“Fossil Bee in Opal” Phenomenon Defies Understanding

10 TIPS FOR CARING FOR OPALS

Opals 101

PROFOUND PATTERNS

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Details Inside...
Welcome to the second issue of *Illustrious Opals*!

We hope you enjoyed what you read in *Illustrious Opals* #1, and if you haven’t yet read it, we recommend you visit the Rock & Gem website and click on the Library navigation tab at the top, to access the first issue.

As we’ve mentioned in past communications, as part of the *Illustrious Opals* series, we’re giving away 4 total Opal Prize Packs! Each prize pack contains items provided by our sponsors and more. All you have to do is register your email address at our site to receive access, and notifications when future issues of *Illustrious Opals* are available.

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OPALIZED FOSSILS

History-Making “Bee in Opal”

BY CRAIG C. KISSICK

ILLUSTRIOUS OPALS
Opal is a universally loved and extremely popular material. A form of silica, or quartz, as it is most commonly found in nature, opal is considered a “mineraloid” due to its amorphous character, rather than a mineral with crystalline form.

Rare and valuable, opal has been prized since antiquity in Europe, where it was a favorite of royalty and even adorned crowns of some kings. Famous naturalist, philosopher and author “Pliny the Elder” was known to have referenced opal in his volumes of *Naturalis Historia* (Natural History). His fellow ancient Roman politician Mark Antony also was a known lover of the dynamic gemstone.

In modern times, opal is well-known as the traditional birthstone for October, measuring 5.5 to 6 on the Mohs scale of mineral hardness. Within the category of opal, there are two general varieties: “common” and “precious,” with the latter being most notable for an iridescent “play of color” due to diffraction caused by its internal structure. Australia is the primary producer of precious opal, but sources including Ethiopia, Mexico and Indonesia, are also known for producing the amazing gemstone.

Additionally, Coober Pedy in southern Australia is world-famous for fiery opals, and Lightning Ridge in New South Wales, Australia, produces black opals considered the rarest – rarer than diamonds – and most valuable of all types of opal. Not surprisingly, opal is Australia’s national gemstone. In contrast, “Virgin Valley” in Humboldt County, Nevada, is rather popular for the colorful limb cast replacements of petrified wood it produces. *The topic of limb casts will be discussed further in Illustrious Opals Issue #3 — available October 31, 2020.*

Regardless of opal’s Mohs hardness, opals with high water content can desiccate and be subject to cracking and crazing. Often opals both in gemstone and specimen form will need to be kept in liquid to prevent deterioration. While the popularity of opals in jewelry applications is unquestionable, collectors often covet specimens represented in various forms for their obvious dramatic aesthetic qualities and enchanting display of vivid color. Plus, no two opals really ever look the same. Furthermore, all of the opal categories, including black, jelly, boulder, fire, and white, each have their unique appeals and visual qualities.

The gemstone variety of opal is highly sought after, especially in cabochon form, due to being the preferred presentation for highlighting the numerous attributes of the magical material. Also, opals as specimens have a substantial following by collectors equally enamored by the charms of this most unique stone. Opal transcends the gemstones and fine minerals collecting communities with a major presence in both.

**Opal: An Agent of Change?**

Although opal may not typically be thought of as an agent of fossilization like its silica counterpart quartz, agate, or several other mineral varieties, fossilization involving opal can and does occur. The resulting items are often extremely unusual, tremendously beautiful, and highly collectible. Anyone who has seen a fossil featuring opal replacement is unlikely to forget soon having seen something so special. A type of petrified wood in the form of limb casts and one exceptional insect in opal are two such examples, and both are among the selection of lots offered in Heritage Auction’s Oct. 4 Signature Auction featuring the Jena Blue Collection of Gems and Minerals.

The Virgin Valley mines of Humboldt County, Nevada, provide the classic material referred to as “Virgin Valley” opal. Representing the fossilized remains of an ancient forest that dates back some 20-plus million years ago, prehistoric trees were buried by volcanic ash then preserved by silica that was deposited as the result of flowing hydrothermal water. The “opalized” logs, in the form of limb casts, represent the botanical remnants in vivid color, all the while preserving the many characteristics of the original wood.

“Virgin Valley” material is considered a rarity in terms of opal and is a world-renowned locality for the spectacular gem fossils it produces. Large and complete specimens are also rare for the locality. Basically, opal forms in cavities within rocks, beginning with the process of silica dissolving in water. As the liquid
fills a hollow space acting as a mold, it hardens to form a cast of what was originally (living) there. Mines like the Royal Peacock, Rainbow Ridge and Bonanza produce incredible opals to behold.

Vertebrate animals, including dinosaurs, have been preserved in opal, and one most amazing example concerns an unidentified species of bee found in a specimen from Java. The specimen preserved much like other insects might be, while suspended in amber during its unique fossilization process. The extremely rare specimen is only the second known such example of an insect such as this preserved in opal. The first incredible piece is currently on display at the Perot Museum of Nature and Science in Dallas, Texas. The offering has been studied by the Gemological Institute of America (GIA) and will likely be the subject of another article soon. The story behind the piece is quite a tale start to finish.

