the New Mexico Facetor

March/April, 2006

The Official Newsletter of the New Mexico Faceters Guild

NMFG

Show and Tell






Nancy and Steve Attaway presented a huge array of wonderful gemstones and finished jewelry at the May'06 NMFG meeting. Above are a pear of lovely shamrock earrings, two gorgeous rings, a fantastic square barion peridot and a stunning pair of moonstone earrings. The cover page shows another box of wonderful stones cut by Nancy.

A huge Danburite and a number of smaller stones by **Dylan Houtman.**

The
New Mexico Faceters Guild

Guild Officers 2006-2007

President: Dylan Houtman
Vice President/Programs: Ernie Hawes
Secretary/Treasurer: Betty Annis
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 and to showcase 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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Vol u m e 2 6 , N o . 2, March/April, 2006

NMFG President Dylan Houtman

In This Issue:

The Prez Sez:

by Dylan Houtman

Hello everyone,

I have just cut a fairly unusual material that has excellent durability yet is easy to cut and polish: Phenakite (beryllium silicate). It is fairly expensive, though: I paid $95.00 for a piece that cut an 11 mm cushion triangle. Maybe I just got lucky on the design, but the finished stone displayed dispersion beyond the 0.015 claimed for this material. If you can obtain some of this material I think it will make an excellent addition to anyone's collection.

I continue to have great luck buying on E-bay, I just received five awesome spessartite garnet crystals. One of them is near perfect, and you can see the growth patterns clearly. I have cut one of them at this time, and on the table facet there is an inclusion that shows crystal growth. It is utterly awesome.

Try some of the rarer materials, I know that it helps keep me growing and interested in cutting,

Dylan.

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

March 13, 2005

by Nancy L. Attaway

President Dylan Houtman called the meeting to order at 7:10pm and welcomed the multitude of members in attendance and the many guests to the Guild meeting. Dylan then asked for introductions from everyone. The Guild tonight was honored by the presence of famous competition facetor, Glenn Klein from southern California.

Editor's Report:

Guild Newsletter Editor Carsten Brandt said that he was waiting for certain reports from folks to finish the latest newsletter issues.

Treasurer's Report:

Guild Treasurer Betty Annis stated the balance and announced that membership dues were now due.

Old Business:

There was no old business discussed.

New Business:

Guild Workshop Chairman Ernie Hawes announced that the next Guild workshop will be held April 29 at Steve and Nancy Attaway's home in the East Mountains. Ernie said that this workshop will be solely dedicated to GemCad and asked participants to bring only their laptops to the workshop. Faceting machines will be optional, brought only if members need to work out specific problems for their stones.

Guild Mineralogist/Gemologist Paul Hlava announced that the annual Treasures of the Earth (TOTE '06) was scheduled for March 17, 18, and 19 at the Flower and Arts Building at the state fairgrounds. Paul invited everyone to the show and passed out show fliers. TOTE is the annual show hosted by the Albuquerque Gem and Mineral Club. Paul is serving as Dealer Chairman for the show and will also participate as a show dealer, along with Steve and Nancy Attaway.

Guild Vice-President/Programs Ernie Hawes mentioned a new wax product for dopping that was now available from FacEtte. This wax is a type of ceiling wax orginally used for royal seals and manufactured in Edinburgh, Scotland. Perhaps, laps can be made from this wax, too. Ernie also mentioned new keyed dops available from Facetron and UltraTec that better align with the quill and the transfer block.

Nancy Attaway announced that FacEtte now has good quality dyna polishing laps available, and that they sell polishing re-charge in metal cans now. She said that she just ordered ten cerium oxide dyna polishing laps. To order, call John of FacEtte at 1-800-336-9248.

Refreshments:

Becky Hawes and Nancy Attaway both baked their own chocolate and lemon desserts (cakes, bars, and brownies) for refreshments served during the March meeting. Gourmet coffee was also served. Thank you very much.

Show and Tell:

The Show and Tell case was filled to capacity tonight with glittering gemstones and lovely items of jewelry. Steve Attaway asked Ernie Hawes to serve as the Moderator tonight, due to Steve's laryngitis.

