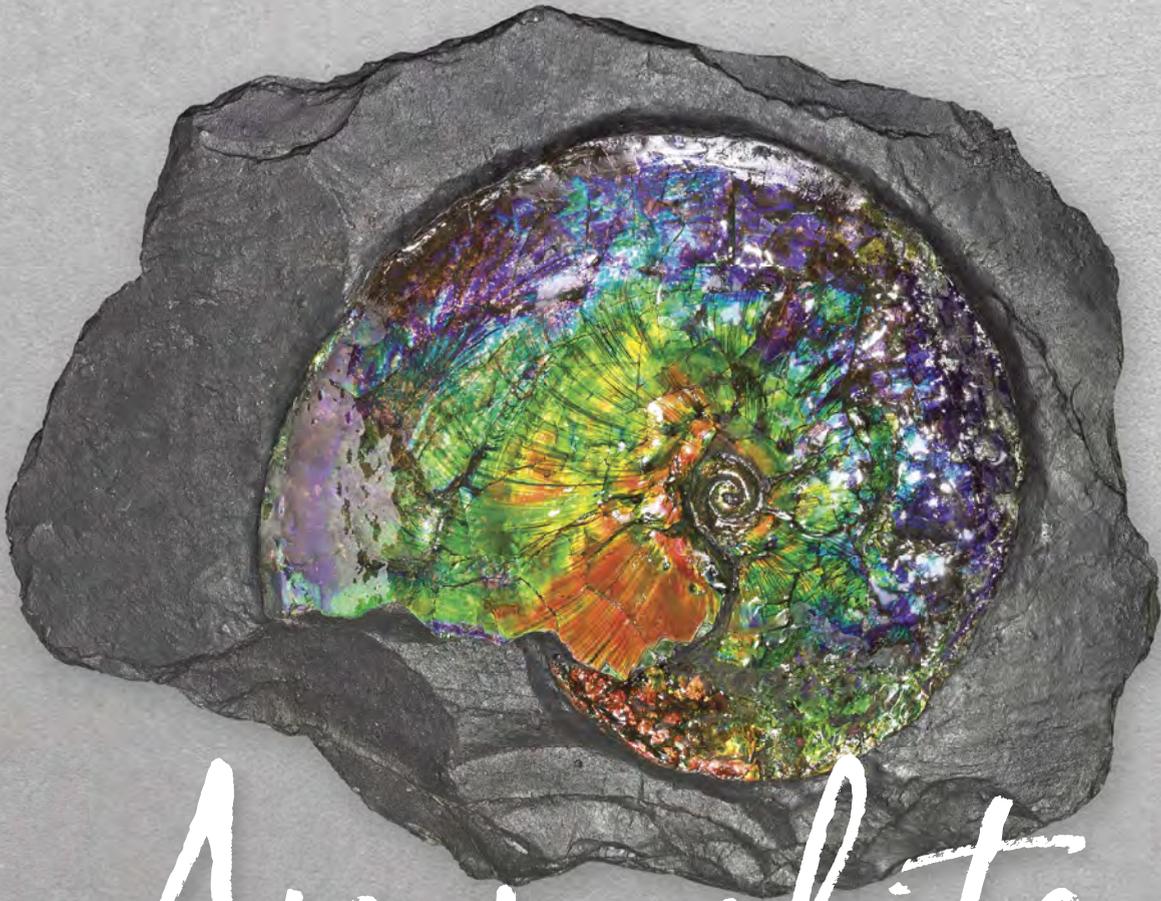


Illustrious **OPALS**

LIMITED-EDITION SERIES FROM THE PUBLISHERS OF **Rock&Gem**



Ammonolite

Ancient Origins of a Modern
Opal-Like Marvel

EXOTIC ATTRIBUTES
of “Common Opals”

FIND OF A LIFETIME
Nevada Blue Opal



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PRIZE PACK!**
Details Inside...

Exploring and Celebrating the “Queen of the Gemstones”

Welcome to Illustrious Opals Issue No. 3. If you are new to this limited-edition digital series, we're glad you chose to download this issue and hope you enjoy the various articles within. If this is your first time seeing Illustrious Opals, we invite you to check out the Illustrious Opals Library at our website, www.rockngem.com (the tab to access the library is at the very top of the page). You'll find issues one and two within the library currently. When the series is complete in December, if you've registered your email, you'll be notified of the availability of the final issue.

As part of the Illustrious Opals series, we're giving away four Opal Prize Packs that contain opal items provided by our sponsors. Once you register with your email address for access to the issues, you'll be in the running for a chance to win! Congratulations to Kim Pandina, the winner of prize pack number one, and Bill & Alice Litts, the winners of prize pack number two. One winner will be selected in November and December to conclude the prize giveaway. If you have friends who enjoy opals, please consider sharing news of Illustrious Opals and direct them to www.rockngem.com to register for free access.

Contents

03 AWE-INSPIRING AMMOLITE: Exploring Ancient History of a Modern Mineral Material
By Andor Koot, Gemologist, Granada Gallery

09 SPONSOR PROFILE: Exploring An “Opal Adventure” Life — Village Smithy Opals, Inc.
By Antoinette Rahn, Managing Editor, *Rock & Gem*

13 FACETING OPALS: Maximizing Pattern Presentation
By Mark Oros, owner of Hashnu Stones & Gems

15 QUERETARO OPAL: The Ancient Aztecs Discovery of the “Hummingbird Stone”
By Bob Jones, Senior Consulting Editor, *Rock & Gem*

17 SPONSOR PROFILE: Catching Up with An Opal Mining Trailblazer — Opal Resources Canada, Inc.
By Antoinette Rahn, Managing Editor, *Rock & Gem*

21 EXOTIC COMMON OPALS (Part 1)
By Helen Serras-Herman, The Road Report columnist and regular contributor, *Rock & Gem*



29 SPONSOR PROFILE: Learning How Opal Curiosity Fuels Progress — Fortune Opal
By Antoinette Rahn, Managing Editor, *Rock & Gem*

33 ENCHANTING BLUE: Life-Long Love for Prospecting Leads to Unique Opal Discovery
By Antoinette Rahn, Managing Editor, *Rock & Gem*

39 OPAL SHOWCASE
Featuring images of opal and opal-related specimens and items provided by the sponsors

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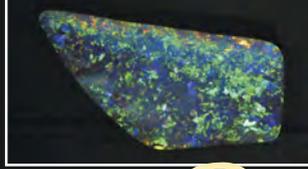
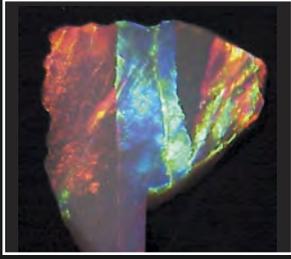
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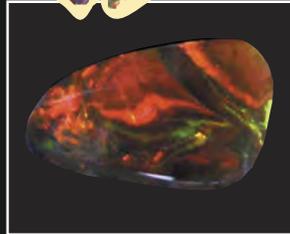
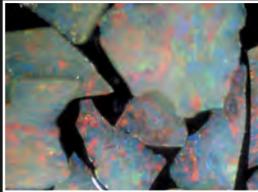
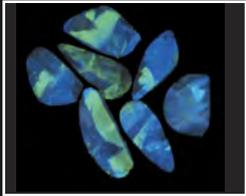
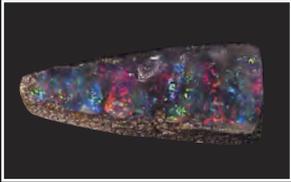
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OPAL *by* HOUSE of TIBARA

