

the
New Mexico

Facetor

July/August 2005



The Official Newsletter of the New Mexico Faceters Guild

NMFG

Show and Tell



Two gorgeous aquamarines, by Nancy Attaway, in the Flasher-cut design.



A 14 Kt gold ring by Steve Attaway, with an emerald-cut heliodor by Nancy Attaway.

A pink topaz by Dylan Houtman. He also faceted the suite of gemstones on the title page and the green tourmaline kite, as well as, the dolomite in his montringle design, below.



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:

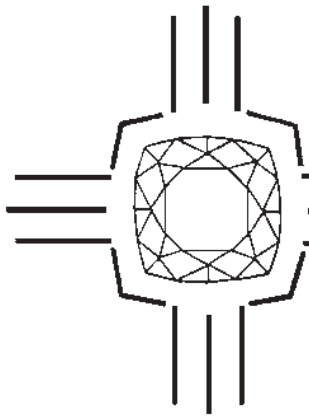
Ernie Hawes

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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NMFG President Dylan Houtman

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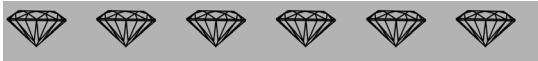
The Ed Sez:

by Carsten Brandt

Hello everyone, the year 2005 is over and here are the remaining newsletters. This was a busy year for everybody in the guild and it took a bit longer than expected to get the last few newsletters done. For 2006 we will again get the newsletters out on a more regular schedule.

I haven't cut as many stones as I hoped, but the few rocks that made it onto my faceting machine came out quite nicely. I have cut several synthetic alexandrites and finally learned to polish with diamond bort (as alexandrite is too hard to be polished on my Alumina and Cerium Oxide Dynalaps).

Enjoy the newsletters,
Carsten.



New Mexico Faceters Guild Official Website

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



Minutes of the NMFG Meeting

July 11 2005

by Nancy L. Attaway

President **Dylan Houtman** called the meeting to order at 7:05pm and welcomed everyone. Seeing several guests in the audience, Dylan asked the members and guests to introduce themselves to the group.

Old Business:

Ernie Hawes and **Nancy Attaway** related that our publisher, **Janie Johns** of Wild Rice Press, has quit the publishing business to devote more time to her other home-based enterprises. Ernie announced that he would purchase a printer suitable for publishing the newsletter, as we only print 35 copies. Much of the membership receives the New Mexico Facetor via e-mail.

New Business:

Steve and Nancy Attaway discussed the Creede Gem and Mineral Show, where they have participated as dealers. The three day show will be held during the first weekend of August in the town's Community Center inside an actual mine. This year marked the fourth annual show, and the Attaways will have been dealers in three of those shows. The little historic town of Creede lies at the headwaters of the Rio Grande River in the beautiful San Juan Mountains of Colorado. The town sits at an elevation of 9,350 feet and is found just over Wolf Creek Pass on Highway #149. Beginning in 1884, silver was predominately mined at Creede, along with lead and zinc. Mining also unearthed pockets of small amethyst crystals and well formed sphalerite crystals. On Friday and Saturday nights of the gem and mineral show, the town plans to feature excellent talks on the local geology, presented by several noted geologists.

Refreshments:

Deb Owen, **Jennifer Baker**, and **Nancy Attaway** brought home-baked refreshments to tonight's meeting. Gourmet coffee was also served. Thank you all very much. **Deb Owen** and **Jennifer Baker** volunteered to bring refreshments to the meeting in September.

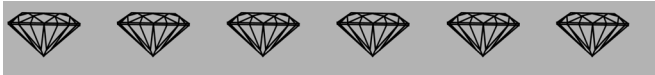
Show and Tell:

Dylan Houtman displayed eighteen stones that he recently faceted. He also has a new cut corner version of his Montringle triangular faceting design, and he showed several stones that represented the new version. Dylan showed a large triangular dolomite, both a round and a triangular Mandarin garnet, a round green Mali garnet, a pink/brown square topaz, and an emerald cut in a modified Flasher Cut round with two extra tiers. He showed a large triangular pale blue danburite, a large triangular pink tourmaline, two small triangular bi-colored tourmalines, one small triangular rubellite, a long shield cut red spinel, a kornerupine triangle, two small round natural alexandrites, both a kite shape and an oval green tourmaline, and a 3.88-carat emerald cut tanzanite that showed some bi-color.

