GEM NEWS INTERNATIONAL

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Figure 1. An alligator measuring roughly 29 × 11 × 9 inches fashioned from fine nephrite from the Polar mine in British Columbia. This exceptional hand-carved work was purchased at GJX on opening day. Photo by Jennifer Stone-Sundberg; courtesy of Jade West Corp.

TUCSON 2026

At the AGTA GemFair in Tucson, Arizona (February 2–6), many vendors had very strong sales on opening day, with several reporting challenges to satisfy the demand with on-hand staff. Some AGTA exhibitors expressed concern that the fewer number of show days this year could affect sales, as customers who would normally visit on the weekend might have been deterred by the show ending on Friday. Many Gem & Jewelry Exchange (GJX) vendors indicated that Monday was slow, but attendance picked up on Tuesday after higher-end buyers finished shopping at the AGTA show. High-end and unusual items sold quickly, including a finely carved nephrite Polar Jade alligator from the Polar mine in British Columbia (figure 1). Numerous AGTA and GJX sellers voiced relief that their sales were high enough to not only break even, but resulted in a strong if not near-record year. The foot traffic appeared somewhat lower at other venues, including the Pueblo Gem & Mineral Show, the 22nd Street Mineral, Fossil, Gem & Jewelry Show, and the JOGS Gem & Jewelry Show, but vendors with premium goods at attractive price points reported brisk sales.

Due to increased challenges for foreign vendors bringing goods into the U.S., some long-time participants did not attend this year. As predicted, empty booths were observed at some of the shows, but an unexpected result was the presence of some new faces at both AGTA and GJX, as vendors who relinquished their booths opened up opportunities for those waitlisted. For example, RG Crystals exhibited at GJX for the first time, selling extraordinary laboratory-grown gems, including synthetic hydrothermal emeralds mimicking both the color and overall appearance of Colombian emerald (figure 2). As with last year, many buyers relied on video calls to coordinate with colleagues, contributing to lower attendance as companies limited the number of staff attending the shows. Buyers and sellers expressed concern over pricing pressures driven by tariffs, reduced global gem availability, and elevated gold and silver

Editors' note: Interested contributors should send information and illustrations to gandgeditorial@gia.edu.

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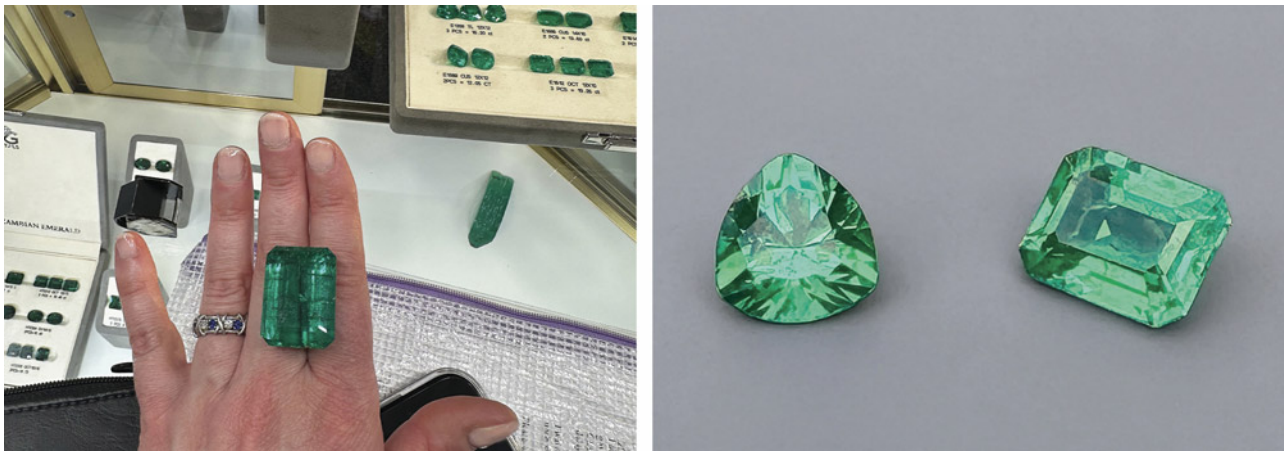

Figure 2. Laboratory-grown emeralds with color and overall appearance imitating Colombian emerald. Left: A 66.57 ct rectangular step cut measuring 30 × 22 mm. Right: A 1.72 ct trillion and a 2.20 ct rectangular step cut. Photos by Jennifer Stone-Sundberg; courtesy of RG Crystals.

prices. The price instability of precious metals also caused some trepidation. In fact, as the shows were starting, the price of silver precipitously dropped more than 30% from $114.43 an ounce on January 29 to $78.53 the very next day, whereas gold dropped about 13% from $5,354.80 an ounce on January 29 to $4,652.60 on February 2. In some venues, this resulted in daily price changes for goods. With diminished international trade activity, many vendors focused on clearing older inventory.

As with last year, GIA's Show Service Laboratory had an all-time record year. Lab personnel reported that the majority of show submissions were traditional colored stones: ruby, sapphire, emerald, and Paraíba tourmaline.

According to exhibitors carrying a wide variety of gem materials, fancy-color sapphires were the most popular stones, particularly pinks and purples, as well as teals and greens. Strong U.S. and international demand for Montana sapphire has driven prices for stones over 1 ct to exceptional levels, reportedly due to increased global awareness and an unpredictable supply of rough. Garnets sold very well this year, and sales of unheated "opalescent" or "sleepy" stones continued to be strong. Star ruby and sapphire (figure 3) were some of the hottest items, followed by cat's-eye stones (figure 4), including cat's-eye moonstone, offered at several of the shows at very attractive prices. "Rainbow moonstone" from Madagascar (Spring 2024

Figure 3. Exceptional star sapphires from Nivithigala, Sri Lanka, viewed in sunlight: a 7.45 ct purple color-change star sapphire (left) and a 19.74 ct light grayish blue star sapphire exhibiting an extraordinarily sharp and distinct star (right). Photo by Jennifer Stone-Sundberg; courtesy of Dudley Blauwet Gems.

Figure 4. Stones with strong chatoyancy set in sterling silver rings: an 8 mm tiger's-eye (left) and a 7 × 9 mm cat's-eye moonstone (right). Courtesy of Jennifer Stone-Sundberg.

Figure 5. Gray matrix labradorite from Madagascar with pink flash. Courtesy of Jennifer Stone-Sundberg.

GNI, p. 102) continued to sell quickly among buyers. Ethiopian opal was abundant at shows around town, with a particularly strong presence of rough and loose stones at the 22nd Street show. Prices varied widely, offering some highly affordable options; however, prices may start to rise as supply becomes increasingly limited due to the depletion of easily accessible material in the Wollo region. Labradorite was popular at several shows, including a Madagascar variety with a gray matrix and pink flash available at venues such as the Pueblo and 22nd Street shows (figure 5).