Paul Hlava displayed two beautiful boxes with hinged lids, one made from charoite and the other made from eudialyte.

Phil Rudd displayed two absolutely gorgeous "bubble gum" pink tourmalines from California's Stewart Mine; that he recently faceted. The rough material for these gemstones is hard to obtain. Phil cut a small pear shape and a large oval.

Betty Annis was proudly sporting her 14Kt. yellow gold custom ring that Steve Attaway had recently cast for the stone that Betty finished at one of the Guild workshops, a large flasher cut round synthetic bright blue quartz.

Ernie Hawes displayed a large flasher cut round amethyst and remarked that he has really come to like the twelve-sided round flasher cut. Guild members have been instructed by Ernie to cut flasher cut rounds at workshops, and he has provided different sets of angles for the diagram.

Dylan Houtman displayed some of his recently cut gems. He showed a large flasher cut round white quartz, a small Montringle cut tanzanite, a large cushion cut square sapphire, and a large flasher cut round blue-green tourmaline. He showed a large emerald cut cushion spinel that exhibited pink and purple hues, a long pearshape sapphire, and a small Oregon sunstone, with schiller, cut in his Montringle triangle with cut corners. Dylan also showed a wonderful and very large, emerald cut cushion Mexican danburite that was mostly white with flashes of pink. He had derived the cut using GemCad at the last workshop. Dylas Houtman also displayed several sections of jade that he cut with a water jet saw. These jade sections are to be the main parts of a bracelet, hinged together by gold connections and a gold clasp.

Nancy and Steve Attaway displayed the many gemstones and jewelry they made in preparation for the TOTE show.

Nancy displayed a 12.48-carat Oregon sunstone, a long pear shap (rough from the Pink Lady mine, bought at Tucson) that exhibited a deep red hue with a green section on one long side. She had purchased a parcel of 17 sapphires at Tucson and re-cut 13 of them in rounds, ovals, a pearshape, a marquise, and a cut corner emerald cut. She re-cut the emerald cut, mint green beryl that had exploded in the transfer; she cut the pavilion mains on the long sides at 50 degrees, and they reflected light very well. She showed a large square barion Arizona peridot and remarked that she was not able to purchase any peridot from Pakistan at Tucson. She showed a large barion triangle aquamarine, a large shield cut aquamarine, and a large pearshape aquamarine. She also showed a large pearshape morganite, a large barion triangle morganite, and two large cut-corner emerald cut morganites.

Steve Attaway displayed the many items of jewelry cast and assembled for the TOTE show. He showed a new and original design of shamrock jewelry, a ring and a pair of earrings that had 4x4x4mm. cushion triangles of tsavorite garnets as the leaves and very small diamonds set into the stem. He showed a lovely round, high dome cabochon of Australian chrysoprase set into a 14Kt. yellow gold ring accented with small diamonds. He showed two beautiful oval crystal opal cabochons set into 14Kt. yellow gold rings accented with small diamonds. He showed four 14Kt. yellow gold rings set with deep blue Namibian chalcedony cabochons, one accented with two diamonds. He showed the new tube-set 3.5mm diamonds in 18Kt. yellow gold tubes that had the two large and matched bi-colored Nigerian tourmalines (cut by Nancy) dangling from them, also set in 18Kt. yellow gold and accented with smaller diamonds. He showed the new Celtic 14Kt. yellow gold earrings with two matched dangling pearshape Russian chrome diopsides, also cut by Nancy. He also showed the new design of dangle earrings with the extra-fine quality, large round rainbow moonstone cabochons accented by smaller very fine quality royal blue sapphires.

The New Mexico Faceters' Guild welcomed famous competition facetor, Glenn Klein, now retired from competitions. Glenn Klein honored us by attending the March NMFG meeting and agreed to talk about competition faceting during the meeting. He has authored a new book, "Faceting History, Cutting Diamonds and Colored Stones". Autographed copies of his book may be procured by writing Glenn Klein at P.O. Box 1096 in Lake Forest, California 92609. You may e-mail Glenn Klein at: glennklein@yahoo.com or access his website at: www.glennklein.com to inquire about his book prices.