Bill Swantner displayed a 14Kt. yellow gold ring set with two lovely tourmalines from the state of Maine. Bill and Ina Swantner visited Maine during their East Coast trip. Ina is the proud owner of the ring that sports two oval Maine tourmalines in bright pink and green.

Wes Owen displayed a lemon citrine round that was faceted by his new student Steve Volguardsen, a guest at tonight's meeting. Wes also showed a pale amethyst square step cut gem and a 17.8mm round pale green glass that he cut from actual Civil War glass. Besides pale green, Wes remarked that glass from the Civil War was also found in a vivid ruby red, colored by colloidal gold.

Nancy Attaway displayed a very large shield-cut aquamarine from Pakistan that she faceted in her French Blue design. Steve had sawed four pieces from the corners of the original crystal, and Nancy cut four Flasher Cut rounds: a 10mm, a 6.5mm, and two 8mm stones. **Steve Attaway** rendered several 14Kt. yellow gold rings that held gems cut by Nancy that included a blue Montana sapphire emerald cut, a large emerald cut heliodor from the Ukraine, and two large dark pinkish red rubellite tourmalines from Nigeria.



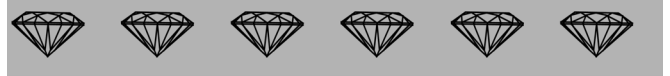
Program Speaker

by Nancy Attaway

Ernie Hawes had purchased at Tucson three films from the International Colored Gemstone Association that depicted selected areas of the world where mining of colored gemstones occurs. The first film showed sapphire mining in the famous Kashmir area.

The mining of sapphires occurs in many parts of the world, including Asia, Africa, Madagascar, Australia, and the United States. The first film that Ernie showed depicted the awesome scenery from the sapphire bearing area in and around Kashmir. Traditionally, the most prized sapphire has been from Kashmir, located in the Himalayan Mountain region of the disputed land between India and Pakistan. Sapphires have been mined in the region for over a century, and some mining continues to this day. The film followed a small, diverse group as they traveled the rocky, narrow, and dangerous trails that climbed mountains and crossed glaciers to reach the sapphire bearing rocks. Many interesting interviews were filmed at the mine sites and inside the humble homes of the miners, as well as in the swank offices of the sapphire dealers who live in the large cities below the mountains. The film also portrayed the significance of sapphires in the Hindu worship of Buddha, where sapphires are placed inside statues of Buddha, made by monks, to protect and bless one's

home. The film documented how sapphire crystals leave their lofty mountain place and travel, in shirt pocket and saddlebags, along treacherous routes to reach markets in the large cities, where they are sorted, faceted or cabbed, and set into jewelry. We all enjoyed this very interesting film.



Facet Designer's Workshop

By Ernie Hawes



When I first created the design, Merrill's Inspiration, I primarily intended it to be for corundum, although I indicated that it was suitable for a wide range of RI's, from 1.58 to 1.91. It does work for a wide range of materials, but that doesn't mean it can't be tweaked to work better for a particular material. Recently, I was asked by a client to use this design to cut an aquamarine to be put in a pendant for his wife. I wanted it to be as attractive as possible, so I decided to see if I could work out angles that were optimized for beryl.

This became an interesting and revealing project, as simply doing a tangent ratio conversion didn't do much to improve the optical performance. I decided to see if a little experimenting with various angle changes might work better. I didn't expect to come up with anything really significant, just something a little better than the original. After all, there's a big difference between RI 1.58 and RI 1.76. It surprised me considerably when I achieved an average ISO brightness of 90.1 %. The original design set at RI 1.76 achieved an average brightness of 92.1 %. Obviously, two percentage points difference is not especially significant. But numbers don't always tell the whole story. In corundum, the design has a fairly

even overall brightness and sparkle. In beryl, the computer rendering of the brightness pattern shows a sharp loss of brightness in the four corner facets on the crown. However, in the actual stone, this is not really very noticeable, and in fact, will almost certainly be covered by prongs when the stone is mounted. For me, the revision of the design angles was sufficiently successful that I wanted to share this revision. Thus, *Merrill's Inspiration optimized for beryl*, is our first design in this issue of the newsletter. I have been working on trying to achieve a similar result in quartz, and while I have come up with some attractive results, I haven't yet achieved an ISO percentage comparable to that I achieved with beryl. I may yet publish a quartz variation, but I want to continue working on improving the brightness.