Figure 7. Guatemalan blue jadeite jade bracelet with 6 mm diameter cylindrical beads. Photo by Jennifer Stone-Sundberg; courtesy of Jade West Corp.

This year's trending colors included hot pinks and purples, as illustrated by both the AGTA Spectrum and Cutting Edge Buyer's Choice Awards (figure 6), along with neon blue-green, light green, teal, greenish blue, and lilac. A newer popular material, Guatemalan blue jadeite jade (figure 7), displayed a teal color similar to that of some of the most in-demand unheated Montana sapphire.

Figure 6. AGTA Buyer's Choice Award winners. Cutting Edge Award (left): Ben Kho, 35.25 ct pink-purple octagonal-cut kunzite. Spectrum Award (right): Mimi So, 18K rose gold "Cotton Candy" necklace featuring a 16.71 ct pink pear-shaped kunzite, 4.05 ct vivid pink spinel, and 5.65 ct imperial topaz accented by sapphires, spinels, tourmalines, and diamonds. Photos by Jeff Mason Photography/AGTA; courtesy of Kho International Ltd. (left) and Mimi So (right).

Figure 8. Precision-cut, calibrated gems in a variety of shapes ranging from 1.0 × 1.5 mm baguettes to 4.0 × 6.0 mm lozenges, including amethyst, citrine, tourmaline, topaz, garnet, and peridot, arranged to illustrate various color combinations and patterns. Photo by Jennifer Stone-Sundberg; courtesy of Shanu G. Inc.

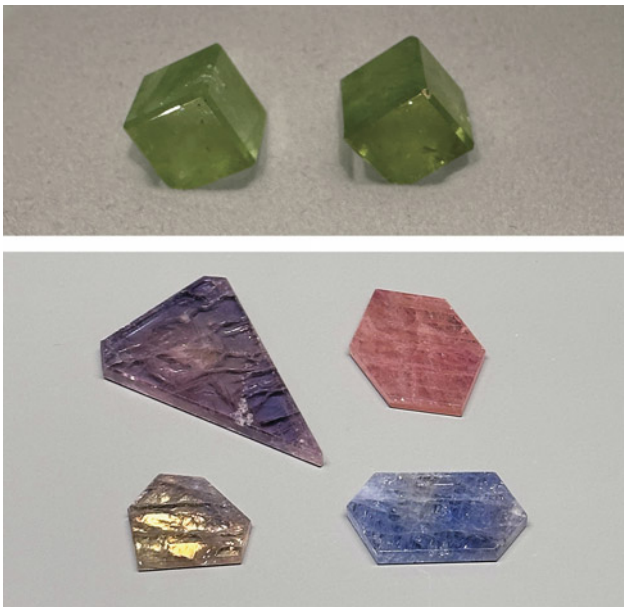

Figure 10. Top: A pair of 7.5 mm tourmaline cubes totaling 12.14 carats. Photo by Lisa Kennedy; courtesy of M.T. Mohr. Bottom: Natural sapphire slabs from Umba Valley in Tanzania ranging from 7.73 ct (yellow) to 26.40 ct (purple). Photo by Jennifer Stone-Sundberg; courtesy of Misfit Diamonds.

Several cutting trends stood out, driven by demand for well-cut stones maximizing light return and color over carat weight, whether through precision cutting or more unconventional styles. While the term *precision cutting* was used variably, buyers consistently valued sharp meet points at facet junctions, optimal cutting angles for light return, and mirror-finish flat facets. Precision cutting was illustrated in in a wide variety of small gemstones (figure 8), as well as larger stones. Star shapes were popular at AGTA, appearing in pieces such as the moissanite "Snowflake" and faceted star-cut gems (figure 9) in materials including Montana sapphire, neon beryl, red Idaho garnet, and various quartz. Other unconventional cutting styles, including cubes (figure 10, top) and cones, also attracted considerable attention for their bold architectural approach. Polished gem slabs in rectangles, triangles, and other simple shapes were in demand among several designers. Attractive sapphire slabs with distinct inclusions

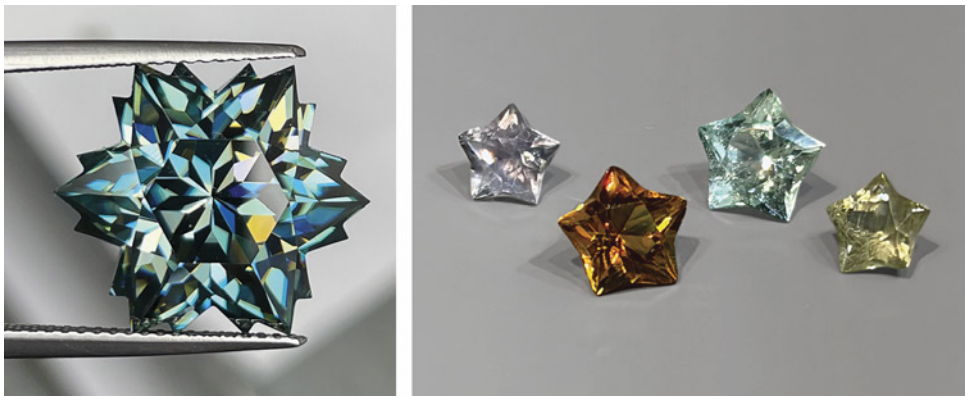

Figure 9. Left: 14.80 ct blue moissanite "Snowflake"; courtesy of Wobito. Right: Star-cut Montana sapphire in lilac and light yellow (4 mm each), Nigerian beryl in neon blue (5 mm), and orange Madeira citrine (5 mm). Photo by Jennifer Stone-Sundberg; courtesy of Columbia Gem House.

Figure 11. Elongated baguette-cut rock quartz from Brazil (left, 80 × 10 mm, 61.41 ct stone; right, two 70 × 9 mm stones totaling 83.07 carats) accented by Bolivian citrine (left, 25.27 ct triangular brilliant; right, two pear brilliants totaling 15.30 carats). Photo by Jennifer Stone-Sundberg; courtesy of Pillar & Stone International.

(figure 10, bottom) and long baguette-cut gems (figure 11) were particularly popular.

In summary, buyers and sellers arrived in Tucson with concerns about availability and pricing, but many found relief as the shows progressed. Although no major new trends or viral products emerged, vendors offered a broad selection of attractively colored gems with an emphasis on cut quality and provenance documentation tracing a stone from the mine to its finished form. Lower foot traffic may be the signal of a lasting shift, as smartphones enable companies to send fewer in-person buyers. Exhibitors also explored creative strategies to navigate tariffs, including arranging U.S.-based storage to reduce repeated border crossings. For some, reduced participation created opportunities, allowing new businesses to secure highly desirable booth spaces across the major shows.