Program Speaker

Causes of Color in Minerals and Gemstones: Part 1 (presented by Paul Hlava 3/06)

The colors that one sees when looking at a mineral or gemstones are due to the response of that person's eye to the energies of the light, the emission spectrum of the illumination and, most importantly, physical phenomena in the material that cause some colors to be absorbed while others are undisturbed or enhanced. It is beyond the scope of this talk to do more than touch on the physiology of the eye that allows us to see colors. Likewise, we will not dwell on the emissions spectra of various light sources. Rather, we will concentrate on the various ways in which materials, especially minerals and their heights of perfection—gemstones, produce color from white light (1).

Visible light is a form of energy that comprises only a small part of what is known as the electromagnetic spectrum (EMS). Energy in the EMS ranges from long wavelengths with low frequencies such as the radio waves received at the National Radio Astronomy Observatory (NRAO) giant antennas, through microwaves, infrared radiation, the visible light spectrum that gives us color (ROYGBIV), ultraviolet, x-rays, to gamma rays at the short wavelength, high frequency extreme.

What we see is dependent on the biological/physical structure of the eye. Human eyes contain rods, which see black and white, and three sets of cones (red, green, blue) that produce all the colors by mixing their signals. The eyes of animals contain more rods than do human eyes, to detect movement. When you mix frequencies of light, the human eye perceives only one color. In color blindness, the eye loses its ability to distinguish red, because red light has the weakest and lowest energy. Blue light has a higher energy to stimulate light receptors in the eye. The human eye is most sensitive in the center of the retina, a region called the fovea, that can focus very closely on visual information.

Since the color of light perceived may reflect a mixture of different light frequencies, we need a way of measuring color that is independent of frequency. The 'chromaticity diagram' was established in 1931 (revised in 2000), as an international standard for color measurement. It arranges all colors on three different axes defined by the Commission Internationale de l'Eclairage (CIE). " L" is the black—white axis, "A" is the green—red axis, and "B" is the blue—yellow axis. All colors can be defined for industrial applications with the use of this system in terms of percentage of color along each axis. (http://www.colorsystem.com/projekte/engl/54labe.htm).

According to Kurt Nassau, a mineralogist who has been writing about color for many years, there are five main categories of physical interactions that produce color:

A. Vibration and excitation
B. Ligand field effects/crystal field effects
C. Molecular orbital interactions
D. Energy band theory/color center theory
E. Geometrical and physical optics

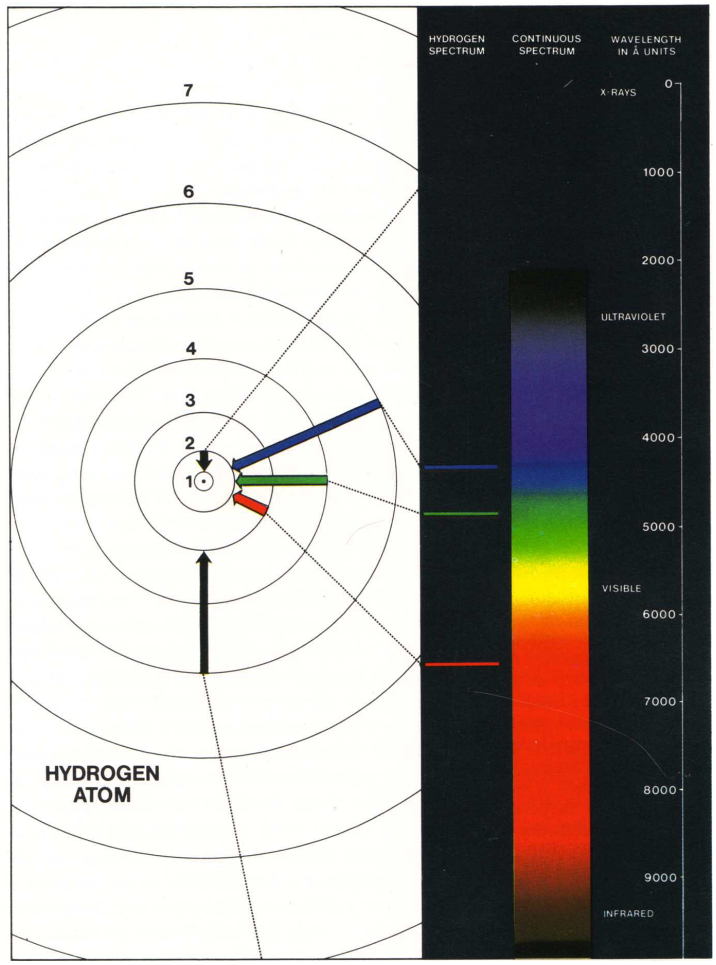
The first category (A) is not relevant to color in gems and minerals but is listed for completeness' sake. Categories B, C and D involve the absorption of certain wavelengths; our eyes see only the colors that are not absorbed. Categories B and C will be discussed in Part 1 in this newsletter. Categories D and E will be addressed in the forthcoming May/June newsletter.