The second design for this issue is a square cushion pattern that I don't consider to be particularly original, but it is a bit different from anything I could find in the DataVue2 database. It has a pavilion that appears similar to one by Jerry Carroll, and in the two-dimensional plan view the crown appears similar to some by Robert Long. However, the angles are significantly different, and I don't think the index settings are all the same.

My goal when I started out on this project was to come up with a square cushion that was comparable in design to a standard round brilliant. I don't recall ever actually seeing such a pattern, although I'm sure one must exist somewhere, if nowhere else than in an artist's drawing. Consequently, a fancy name doesn't seem appropriate to me, so I'm just calling it *Square Cushion 11/05*. I have played around with some variations of the design, especially the crown, and am presenting the simplest one here. Cutting the pavilion girdle facets deep, so that the mains appear small, adds quite a bit to the overall brightness of the design. The computer brightness pattern shows some loss of brightness along the curved sides of the crown, but this is not very noticeable in the cut stone. Actually, I was surprised that I could achieve an overall brightness in quartz as high as I did, and that it is fairly evenly bright in the corners.

In higher RI materials, a tangent ratio conversion should achieve a really bright stone with excellent scintillation. There is a fair amount of windowing when the stone is tilted, a common characteristic of designs that have low crown angles. The fact that the pavilion main angle is very near to the critical angle also contributes to this windowing. Many purists would object to this, but in medium to somewhat dark colored stones this is much less noticeable and I feel is made up for in brightness and scintillation. I do not recommend this design for colorless quartz, but imagine in higher RI materials it would be OK. I've cut it in both citrine and medium dark amethyst and was pleased with the results.



In the News

Opal in Wyoming

Source: Rock and Gem Magazine October 2005

Claims have been staked on a new discovery of opal in the state of Wyoming on BLM land. Scott Luers, a local rockhound, alerted the Wyoming State Geological Survey of a huge opal deposit in the Cedar Rim in the Granite Mountains of central Wyoming, in the old nephrite jade fields. Scott, who unearthed a 34-pound chunk of opal, reported that only a small portion of this large deposit has really been examined. He said that further exploration could possibly yield commercially viable amounts of precious opal. The opal deposit is estimated to be about 50 feet thick and covers an area of three square miles. Most of the opal is common opal, but some of the opal is brilliantly colored fire opal. Some Wyoming opal has a trace of uranium salts and fluoresces a bright green under short-wave ultraviolet light. More than one thousand claims have been filed during the first two months after the discovery.

Texas Faceting School

Source: Lapidary Journal August 2005

The lapidary facility at the University of Texas in Austin holds its classes in the geology building. The class "Gems and Gem Minerals" teaches how to facet a gemstone and render a cabochon. Faceting has been taught there since the late 1970's, thanks to Glenn and Martha Vargas. The students learn how to cut a gemstone using Vargas style platform machines, where the students pick up the hand piece to check the progress on their stones. Students also learn gemstone properties and what to look for in a well faceted gem.

IFA Opens a Faceting School

Source: Lapidary Journal August 2005

The International Faceter's Association opened a faceting school on the west coast in December, 2004. The new facility in Idyllwild, California provides faceting instruction at all levels from beginner to competition level. Paul T. Ahlstedt operates the program and teaches the classes. The students learn faceting using Ultra-tec V2 machines, and they also learn GemCad computer software for gem design.

New Cambodia Amethyst Deposit

Source: Colored Stone July/August 2005

A new amethyst deposit found last year in northern Cambodia produces amethyst in a rich lavender hue that exhibits a greater apparent fire than most amethyst. Some of the amethyst material even shows a strong pink undertone. The amethyst deposit near Ratanakiri, near the Laos/Cambodia border, lies in a region that is known for its blue zircon mines. The amethyst crystals can occur in large sizes, and the biggest one so far weighs 80.74 carats.