**Javanese Opal Origin**

Javanese opal, known to the locals as *Kalimaya*, was first mined in the 1970s using primitive methods. Opalized wood has been commonly known in Indonesia for some time. The Genteng Formation offers deposits of opal-bearing material that dates between 4 million and 7 million years in age dating to the border of the Pliocene and Miocene Epochs of the Geologic Time Scale. One specific zone of a strongly altered pumice rock produces the coveted Javanese opal with a refractive index similar to Mexican opal of volcanic origin. A faint (blue) fluorescence can often be seen in samples from the Cilayang Pit, which has provided the specimen that could be indicative of “defects” in the silica. The white “jelly” opal exhibits tube-like inclusions and brownish veins consistent with the material from that locality. Javanese opals could be significantly different from similar material from Australia or Mexico on a microstructure level.

The real issue surrounding these unique opalized specimens concerns how the unique fossilization occurred? One theory is that it was created as amber that opalized. However, a revolutionary explanation of the unique fossilization involves volcanic fluid filling faults, then cooling and ultimately leaving water deposited silica, for the opalization of such a singular nature. This incredible “fossil bee in opal” represents the rare phenomenon in excellent detail. Insects preserved in opal like this represent scientific discovery, which is rather impressive on all counts.

The “fossil bee in opal” and several superb specimens of “Virgin Valley” opal will appear among the lots featured in Heritage Auctions’ next Signature Auction slated for Oct. 4, 2020.

**About the Contributor:** Craig C. Kissick is director of the Nature & Science division of Heritage Auctions www.ha.com. He is also the current president of the Association of Applied Paleontological Suppliers (AAPS), an active member of the Dallas Paleontological Society and the Mineralogical Association of Dallas, and a charter member of the Perot Museum of Nature and Science.

**Sources:**
2. Entomology Today, “Fossilized Insect Discovered Not In Amber, But In Opal” by Brian Berger, January 18, 2019
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Celebrate the Colors and Patterns of Opal

In the past few years, Ethiopian Opal has become one of the most available and worked types of opal. It has brilliant colors, minimal fractures, and produces much fewer problems trying to orient the patterns and colors. The colors and their patterns are generally prevalent throughout the piece, so it isn’t challenging to orient these colors and shape the cab to retain the best pattern.

Make the Most of Rough Material Selection

I decided to make a Brazilian agate piece with a center stone of rose quartz and three accent stones made with Ethiopian opal. Though the center stone was made from a piece of asteriated rose quartz from Auburn, California, the slice that I had wasn’t thick enough to make a sphere that I could utilize in determining where the star was oriented.

Previously I have worked with Ethiopian opal to make cabochons for rings. Typically, the material has some fractures, so selecting a fracture-free rough piece with a general dome shape can take some time. By being selective in choosing the rough piece for color, shape, and defects, you can get the best yield. Most of the rough also has a coating of sandstone and some sandstone inclusions, so you need a strong backlight to highlight the amount of penetration of the sandstone. The light will also clearly reveal the depth and location of any fractures within the rough. Most dealers have a strong light you can use to evaluate the rough.

After flattening the bottom of the rough, I prepared the dop sticks. Because the cabochons would be quite small, just six millimeters across, I used lengths of wood skewers for dop sticks. I further reduced the diameter on the end of the sticks by shaping them with a file. I applied a small piece of dop wax on the stick by holding it over an alcohol lamp to melt and shape the wax. I carefully heated the opal piece by holding it in my fingers up to the side of the flame. Concurrently, I heated the dop wax until it started to get very soft. I brought the wax to the opal and stuck them together, and then reheated both taking care not to apply too much heat to the opal.

Retaining Original Color

While working my stones, I had varying experiences with the colors. The stone that started with the brightest color had the least color loss during the shaping process. The next brightest had a total loss of color. The final stone had a complete color change. It started with only a green flash of color, and it turned white during the cabbing process. I hadn’t experienced this effect before. In comparing them together on the dop stick, these differences became evident.

Fortunately, all of the stones returned to their original colors, though the green flash stone took considerably longer – about 36 hours - to achieve its restored condition. With the restored colors, the mounted stones look quite attractive.

Bob Rush has worked in lapidary since 1958 and metal work and jewelry since 1972. He teaches at clubs and Modesto Junior College. Contact him at rocksbob@sbcglobal.net.
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Getting to Know the Mind Behind

THE ARKENSTONE

DR. ROB LAVINSKY

There are numerous illustrations of the 17th-century phrase, “One good turn deserves another.” By most accounts, it appears Dr. Rob Lavinsky’s life is one such example.

The “one good turn” that inspired Lavinsky, owner and founder of The Arkenstone Gallery of Fine Minerals, to take the path he has and mindfully do countless “good turns” in response, took place in Ohio during the mid-1980s.