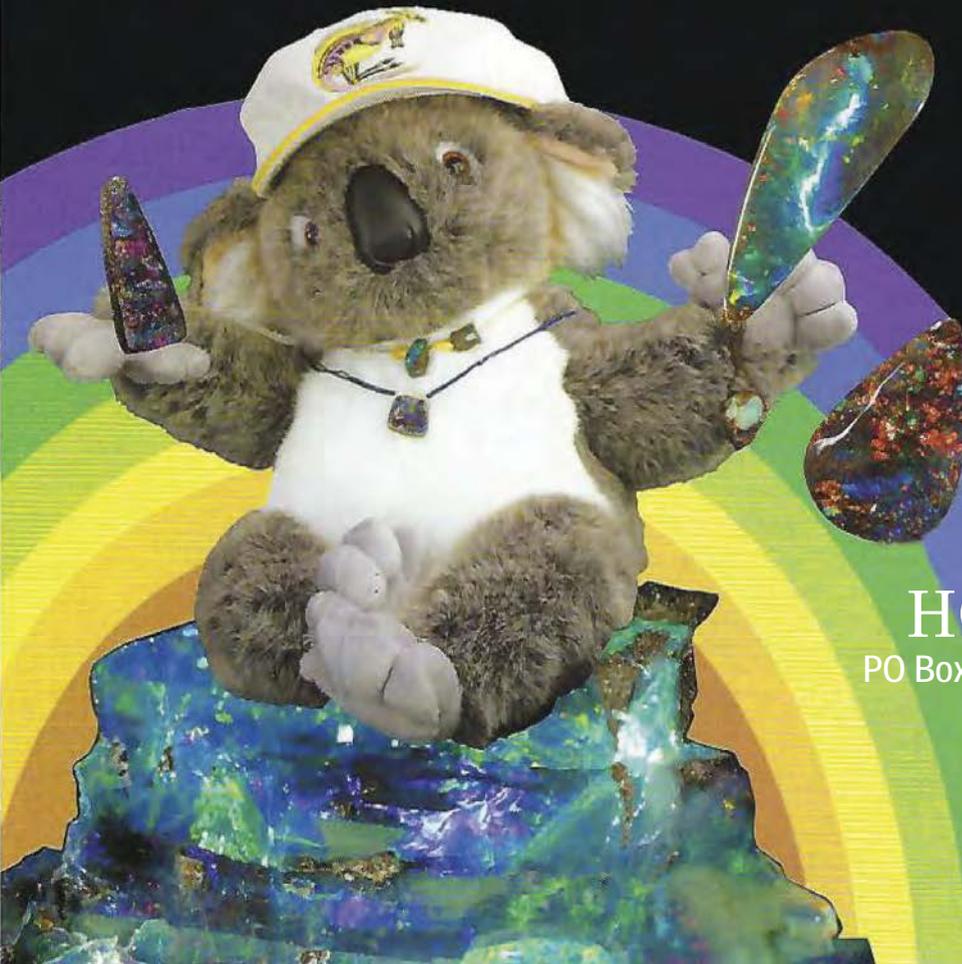
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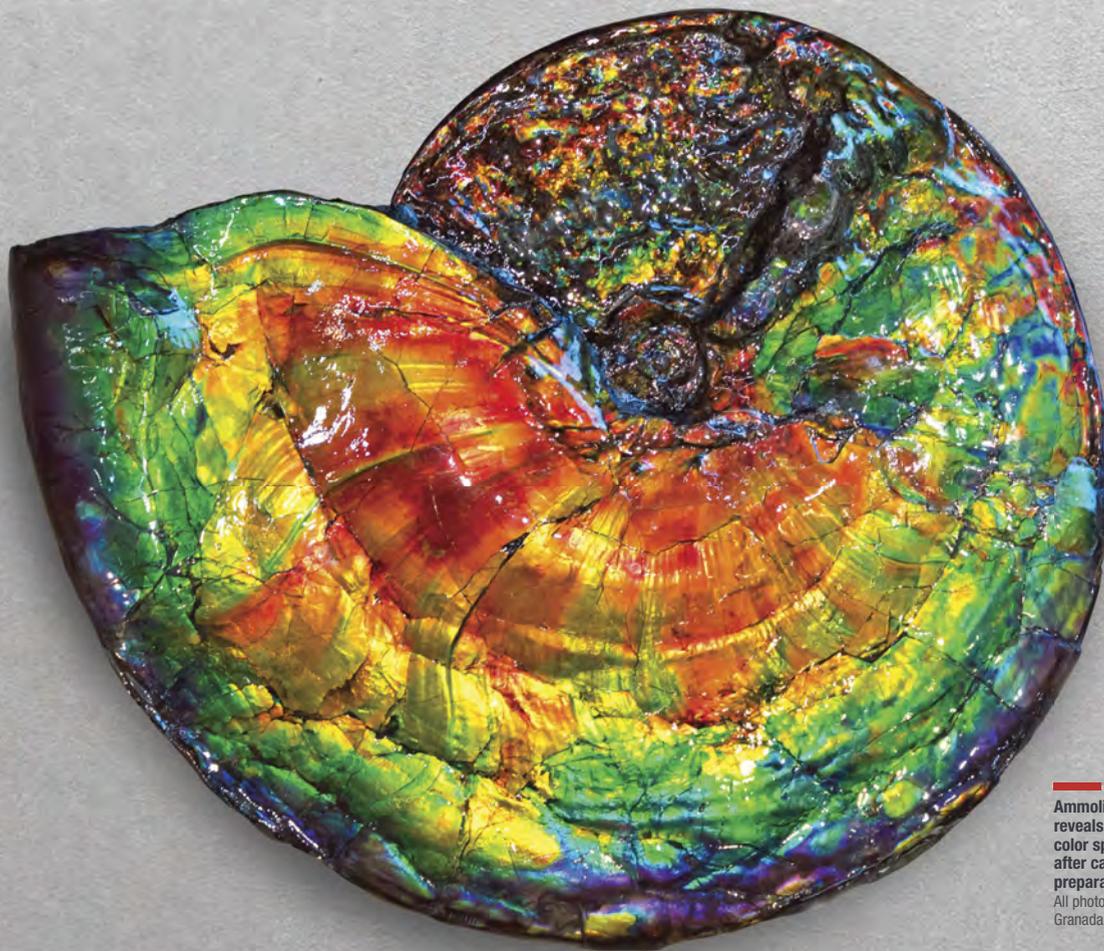
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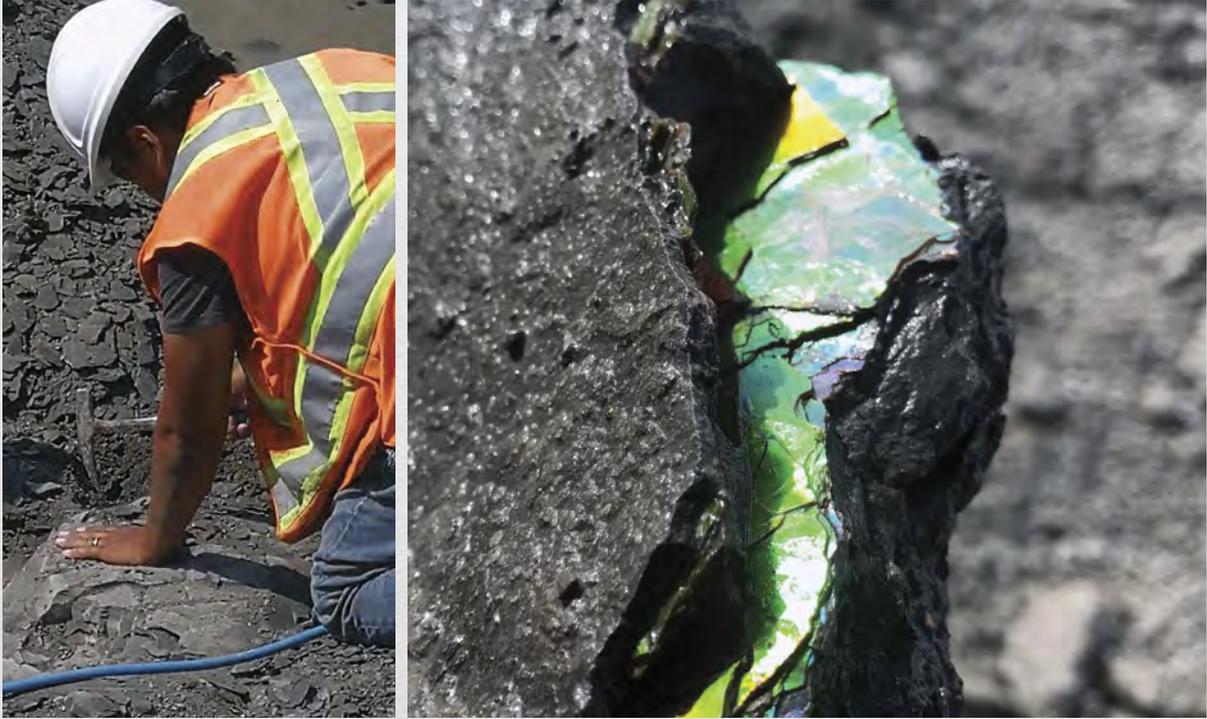