Huge Tanzanite Chunk Found

Source: JCK on the Net 8/3/05

The world's largest piece of tanzanite rough was unearthed from a mine in northern Tanzania, in TanzaniteOne Ltd.'s Bravo Shaft, at a depth of 885 feet. The chunk weighed 16,839 carats, well over six pounds, and measured 8.6 inches by 3.15 inches by 2.8 inches. The company named the big piece

"The Mawenzi", after Kilimanjaro's second highest peak. No value has yet been placed on this piece of gem rough. The company may display the large piece in several international shows before cutting it. The cutting and polishing of "The Mawenzi" will occur in Tanzania.

Short Course in Silversmithing

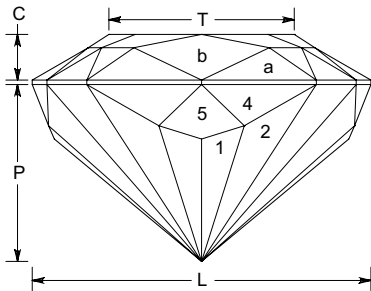
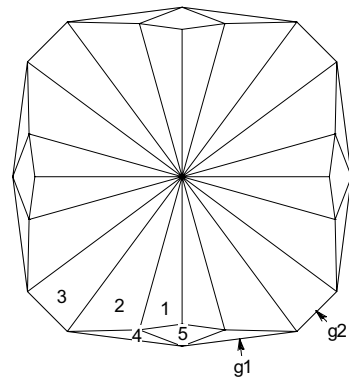
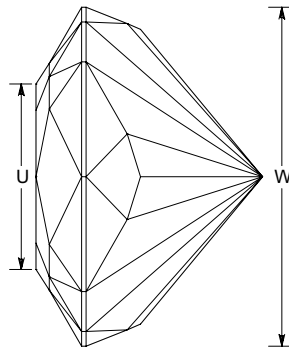
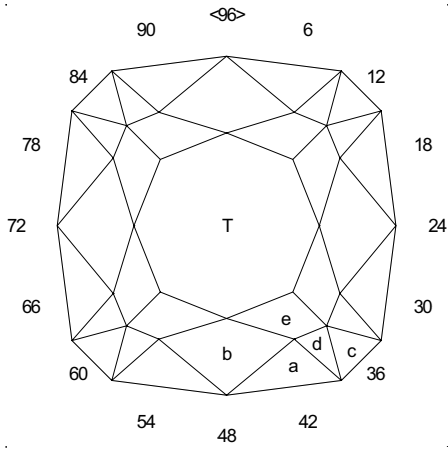
by Elaine Weisman, MFA

292-2046

If you have ever wanted to try classic silverworking before going to the expense of investing in new materials and supplies, try this short course of one-on-one instruction, and find out, if smithing is for you.

Five two-hour sessions: Hands-on experience in construction techniques: Sawing, filing, forming, soldering, finishing and stone setting.

Complete a Pin, a pair of Earrings and a Ring or Pendant.