“I was introduced to minerals at the age of 12 through the Columbus, Ohio, Rock & Mineral Society (www.columbusrockandmineralsociety.org/), and was fortunate to have many generous mentors there,” said Lavinsky. “The club adopted me, taught me, let me into the library they shared. It was immersion immediately! Without such mentors, I would never have entered the hobby.”

It’s safe to assume, more than a few people with a keen interest in rocks, gemstones, minerals, and fossils are also grateful to the members of the Columbus mineral club for introducing Lavinsky to these remarkable fields of natural science. The influence, education, and encouragement of Columbus mineral club members Carlton Davis and John Medici inspired and equipped Lavinsky to become a part-time mineral dealer by the time he was 14. The learning also included working with and for seasoned field collectors Neal and Chris Pfaff throughout his junior high and high school years. The afterschool and summer job allowed Lavinsky to amass a personal collection and develop an inventory to sell.

While he was in college studying for a career in genetic engineering, he formed what would become his career purpose, The Arkenstone. Initially, as Lavinsky explained, he saw it as a way to do something he enjoyed and pay his way through college while studying for a career in medical research. Just as he had in his youth, Lavinsky forged ahead, taking “the road less traveled” by incorporating email swap/sell lists, as early as 1991. Ultimately, he created one of the largest and earliest (1996) websites featuring an inventory of gem, mineral, and fossil specimens. During this time, he continued to buy and sell at mineral shows, including the Tucson Gem and Mineral Show®, where he became a “Main Show” dealer, a position he continues to enjoy 30-plus years later.
Lavinsky, balancing business, and graduate studies, successfully earned a Ph.D. in Molecular Genetics. Upon completing his studies — while awaiting the birth of his first child — he debated pursuing a career in biotechnology or becoming a full-time mineral dealer. As Lavinsky explained, either path would have been fulfilling and, in the ensuing years, have both significantly contributed to his life.

“I could have gone into science and enjoyed it. But, playing with nature's beauty always warred with a real job choice, and won out in the end,” said the life-long collector. Interestingly, it’s Lavinsky’s fascination with fossils that serves as a point of connection with opals. As he explained, when opal replaces a mineral or fossil, which illustrates a combining of the gem world with that of natural history, the synergy of the two is most amazing.

He went on to say, “I do not regret being a scientist or the years of training to think a certain way. I believe it helps me appreciate nature more and be better at what I do (more organized, and more disciplined on the business side.)”
Lavinsky’s analytical mindset, preparedness, and profoundly inquisitive personality is at the core of his business operations, which is a significant benefit during uncertain and unusual times, such as 2020.

“My business was vertical, not just high or low-price range, and so I am luckily prepared for these strange times,” commented Lavinsky, who employs a team of 14 people, including staff in China responsible for sourcing, and actively buying specimens daily. “I have five years of inventory amassed, a great team here in Dallas, and a large customer base to show good things to.”

He went on to say, “After Sept. 11, 2001, and the 2008-2009 crashes, minerals and the mineral collecting game exploded on the other side within two years. I expect it will do so again with the organic growth of new collectors and customers, which is great news for all of us!”

In addition to remaining optimistic, flexible, and proactive, and engaged with clients and the mineral collecting community at large, Lavinsky and his team pay close attention to what can be learned during these times. Among the most important aspects of the business that The Arkenstone team keeps top of mind are the clients.

“The collector comes first. Build and help build collections the way we would want to, as collectors ourselves – my core team is ONLY made up of people who are collectors or from collecting families. We are drinking the same juice,” Lavinsky explained. “I want to build collections over decades – we are best with the serious collectors who want long-term relationships, not the fly-by-night folks who just want to buy pretty rocks out of a rock shop.”

Whether he’s traveling to China, working with employees on various projects, buying, selling, exhibiting and speaking at shows, or serving as sponsor and host of the Dallas Mineral Collecting Symposium (DallasSymposium.org), which is now in its tenth year and takes place the end of August, Lavinsky strives to give back to the mineral community that did so much for him, and continually do “one good turn.”

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Specimen of fluorite with calcite, from a single pocket at the Yaogangxian mine, Chenzhou district, Hunan Province, China, known to have produced just three such specimens, and one of Dr. Rob’s favorite Chinese mineral specimens. BETH VAN ALLEN
There are moments in history that would be remarkable to witness in person, and in terms of rock-hounding, a Kenyan cave in the 1930s is one such place and time.

In 1930s Kenya, anthropologist, Louis Leakey, came upon artifacts made of opal and reportedly made by early humans. The artifacts were examined and deemed to be more than 6,000 years old, according to various gemology and geology sources.

One can only imagine what a sight that was, given the brilliant and unparalleled color present in various opal types, not to mention the patterns. The multiple colors present in opals are often a topic of discussion, but the patterns in opals also significantly contribute to the beauty and wonder of these gems.

As one would suspect, even with a similar pattern, no two opals are the same. However, understanding some of the more common patterns is another tool in identifying types of opals and developing some semblance of the grade of an opal. Some of the more well-known opal patterns are listed to the right.

