worry about. With the spindle freewheeling, the dynamic of how the stone cuts changes and reduces the chances of planes cleaving. This would relegate most of us to cutting round stones, though.

On a different note, watching the same channel, I saw a stone cut using a freewheeling spindle, resulting in only one flat facet on the pavilion. It was very beautiful so I tried it on a piece of aquamarine, except I put a flat facet on both the pavilion and crown. This is fast and easy and creates a very interesting stone.

In closing, I would like to encourage everyone to facet whatever material you can find or afford. I cut a piece of agate that I found in my driveway! Every faceting machine on the market has the ability to produce a beautiful gemstone at your hand, so cut away!

In the words of Glenn & Martha Vargas, happy faceting.

Dylan

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## New Mexico Faceters Guild Official Website

We invite everyone to visit our website at: [www.attawaygems.com/NMFG](http://www.attawaygems.com/NMFG) for interesting and informative articles on gemstones and faceting techniques.





## Minutes of the NMFG Meeting

January 12, 2004

by Nancy L. Attaway

President **Dylan Houtman** called the meeting to order at 7:10pm and welcomed all members and visitors. Everyone introduced themselves to the group so that we could all meet our guests.

### Old Business:

**Paul Hlava** was to be the featured speaker at the Fall 2003 Texas Faceters Symposium, but he had to cancel the festivities due to his foot accident. The Texas Faceters Symposium re-scheduled their symposium for January 23, 24, and 25 so Paul could attend and present several of his interesting and informative gemstone talks.

### New Business:

In the last few years, several Guild members have met many times at the Church Street Café in Old Town for dinner before the Guild meeting. Starting in 2004, New Mexico Faceters Guild meetings are now held on a Monday, but the Church Street Cafe is closed on Mondays. Scott Wilson has been searching for another restaurant where we could meet for dinner before the Guild meeting. La Placita in Old Town may become our new place to meet. Guild members meet at 5:30pm for dinner before the Guild meeting. The restaurant where we shall meet will be included in the e-mail that announces the Guild meeting for March 8. Please let Scott know if you plan to attend the dinner before the Guild meeting in March.

A board meeting of the New Mexico Faceters Guild officers is scheduled for February 21 between 9:00am and 10:00am, the morning of the Guild workshop at **Scott Wilson's** home in Corrales.

The Guild Workshop will begin at 10:00am and run until 4:00pm. Workshop Chairman, **Ernie Hawes** plans to have Guild members facet their stones most of the day. He will address faceting problems and offer solutions.

Many Guild members will be attending the Tucson Show in early February. Please contact **Paul Hlava** or **Nancy Attaway** for information regarding the party that Paul has scheduled during the show.

### Refreshments:

**Nancy Attaway** baked a lemon cake for tonight's refreshments. Gourmet coffee was also served. Thank you very much. **Jennifer Galbadon** and **Mark Price** volunteered to bring refreshments to the Guild meeting on March 8.

### Show and Tell:

The Show and Tell Case held many glittering gems and lovely items of jewelry. Moderator **Steve Attaway** led the discussion surrounding tonight's display.

**Dylan Houtman** displayed numerous stones that he recently cut. He showed a chatoyant malachite nodule, several small Mexican fire opal doublets, and an Australian opal triplet. He showed two absolutely gorgeous kunzite emerald cuts, a tricky gem to facet. Dylan showed a small emerald from the Ural Mountains of Russia, where the gem had been the tip of the large emerald cut stone that he showed at the last meeting. He showed three imperial precious topazes, an emerald cut, a lozenge, and a square. He presented a small round tanzanite, a round Arizona peridot with a nice green hue, a small pearshape tsavorite garnet, a lovely spessartite orange garnet, and a yellow spessartite garnet. Dylan presented a huge round labradorite that he cut in a modified Portuguese cut that was very impressive. He

showed a suite of blue sapphires from Ceylon, a green sapphire, and a lavender/pink Montana sapphire. Dylan also displayed a small round triphylite, a lithium iron phosphate. He remarked that the gem was heat sensitive, and that he polished it on a tin lap with Linde A.