Jennifer Stone-Sundberg and Tao Hsu
GIA, Carlsbad

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COLORED STONES AND ORGANIC MATERIALS

High-clarity suite of color-change pyrope garnets. At the Pueblo Gem & Mineral Show, a visit with self-described "crystal machinist" Todd Wacks (Tucson Todd's Gems, Arizona) did not disappoint. Wacks, who apprenticed with master faceter Meg Berry, has been cutting gems professionally for more than a decade. His approach to gem cutting prioritizes beauty and results in distinctive cuts and patterns tailored to each gemstone. Wacks believes that cuts should be shaped to the natural form of the rough rather than forced into a preset, potentially wasteful pattern. Every stone he cuts is unique and optimized for the piece of rough, with a strict adherence to appropriate pavilion and crown angles coupled with extremely flat facets and a mirror polish. Wacks has a special passion for garnets (e.g., E. Hogarth, "Beyond Beauty: A Garnet Necklace Decoded," Spring 2024 *G&G*, pp. 140–143), with extensive experience cutting thousands of them.

An exceptional graduated suite of 65 matched color-change pyrope garnets from Morogoro, Tanzania, weighing 106.35 carats total, drew significant attention at his booth. These garnets, ranging from 6.5 to 9.5 mm in diameter, change from a bright pinkish purple in daylight to a hot pink in incandescent lighting (figure 12). What distinguished this one-of-a-kind set was the extraordinary clarity achieved for each stone. Wacks noted that producing the perfectly matched suite required nearly 6 kilograms of rough, hundreds of production hours, and the cutting of more than 100 stones. His primary challenge was addressing the clarity issues characteristic of this garnet, which required consistently removing hazier stones rich with rutile needles.

The material, a garnet ranging in color from bright pink to purple, was reportedly discovered in 1987 (C.M. Stockton, "Pastel pyropes," Summer 1988 *G&G*, pp. 104–106), but initially drew little interest as it was included, mistaken for rhodolite garnet, and its color-change property had not yet been recognized. For Wacks, the story began in 2014, when three dealers approached him with a new "pink" garnet rough that had been stored in a safe for nearly 30 years. After cutting a sample, he was excited by the color and decided to set it into a ring. Wacks noticed a color change from purple to hot pink as he moved the ring from his microscope's fluorescent lighting to his polishing station's incandescent lighting. At this point, he was sure he had something worth investigating further. After gathering some standard gemological data including refractive index (1.729) and specific gravity (3.61), along with an unfamiliar spectrum from a spectroscope, Wacks realized that he could not definitively match the garnet to any varieties he knew. This prompted him and several colleagues to submit material to GIA's laboratory, which confirmed it as a distinct variety: a vanadium- and chromium-bearing pyrope garnet exhibiting color shifts or changes between illumination sources (Spring 2015 GNI, pp. 88–89; Z. Sun

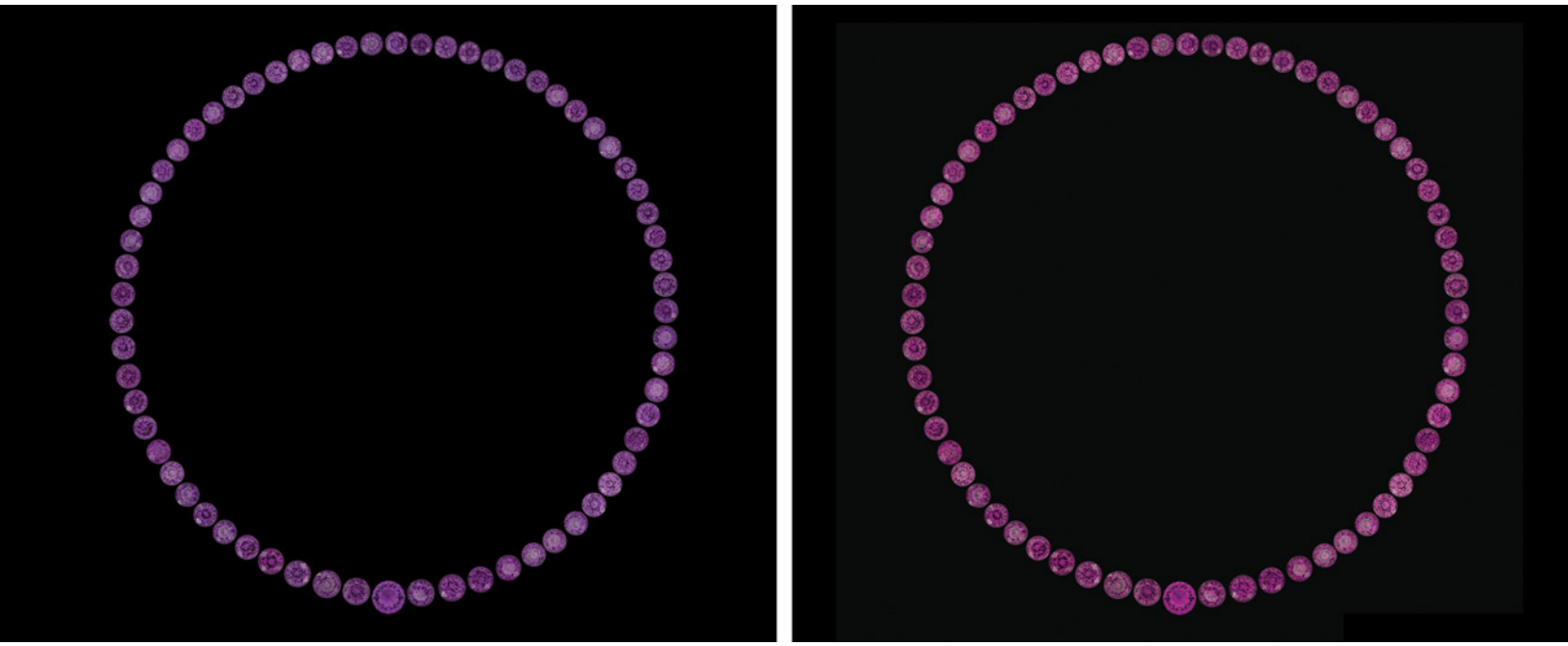

Figure 12. The suite of pyrope garnets showing their color-change effect using daylight-equivalent (left) and incandescent (right) illumination. Photos by Robert Weldon; courtesy of Tucson Todd's Gems.

et al., "Vanadium- and chromium-bearing pink pyrope garnet: Characterization and quantitative colorimetric analysis," Winter 2015 *G&G*, pp. 348–369).

After acquiring a substantial portion of the available rough in 2014, Wacks has since faceted many of these distinctive garnets, producing stones as large as 35 ct. With the source now exhausted and only limited material remaining, this high-quality suite of unique pyrope garnets was noteworthy to see. We look forward to seeing what Wacks produces next, as he has recently been expanding his skill set by training as a gem carver in Idar-Oberstein.