There are many more opal patterns to explore, and the study of these common patterns will only strengthen your awareness of the identity and value of opals.

**Pronounced Patterns**

**FLAGSTONE**
This pattern has multiple presentation attributes. First, it may showcase the color as flakes or blocks that appear to fit together like a puzzle. Second, the chips of color in this pattern may also appear to be stacked atop one another, which creates a different perspective altogether.

**PINFIRE**
A most popular pattern among collectors of opal, as well as lapidary artists and jewelry aficionados, this pattern appears as pin-head dots of color throughout opal, and the flash of color appears and disappears as the stone is moved.

**HARLEQUIN**
A highly lauded pattern of opal, wherein the color presents as large chunks, often close to or the same size and shape, and showcased in a manner that is reminiscent of spaces on a board game. Although it is used in the description of several opal examples, harlequin pattern opals are not common.

**CHAFF**
Appears as thin lines of color across the face of an opal. It is similar to the straw pattern, except often the color in the straw pattern truly resembles the shape of straw pieces laying across one another — a bit more involved than the chaff pattern.

**BROAD FLASH**
A pattern presenting a sizable burst of color that occupies much of the stone's face and appears to shift when the stone is moved.

**FLORAL**
As uncommon as the harlequin pattern may be, the floral pattern is frequent among opal patterns. It appears, just as the name implies, to be a bouquet of color.

**CHINESE WRITING**
This pattern is another variation where the color appears as thin strips, which often overlap one another and seemingly look like characters of writing in the Chinese language.

Sources: www.gemselect.com; www.gia.edu; www.opalauctions.com; www.gem-a.com
Banking on Bidding to Acquire Opal

In each issue of Illustrious Opals, we feature examples of opals that sold at auction or are coming to auction soon. These examples demonstrate another option for acquiring opals, and the opportunity to find specimens in a range of prices.

**BLACK NOBBY OPAL**
This nodule opal presents a significant broad flagstone pattern of chartreuse green, orange, yellow, red, and brilliant blue, atop a midnight black base. The example hails from Kelly’s Field, Lightning Ridge, New South Wales, Australia.

**LOT SPECIFICS**
- Dimension: 25.56 x 16.47 x 7.37 mm
- Weight: 20.88 carats
- Price: $75,075
- Sold June 2020
- www.bonhams.com

**ETHIOPIAN OPAL SUITE**
This pear-shaped oval cabochon is part of a trio of Ethiopian opal gemstones. The two other stones are high-domed oval opal cabochons.

**LOT SPECIFICS**
- Dimension: 7.4 x 6.3 x 4.8 mm (small ovals) and 10.48 x 8.7 x 5.2 mm (pear-shaped oval)
- Estimate: $1,000 - $1,500
- Coming to auction October 2020
- www.ha.com

**OPAL-AN**
This “round” cut variety of opal called Opal-AN showcases tiny “capillary-like” orange inclusions of iron oxide, which is how it acquired the nickname “Blood Vessel Opal.” It was discovered in the Etienne Mine, San Luis Potosi, Mexico.

**LOT SPECIFICS**
- Dimension: 9.10 mm
- Weight: 2.16 carats
- Price: $100
- Sold July 2020
- www.mineralauctions.com

**OPAL IN MATRIX**
This specimen from Andamooka, South Australia, is an uncommonly large matrix opal, with a ribbon pattern play-of-color visible. This example was once part of the storied collection of collector, dealer, and auctioneer Gloria Manney.

**LOT SPECIFICS**
- Dimension: 8 ½ x 5 x 4 inches
- Weight: 9286.5 carats
- Price: $1,657
- Sold June 2020 — www.bonhams.com

**MEXICAN FIRE OPAL**
This free-form translucent carved and polished Mexican fire opal presents with a rich play-of-color.

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Some of the opals I have most enjoyed carving are crystal black opals, also known as jellies, like this one set in 18K yellow gold with a faceted oval pink tourmaline. M.J. Colella

I especially love carving crystal black opals with a purple flash, like this one set in 18K yellow gold with a faceted teardrop tanzanite and a pink tourmaline. Andrew Herman

Solid black opals with strong play-of-color from Lightning Ridge, Australia, like this 16-carat one titled “Tempest,” are a delight to carve. M.J. Colella

Koroit matrix opal is famous for its opal tendrils, featured in this carved and line-engraved piece, my gem sculpture “The Omphalos of Earth,” which won a Best-of-Show Award in 2006 in a fine art exhibition. Helen Serras-Herman

Taking advantage of the natural hole left in this black opal after the carving process led me to wire-wrap it as a pendant. Helen Serras-Herman
Over the years, my husband’s love and fascination with opals have led me to carve almost every kind of opal. We have worked together on many opals, often alternating the grinding and sanding steps.