Ammolite fossil reveals its full color spectrum after careful preparation.
All photos courtesy Granada Gallery

EXPLORING ANCIENT HISTORY OF
A MODERN MINERAL MATERIAL

ANDOR KOOT FOR GRANADA GALLERY

GETTY IMAGES



Left: Careful excavating of an ammonite bearing concretion by Buffalo Rock Mining worker. Right: Uncovering of gem-quality ammolite from the Bear Paw Formation.

Ammolite is an opal-like gem mineral that displays an extraordinary play of color, ranging from deep violets to bright red. The geologic origin of ammolite dates back about 70 to 75 million years ago, when a number of smaller tectonic plates began sliding under the North American plate, causing the formation of the northern part of the Rocky Mountains. The rains started washing shale sediments into the Western Interior Seaway to the east of the newly uplifted mountains and, over time, formed the Bearpaw Formation.

The Western Interior Seaway was host to a large array of marine fauna, with one of the more odd-looking creatures being the ammonite. Ammonites were Cephalopod, squid-like creatures with a coiled shell, related to the present-day nautilus. When these creatures died and reached the seafloor, their shells became covered by shale sediment forming concretions around them. Over time, minerals, namely siderite, formed thin, neatly stacked layers of calcium carbonate platelets known as aragonite. The layers appeared within these concretions. The aragonite platelet layers cause light interference between them, resulting in ammolite's fantastic play of color.

This cause of color is very similar to opal, which also owes its color spectrum to light interference and absorption. In opal, the play of color is also caused by diffraction and interference; however, instead of layers, the opal is made up of sub-microscopic spheres regularly stacked with only a few hundred nanometers between them. The resulting colors depend on the size and structure of the spheres.

History

Ammolite may be a relatively new material to the mineral industry, but the Blackfoot natives have a long history with the material, dating back hundreds of years. They called the material Iniskim, which translates to “buffalo stone” in their native tongue and often used it as a talisman.

The first scientific accounts on the colorful ammonite shells, now known as ammolite, were made in 1908 by scientists from the Canadian Geological Survey. However, due to ammolite's rarity, it wasn't until the 1960s that material first started appearing at gem and mineral shows.

Marcel Charbonneau, the owner of a Calgary rock shop, saw the potential in this material and began assembling doublets of iridescent ammonite shell on matrix with a clear quartz cap, renaming them “Ammolite”. The material quickly gained popularity, and in 1981 ammolite was recognized as a gemstone by CIBJO Colored Stones Commission. In 2004, it was named as the official gemstone of the Province of Alberta. The Colored Stones Commission brought international attention to ammolite, and its title as the official Alberta gemstone generated enormous popularity.

Origin

The Bearpaw Formation is exposed at Earth’s surface in parts of Alberta, Saskatchewan, Montana, and Utah. The only area known to yield gem-quality ammolite in commercial amounts is along the St. Mary River in Southwestern Alberta, near Lethbridge. However, small quantities of gem ammolite have been found in other areas.

Multiple layers of hard siderite concretions can be found within the Bearpaw Formation. Complete ammolite specimens are also usually discovered in the area. These concretions generally form around a nucleus, which is commonly a fossil. The shape of these concretions usually closely resembles the fossil contained within. The shape makes finding ammolite-bearing concretions easier, as they are typically more disk-shaped than other concretions. The size of the concretions is also a good indication of the size of the specimen held within.

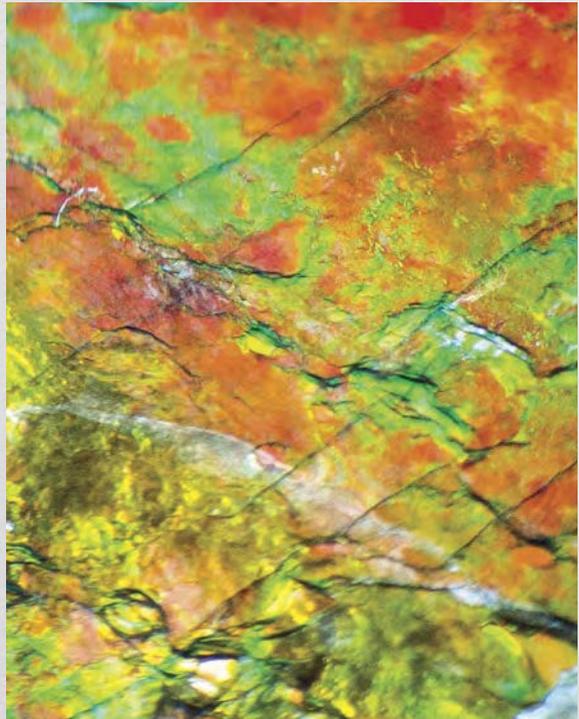
Excavation

The scope of Alberta’s ammolite resource is difficult to assess. Searching outcrops does not yield reliable information because weathering has destroyed and altered much of the original ammolite. The productive zones in the Bearpaw Formation are only a few feet thick, and the gem material is concentrated in large fossils. This fact makes drilling an ineffective exploration method.

Iridescent ammonite fossils are found in the Bearpaw Formation’s many outcrops but are often too weathered to serve as a good gem material, let alone complete specimens. The best gem-quality material is



Natural ammolite cabochon used for jewelry, set in 24 carat gold.



Microscopic view of ammolite.



Exquisite exhibition of complete specimens at Granada Gallery

found in the excavation of mining operations in layers where depth has protected the ammolite from the elements. Commonly, it requires stabilization to be used as a gem material, yet some are still too thin for manufacturing.

Additionally, in areas where there is a potential for gem-quality material, the Bearpaw Formation is typically dipping. The instance of dipping limits mining to a thin zone between the outcrop and where the overburden is too thick to mine profitably. Altogether, these facts make ammolite a uniquely rare and, therefore, a very precious material.

Extraction and Preparation

Once prospecting pays off and miners discover a concretion that contains gem-quality ammolite, the specimen is carefully extracted and moved to a site for processing.

The matrix surrounding the ammolite is meticulously removed, with special attention paid to avoid causing damage to the thin layer of ammolite. Once one side of the ammonite is uncovered, the stability is inspected to determine whether it is safe enough to start removing the matrix on the opposite side. Sound stability may not always be the case, as the fossils themselves have been subjected to large amounts of pressure and are very often broken and compressed. This type of impact makes it exceedingly rare to find a completely intact ammolite fossil. Preparators always hope to uncover a complete specimen on both sides and displaying the entire color spectrum.