Jennifer Stone-Sundberg

Gold sheen sapphire. At the JOGS Gem & Jewelry and 22nd Street Mineral, Fossil, Gem & Jewelry shows, Genuine Gems & Jewellery (Bangkok) offered "gold sheen" sapphire from eastern Kenya in a striking range of colors and effects. This translucent material is known for exhibiting an attractive golden sheen, a result of oriented platelets and needles of titanium and iron oxides including hematite, ilmenite, and magnetite (T.N. Bui et al., "From exsolution to 'gold sheen': A new variety of corundum," *Journal of Gemmology*, Vol. 34, No. 8, 2015, pp. 678–691). Additionally, some stones displayed distinct asterism, while others had visible bands of color zoning (figure 13).

Figure 13. Gold sheen sapphires displaying asterism (left) and multicolored zoning (right). Photos by Jennifer Stone-Sundberg; courtesy of Genuine Gems & Jewellery.

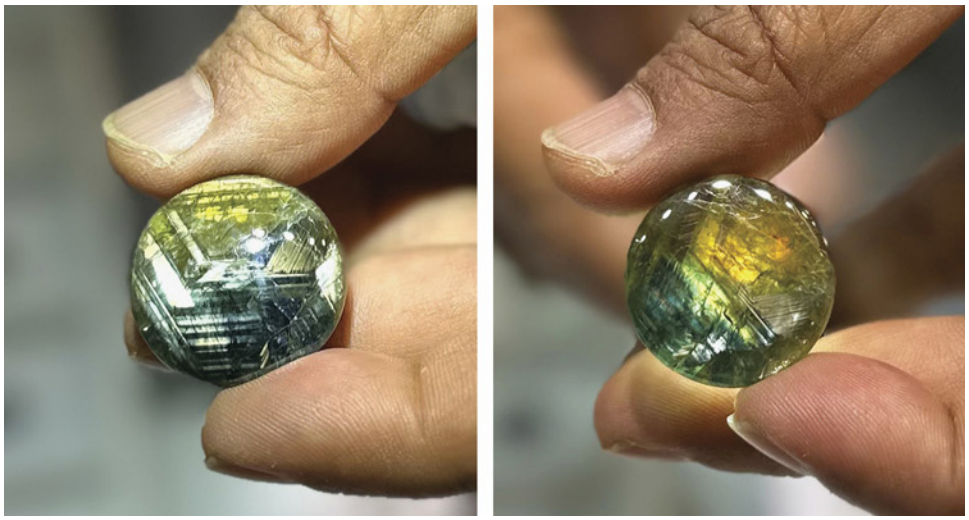

Figure 14. A gold sheen sapphire showing its yellow and blue color banding (left) and translucency with illumination from the back (right). Photos by Jennifer Stone-Sundberg; courtesy of Genuine Gems & Jewellery.

The stones exhibited single or multiple bodycolors, including yellow, blue, green, brown, and gold (figure 14). This material was untreated and cut primarily into cabochons and checkerboard patterns to optimize its optical effects. Stones from less than a carat to hundreds of carats were available.

In 2009, Tanzim Khan Malik, owner of Genuine Gems & Jewellery, was approached by a longtime Kenyan dealer regarding unusual rough stones found on the ground near Kenya's eastern border with Somalia. The report of the material intrigued Malik, who acquired a small parcel for examination. The initial parcel of this corundum was not gem-quality. While the fragile material lacked stability for faceting and exhibited a layered internal structure, it showed a distinct golden shimmer that excited Malik. This led him to fund a systematic exploration with controlled digging to discover the corundum-bearing seam. The location was kept classified to protect the mine and its operation. This work, executed by local miners, ultimately uncovered the seam bearing gem-quality sapphire, and extraction continued until 2014. During that period, Malik, who owned the mine's entire production, amassed approximately 25 tons of rough material.

When the first gem-quality material emerged from the mine, Malik focused on cutting this unique sapphire to optimize its beauty. With its color variety, banded quality, and striking gold sheen, he saw an opportunity to bring a brand-new sapphire variety to market and named the material "gold sheen" sapphire. Owning a fabrication facility, Malik has each stone cut to maximize its optical characteristics and hence its value. As the sole global supplier of this material, he has marketed gold sheen sapphire as a luxury stone. Malik described his customers as mainly high-end designers, investment buyers, and gem collectors, mentioning a variety of high-end jewelry houses that have incorporated the shimmery stone in one-of-a-kind pieces. The material has the strongest sales in the United States, followed by Japan, Switzerland, the United Kingdom, and Monaco.

When asked about a glittery brown material from Madagascar being marketed in Tucson as gold sheen or golden sheen sapphire, Malik cautioned that the stones from Madagascar lack the color variety, oriented banding, or golden shimmer characteristic of the Kenyan material and are being deceptively sold under his product's name.

Jennifer Stone-Sundberg

Tucson 2026: Pearl market report. The authors visited many pearl vendors at the AGTA, Gem & Jewelry Exchange (GJX), and Pueblo Gem & Mineral shows to gain insight into the past year's global pearl market. Since the surge of global pearl demand and cultured pearl prices in 2023, the market has experienced some correction over the last two years, providing American buyers with more opportunities to source the goods they need. Most vendors reported a stronger show compared to last year, although trends varied slightly across sectors.

At all three shows, large round and near-round freshwater bead cultured pearls, often referred to as "Edison" pearls (C. Zhou et al., "Detection of color treatment and optical brightening in Chinese freshwater "Edison" pearls," Summer 2021 *G&G*, pp. 124–134), dominated the market due to the continuous improvement of color, size range, and quality levels over the past five years (figure 15). Edison pearls typically range in size from 9 mm to more than 15 mm. Despite a noticeable price increase, buyers continue to find great potential in these pearls, as they remain much more affordable than their saltwater counterparts. While multicolor strands were available, uniformly colored strands were most common. Single loose Edison pearls and pairs were also readily accessible. These pearls were carried by not only pearl vendors but also those selling beads and other colored gemstones. In

Figure 15. A strand of freshwater bead cultured pearls measuring 10 to 13 mm, showing all possible colors available in the market. Courtesy of Yen's Jewelry & Accessories Inc.

addition, small near-round and round freshwater bead cultured pearls from China were available from various vendors, predominantly in white but also in other colors (figure 16). Some of these pearls now reach 6 to 7 mm, a size noticeably larger than in previous years and comparable to typical akoya pearls. Based on the authors' observations, the quality of these freshwater bead cultured pearls has continued to improve.

Figure 16. Small round and near-round freshwater bead cultured pearls from China were widely available in Tucson, many of them white, with some reaching sizes of 6 to 7 mm. Photo by Artitaya Homkrajae; courtesy of Yen's Jewelry & Accessories Inc.

For saltwater cultured pearls, despite relatively low production, Tahitian pearls remained in demand at this year's shows, with color being a significant draw for buyers, particularly the highly desired "peacock" variety for its combination of green bodycolor and significant overtone or orient. Various shades and tones of gray continued to be a classic choice for many. Though uniformly colored strands and pairs were still the mainstream inventory at the shows, multicolored Tahitian strands began to attract more attention (figure 17). Demand for Tahitian pearls in the 6 to 7 mm range remained consistent, but supply was very limited, with only a few dealers carrying these smaller sizes.