I am often asked whether there is a difference in carving opal compared to other colored stones. There are no fundamental differences in carving any gemstone, whether they are transparent colored gemstones, opaque, or opals. The lapidary steps are generally the same: grinding, sanding, more sanding, and final polishing. That being said, each material has a critical lapidary stage, depending on the consistency of the material’s hardness and uniformity. Transparent gemstones are one mineral and, for the most part, have one hardness, except for some gem materials that show directional hardness. In contrast, opaque lapidary materials commonly consist of a combination of minerals that give rise to amazing scenic patterns and breadth of varying hardnesses.

The hardness in opals ranges between 5.5 to 6.5 on the Mohs scale, which is just below the Mohs level of 7 for hard gemstones, with quartz meeting that benchmark. Opals are not really soft or fragile, just not as hard or as tough as other materials. They need careful cutting, suitable mountings, and proper cleaning care.

What makes cabbing and carving opals differ from other gemstones, is that the precious opal bands are often hidden deep into the stone and gradually are revealed. Also, the color bands may be very thin and vanish...
in a flash with aggressive grinding, therefore, a slower grinding approach of “grind and look, and look some more” is highly recommended. My husband, Andy, loves the “treasure hunt” segment of cutting opals and exposure of the color bands.

In many opals, soft sand is present and has to be removed in order to allow the opal color bands to be widely visible. An organic carving approach is often required rather than traditional symmetrical cabbing, which may remove too much material. Oddly enough, the traditional market rewards standard-sized opal cabs, which may fetch a higher per-carat price than the carved ones.

The critical sanding phase for white and black opals is the 3,000 grit step, during which the opal becomes scratch-free and ready for polishing. White and black opals achieve excellent polish with cerium oxide. Just be cautious not to overheat the stones.

Some of the opals I have most enjoyed carving are crystal black opals, also known as jellies, from Lightning Ridge in Australia. I love how the play-of-color floats and glides over the translucent body color. However, after our move to Arizona, I discovered something caused some of the finished crystal opals to craze. It is a heart-breaking moment when you open a box and see a beautiful opal that you have cut, showing crazing lines. Once that happens, there is nothing to be done, no return. I believe the reason for the opals crazing here in Arizona is a combination of the desert climate and big temperature swings every day, with temperature variation of 30-plus degrees. These are both reasons we love Arizona, but they are not favorable to black crystal opals. Consequently, I have stepped back from carving these beautiful opals.

**Plentiful Variety With Opals**

There are many opal varieties, qualities, and prices, which means each of us in the lapidary world can find something to match our aesthetics and budget. The spectacular opals with a lot of fire and eccentric patterns are beyond most of our price range, but there is a huge diversity of opal types from many worldwide locations, which are still intriguing, beautiful, and affordable. I love working with and showcasing unusual opals, sometimes with a straightforward design.

Boulder and matrix opals, such as boulder opal, Yowah, and Koroit — all Australian opals, give the carver more rough material surface to work with, a nice range of color bands, and stunning patterns. They also have different hardnesses between the opal bands, the hard jasper, and the soft ironstone matrix.

With that said, I must confess, I have a love-hate relationship with these opals. As much as I love the patterns and flashes of fire in the finished stones, I hate how the machinery gets covered with the red-brown rust-like
mud from the ironstone matrix and red jasper inclusions, requiring meticulously cleaning at the end of each day. Andy used to cut a lot of these opals, but he thoroughly scrubbed the machines at the end of the day.

I also find irresistible carving exotic common opals, which for the most part, do not show play-of-color. Their striking body colors - neon blue, pink, purple, yellow, green, and bands and stripes - produce breathtaking scenic patterns. Many of these opals come from true exotic or remote locales from every corner of the world. When set into jewelry, they are alluring and fascinating, and customers tend to gravitate towards these exotic pieces, eager to learn more about them.
Designing Around Opals

The multitude of colors in opals is an excellent palette to use in designing jewelry. You can tap into their rainbow hues, choose one or two colors, and easily match other faceted or cabochons of colored gemstones. Jewelry designers can find finished opals that will fit their design inspiration and budget. There is something for everyone on the market. Customers are amazed and mesmerized with opals, especially those beyond the traditional white gems that they come across at commercial jewelry stores. All they need is a little tutoring from the sellers to compel them to make that special purchase.

Myths Around Opals

As much as opals are a beloved lapidary material, the myth that opals are unlucky persists. The myth came from the 1829 novel *Anne of Geierstein* by Sir Walter Scott, saying that the heroine’s misfortunes were due to an opal.

In the story, the character of Lady Hermione wears an opal clasp in her hair, which is said to change color based on her moods. When the opal comes in contact with holy water, it loses its luster, and Hermione falls to the ground. She is brought to her chambers and, soon after, turns to ash. If you finish the novel, you learn that Hermione’s death was caused by poison and not the opal, but the novel was published in parts, as was common at the time, and it seems not everyone read the next chapter.

Then somewhat later, the myth persisted, when Queen Victoria, a known fan of opals and a style icon of her time, attempted to bring the gemstone back into fashion. At her coronation, she wore an opal brooch to close her dress, but when her dress came undone in the middle of the ceremony, opals fell from grace yet again.