The best quality pieces feature multiple colors, purple and blue hues being the rarest. The most prized gem-grade material is without veins or fissures and features pure iridescent colors. Every ammolite fossil from the Bearpaw Formation is unique with its own color, pattern, and texture.

Ammolite for Design and Collectors

Although pieces with cracks are undesirable to some, the small fissures and fractions tell a story of the immense pressure the fossil withstands during its formation. The different sizes, colors, and pattern variations offer an assortment of possibilities for designers, jewelers, and collectors.

Complete fossils with bright colors and individual patterns are increasingly popular for interior design and highly sought-after by collectors. Triplets and cabochons are a unique choice for any jewelry piece and have gained recognition from designers. The triplets are stabilized with a clear quartz or spinel cap to add extra durability for jewelry design through the manufacturing process.



Although a common and desired color in ammolite, complete specimens of such good uniform red color are rare. Shown in Granada Gallery, Belgium, 2020.

Ammolite has become increasingly popular in eastern cultures, and among interior decorators, due to the multitude of properties it exhibits, according to Feng Shui experts. The belief is that the stone has absorbed a substantial amount of the Earth's knowledge and the universe's positive cosmic energy, an energy also known as 'Qi' (ch-ee), which can be found in the multitude of colors in ammolite.

Productive Partnership

Granada Gallery was founded in 2015 in Tucson, Arizona – the world's premier platform for the mineral, gemstone, and fossil trade. The gallery has since expanded with additional locations in Belgium and Switzerland and has become known for its unique pop-up shows and events. Our concept is to blend geological relevance with contemporary design objects, and modern art with the breathtaking memory of evolution.

A passion for science and the drive to promote research has always been Granada Gallery's foundation, leading to a comprehensive fossil collection and acquisition of numerous fossil dig sites. Ultimately, the efforts to achieve the foundational goals resulted in a partnership with the Blackfoot natives of Southern Alberta, namely Buffalo Rock Mining. This collaboration ensures us the very best quality material is ethically and sustainably supplied directly from the source. Buffalo Rock Mining has started a program that brings funding and education back to the reservation, where young Blackfoot natives are specifically trained in the skillset necessary to excavate and prepare this delicate material. All of the specimens and gem-quality ammolite offered through the Granada Gallery is mined on the Native American Blackfoot reservation, where tribal members operate and oversee the excavation and production. Every piece comes with the appropriate exportation papers and a letter of authenticity.

For more information about Granada Gallery, visit www.granadagallery.com. 💎



About the Contributor: Andor Koot is a young gemologist based in Belgium. After studying with the Gemological Association of Great Britain at the University of Leiden, he joined the team at Jochen Leën and Granada Gallery. There he has worked since 2019 as an in-house gemologist and representative.

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Exploring An “Opal Adventure” Life

VILLAGE SMITHY OPALS

For more than five decades, Stephen Newstrom has been living what he calls an “opal adventure.” This unique and rewarding life is one he shares with his wife, Darlene, as owners and operators of The Village Smithy Opals, Inc. His rockhounding origins story mirrors that of other business owners within the industry, in that he discovered his love for rockhounding as a child.

“When I was young, my father and I used to take camping trips to the north shore of Lake Superior,” said the native of Minnesota. “The purpose of the trips was mostly to collect the small Lake Superior agates along the shoreline, north of Two Harbors Minnesota. I cherish those memories!”

Those early rockhounding excursions created a passion that would evolve into a rewarding and successful profession. Several moments in his life, including receiving a B & I Gem Maker on his 14th birthday, and a hands-on introduction to opals, would serve as sources of inspiration and the stuff of his dreams.

Part of Newstrom’s introduction to opals occurred in 1964, when he was just 15 and he purchased the popular reference, *The Opal Book*, by Frank Leechman.

“While reading (*The Opal Book*), I had visions of a great adventure, moving to Australia and digging for opals,” he said.

If reading this book inspired great excitement and intrigue in Newstrom, then the opportunity to handle an opal only enhanced his decades-long fascination with opals.

“My first exposure to opals (took place) at Hudson’s jewelry store in downtown Minneapolis. I was amazed by the beauty of opals,” Newstrom recalled. “I was even able to hold one of the jewelry pieces with black opals from Lightning Ridge under bright lights, turning it from side to side, almost hypnotized by the bright multi-color flashes.”

He went on to explain his appreciation for opal, saying, “I’ve always thought opals are so different from every other gemstone. They seem to come from another planet.”



Left: Stephen digging for opal in 3 Mile Field, located in Lightning Ridge, Australia. Right: View of Newstrom’s opal carving station in the couple’s home studio, in Billings, Montana.



A parcel of Welo opal, mined in Ethiopia, and available for purchase through The Village Smithy Opals, Inc.

Eventually, Newstrom, who worked for many years as a service engineer for GE Medical Systems, while living in Nisswa, Minnesota, began creating gold and silver jewelry on a part-time basis, to sell at a consignment art shop. Originally, the side business he operated was Village Smithy Jewelry, but when the focus became largely about opals, Newstrom chose the name Village Smithy Opals.

As his experience and interests grew, it was another opal reference that helped guide him in his new business venture. The book was *Opal Adventures*, written by Dr. Paul Downing.

“In his travelogue, Paul documented his own adventures in more modern terms, discussing various trips to Australia buying opals directly from opal miners on the opal-fields and selling them via mail order to opal cutters around the USA.”

A few years after reading Downing’s book, the Newstroms took the first of many opal adventures to Australia. The year was 2000, and the trip fulfilled a dream Stephen held since he was 15. Most of the Newstroms travels to Australia are spent at the Coober Pedy Precious Stones Field, which is where the majority of the opal mining and production occurs, Newstrom explained.

“Typically, the opals from Coober Pedy are the classic white base opals that you see in most jewelry stores in the U.S. But the crème de la crème of opals can only be found in the Lightning Ridge opal fields. The price of a gem quality black opal with a rare multi-color



Stephen and Darlene Newstrom, owners of The Village Smithy Opals, Inc., during an opal buying trip to New South Wales, Australia.



It's been a while since anyone entered this opal min pit through this opening, but oh the stories it could tell!

fire pattern can easily exceed \$10,000/carat. So, as you can imagine, most of the opals with any real promise aren't sold as rough but are cut on the opal fields and sold to buyers of cut stones — opal cabochons.”

Although Lightning Ridge is where the majority of black opal exists, Newstrom doesn't visit the area all that often, choosing instead to purchase light opal from miners in Coober Pedy, he said. But there is a heavy demand for low grade gray or black seam or nobbie opal from Lightning Ridge.

“Buying rough black opal is kind of like buying a lottery ticket, hoping you will find a bright multi-color fire layer that doesn't show on the surface, running through the center of the stone and increasing its value a thousand-fold,” he added.

In addition to Australia, Stephen and Darlene have also traveled to Ethiopia on opal buying trips. During the unusual and often unpredictable year that is 2020, the Newstroms, who consider themselves gemstone importers, have been busy, fielding a steady stream of orders received through their company website: villagesmithyopals.com. Also, Stephen spent a lot of time during the height of quarantine practices photographing new inventory to add to the website.

The journey that evolved into a profession, has been and continues to be quite the excursion, and source of joy. for the couple, who now call Billings, Montana home.

“I have so many things I could be grateful for that I could never pick just one,” Newstrom said. “I am grateful for my health, that I can walk, talk, and feed myself. I am grateful for my wife and our marriage.

“I could go on ad infinitum.”

Whether he and his wife are visiting Australia to buy opals, selling products through their online store, or reflecting on the good life they've built, advice given to Stephen by his father remains at the center of how he lives his life and runs his business.