B. Ligand Field Effects/Crystal Field Effects

Color produced by ligand/crystal field effects occurs predominantly in ionic crystals. For example, salt is an ionic crystal formed of positively charged sodium (Na^+) and negatively charged chlorine (Cl^-) ions. Gem minerals are more complex but follow this ionic charge interaction pattern. This type of color requires a partially filled electron shell which will give the ion an overall positive charge if electrons are missing, or an overall negative charge if a surplus of electrons is present. Transition metal elements (most known metals) provide ionic species for the production of color in minerals. Iron is the most plentiful metal in the Earth's crust, and its different valence states (Fe^{2+}, Fe^{3+}) produce a variety of colors.

Transition metals and rare earth elements have complex electron shell layers, many of them partially filled, allowing movement of electrons between them when sufficient energy is supplied. This movement of electrons between shells produces color, and also fluorescence in some cases, when an excited electron falls back to a lower shell.

Emerald, ruby and alexandrite are all examples of ligand/crystal field interactions. Interestingly, a chromium ion (Cr^{3+}) is replacing an aluminium ion (Al^{3+}) in all three gemstones, but because of the surrounding crystal chemistry, different colors are observed. Alexandrite is peculiar in that the field distribution is such that the blue-green and red color absorption bands are in equilibrium, so both colors are transmitted and the color perceived depends on the incident light. In many stones, multiple layers of interactions in color absorption bands result in a great variety of color. Some of the color in tourmaline may be described with ligand/



Spectral lines associated to the various electron orbits of the hydrogen atom (The Cambridge Guide to the Material World, Cambridge University Press, 1985).

Gem	Formula	Color	Cause of color
Alexandrite	Al_2BeO_4	red/green	Cr^{3+} replacing Al^{3+}
Emerald	$Be_3Al_2(SiO_3)_6$	green	Cr^{3+} replacing Al^{3+}
Ruby	Al_2O_3	red	Cr^{3+} replacing Al^{3+}
Garnet	$Mg_3Al_2(SiO_4)_3$	red	Fe^{2+} replacing Mg^{2+}
Peridot	Mg_2SiO_4	green	Fe^{2+} replacing Mg^{2+}
Tourmaline	$Na_3Li\text{-}Al_6(BO_3)_3(SiO_3)_6F_4$	pink	Mn^{2+} replacing Li^+ and Al^{3+}
Turquoise	$Al_6(PO_4)_4(OH)_8 \cdot 4H_2O$	blue-green	Cu^{2+} coordinated to OH

Ionic color sources chart from 'Chemical of the Week' (3) crystal field theory, but it has several color-producing mechanisms which are still being determined (4).

There are two subgroups in ligand/crystal field theory:

—Allochromatic (meaning 'other-colored')
—Idiochromatic (meaning 'self-colored')

Allochromatic colors are the result of transition metal impurities, where a single ion takes the place of another ion. Some examples are the previously discussed ruby, emerald and alexandrite, citrine, peridot, and garnet.