These are just myths, so let’s put them to rest and enjoy the beauty of opals.

Be it shared in an article or a presentation to a group, I’ve always dedicated these efforts to all our “mates” — the Australian friends that we made along our opal journey over the years, many of whom have passed away. We remember them through our continuous love for these opals. It is also dedicated to my beloved “opal-holic” husband, Andy Herman, whose love for opals opened the door for me to these gem materials.

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*About the Contributor: Helen Serras-Herman, a 2003 National Lapidary Hall of Fame inductee, is an acclaimed gem sculptor with over 37 years of experience in unique gem sculpture and jewelry art. See her work at www.gemartcenter.com and her business Facebook page at Gem Art Center/Helen Serras-Herman*
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Moss opal specimen (l) and a polished moss opal sphere (r)  Fluorescent opal under natural light (l) and black light (r)

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From its inception, Kingsley North has offered customers access to opal. Since Kingsley North has provided equipment and supplies to lapidary artists and jewelry makers since 1977, opal is more than an item of inventory; it’s part of the legendary company’s foundation and ongoing evolution.

The family-owned business, headquartered in the stunningly picturesque western corner of Michigan’s Upper Peninsula, is the product of dreams, hard work, and dedication of founder John Paupore Sr. and family members.

“We started selling lapidary equipment and supplies,” explained Richard Paupore, office manager, for Kingsley North. “We also sold Australian opal rough. Through our source in Southern Australia, we’ve imported many parcels of opal.”

The Kingsley North team utilizes a honed and measured process when selecting material to carry, or, for that matter, supplies to offer customers. In keeping with the company goal of providing the best service possible, each step of the process matters.
“When we purchase our opal rough, it is a finicky process,” Paupore said. “We look for the best possible rough and won’t make any compromises.”

It’s easy to understand why Kingsley North’s devotion to providing unique, quality material and supplying reliable and effective machinery is essential, especially when the subject is something as amazing as opal.

“It is difficult to describe an opal in words,” Paupore reflected. “It is even challenging to photograph and capture what the eyes see. They are special because of the iridescent dance party of color palettes.”

Kingsley North prides itself on the ongoing ability to evolve with the changing needs of customers and keeping on top of advancements in technology and global access to minerals and gemstones, among other materials. Examples of this company mindset are evident in response to trends in supplies and the organization of multiple applications for equipment.

“Right now, compact UV LED flashlights have been selling well,” Paupore reported. “The Convoy flashlights are more affordable and brighter than UV fluorescent lights we have supplied in the past. Another great seller is the Lortone 3a tumbler — many rockhounds have started with this rock tumbler.”
Additionally, in terms of equipment and supplies related to working with opals, the Kingsley North cabbing machine is a top pick.

“(It’s) great for working with opals,” Paupore said. “Just add a felt pad with some cerium oxide, and you are ready to polish.”

The COVID-19 pandemic has drawn on Kingsley North, as well as companies, organizations, and individuals worldwide, to deepen their commitments and refine procedures in many ways, to remain steadfast in their service to the community.

In response to national stay-at-home and state-by-state lockdown measures, Kingsley North was closed to the public for a while in the spring of 2020. During that time, the company did what what was done for generations; it evolved and adjusted to serve customers as well as possible.

“Being closed to the public was difficult. We tried to maintain regular phone hours for our customers,” Paupore said. “We are now happy to be open with the necessary safety precautions and procedures.”

With the unusual circumstances and uncertainty currently present in the United States, and the world at large, Kingsley North, just like many companies, organizations, and individuals, has made discoveries during this time and reaffirmed some core values.

“Health and safety are an important component of everyday life. Without them, many aspects of our culture do not work,” Paupore said, in response to some of the things this time has helped reaffirm. “We really appreciate our customers for their understanding and loyalty during these times.”

Surrounded by the remarkable geological formations of Michigan’s Upper Peninsula, and miles of Great Lakes shoreline rich with a variety of rocks and minerals, Kingsley North draws on the inspiration of nature to inspire those who showcase nature in their art. 🍃
Ethiopian Opal Rough

SOLD by GRAM

<table>
<thead>
<tr>
<th>Stock No.</th>
<th>Description</th>
<th>Each Gram</th>
<th>+20 Gram</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-0017</td>
<td>A grade</td>
<td>$24.00</td>
<td>$18.00</td>
</tr>
<tr>
<td>4-0016</td>
<td>B grade</td>
<td>$12.00</td>
<td>$9.00</td>
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Lake Superior Agate Rough - 8 oz pkg

<table>
<thead>
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<th>Stock No.</th>
<th>Description</th>
<th>Each Pkg</th>
<th>+3 Pkgs</th>
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</thead>
<tbody>
<tr>
<td>LSA-MID</td>
<td>Mid grade</td>
<td>$18.50</td>
<td>$16.28</td>
</tr>
<tr>
<td>LSA-QUARTZ</td>
<td>Quartz grade</td>
<td>$15.50</td>
<td>$13.64</td>
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Amethyst Faceting Rough