“My father told me to 'treat people like you'd like to be treated,’” Newstrom said. “That advice has served me well.”💎

5 FASCINATING FACTS

— ABOUT —

The Newstroms' Australian Adventures

- 1 In a rented campervan, I've driven from Darwin, on Australia's top end, to Adelaide on the south end and visited Ayers Rock or Uluru while camping along the way.
- 2 We've watched Southern Right Wales at Head of Bight along the Southern Ocean and viewed the Southern Cross constellation during a crystal-clear moonless night while camped at Streaky bay.
- 3 Darlene and I made to two visits to Kangaroo Island, south of Adelaide, to see Australian fur seals, sea lions and Fairy penguins.
- 4 I've always enjoyed hiking, so in 2018 I was fortunate to hike sections of the Riesling Trail in South Australia's Clare Valley wine country. It was early springtime with lots of parrots, galahs, and flowering gum trees.
- 5 For years I'd been trying to book a seat (only 4 seats available) on the 10-hour Mail Run Tour, in the heart of Australia's desert-like outback region, out of Coober Pedy. In 2017 I finally made it...the outback desert has a stark beauty all its own.

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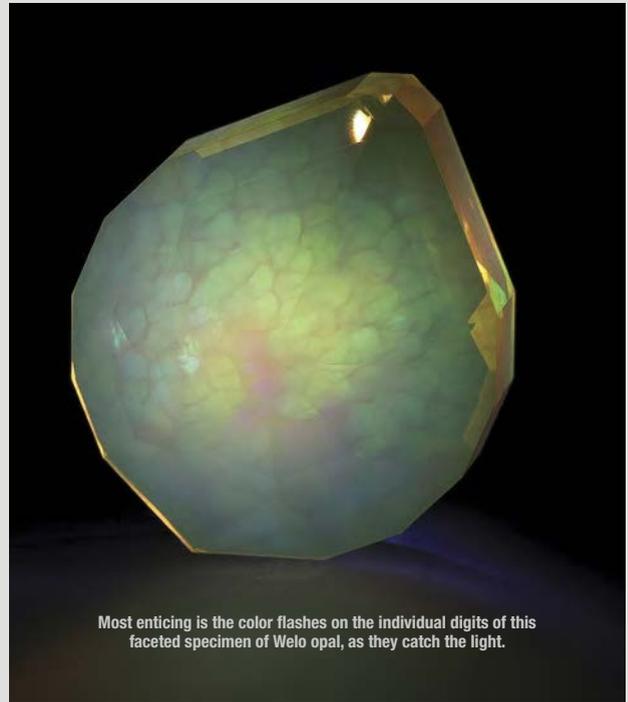
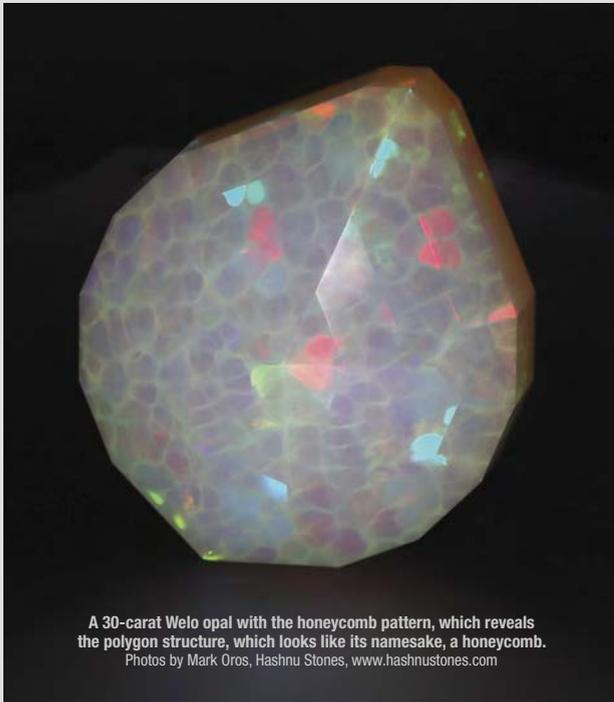
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Maximizing the Pattern Presentation

Honeycomb Highlights Welo Opal Splendor



During the deepest and darkest part of an Ithaca, New York winter, when I am at my lowest and feeling melancholy, my wife has been known to say to me, “Why don’t you facet a Welo opal? That always cheers you up.” I enjoy faceting Welo opal. Both the process and the finished gemstone bring me joy.

While faceted opal is not everybody’s preference, I find it remarkable to present the opal and its wonderful patterns. I have been faceting Welo opal for seven years and while being a delicate stone for the rigors of faceting presents a challenge, the results are spectacular.

The secret to the magic in faceting opal is understanding the opal’s unique pattern and orienting the opal and faceting design to exhibit that motif in all its splendor. To maximize the pattern presentation, this is the process I use to prepare the opal.

1. *Use a Diamond Pacific Genie* to take off all the potch, vugs (holes), and odd corners.
2. *Take the opal to a polish* using the Genie.

3. *Soak the opal in water overnight* until it is clear and fully saturated. By making the opal translucent, you can look for internal flaws and pattern direction.

4. *After soaking, let the opal dry* to its original color. The drying time can take from one day to two weeks, depending on the opal’s density and size. During the drying process, the opal may crack. Better now than later.

5. *Once dry, orient the opal* and choose a facet design that will best display its captivating pattern.

Opals have many different patterns, and names for those patterns include - flash, broad flash, pin fire, peacock, harlequin, writing, flagstone, ribbon, and honeycomb, among others. All the patterns have their impressive display and admirers, but my favorite is the Welo opal honeycomb pattern.

This pattern is also called the digit pattern, and there is an informative article by the Gemological Institute of America that I recommend (<https://www.gia.edu/doc/FA13.pdf>) as it explains the honeycomb pattern. 💎

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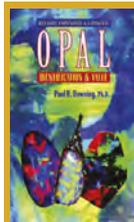
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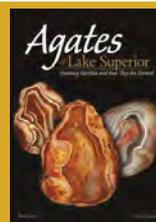
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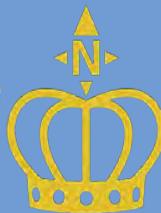


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Queretaro Opal

The Ancient Aztecs' Discovery of the "Hummingbird Stone"

Queretaro is located about halfway between San Luis Potosi and Mexico City in the state of Guanajuato, best known for its fantastic silver deposits. Silver was found at Guanajuato in 1548. Precious opal came to light about 1855, over 300 years later. But opal was well known and mined long before that. The Aztecs knew of opal beginning in about 850 A.D., according to Allan Eckert in his comprehensive book, *The World of Opal*. This is a book any lapidary, jeweler, or mineral collector should have. It treats virtually every notable opal source in the world, and does so accurately.

The Aztecs were so taken with this multicolored gem that they called it *quetzal-litzlem-pyollitli*, which means "a stone with colors that change with the direction of the light." According to Eckert they also called it *vitzitziltecpatl*, "hummingbird stone." Modern miners there refer to the stone as *illoviznando*, which can mean either "fire rain" or "sun on raindrops."

Opal from Queretaro (pronounced K-ray-tah-row), is unique, being totally different from what you probably think of as precious opal. The opal you are most familiar with comes from Australia; Virgin Valley, Nevada; and other famous deposits. Precious opal from these well-known sources normally has either a gray-to-white groundmass or, less commonly, a black or dark-gray groundmass. Opal from the Queretaro region, on the other hand, has richly colored groundmass often a fiery-red, orange-red, bright-orange, subtle-yellow or, very rarely, soft blue. This colorful groundmass contrasts markedly with the common opals from elsewhere. Some of the Queretaro opal has a black groundmass, but that is very rare.