**Elaine Price** displayed several very interesting items of jewelry that she recently made in her casting and jewelry-making class. Looking for a nature theme, Elaine selected sections of a pinecone and made a master mold. She then cast many pieces in sterling silver and assembled these cast links into a necklace and bracelet ensemble. Each piece was given a satin finish. The beautiful necklaces and bracelets that Elaine rendered in the lost wax casting method were most graceful and quite unique.

**Nancy Attaway** displayed four stones that she recently cut, a square Barion African aquamarine, a brilliant triangular African aquamarine, an emerald cut teal-blue Nigerian tourmaline, and a blue Nigerian tourmaline.

**Steve Attaway** displayed several items of jewelry that he recently rendered in gold. He showed two handmade rings, one set with an emerald cut dark pink Nigerian tourmaline and the other set with an emerald cut Ukrainian yellow beryl. With his new tool, a Roland MDX15, Steve can now scan in the irregularly shaped stones that Nancy has cut, like the kite shapes and the non-calibrated emerald cuts. The new machine probes and scans objects to create numerical representations of the model and then mills out the object. Steve has made (and then cast) many setting parts for Nancy's stones with this machine. Look for more of these items at the March meeting.

Steve made two new bail designs for his pendants. One bail design shows a raised hummingbird in gold on a gold bail, and the other has a raised orchid in gold on a gold bail. Steve showed examples of these bail designs. He

displayed a gold pendant that held an emerald cut rhodolite garnet with the orchid bail design. He also showed a gold pendant design that held a large kite-shaped aquamarine with the hummingbird bail design. He will show more of these pendants at the March meeting.

Steve recently rendered a CAD/CAM design and cast for Guild member Bill Wood a unique pendant, a large shield-shaped pendant in gold that incorporated the dragon from the Welsh flag. The dragon was raised on the shield at the top, and Steve set Bill Wood's large round synthetic ruby under the dragon at the bottom of the shield. Steve showed an example of this pendent in sterling silver.



## **Program Speaker**

*by Nancy Attaway*

**Paul Hlava** presented an updated version of his very interesting talk on “**Synthetic Gemstones**”. Paul began by defining terms and then discussed the history of gem synthesis. He explained the many techniques used over the years for making synthetic gems. Paul included a new section on synthetic diamonds and discussed synthetic yellow diamonds from Apollo and Gemesis.)

Example of one of the many demonstration pieces brought by Paul for his presentation. This is piece of color change CZ (the color extremes did not reproduce to the full effect here, but they were quite amazing.)





## In the News

### **True Blue beryl: Canada's New Beryl**

*Source: Professional Jeweler; January 2004.*

True North Gems, a Canadian Mining company, announced that the discovery in Canada's Yukon Territory last August of a new gemstone find is actually a unique gemstone in itself. The new gem, described as a deep blue beryl, closely resembles aquamarine. The company also compares the gem, now called True Blue beryl, to the rare beryl called maxixe. The deposit lies in the Lake Finlayson District of the Yukon Territory. Powder X-ray diffraction determined the new gem to be a member of the beryl family, and a scanning electron microscope determined its trace analysis to contain unusual amounts of sodium, aluminum, and iron. The unique iron content may explain the saturated color seen in the gem, a color that resembles blue sapphire. The material shows a slightly higher refractive index and specific gravity than aquamarine. The new gem is also dichroic in two directions, much like maxixe, but it has been tested to not fade. The deep blue hue of maxixe fades in sunlight, so maxixe must be irradiated and stored in a dark place for the color to remain intact. For that and other reasons, the gem is a new type of beryl.

### **Pezzottaite: Madagascar's New Dark Pink Beryl**

*Source: Colored Stone January/February, 2004.*

The unique dark pink beryl found recently in Madagascar now sports a new name, pezzottaite. The International Mineralogical Association voted last August to name the new mineral after Dr. Frederico Pezzotta of the Museo Civico di Storia Naturale in Milan, Italy. Dr. Pezzotta is a well-known expert on minerals from Madagascar. Pezzottaite contains cesium and has a much higher refractive index and specific gravity than morganite. Nearly all of the pezzottaite found in Madagascar was chatoyant, resulting from tiny fiber-like tubules of water found in the rough. Continued research hopes to discover what causes the material's unique color, a deep pink hue rarely seen in beryl.