The demand for South Sea pearls, both white and golden, held steady. South Sea strands combining variously shaped white and golden pearls, sometimes paired with

Figure 17. Necklace featuring multicolored Tahitian bead cultured pearls measuring approximately 9 to 12 mm, in a combination of various colors and overtones. Photo by Artitaya Homkrajae; courtesy of Eliko Pearl Company.

Figure 18. Many vendors offered necklaces showcasing a variety of white and golden South Sea cultured pearls, attractively arranged with dark Tahitian cultured pearls. Photo by Artitaya Homkrajae; courtesy of Mastoloni.

Tahitians, were a notable trend this year, displayed by many vendors (figure 18). Akoya pearls were also readily available, especially those of higher quality produced in Japan. Smaller untreated akoya pearls in 2 to 5 mm sizes from Vietnam were offered as well, often in white, cream, yellow, and silver.

In addition to these four major types of cultured pearls, vendors carried a very limited supply of cultured *Pteria sterna* pearls from Mexico. Non-bead cultured (NBC) freshwater pearls have become more difficult to source recently, as many Chinese farms have shifted their focus to producing bead cultured pearls. NBC saltwater pearls, often referred to as cultured "keshi" in the trade, were limited in supply, prompting buyers to take a more proactive approach to sourcing.

Figure 19. An assortment of large size and high-quality natural Pinctada *pearls at the GJX show. Photo by Artitaya Homkrajae; courtesy of Ocean Flame Ltd.*

Natural pearls, both nacreous and non-nacreous, were exhibited by only a small group of vendors, with abalone and American freshwater pearls dominating the nacreous selection. *Pinctada* and *Pteria* natural pearls were spotted around the shows (figure 19), though only in limited quantities. While a variety of non-nacreous pearls were represented, conch, melo, and tridacninae subfamily (clam) pearls comprised the majority of this sector.

Overall, the pearl market has become more multifaceted than ever before with the availability of so many varieties offered at a more reasonable price point than in previous years.

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GIA, Carlsbad

Akira Hyatt
GIA, New York

JEWELRY DESIGN

Animal motifs with purpose. Animal motifs have always had a place in jewelry, but many of today's buyers are looking for more than ornament; they want one-of-a-kind pieces with a story and sense of purpose. That shift has created space for designers to rethink traditional themes, a direction reflected in Samira Mazloom's "Fading Footprints" collection.

A seasoned designer and gemologist from a family of jewelry makers, Mazloom is deeply rooted in the craft. The author took an interest in Mazloom's work at the Gem & Jewelry Exchange, where she was carefully sourcing very specific gemstone cuts for her latest pieces. When she spoke about her work, it was clear this was more than a collection—it was a calling.

Each piece in "Fading Footprints" embodies an endangered species. Crafted primarily in platinum and 18K gold,

Figure 20. A platinum and 18K yellow gold Asian rhinoceros necklace (left), set with a round Australian opal cabochon showcasing a reproduction of the critically endangered animal's footprint (right), part of the "Fading Footprints" collection. Courtesy of Samira Mazloom.

the designs feature a single high-clarity, high-domed cabochon. The stone acts as a lens, magnifying the representation of the animal's footprint beneath it. Mazloom works closely with her jeweler, Chuang Yu, to bring each piece to life.

Awareness is central to the collection. Mazloom has traveled to conservation sites in Laos, Thailand, Kenya, South Africa, and beyond, drawing inspiration from animals she has encountered firsthand. Each gemstone is chosen intentionally to connect with the story. For her Asian rhinoceros piece (figure 20), she selected an Australian opal. The opal's shifting rainbow colors evoke the modern, magical imagery of the unicorn, a mythical creature often compared to Asian rhinos due to their endangered status. Her polar bear design features crisp blue topaz (figure 21), inspired by Arctic ice.

For Mazloom, jewelry is not simply decoration—it is storytelling and quiet activism, embedding remembrance, protection, and meaning in a wearable form.

Lisa Kennedy

Figure 21. A platinum and 18K yellow gold polar bear necklace (left), set with an oval blue topaz cabochon showcasing a reproduction of the endangered animal's footprint (right), part of the "Fading Footprints" collection. Courtesy of Samira Mazloom.

Figure 22. "Nile" earrings featuring a one-of-a-kind pair of Royston River turquoise, chrysocolla druzy, blue spinels, and diamonds in 14K yellow gold. Courtesy of Eleux Jewelry.

Hardstones in fine jewelry. Raised among the striking rock formations of Tucson, Arizona, Aria Thomas, designer, gemologist, and founder of Eleux Jewelry (Denver, Colorado), has transformed a lifelong love of stones into a distinctive fine jewelry brand. She brings hardstones—durable and often translucent or opaque—into the high-end jewelry spotlight by pairing them with diamonds and other precious gems.

The author connected with Thomas at the AGTA GemFair, where she shared insight into her design philosophy. Thomas explained that the stone comes first, and each design builds outward from there, with complementary hues and textures chosen to enhance the natural character of the centerpiece. Because of their organic forms, every piece is handmade and often prong-set to allow light to fully reveal each gem's depth and detail. Various agates, opalized wood, and uniquely patterned turquoise (figure 22) are just a few of her favored storytellers, shaping the narrative of her bold fine jewelry designs.

Lisa Kennedy

ANNOUNCEMENTS

Ninth annual Gianmaria Buccellati Foundation Award winner. Catherine "Cathy" Aulick, a GIA Carlsbad graduate, received the ninth annual Gianmaria Buccellati Foundation Award for Excellence in Jewelry Design. Aulick's winning design, a necklace featuring gold, Ethiopian opal, and peridot (figure 23), was selected out of 12 finalists from five of GIA's worldwide campuses. The award was presented at the GIA Alumni Collective's "Night at the Museum" event held during the AGTA GemFair in Tucson.

As part of the honor, Aulick will travel to Italy and meet with a representative from the foundation.

Created in partnership with the Gianmaria Buccellati Foundation in 2018, the award recognizes outstanding talent in design among GIA students worldwide. This is the final year of the award, and planning for GIA's new design competition is currently underway.

Figure 23. Catherine "Cathy" Aulick's winning necklace design sketch for the 2025 Gianmaria Buccellati Foundation Award for Excellence in Jewelry Design, featuring gold, Ethiopian opal, and peridot.

Figure 1. Two pieces of rough chrysoprase with several polished stones. The cabochons range from 0.77 to 2.15 ct. Photo by Nuttapol Kitdee; courtesy of John Wibberley, Chrysoprase Australia.