While the Mexican opal has a bright and colorful groundmass, it often lacks the bright fire of what we normally refer to as precious opal. The best from Mexico, however, has plenty of fire—myriad color flashes. It appears less vibrant sometimes, as the bright groundmass does not provide a vivid contrast. So, when the better opal from here does have patches of multicolored fire, it is not as dominant. These color flashes in a brightly colored groundmass, far from detracting from the Mexican opal, add to an already colorful gem.

Opal in this region occurs in a very hard rhyolite—so hard that collecting it is as difficult as you will encounter anywhere else. The rhyolite is buff-colored, spotted with darker-brown phenocrysts. The opal usually occurs completely locked in the



Slag rock from an opal mine near Tequisquiapan, in the state of Querétaro, Mexico.
MCGau, Wikimedia commons



Quartz variety fre opal from Mun. de San Juan del Rio, Queretaro, Mexico.
Géry Parent, Wikimedia Commons

rhyolite, as rounded masses ranging in size from a fraction of an inch to distorted sphere a couple of inches across. The exception are pieces that exceed three inches.

On rare occasion, opal nodules, which are normally tightly held by rock, may be located near an open cavity, so removal may be easier. If a nice nodule is exposed but locked in place, careful sawing of the rhyolite will eventually free the precious stone without harming it.

Not all the opal found here is valuable, since it can have some unwanted impurities like flakes and bits of rhyolite. But a choice piece with bright groundmass and good fire is eagerly sought and highly prized. 💎

Editor's Note: This article is reprinted from a 1998 issue of *Rock & Gem*.

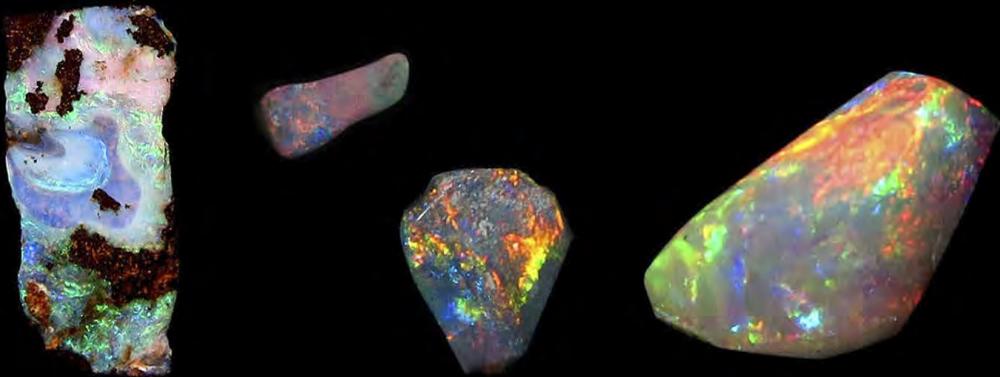
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Catching Up with Opal Mining Trailblazers

OPAL RESOURCES CANADA, INC.

Pioneer, innovator, groundbreaker, trailblazer, and vanguard are some of the words that describe someone who introduces something new or makes an inspiring change. Robert Yorke-Hardy, his late wife, Alana, and three sons, Chris, Mike and Matt, embodies these words, with their history-making opal operation in British Columbia, Canada.

Yes, that's right, Canada. While it may not be one of the most prominent opal locales, it is undoubtedly a nation rich in mineral resources, most specifically its renowned diamond mines. However, the perspective of Canada's mineralogical diversity is evolving, as "Canada is once again proving to be a land of hidden riches and infinite opportunity," explained Robert Yorke-Hardy.



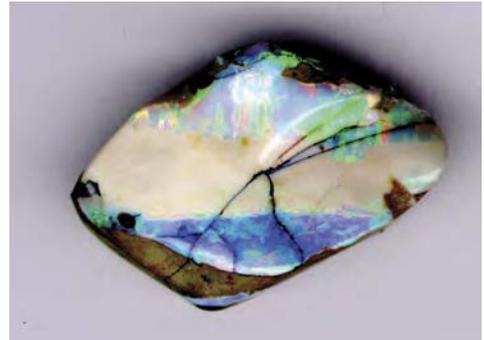
Klinker Opal property summer cabin.



Collection of crystal, semi-crystal, and opaque solid opals and boulder opals.



Crystal opal set in a designer silver ring created by Chris.



Boulder Opal - vein opal demonstrates five distinct stages of opal deposition and shows desiccation fractures and displacement fractures.



Large boulder opal specimen polished by Matt.



Freeform boulder opal gemstones.



Rough, pre-polished, and polished boulder opal stones.



Designer 14K pendant with 3-carat freeform semi-crystal opal cabochon and unpolished crystal fragment.



Seven-link silver bracelet with opal chip mosaic by Mike and Chris.



Matrix opal — precious opal filling vesicles in stabilized lapilli ash tuff clast. Carved in China.



Custom 14K white gold pendant created by Chris and Robert. Features a polar bear looking up to North Star (inset diamond) and Northern Lights crystal boulder opal.

Doing business as Opal Resources Canada Inc. (ORCI) formally since 1997, and previously as part of a collaboration, the focus of ORCI's efforts has been to introduce the world to Canada's precious opal gemstones and get the material into the hands of as many people as possible. Not only has the company been successful in these endeavors over the past 20-plus years, but ORCI remains a trailblazer. Yorke-Hardy explained that the company was the first in Canada to commercially produce precious opal gemstones and precious opal jewelry created from opal mined in the firm's British Columbia, Canada locale. Plus, ORCI was the first to commercially market British Columbia precious opal jewelry through a company owned and operated retail shop and develop the domestic and international distribution of the precious opal gemstones and jewelry produced in Canada.

It's not all about hockey and maple syrup in Canada, and those in the mineral and gemstone market are benefitting.

As one might suspect, it was the presence of play-of-color in clear opal rough that prompted those involved in



As an October born Canadian pioneer, Alana loved her opal mine.

the Klinker claims' initial prospecting, in the early 1990s, to start thinking about precious opal. According to Yorke-Hardy, more claims were staked and explored, with the original company he was involved in, Okanagan Opal Inc., researching the viability and economic potential. In 2008, the property and operation were acquired solely by Opal Resources Canada Inc., and opal mining, jewelry creation, and fee digging opportunities formed the day-to-day operation at ORCI.

As is the case with any business or personal endeavor, there have been challenges, losses, and times when Yorke-Hardy and his family have had to pivot and tap into their innovative minds to persevere. Today, Chris oversees jewelry production, while Mike manages online sales, and Matt and Robert continue to explore and maintain mineral operations. Over the years, opal digging trips to the Klinker deposit and sale of columnar basalt from the company's large claim block to the landscaping industry have been significant revenue streams for ORCI, Yorke-Hardy explained. In light of stay-at-home orders, closures, and travel restrictions during 2020, ORCI saw fewer basalt sales and dig trip participants in early summer, but picked up in mid-summer and extended into early October. Still, with opal taking center stage during October and the holiday season rapidly approaching, Yorke-Hardy and the team are optimistic and grateful for the time of reflection they've had during the uncommon and unexpected twists and turns of 2020.

"(For me) it's been back to the basics of focusing on family and organizing thoughts and actions to increase production," Yorke-Hardy said. "Also, Chris has had a chance to reflect on what his main goals in life are."

Despite the common challenges that accompany mining and operating a business, the same level of innovation and passion, which fueled the Yorke-Hardy family's first steps toward an opal operation all those years ago, remains a significant part of their foundation moving into the future.

"ORCI is a vital part of British Columbia's potentially promising opal industry. Given the right opportunities, (we) feel history will prove this burgeoning British Columbia industry to be world-class," said Yorke-Hardy. 💎

5 FASCINATING FACTS

— ABOUT — Opal Resources Canada, Inc.