### **New Disclosure on Beryllium Sapphires**

*Source: Colored Stone January/February, 2004.*

The newly formed Thai Gem and Jewelry Manufacturers Association released a new description for their controversial corundum treatment. The association and eight of Bangkok's ten gemological laboratories agreed on the following definition: Disclosure code HTLE, heat treating with light elements. The new treatment differs from traditional heat-treatment in that the new treatment involves high-temperature heating and inducement of a light trace element, such as beryllium, into the gemstone.

### **New Hawaiian Pearls**

*Source: Lapidary Journal January 2004.*

After years of research and development, Hawaii's only pearl farm has produced its first harvest. The pearl farm, owned by Black Pearls, Inc., lies next to the Honolulu International Airport. The operation is still in the early stages, but the oysters are currently producing a variety of colors, including a distinctive gold shade.

### **Dichroic Emeralds from Madagascar**

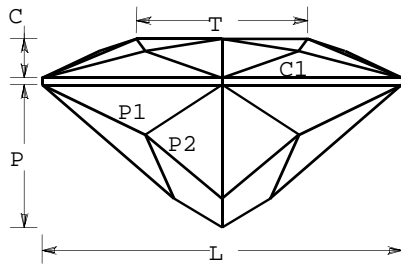
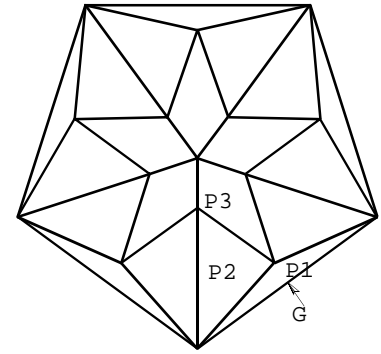
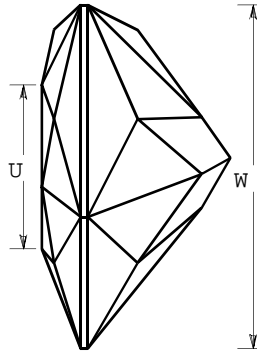
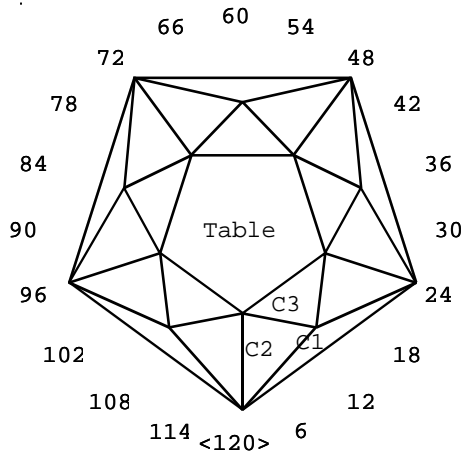
*Source: Gems & Gemology Winter, 2003.*

A French mineral dealer obtained a parcel of emeralds from an undisclosed location in Madagascar. The lab tested the gemological properties of five of the stones. Most remarkable was that the gems exhibited a very strong dichroism from yellowish green to dark blue.

### **Guatemala's New Blue Jade**

*Source: Colored Stone January/February, 2004.*

Miners unearthed a large deposit of deep blue jade in the Motagua Valley of Guatemala, home to the historic jade mines of the ancient Mayan Indians. The jade deposit has yielded mostly green stones and some green-blue stones. This mine now produces the first blue jade known in the world. Ventana Mining owns the deposit that now produces blue jade that compares in hue to that of blue sapphire. The jade is translucent to opaque, and it is thought that titanium gives the jade its blue color.



## Seeing Stars

By Kevin Schwebel

Angles for R.I. = 1.730

41 + 5 girdles = 46 facets

5-fold, mirror-image symmetry

120 index

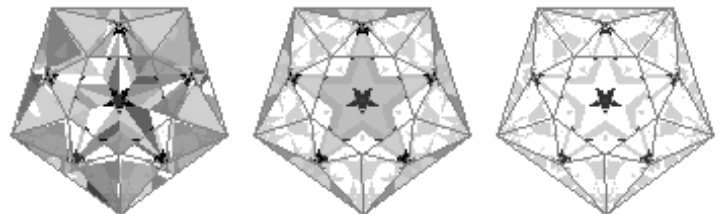
L/W = 1.051 T/W = 0.499 U/W = 0.475

P/W = 0.417 C/W = 0.115

Vol./W<sup>3</sup> = 0.194

Average Brightness: COS = 82.1 % ISO =

Designed for dark garnet.