REGULAR FEATURES

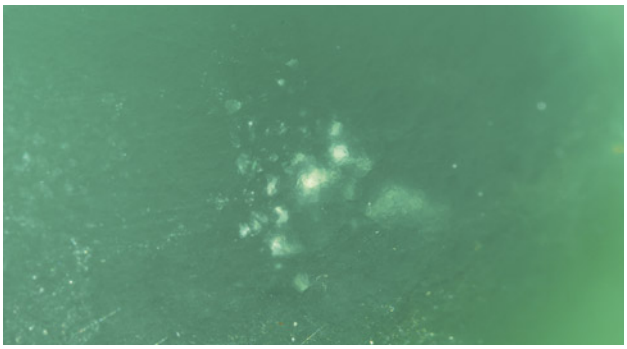
COLORED STONES AND ORGANIC MATERIALS

New chrysoprase production from Western Australia. Since mid-2024, new chrysoprase from Western Australia has been available at gem markets in Bangkok. Discovered by small-scale gold miners, the material is reportedly mined in an area with no previously identified gem mineralizations. However, this discovery lies in a region in which many nickel mineralizations have occurred, and the well-known Yerilla chrysoprase deposit is only a few kilometers from the newly discovered claim.

GIA's Bangkok laboratory recently received a suite of rough and cut stones from John Wibberley, who mined the material (figure 1). The cut samples selected for study were variously shaped cabochons weighing 0.77 to 2.15 ct, in colors ranging from yellow-green to blue-green. Standard gemological properties were consistent with chalcedony. The refractive index was 1.53–1.54 (spot reading), and the hydrostatic specific gravity ranged from 2.59 to 2.65. Fluorescence was generally inert. Observation with a polariscope revealed an aggregate (AGG) reaction; the stone remained light through 360° under crossed filters, indicating an aggregate structure consistent with its cryptocrystalline nature. No reaction was observed when the stones were viewed through a Chelsea filter. Microscopic examination revealed a cryptocrystalline structure with whitish inclusions exhibiting a cottony texture (figure 2), as well as tiny orangy brown/black and fluid inclusions.

Analysis using both a handheld spectroscope and ultraviolet/visible/near-infrared (UV-Vis-NIR) spectroscopy revealed two main broad absorption bands in the violet (~380 nm) and red (~660 nm) regions, along with an additional

Figure 2. Small clumps of whitish cottony inclusions were observed in some of the studied chrysoprase cabochons. Photomicrograph by Suwasan Wongchacree; field of view 4.80 mm.



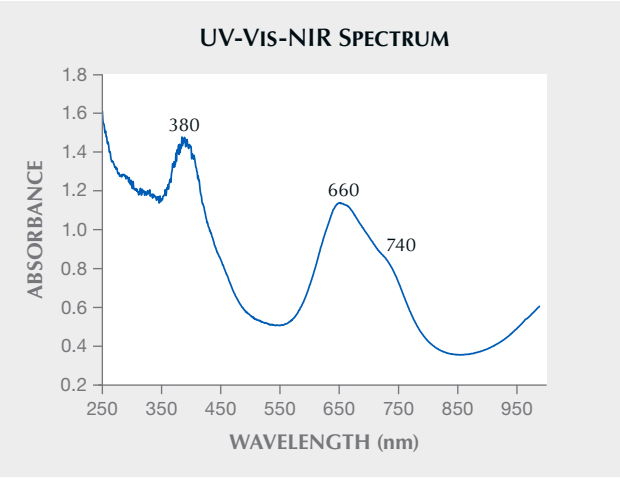


Figure 3. UV-Vis-NIR spectrum of one of the studied chrysoprase samples revealed two main broad absorption bands at approximately 380 nm and 660 nm, characteristic of Ni^{2+}, together with an additional band near 740 nm, also attributed to Ni^{2+}.

feature at approximately 740 nm attributed to Ni^{2+}. These absorptions left a transmission window in the green-blue region, producing the characteristic hue of chrysoprase, caused by Ni^{2+} (figure 3; Y. Jiang and Y. Guo, "Genesis and influencing factors of the colour of chrysoprase," *Scientific Reports*, Vol. 11, 2021, article no. 9939).

Energy-dispersive X-ray fluorescence confirmed the presence of nickel, the chromophore defining this green variety of chalcedony. Silicon was also detected, consistent with chalcedony's composition. Chromium, iron, and copper, which can also contribute color in other chalcedony varieties, were not detected. Fourier-transform infrared spectra displayed patterns typical of chalcedony.

Despite limited volume, this new discovery has gained some attention from connoisseurs, especially in markets with an appetite for fine green translucent gemstones.

Aprisara Semapongpan
GIA, Bangkok

RESPONSIBLE PRACTICES

Your Purchase Feeds: Vaibhav Global Limited's social-impact approach. Before Vaibhav Global Limited (VGL) evolved into a multinational retailer offering affordable fine jewelry and natural and laboratory-grown diamonds, founder Sunil Agrawal made a decision that would redefine the company's purpose: Every purchase would help feed a child in need. This simple idea, now known as Your Purchase Feeds, has since provided nearly 100 million meals and currently supports approximately 50,000 children per day, with a long-term goal to reach one million meals daily by 2040.

Agrawal's professional roots trace back to Jaipur, India, historically one of the world's leading centers for gemstone cutting and ethical jewelry manufacturing. Early in his career, he spent time in the city's workshops and markets, observing artisans who relied on fluctuating export demand for their livelihoods. This experience highlighted a persistent disparity: The communities producing fine gemstones often remained economically distant from the markets that sold them. Agrawal responded with a reimagination of the traditional supply chain. Instead of relying on multiple intermediaries, he sought to build an end-to-end enterprise encompassing sourcing, cutting, manufacturing, broadcasting, and direct-to-consumer e-commerce.

Today, VGL employs more than 4,000 people worldwide and operates through Shop LC in the United States, The Jewellery Channel (TJC) in the United Kingdom, and Shop LC Germany in Europe. This integrated structure allows the company to maintain shorter supply chains, improve cost transparency, and preserve craftsmanship while offering more accessible pricing for consumers seeking affordable, high-quality jewelry (figure 4) and laboratory-grown diamond pieces. By consolidating operations, VGL not only streamlined production but also created steadier employment for artisans, protecting generational skills that are increasingly at risk of automation or outsourcing. The result is a dual-impact model: for consumers, increased transparency and affordability, and for artisans, stable employment and recognition for their craftsmanship.

The jewelry sector has long valued legacy, the transmission of skills, materials, and traditions from one generation to the next. Agrawal sought to expand this idea beyond the object itself. If jewelry marks life's most meaningful moments, he reasoned, then part of its value should also sustain the communities that bring it to life. Out of this philosophy emerged Your Purchase Feeds. Instead of

Figure 4. Moissanite earrings (left) and pendant (right) in vermeil yellow gold over sterling silver from Shop LC's Clarté Dorma collection, made in Jaipur, India. Courtesy of Shop LC.