Merrill's Inspiration

By Ernie Hawes

Optimized for beryl

Angles for R.I. = 1.580

65 + 12 girdles = 77 facets

4-fold, mirror-image symmetry

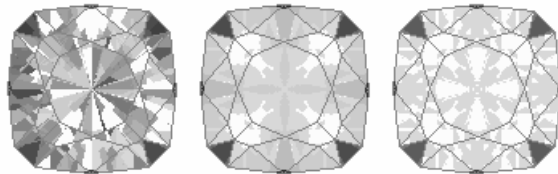
96 index

$L/W = 1.000$ $T/W = 0.549$ $U/W = 0.549$

$P/W = 0.522$ $C/W = 0.136$

$Vol./W^3 = 0.263$

Average Brightness: COS = 83.4 % ISO = 90.1 %

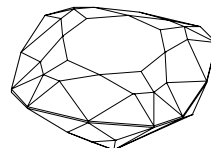


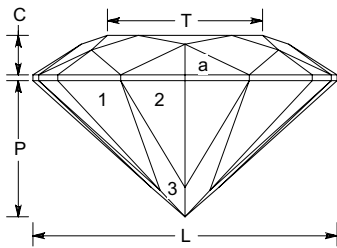
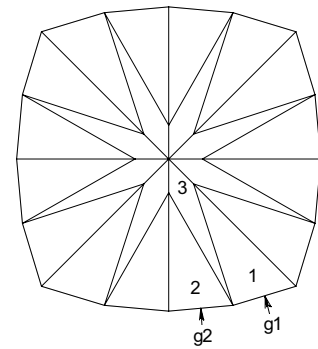
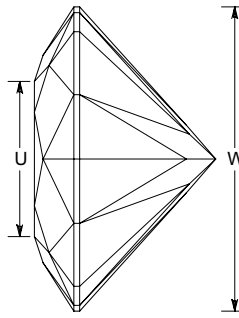
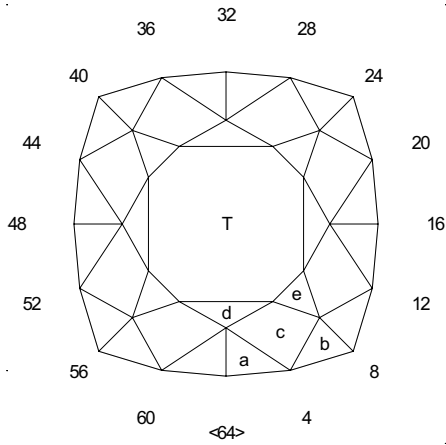
PAVILION

1	40.50°	04-20-28-44- 52-68-76-92
2	42.60°	10-14-34-38- 58-62-82-86
3	42.90°	12-36-60-84
g1	90.00°	02-22-26-46- 50-70-74-94
g2	90.00°	12-36-60-84
4	75.70°	02-22-26-46- 50-70-74-94
5	68.40°	96-24-48-72

CROWN

a	36.00°	02-22-26-46- 50-70-74-94
b	31.20°	96-24-48-72
c	34.70°	12-36-60-84
d	31.20°	06-18-30-42- 54-66-78-90
e	15.70°	06-18-30-42- 54-66-78-90
T	00.00°	Table





Square Cushion 11/05

By Ernie Hawes

Angles for R.I. = 1.540

57 + 16 girdles = 73 facets

4-fold, mirror-image symmetry

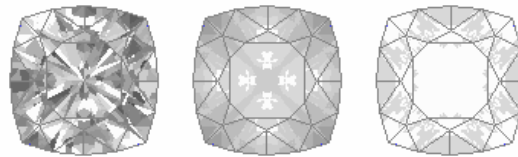
64 index

L/W = 1.000 T/W = 0.509 U/W = 0.509

P/W = 0.443 C/W = 0.127

Vol./W³ = 0.217

Average Brightness: COS = 83.7 % ISO = 95.0 %

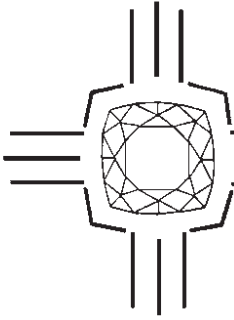


PAVILION

1	40.70°	03-13-19-29-35-45-51-61	Establish TCP
2	42.00°	01-15-17-31-33-47-49-63	Cut to TCP
g1	90.00°	03-13-19-29-35-45-51-61	Establish girdle
g2	90.00°	01-15-17-31-33-47-49-63	Cut to level girdle line
3	40.90°	02-14-18-30-34-46-50-62	Meet 1 & 2 at girdle

CROWN

a	31.90°	01-15-17-31-33-47-49-63	Set girdle thickness
b	31.40°	03-13-19-29-35-45-51-61	Cut to girdle line
c	29.10°	02-14-18-30-34-46-50-62	Meet a & b at girdle
d	19.60°	64-16-32-48	Meet at juncture of a & c
e	17.30°	08-24-40-56	Meet at junctures bc and cd
T	00.00°	Table	Meet at junctures of c, d & e



The New Mexico Faceters Guild

Membership application or renewal form

Dues:

- 1 year membership, includes electronic copy of NMFG newsletter:.....\$20.00
- 1 year membership and mailed paper copy of newsletter.....\$30.00

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Albuquerque, NM 87111.

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 State: _____
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