SOLD by CARAT

<table>
<thead>
<tr>
<th>Stock No.</th>
<th>Description</th>
<th>Each Carat</th>
<th>+50 carats</th>
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</thead>
<tbody>
<tr>
<td>7-0269</td>
<td>A grade</td>
<td>$1.50</td>
<td>$1.13</td>
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Botswana Agate Rough

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<thead>
<tr>
<th>Stock No.</th>
<th>Description</th>
<th>Each Pound</th>
<th>+5-24 Pounds</th>
<th>+25 Pounds</th>
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</thead>
<tbody>
<tr>
<td>7-0093</td>
<td>Botswana Agate</td>
<td>$9.60</td>
<td>$6.70</td>
<td>$5.25</td>
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Rock Rascal Model J Trim Saw Complete

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<thead>
<tr>
<th>Stock No. 9-0003S</th>
<th>Price</th>
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<td>$335.95</td>
<td></td>
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Floating Gemstone Boxes

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<thead>
<tr>
<th>Stock No.</th>
<th>Size</th>
<th>Shipping weight</th>
<th>Each</th>
<th>3-11 Each*</th>
<th>+12 Each*</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-1596</td>
<td>1-1/2’ x 1-1/2’ x 3/4’H</td>
<td>.05 oz.</td>
<td>$3.20</td>
<td>$2.40</td>
<td>$1.92</td>
</tr>
<tr>
<td>6-1597</td>
<td>2-1/4’ x 2-1/4’ x 1’H</td>
<td>.08 oz.</td>
<td>$4.40</td>
<td>$3.30</td>
<td>$2.65</td>
</tr>
<tr>
<td>6-1595</td>
<td>3-7/8’ x 3-7/8’ x 2’H</td>
<td>2 oz.</td>
<td>$9.60</td>
<td>$7.20</td>
<td>$5.75</td>
</tr>
<tr>
<td>6-1598</td>
<td>3-7/8’ x 3’ x 1’H</td>
<td>2 oz.</td>
<td>$8.50</td>
<td>$6.40</td>
<td>$5.10</td>
</tr>
<tr>
<td>6-1599</td>
<td>4-7/8’ x 3-7/8’ x 1’H</td>
<td>2 oz.</td>
<td>$10.40</td>
<td>$7.80</td>
<td>$6.25</td>
</tr>
</tbody>
</table>

Opal Identification and Values

Stock No. 2-0088

$49.95

Agates of Lake Superior

Stock No. 2-0081

$19.95

Free Catalogs

Kingsley North, Inc.

P.O. Box 216: Dept 3, Norway, MI  49870-0216

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Email: sales@kingsleynorth.com

Fax: 906-563-7143

Visit our website www.kingsleynorth.com
Intriguing Aspects of Opal

Color and patterns are both significant in determining the type and quality of opal. On rare occasions, an opal is discovered with different colors and patterns on each side, presenting as a double-sided opal. *Revisit page 15 of this issue of Illustrious Opals to learn more about the most common patterns of opal.

Bodycolor or the background color of opal is one criterion used in categorizing opals. There are various categories, but the most commonly discussed are black, white, fire, boulder, and crystal/water opals.

Evidence of opal is present in samples of meteorites that have landed on Earth. For example, meteorite EET 83309, discovered in ice within Antarctica in the 21st century, revealed through scientific research that the opal formed before the meteorite landed on Earth.

The folklore surrounding opal traces back to ancient tribes that were reported to consider the opal stone to be the footprints of the Creator, and if worn, the stone would protect the person wearing it from evil. Plus, others believe opals are helpful in calming nerves.

In Australia, various defunct opal mining sites are proclaimed historically significant and the subject of preservation efforts. Older mining areas near Lightning Ridge and communities, including Grawin, Glengarry, and Sheepyards, were declared by The Commonwealth of Australia, during the last decade of the 20th century, as preserved opal fields.

People of all walks of life appear to appreciate opal, including some more well-known personalities, including the late artist Andy Warhol, who collected the stone, and in 1977 created an exhibition featuring photos of opals as seen through a microscope.

The origin of the word opal is an ongoing debate, but most commonly referenced is the Latin word opalus and the Greek word opallios, loosely defined as “viewing a change in color.” These terms are inspired by the Sanskrit word upala, which is described as a precious stone or jewel.

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Australia reigns supreme in terms of world opal production, with reports placing Australia as the source of between 90 and 97 percent of precious opal. However, opal mining also takes place in Mexico, Indonesia, Czech Republic, Ethiopia, and the United States.

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Mesmerizing Opals

In keeping with the *Rock & Gem* tradition of including the Parting Shot as the last page of content in every issue, Opal Showcase is the perfect way to conclude this and every issue of *Illustrious Opals*. On these pages, you’ll find examples of rough, cut and polished opal and opal as the centerpiece in lapidary art and jewelry. Each of the items is selected by the sponsors of *Illustrious Opals*, through whose support we are able to produce this limited-edition print/digital hybrid series and make it free for all to access.