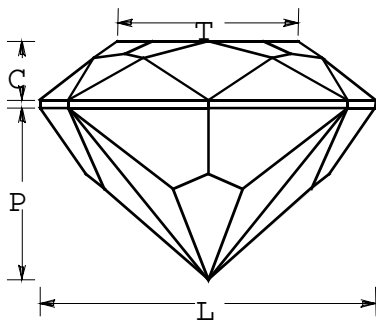
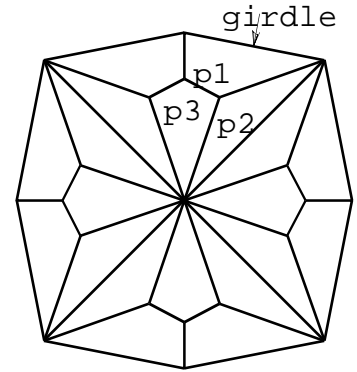
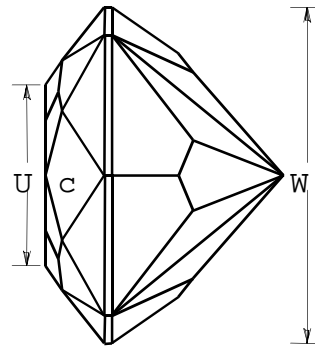
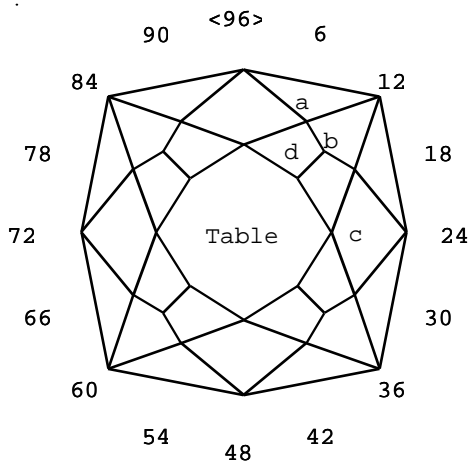


### PAVILION

G	90.00	012-036-060-084-108	Set stone size
P1	63.70	012-036-060-084-108	level girdle
P2	40.60	006-018-030-042-054-066-078-090-102-114	cut to center point
P3	36.00	012-036-060-084-108	cut to meet P1, P2

### CROWN

C1	48.20	012-036-060-084-108	establish thick
C2	22.00	004-020-028-044-052-068-076-092-100-116	cut to point, me
C3	12.10	012-036-060-084-108	Meet C1,
Table	00.00	Table	Meet C2,C3



### Old Mine Variation III

By Ernie Hawes

Angles for R.I. = 1.540

45 + 8 girdles = 53 facets

4-fold, mirror-image symmetry

96 index

L/W = 1.000 T/W = 0.540 U/W = 0.540

P/W = 0.508 C/W = 0.173

Vol./W† = 0.274

Average Brightness: COS = 75.2 % ISO =



#### PAVILION

girdle	90.00	03-21-27-45- 51-69-75-93
p1	55.00	03-21-27-45- 51-69-75-93
p2	41.00	10-14-34-38- 58-62-82-86
p3	41.00	96-24-48-72

#### CROWN

a	45.00	03-21-27-45- 51-69-75-93
b	29.50	12-36-60-84
c	37.00	96-24-48-72
d	17.30	09-15-33-39- 57-63-81-87
Table	00.00	Table





## Facet Designer's Workshop

### Keep It Simple Usually Works

By Ernie Hawes

Several times in past columns I have remarked that fewer facets on a design often gives a better overall result than a complex pattern that may look great on paper, but frequently results in a stone that shows nothing more than a bunch of tiny pinpoints of reflection without really showing off the design. This is especially true with stones smaller than eight millimeters in diameter. An artist friend once told me that it had to do with having a balance of positive and negative space. To me, it simply means having reasonable brightness along with an interesting pattern of good scintillation. It should not end up looking like an automobile headlamp. I believe that both of the designs presented in this issue meet that goal.