Idiochromatic colors are produced when a transition metal *ionic compound* replaces another ion, or coordinates with hydroxyl or water groups in the mineral lattice. Examples of these compounds are copper carbonate and manganese carbonate. Malachite contains the transition metal ionic compound copper carbonate ($CuCO_3$), rhodochrosite contains manganese carbonate ($MnCO_3$) and turquoise contains a copper phosphate ionic compound ($CuAl_6PO_4$).

C. Molecular Orbital Theory

Molecular orbital theory is used to describe both biological color compounds like porphyrins (and dyes), and the charge transfer compounds more typical of minerals and gemstones. This category involves electrons available through the shared orbitals of covalently bonded elements, which may be metal, non-metal or a combination of both. Examples of minerals that produce color through charge transfer include corderite/iolite, blue sapphire, and kyanite (metal to metal); crocoite (metal to non-metal), and lazurite, graphite, amber, ivory, nacre, and coral (non-metal to non-metal). Charge transfer between molecular orbitals occurs when an electron moves from one ion to another ion. For example, ions of titanium (Ti^{4+}) and iron (Fe^{2+}) in sapphire bounce electrons back and forth to give the blue color we observe. Iolite demonstrates electron charge transfer between divalent and trivalent iron (Fe^{2+}, Fe^{3+}) ions producing a violet color. Aquamarines also show a range of blues from molecular orbital charge transfer between Fe^{2+} and Fe^{3+} in a beryl crystal lattice.

It may seem surprising to some that there is considerable electronic activity in crystals, which appear to be so solid and inanimate. Minerals formed millions or billions of years ago are like flowers in a garden that endures for millennia, offering colors which (almost) never fade, to delight the eye. Part 2 will discuss some color mechanisms that actually do result in fading…

Here is a little quiz to test your knowledge:

1. what colors would you expect minerals to be that contain:
   a) Fe^{2+}
   b) Fe^{3+}
   c) Co
   d) S
   e) Cu
   f) Mn
2. What causes the yellow color in sapphire?

References

1. http://www.geology.wisc.edu/~johnf/Gem-color-hlava.pdf

2. http://www.colorsystem.com/projekte/engl/54labe.htm

3. http://scifun.chem.wisc.edu/chemweek/Gemstones/Gemstones.html

4. Nassau, K., The origins of color in minerals. *American Mineralogist* 63:219-229 (1978)

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 4/06***. 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

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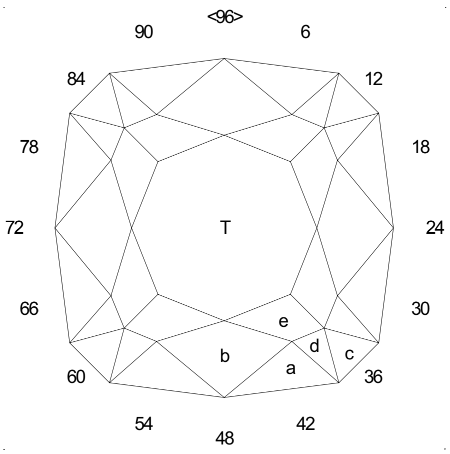
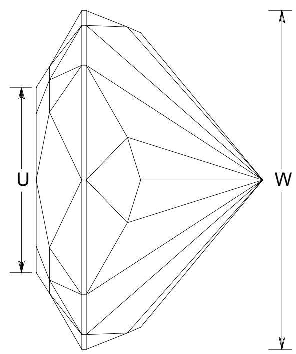
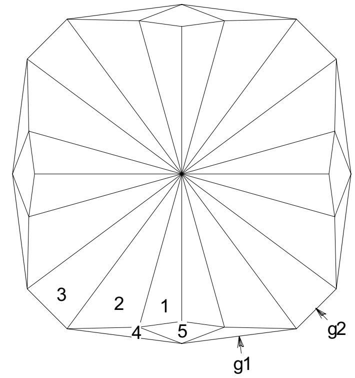
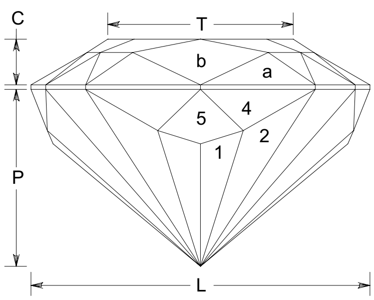