- 1 First Canadian company to successfully undertake exploration and development of a "precious opal deposit.."
- 2 Those involved with ORCI have a lot for which to be thankful, but most specifically, the Klinker opal mine deposit discovery on Thanksgiving Day 1991.
- 3 Robert didn't promise Alana a rose garden but did find her an opal mine for her birthday.
- 4 Four Yorke-Hardy family members have October birthdays.
- 5 8 million Canadians have October birthdays, a prime target market for the company.

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PART
1

Exotic

COMMON OPALS

HELEN SERRAS-HERMAN



Beautifully-cut matched pairs cut by Keith Horst, and rough from Greg Genovese, of the recently discovered blue opal fossil wood from Indonesia.



There is a wide range of lapidary materials classified as opals that do not display the optical phenomenon of play-of-color.

Black and white opals are famous because they display the optical phenomenon, play-of-color. Additionally, boulder opals display the same with seams of opal resting on or penetrating the ironstone matrix, and many Mexican fire opals produce the same. Whether they are rare beauties spectacularly displaying the play-of-color phenomenon with broad flashes and intricate patterns of red, blue and green colors, or commercial grade showing faint color flashes, they are all considered precious opals.

A wide range of lapidary materials are classified as opals that do not display the optical phenomenon of play-of-color. These opals are usually referred to as “common opals” in contrast to their “precious” cousins. They come in every color of the rainbow, and varieties include blue and pink opal, ice-cream opal, Morado opal, bertrandite (Tiffany Stone), candy-stripe, and Utah lace opal, myrickite, dendritic opals, yellow, and several green opals.

What these common opals have is striking body color. Some come in highly-prized solid colors and high translucency, while others show bands and stripes, which, when cut, often produce amazing, eye-catching scenic patterns.

Their appealing beauty and lapidary qualities take them out of the “common” class. The qualities mentioned places them straight into the “exotic, stunning, rare and unusual” stratosphere, a sentiment supported by many fellow lapidaries and opal dealers in the trade. Exotic common opals are attractive, colorful, intriguing, often compact, and hard enough to take a high polish, qualities essential for cutting unique cabochons, freeform carvings, beads and spheres.

EXOTIC COMMON OPALS



Tiffany stone is a mineral canvas.



The Arizona blue opal occurs in a beautiful pastel blue shade in the rhyolite host rock with tan and red bands, rarely displaying play of color.

While the spectral colors displayed in precious opals result from light reflecting and refracting from a multitude of silica spheres arranged in perfectly aligned rows, the body (or base) color in exotic common opals is usually caused by impurities (Eckert, 1997). Many of these opals come from actual exotic or remote locales in every corner of the world, many from desert environments stretching from Utah and Arizona to Peru. New kinds are often discovered, and twists on the old varieties from new localities appear on the market almost every year.

Two additional factors contribute to the appeal of these lapidary materials. One is cost, which for the most part, is still in the affordable range, as many of these opals are still sold by the pound in the rough. Higher-end materials are sold by the gram, and blue Peruvian opal and Tiffany stone prices have sky-rocked within the last twenty years. Opals from some localities may be challenging to find on the market today, as mines close and access to rockhounds becomes limited.

The second factor that appeals to lapidaries, trade buyers and customers, is that the vast majority of the exotic common opals are natural, not treated with heat or radiation to improve color and clarity. Lapidaries occasionally treat their creations in these materials with Opticon® fracture sealer to seal cracks or fractures and stabilize them for cutting. Although that is an acceptable trade treatment, it should always be disclosed at the time of sale for proper care.

White common opal occurs as clear, stark white, yellowish or tan, sometimes with swirly patterns. It is often referred to as “opalite,” although that term is usually reserved for glass and opal simulants. It is called dendritic or moss opal when it has black fern-like manganese inclusions or brown moss-like inclusions. Dendritic opals, white or yellow, come from many different localities, including Oregon, Montana, Peru, India, Spain, Russia, and Australia.

Exotic common opals extend across the rainbow’s colors from violet, indigo, blue, green, yellow, to orange and red. Let’s follow the rainbow to this fantastic world of exotic common opals.



High-quality beads of blue Peruvian opal display the electric, neon-blue color that the material is famous for.

From Violet and Indigo to Blue

Morado opal is a beautiful purple variety from Zacatecas, Mexico, hence its name morado, which means purple in Spanish. An XRD test showed a mixture of cristobalite, fluorite, and minor quartz. In the fist-size or larger nodules, color ranges from purple to pastel lavender, mixed with swirls of cream opal that resembles porcelain. The small nodules covered with hyalite (jelly) opal exhibit a deep concentrated amethyst-violet shade of color.

Bertrandite, also known by its trade name Tiffany Stone, is a fluorescent beryllium hydrous silicate. It is mined at the Topaz and Spor Mountains, in the Thomas Range, in Juab County, Utah. Tiffany stone is a mineral canvas with purple fluorite, white to pale yellow opal, massive violet bertrandite, and chalcedony. The colors occur in various arrangements, mostly in violet and cream tones. Splashes of dark pink and red colors and drusy quartz pockets add to the rarity and value.

There are gorgeous blue opals that lapidaries the world over love to work with. Two distinct varieties are often on the market: blue opal from Peru, with electric neon blue coloration, and blue opal from Arizona and Oregon, with pastel blue color. One more recent find, the blue opal fossil wood with manganese dendritic inclusions and native copper, from Indonesia's West Java Province, has joined the ranks of famous blue opals.

All lapidary artwork that showcases solid blue colors or banded scenic patterns evokes sentiments of water, beach landscapes, seaside scenery, and dreamy, exotic destinations. The hardness of blue opals ranges from Moh's 5.5 to 6.5, high enough to allow for superior polish. Blue opal from Peru comes from the Acari copper mines, located at 7,661 feet elevation and surrounded by three impressive volcanoes, at about 460 km south of Lima.



White common opal occurs as clear, stark white, yellowish or tan, sometimes with swirly patterns. I came across this piece, from Anatolia, Turkey, at the 2015 Quartzsite shows.



Splashes of dark pink and red colors and drusy quartz pockets, add to the rarity and value to this pair of Tiffany stone large slabs.

My husband, Andrew Herman, was one of the first dealers to purchase fine blue Peruvian opal and offer it for sale at shows in Maryland since 1991. His material appears in every edition of Fred Ward's book *Opals*. The blue Peruvian opal colors range from bright neon-blue, turquoise blue, greenish-blue, to navy blue. When the highly translucent seems are thick enough, cabochons and carvings are cut out of a single color, reminiscent of chrysocolla-in-chalcedony (gem silica). Those pieces usually carry higher prices. Delicate dendritic patterns created by fern-like black inclusions add a flare of nature.

Alternatively, the banded material provides a very naturalistic palette, with attention-grabbing scenic patterns: Black and russet-colored veins, straight or lacy, alternate with blue bands. The stunning blue and sand colors incorporated into scenic cabochons are often immediate reminders of seashore landscapes, panoramic coastal or tropical beach scenes.

The second type of blue opal comes from the western United States, specifically Oregon and Arizona. Known as Arizona Blue Fire Opal, the material has been mined in a limited manner for nearly half a century in the Atascosa Mountains of Santa Cruz County. Much of the Arizona blue opal displays a beautiful pastel shade of blue, mostly without play-of-color, occurring in the rhyolite host rock. The rarer, higher grade displays "fire" with red, pink, orange and green colors.

The Oregon blue opal comes from the Owyhee Mountains near the border with Idaho, often referred to as blue Owyhee opal in Malheur County. This opal, too, with a pastel blue color, doesn't usually show any play-of-color. It is mostly opaque, with a glassy appearance. For an in-depth story on blue opals and photos of fellow lapidary artists' works, look for my article in the December 2018 issue of *Rock & Gem* magazine.

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I love using banded blue Peruvian opal material, which provides a very naturalistic palette, set in these 14K gold earrings with faceted smoky quartz.