Figure 5. School meal distribution supported by Akshaya Patra in India. Courtesy of Shop LC.

building a proprietary foundation, VGL partnered with established hunger-relief organizations that already had deep community reach and operational infrastructure. Key partnerships include Akshaya Patra in India, which provides large-scale school meals (figure 5); No Kid Hungry and Backpack Friends in the United States, addressing child hunger during weekends and holidays; and Magic Breakfast and The Felix Project in the United Kingdom, ensuring students start their day with nutritious meals. This partnership model allows VGL to measure direct outcomes, such as meals funded per item sold, creating a tangible link between commerce and community.

As global consumers increasingly align their purchasing behavior with ethical and social values, the definition of *value* within the jewelry sector continues to evolve. For some, value remains rooted in rarity and provenance. For others, it is now inseparable from purpose, sustainability, and accessibility. VGL's case illustrates a shift toward integration over separation, positioning responsible practices as central to operations rather than peripheral initiatives. The company's example underscores how vertical integration can simultaneously address efficiency, traceability, and social responsibility while helping consumers find affordable, ethically sourced jewelry with verified quality. This approach has also earned recognition within the broader business community. In recent years, VGL and its subsidiaries have been honored for sustainability and social impact, including the Austin Chamber of Commerce's Bold Giver Award and the Community Catalyst Award at the 2025 Jewellery World Awards. In 2026, ShopLC was ranked 24th out of 125 top impact companies by Real Leaders.

Your Purchase Feeds reframes the relationship between luxury and responsibility, positioning nourishment—not just ornamentation—as part of jewelry's value chain. For Agrawal and his team, the initiative is more than a corporate responsibility program; it is a guiding principle that merges commerce, compassion, and continuity, a model of what responsible retail and ethical jewelry sourcing can look like in the decades ahead.

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SYNTHETICS AND SIMULANTS

CVD synthetic fashioned to imitate a rough natural diamond. This report covers the first instance, to the authors' knowledge, of a synthetic diamond grown by chemical vapor deposition (CVD) being deliberately fashioned into the approximate shape of a rough natural diamond crystal. The authors recently examined a 6.87 ct near-colorless crystal (figure 6). Raman spectroscopy confirmed the stone as diamond, and the near-octahedral shape was similar to the morphology of a natural rough diamond.

Figure 6. A 6.87 ct CVD-grown synthetic diamond, measuring approximately 11 mm across, fashioned in the approximate shape of an octahedron. Photo by Danny Bowler.

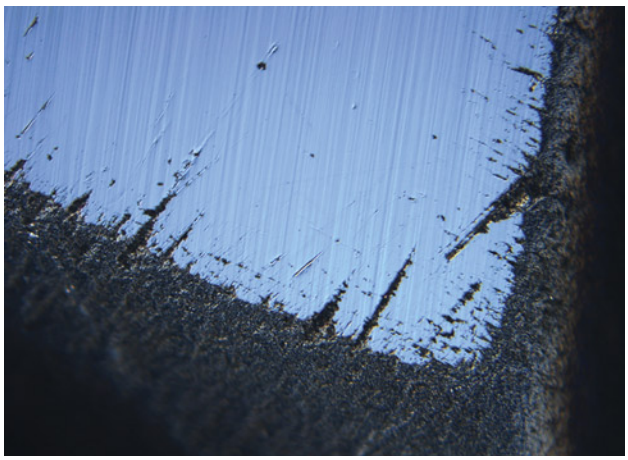


Figure 7. Differential interference contrast image near an apex of the stone showing the roughening of junctions between the faces and evidence of polishing after the roughening occurred. Image by David Fisher; field of view 0.48 mm.

Further examination revealed that it was not a genuine octahedron, with only one set of opposite faces being parallel. Microscopic observation using differential interference contrast showed extremely flat faces with a series of parallel polishing lines as the only significant feature (figure 7), unlike the growth steps and trigons typical of octahedral faces in natural diamond. The junctions between the facets were extremely rough, possibly due to graphitization during heat treatment to improve the color of the stone, with the main faces having been repolished after the heat treatment.

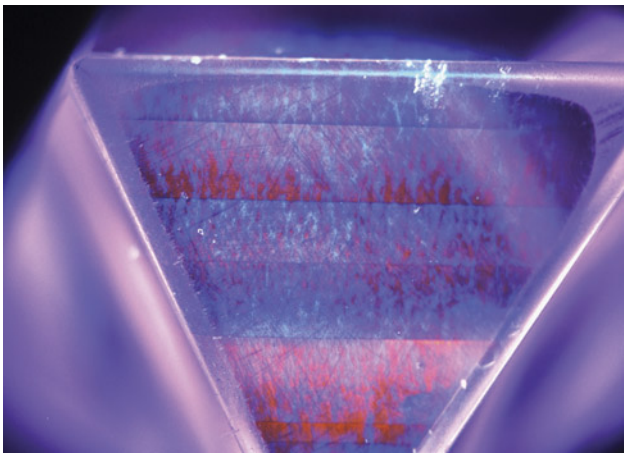
X-ray Laue diffraction was used to confirm the orientation of the faces. In a natural diamond octahedron, all eight faces are parallel to {111} planes. None of the faces of this stone were parallel to {111} planes. Two of the opposite faces were parallel to {100} planes, consistent with the preparation of a stone from a block of CVD-grown synthetic diamond. The favored direction of growth in CVD synthesis is in a ⟨100⟩ direction on a substrate with a planar face in a {100} plane. An octahedral block maximizing the height of the as-grown material could be prepared from this with two {100} faces aligned with the substrate interface and the final growth surface. Producing a stone such as this one from a block of CVD material grown in a ⟨100⟩ direction requires careful processing, and any resultant polished diamond would have a much lower yield than one produced directly from the as-grown block of material. The only motivation for such an action appears to be a deliberate attempt at deceit.

Infrared absorption measurements indicated that this was a type IIa diamond (i.e., one that contains no detectable nitrogen-related absorption). Around 1 to 2% of natural diamonds are type IIa, but they are usually irregular in shape (I. Sunagawa, "A discussion on the origin of irregular shapes of type II diamonds," *Journal of Gemmology*, Vol. 27, No. 7, 2001, pp. 417–425). Natural octahedral diamonds with a well-formed crystal habit are almost always type Ia, making the type and morphology combination observed for this stone inconsistent with natural diamond. All colorless synthetic diamonds are type IIa or very weak type IIb due to the presence of a small concentration of uncompensated boron.

The stone was definitively identified as a CVD synthetic diamond through DiamondView imaging of the flat faces (figure 8). The background luminescence showed bands of orange emission of varying intensity from nitrogen vacancy centers incorporated during the CVD growth process. The bands were consistent with a stop-start growth process in which periods of reasonably consistent growth are interrupted either by a significant change in growth parameters or possibly the stopping of the process to reposition the stone with respect to the plasma in the chamber. Within the coarse growth bands, it is also possible to see growth striations due to step-flow growth with differential uptake of impurities at the terraces and risers of the steps (P.M. Martineau et al., "Identification of synthetic diamond grown using chemical vapor deposition (CVD)," Spring 2004 *G&G*, pp. 2–25).