Kevin Schwebel is a fairly new faceter who has jumped head first into all aspects of faceting. I was very pleased when he sent me a design he had worked out in GemCad for cutting a garnet that he had. Kevin calls his design *Seeing Stars*, and when you cut it, you'll see that more stars become apparent than the design on paper shows. For me, the pattern has an elegance that is frequently missing in designs that have many more facets. In his email to me, Kevin says "I came up with this because I had a garnet that was pentagonal and I wanted to try my hand at cutting for weight retention (which has been a failure due to lap troubles...). It seems to be a decent design for dark material, but I'll know better when the crown is done. The numbers show good light return at least. I have 150cts of nice, clear, bright red Tanzanian garnet, so I think I'll get plenty of practice."

From Kevin's remarks, I assume that the garnets aren't huge, so a design with relatively few facets is a good choice. And I'm sure that for Kevin, it will be doubly exciting when he shows someone one of his cut garnets, and can say that not only did he cut it, he designed the cut as well. I look forward to seeing his garnets, and to more of Kevin's designs. The only caution I would have in cutting this design is to be very careful cutting the star facets on the crown. At 12.1 degrees, the lap should be run very slow and the stone touched gently to the lap. At this low angle it's all too easy for the moving lap to jerk the stone, or worse, cause the stone to be jammed into the lap, and possibly knocking the head out of alignment.

When I first began faceting over thirty years ago, after cutting several round brilliants, one of the first designs I cut was the *Modified Old Mine*. It was a nice change from the rounds, and I liked the design, especially because it was easy for a beginner to cut. Some years later when I began creating faceting designs, I often practiced learning this aspect of our hobby by creating variations of existing patterns. Over the years, I've come back to this practice from time to time, usually for inspiration in creating an entirely new design. Occasionally, my doodling with an existing design results in something worth sharing with others. Such is the case with the *Old Mine Variation III*. It's not much different than the *Modified Old Mine* design found in various publications. However, there are changes that, in my opinion, make this a better design. I was never too pleased with the *Modified Old Mine's* considerable crown height caused by the high angle of the crown girdle facets. Second, I learned from Fred van Sant that when you have pointed corners in a design, it's best to split any facets coming out of those corners in the pavilion. Another thing I've learned is that large tables result in some loss of brightness. The *Modified Old Mine* didn't have a huge table, but the row of facets I added makes it a little smaller, and I think gives a more flowing appearance to the design. By lowering the crown girdle facet by five degrees, and consequently the remaining crown facets, there is a significant

improvement in optical performance. The split mains in the pavilion corners help with both scintillation and brightness.

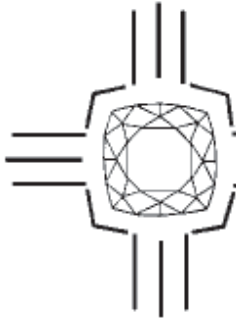
The design is easy to cut and should offer few challenges to the beginning faceter. Without any angle changes, the design is suitable for any stone in the quartz, beryl, or feldspar varieties. Mexican opal is another good choice as long as the cutter is careful about not chipping the corners. Some cutters may want to raise the pavilion main angle a bit, especially if you're not absolutely sure of the accuracy of your protractor. Forty one to forty two degrees will still work well, although I personally would want to stay below the traditional forty three degrees often given for quartz.



## E-mail Addresses:

Edna Anthony ..... eba@bwn.net  
Nancy and Steve Attaway.... attaway@highfiber.com  
Carsten & Margaret Brandt...brandtmeister@comcast.net  
Ernie Hawes..... ehawes7@comcast.net  
Paul Hlava..... hpfl@qwest.net  
Dylan Houtman..... dhoutman9@aol.com  
Mariani Luigi ..... ENVMA@IOL.IT  
Merrill O. Murphy ..... momurphy2@juno.com  
Gary Peters ..... albpet@msn.com  
Kevin Schwebel..... kschwebel@zianet.com  
Jim Summers: ..... commish1@worldnet.att.net  
Bill Swantner..... WSwantner@Comcast.net  
Herb and Maria Traulsen ..... htraulsen@mycidco.com  
Stephen and Linda Vayna ..... Vayna@transatlantic.com  
Elaine and Al Weisman ..... almgicons@aol.com  
Scott Wilson..... swilson@copper.net

If you would like to add your email address, please send an email to brandtmeister@comcast.net.



## The New Mexico Facetors Guild

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