Merrill's Inspiration

By Ernie Hawes

Optimized for beryl

Angles for R.I. = 1.580

65 + 12 girdles = 77 facets

4-fold, mirror-image symmetry

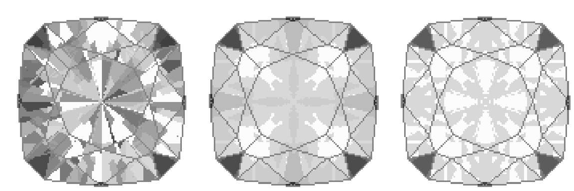
96 index

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

P/W = 0.522 C/W = 0.136

Vol./W³ = 0.263

Average Brightness: COS = 83.4 %   ISO = 90.1 %

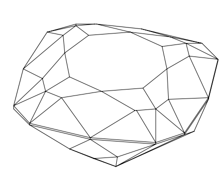


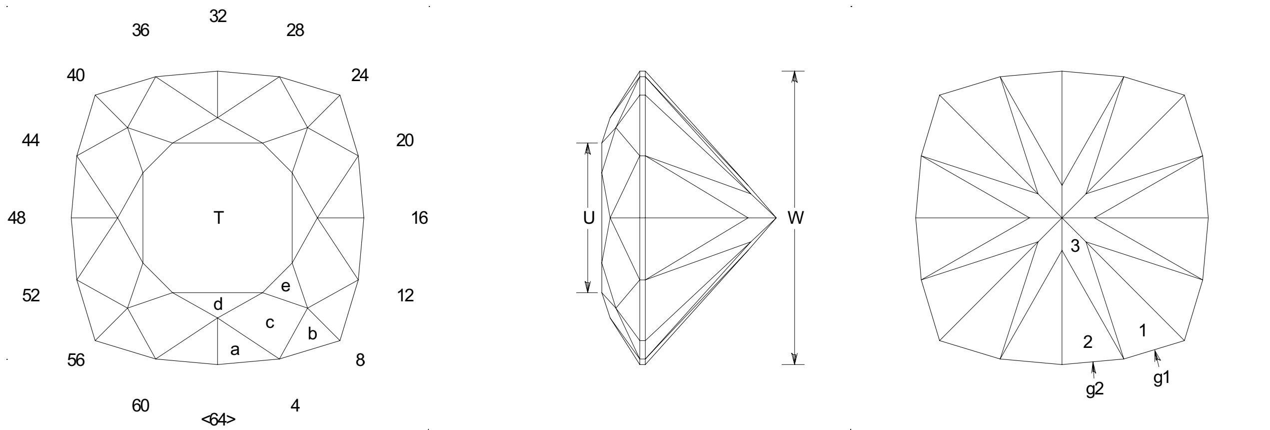
PAVILION

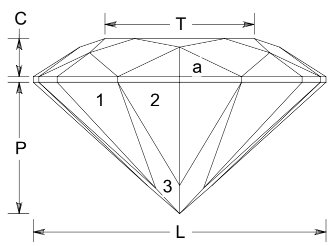
1	40.50°	04-20-28-44-52-68-76-92
2	42.60°	10-14-34-38-58-62-82-86
3	42.90°	12-36-60-84
g1	90.00°	02-22-26-46-50-70-74-94
g2	90.00°	12-36-60-84
4	75.70°	02-22-26-46-50-70-74-94
5	68.40°	96-24-48-72

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



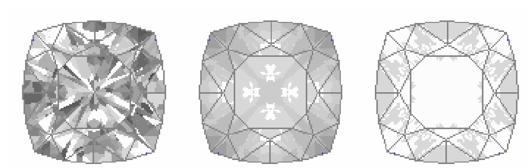




Square Cushion 4/06

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

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

Yogo Mine Now Possibly Closed
Source: JCK April 2006

Mining of Yogo sapphires has ceased on the eastern side of Yogo Gulch, mined recently by Vortex, formerly known as Yogo Creek. The Kunisaki mine on the western side of Yogo Gulch remains a viable sapphire deposit, but some sources claim that no mining has been observed anywhere in the gulch. Other sources report of a new real estate development in the area.