Also evident in figure 8 are "plumes" of blue luminescence that thread through the coarse bands roughly perpendicular to them. These are associated with dislocation bundles due to columnar growth and have been widely reported for CVD synthetic diamonds (M.P. Gaukroger et al., "X-ray topography studies of dislocations in single crystal CVD diamond," *Diamond and Related Materials*,

Figure 8. DiamondView image of one of the faces of the stone showing luminescence features consistent with a CVD synthetic diamond. Coarse bands of variable intensity orange emission from nitrogen vacancy centers are visible, along with growth striations and "plumes" of blue emission from dislocations within the bands. Image by Sema Firat; field of view 9.0 mm.



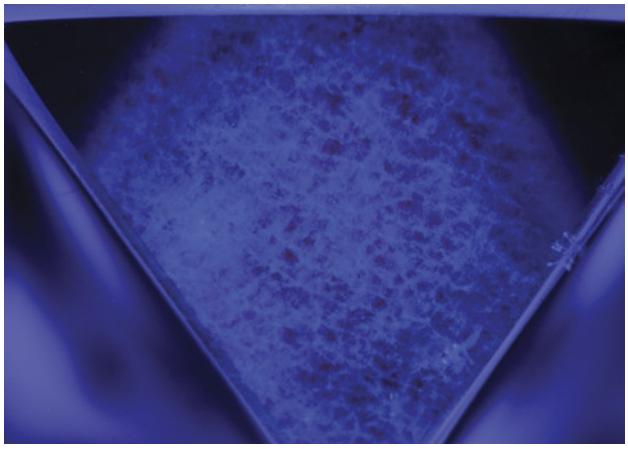


Figure 9. DiamondView image of one of the {100} oriented faces adjacent to the final growth surface of the original CVD synthetic. It shows low-intensity orange background emission and a network of blue dislocation-related luminescence, consistent with columnar growth typical of CVD synthetic diamonds. Image by Sema Firat; field of view 9.0 mm.

Vol. 17, No. 3, 2008, pp. 262–269). The dislocations run approximately parallel to the growth direction and form a network where they intersect the final growth surface. This is evident in figure 9, a view of the face adjacent to and parallel with the final growth surface. This region has very weak orange emission, and the only significant features are the blue dislocation networks.

There is currently no evidence of any widespread switching of synthetic for natural diamonds in the rough diamond pipeline, but overreliance on practices such as assessing the "heft" of a stone would obviously not allow reliable screening for synthetic diamonds. Careful examination of the detailed appearance of this stone allowed it to be identified, and while it could be possible to replicate some of the surface features of a natural diamond (e.g., growth steps and trigons) through etching processes, these features would be extremely difficult to reproduce in detail due to the difference in crystallographic orientations of the polished faces compared with a genuine diamond octahedron. Should synthetic diamonds fashioned in this way become more prevalent, an immediate screening solution for rough diamonds could be implemented through adaptation of existing screening instruments for polished diamonds. Analysis of this stone with a wide range of diamond verification instruments gave the correct referral results, and the main characteristics were consistent with those seen routinely in polished synthetic diamonds.

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Figure 10. George R. Rossman holding an eponymous sample of the tourmaline group mineral rossmanite. Photo by Lance Hayashida; courtesy of the California Institute of Technology.

IN MEMORIAM

George R. Rossman. Emeritus professor of mineralogy George R. Rossman passed away on February 6, 2026, at the age of 81.

In 1971, Rossman obtained his PhD in chemistry from the California Institute of Technology (Caltech). In that same year, Caltech's Division of Geological and Planetary Sciences hired him as an assistant professor of mineralogy after initially recruiting him as a mineralogy instructor. Over the next 55 years, he made significant contributions to the field and instructed thousands of students in mineralogy and mineral spectroscopy. He is remembered as an engaging and dedicated instructor, and in 2004 was awarded Caltech's most prestigious teaching honor, the Richard P. Feynman Prize for Excellence in Teaching.

An active researcher, Rossman published more than 400 papers with several still in progress when he passed away. His work was largely driven by a straightforward question: "Why do gems and other minerals possess their distinctive colors?" This led him to become an invaluable contributor to GIA, serving on the board of governors from 1995 to 2007, mentoring GIA researchers, and coauthoring numerous papers with them. He was also a respected member of *Gems & Gemology*'s editorial review board and authored and coauthored many significant articles featured in the journal, including a set of four seminal papers in the 1980s that spoke to his fundamental question regarding color.

Rossman had an infectious curiosity, and his special passion for minerals led to many awards throughout his storied career. Notably among them, he received the inaugural Dana Medal from the Mineralogical Society of America (MSA) in 2001 and the Roebling Medal (MSA's top honor) in 2021. He also had three tourmaline mineral species named in his honor: rossmanite (figure 10), alumino-oxy-rossmanite, and fluor-rossmanite.

We extend our sincere condolences to Rossman's family, friends, and colleagues. A more detailed tribute recognizing his contributions to gemology and mineralogy will be published in an upcoming issue of *Gems & Gemology*.

Figure 11. Pete Yantzer with his beloved dog. Courtesy of the Yantzer family.

George Peter Yantzer. *Gems & Gemology* mourns the loss of "Pete" Yantzer (figure 11), who passed away on January 10, 2026, at the age of 77. A gemologist, educator, and visionary leader at both GIA's and the American Gem Society's (AGS) diamond grading laboratories, Yantzer will be missed by his many friends in the trade.

Unsure of a career path after serving in the U.S. Air Force, Yantzer was told by a family friend in the jewelry industry that gemology was a fine career choice, so he enrolled at GIA using his GI Bill. After graduation, Yantzer joined the Institute in 1973 to become the New York Gem Trade Laboratory's seventh staff gemologist. He always expressed his good fortune to be mentored by some of the true giants of gemology—Richard Liddicoat and Robert Crowningshield. By 1976, he was leading GIA's newly established Los Angeles lab. There, he steered the rapid expansion of GIA's diamond grading services during the diamond "investment" boom of the late 1970s.

After a break from the trade, Yantzer became the first executive director of the AGS diamond grading laboratory in 1996. Over the next five years, he worked tirelessly with a team of optical scientists, mathematicians, and industry professionals to develop the AGS Light Performance Cut Grade System. At the heart of this project was Yantzer's conviction that cut grading was the most important factor in a diamond's beauty. During his time at AGS, Yantzer mentored the next generation of diamond cut researchers, several of whom continue to advance the practice of cut grading at GIA following the acquisition of the AGS laboratory in 2022.

Yantzer's decades of leadership and intellectual curiosity elevated the practice of diamond grading and guided the industry toward cutting standards that produced more attractive diamonds for consumers. Because of his lifelong contribution to the practice and science of diamond grading, Yantzer was the 2005 recipient of AGS's Robert M. Shipley Award, its highest honor.

Yantzer is survived by two daughters, seven grandchildren, and brothers, Steve, John, Paul, and Phil. We extend our sincere condolences to his family and friends.