**THE HOUSE OF TIBARA**
Tim and Barbara Thomas, owners of The House Of Tibara, are retired educators who buy, sell, create, and educate others about opals. In business since 1974, the Thomas’ provide opal rough from around the world, finished stones, jewelry, and beads.

(Left) A collection of opal featuring an orange and yellow gold Brazilian opal, weighing more than 40 carats, and a small round opal from Mintabie, as well as two oval opals from Brazil and Coober Pedy. (Right) A spiraling dragon image carved into an opal from Coober Pedy, Australia. The House of Tibara

**THE ARKENSTONE GALLERY OF FINE MINERALS**
A pioneer of the online mineral market since the 1990s, this Dallas-based business, led by Dr. Rob Lavinsky, is a continually evolving leader in the industry.

(Left) Pink opal specimen. (Right) Bracelet made of Ethiopian opal and gold, weighing 52 carats. The Arkenstone

**A&S OPALS, LLC**
Owner Adam Sawicki’s appreciation for opal dates back to childhood. Through his online shop he offers a wide variety of opal, as well as services such as cutting, repairing, and evaluating opals.

(Left) Gem quality seam black opal freshly exposed by our super digger Grawin at Lightning Ridge Australia. (Right) Black “nobby” opal cabochon from Lightning Ridge, Australia. A&S Opals LLC

**VILLAGE SMITHY OPALS, INC.**
Owners Steve and Darlene Newstrom have served the opal enthusiast market since 1997, by acquiring and selling opal, speaking to community groups, and writing about opal buying travels.

(Left) A group of mixed grade Welo opal. (Right) Example of top gem semi-crystal Coober Pedy opal from Turkey Ridge opal field, Australia. Village Smithy Opals, Inc.
<table>
<thead>
<tr>
<th><strong>KINGSLEY NORTH, INC.</strong></th>
<th><strong>THE OPAL OUTLET SHOP</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>A house-hold name in lapidary circles, this company has been in operation since 1977, offering the public equipment, rough and cut material, supplies, and tools.</td>
<td>This U.S.-based online operation deals in rough and polished opals mined in Australia and the U.S., as well as creating finished pieces on consignment.</td>
</tr>
</tbody>
</table>

(Left) Cut and polished Coober Pedy opal.  
(Right) Dendritic black opal, 10mm round. Kingsley North, Inc.

(Left) Black opal specimen from Australia.  
(Right) The striking colors of Boulder opal from Australia are showcased in this carved opal. The Opal Outlet Shop

<table>
<thead>
<tr>
<th><strong>ROYAL PEACOCK OPAL MINES</strong></th>
<th><strong>HERITAGE AUCTIONS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>This popular Virgin Valley, Nevada fee digging destination is the life’s work of four generations of the Wilson family.</td>
<td>As the largest auction firm founded in the U.S., Heritage Auction includes a robust Nature &amp; Science division.</td>
</tr>
</tbody>
</table>

(Left) “Golf Ball” precious opal specimen encased in a dome display after being extracted from Royal Peacock Opal Mines property.  
(Right) Chunk of rock with shimmering opal present brought to the surface at Royal Peacock Opal Mines. Royal Peacock Opal Mines

(Left) Specimen of Wildfire opal, also known as “bacon” or “candy” opal, measures 11 inches.  
(Right) Ethiopian opal cabochon in a pear-sized shape. Heritage Auctions

<table>
<thead>
<tr>
<th><strong>OPAL RESOURCES CANADA, INC.</strong></th>
<th><strong>OUTLAW ROCKS, LLC</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>As the source of the only precious opal mine in Canada, this is a one-stop destination for opal exploration, including a variety of services, and materials available for purchase.</td>
<td>This fifth generation opal mining operation specializes in Oregon fire opal, mined locally and sold around the world</td>
</tr>
</tbody>
</table>

(Left) British Columbia black opal specimen.  
(Right) White gold Boulder opal pendant from the Klinker deposit. Opal Resources Canada, Inc.

(Left) Oregon tangerine orange fire opal rough.  
(Right) All-natural Oregon chocolate fire opal rough. Outlaw Rocks

<table>
<thead>
<tr>
<th><strong>FORTUNE OPAL</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Owners Ted Hamilton and Stefan Rohleder prospect and mine for black opal in Lightning Ridge, Australia, and specialize in wholesale sales of black opal rough and cut stones.</td>
</tr>
</tbody>
</table>

(Left) Opalized fossil found in a Native Australian bower bird nest.  
(Right) Preshaped black opal gem, 17 carats, ready to be polished. Fortune Opal
Thank you for reading **Illustrious Opals**!


Every issue in this series is free to **Rock & Gem** subscribers and our online community, and we hope you’ve enjoyed **Illustrious Opals** #2.

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