Zultanite: a New Color Change Diaspore
Sources: JCK March 2006; Colored Stone March/April 2006; Lapidary Journal April 2006

A color change diaspore called zultanite, named in honor of the 36 sultans of the Ottoman Empire, is the newest color change gemstone to be seen on the gem market. Color change zultanite crystals in gem quality were first reported in the early 1980's. The only known source for zultanite lies in a remote location in Anatolia, Turkey at an elevation of 4,000 feet and higher. The zultanite deposit in Turkey is reported to span thousands of acres. The color change of zultanite ranges from a kiwi-green to a rhodolite purplish pink, as well as a khaki-green to a brownish pink or a light pinkish champagne hue. A lab-created, color change gem called zandrite that resembles zultanite has recently been featured on television shopping networks.

Controversy Over Mozambique's Blue Tourmaline
Source: Colored Stone March/April 2006

Mozambique's new find of blue tourmaline that contains both copper and manganese marks the world's third major discovery of copper-bearing tourmaline. The state of Paraiba, Brazil unearthed the first deposit of elbaite colored by copper and manganese in the late 1980's. This deposit has been mined out. The second deposit of copper-bearing tourmalines was found in Nigeria, but the blue tourmalines there contained much less a saturation of copper and did not exhibit the bright, electric blue hue of the ones from Paraiba. The deposit in Nigeria has also been mined out. The controversy discussed at the latest Gemstone Industry Laboratory Conference, held in Tucson before the shows opened, centered upon the description of bright blue tourmalines that contain copper. Discussions included whether or not it is legitimate to describe the blue tourmalines from Mozambique as "Paraiba" in color, or "Paraiba-like" or as a "Paraiba-type". The question posed was, can a gem from Africa be called "African Paraiba"? Expect high prices per carat for gems that will accompany this particular nomenclature.

Gem Plagioclase Reportably from Tibet
Source: Gems & Gemology Winter 2005

GIA's gem lab first reported a red plagioclase feldspar from the Congo in the spring of 2002. GIA recently reported of another such discovery said to come from China. Further reports indicated that the source of these large red gems was in western China, then later reports mentioned the source to be from an isolated mountainous area of Tibet near Nyima. The mine in Tibet operates seasonally, from April until October, due to the cold winters. In the July/August 2005 issue of

Colored Stone, Diana Jarrett, GG said that this Congolese gem was termed an andesine and called "Congo sunstone". She explained that the feldspar group technically contains nine species so determined by their chemical composition. Diana said that the gems called red laboradorite, occurring in several deposits around the globe, all fall into the plagioclase feldspar class, including a series of minerals between albite (a sodium aluminum silicate) and anorthite (a calcium aluminum silicate).

Record Diamonds

Source: Yahoo! News on the Net 4/24/06

A 235-carat rough diamond was unearthed by a small diamond company that had only commenced its operations a few weeks ago. Nare Diamonds Ltd. discovered the hen's egg-size diamond at their Schmidtsdrift mine, an alluvial deposit that lies fifty miles northwest of the historic center of Kimberly. The mine had been closed three years ago by another firm that declared bankruptcy. The 235-carat diamond is octahedron in shape and of very good quality, according to a third party assessment given to the London stock exchange. London-based Lonrho Africa Ltd. recently purchased a 17% stake in Nare.

DeBeers discovered a 316.7-carat rough diamond at its South African Venetia mine in January. The largest diamond ever found was the 3,106-carat Cullinan, and other massive diamonds unearthed have ranged between 600 to 900 carats. In 1986, DeBeers discovered the 755.5-carat Golden Jubilee, which currently ranks as the world's largest polished diamond at just over 545 carats.

More Record Diamonds

Source: AP 3/13/06

A new record breaking diamond has been found in the Crater of Diamonds State Park in Arkansas. The 4.21ct flawless canary yellow diamond was found by an Oklahoma State trooper visiting the park after watching a story on the park on the History Channel. The stone is largest of the 84 diamonds found in the park this year and it has been the "Okie Dokie Diamond" as no other diamond found in this park has been named for Oklahoma so far.

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