Exotic Common Opals Articles & Presentation

During two events in 2015, the Tucson Conference of National Association of Jewelry Appraisers (NAJA) and the Sinkankas Symposium on Opal, I presented a lecture on exotic common opals, including a photo display of rough and cut opals without play-of-color, as well as carvings, jewelry, and beads. The information shared during the presentations, as well as the photos, makes the case that their appealing beauty should take them out of the “common” class and identify them as “exotic, stunning, rare and unusual.”

My original article on Exotic Common Opals appeared in the October 2012 issue of Rock & Gem magazine. This article is an updated version of that earlier article, reflecting an increase in our gemstone collection, knowledge and expertise involving opals. Part II of this series will appear in *Illustrious Opals*’ fourth installment, slated to be available for free download by Dec. 20.

I hope you all agree that these exotic common opals, with their strikingly bold natural colors, and unique, emotional-evoking scenic patterns, are truly exotic and worth a status upgrade. 💎



About the Contributor: Helen Serras-Herman, a 2003 National Lapidary Hall of Fame inductee, is an acclaimed gem sculptor and gemologist with over 37 years of experience in unique gem sculpture and jewelry art. Visit her website 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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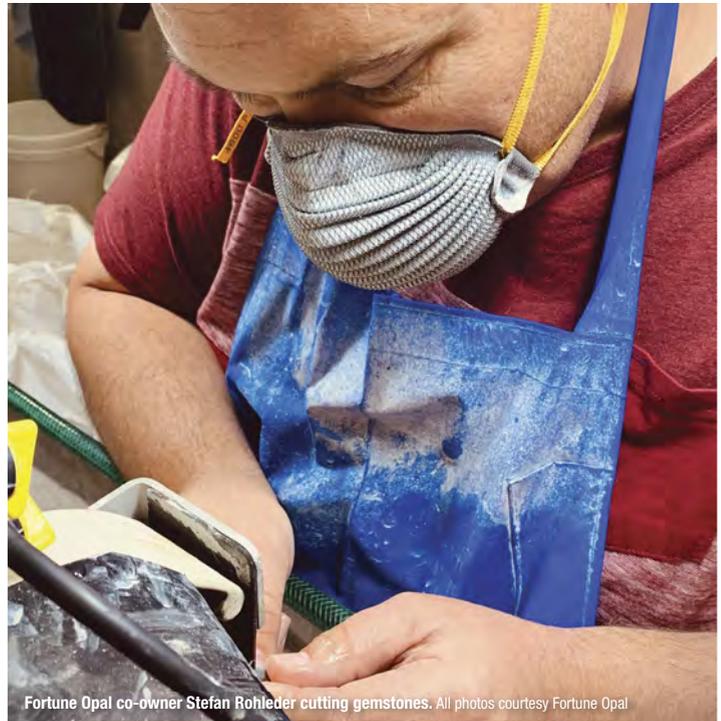
~ Samuel Johnson, English author

There’s no question there is a lot to be curious about when it comes to opal. Its formation, the various types, fascinating play-of-color, diverse patterns, opalization of fossils, and intriguing localities. For Ted Hamilton and his business partner Stefan Rohleder, a second-generation opal miner, a deep-seated sense of wonder, a commitment to ethical and sustainable mining, and a passion for discovery forms the foundation of their business, Fortune Opal.

Having a keen eye for detail is one way to feed that sense of curiosity. An excellent example of this is evident in Hamilton and Rohleder’s response to how they’d describe to someone what makes opals such amazing treasures of nature.

“Uniqueness. Every natural solid opal is one of a kind; even a ‘perfect pair’ will have differences on some level,” they said.

Hamilton and Rohleder’s connection dates back 25 years. It was Hamilton’s fascination with opal, along with his determination to share the passion and allure that surrounds the “Queen of Gems” with the world, combined with Lightning Ridge-native Rohleder’s obsession and experience with the gem that led to the inception of Fortune Opal eight years ago.



Fortune Opal co-owner Stefan Rohleder cutting gemstones. All photos courtesy Fortune Opal



Fortune Opal co-owner Ted Hamilton pictured underground as he prepares to extract gems.

SPONSOR BUSINESS PROFILE



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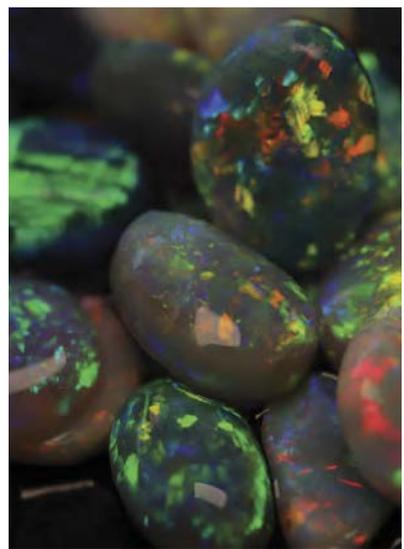
17 carat pre-shaped gem black opal ready to be polished.



Extremely rare needle pattern in a black opal.



Rough shaping and dopping bench at Fortune Opal.



Stacks of pre-shaped opal gems.



Opal in situ, Coocoran opal field 2015.



10 carat black opal gem preshaped and ready for final polish.



Red on black opal rough.

The duo established a multi-faceted business operation focused on opal. The company prospects and mines for black opal in Lightning Ridge, Australia. Plus, they invest in multiple tenements and other small mining operations to increase the diversity of supply, Hamilton and Rohleder said.

“As black opal deposits are small and continuity is never guaranteed, it has been necessary to source stock outside our own operations to ensure the best supply for our growing customer base,” they explained. “To that end, we work closely with a very small, select group of miners that are equally dedicated to the industry and ethical, sustainable production of opal.”

Working to consistently evolve its multi-faceted business operation and stay true to its foundational vision has helped Fortune Opal navigate the unpredictable year 2020 and remain hopeful.

“The challenges associated with safety measures imposed on our customers and ourselves have certainly impacted our growth, but demand in certain areas of the market/products has seen an unexpected increase in revenue in some sectors and falls in others,” Hamilton and Rohleder said. “Fortunately, our mining operations here in Australia have been largely unaffected due to remoteness and low population density. Supply is still strong at the moment.”

A practice the Fortune Opal team has put into action, especially during these uncertain times, is being ever mindful of developments and progress with the potential to benefit the opal industry.

“Social media and mainstream television are doing wonders for the promotion of Australian black opal,” according to Hamilton and Rohleder. “More and more people are becoming aware of our national gemstone and understanding the rarity of a truly remarkable gem and the lifestyle that accompanies hunting the fabled ‘big find.’”

The Fortune Opal founders also report seeing a resurgence in prospecting adjacent to some fields that were highly productive in the 1990s.

“Exploring that ground is a great move by our fellow miners as its definitely not exhausted, and much of it was glossed over in search of greener pastures further afield,” they said. “We have been concentrating our efforts in these areas for the past ten years with genuine success.”

Another development Hamilton and Rohleder identified is an evolution among consumer buying tactics.

“A very popular product at the moment is very high-end small black opals. It seems a broader range of opal consumer is starting to understand the difference in quality and that is resulting in people purchasing a smaller, cleaner, better quality piece rather than larger stones of lesser carat price.”

As the opal industry continues to evolve with technology, discovery, market demand, and consumer awareness and buying patterns change and grow, the Fortune Opal team strives to navigate the opal industry’s changing business landscape while remaining true to their vision and always curious. 💎



Opalized fossil found in a native Australian Bower bird nest in 2015.

5 FASCINATING FACTS — ABOUT — FORTUNE OPAL

- 1** The company’s foundation is based on a history of opal mining in Lightning Ridge since 1970, even though the firm is considered a relatively new player in the wholesale opal industry.
- 2** Hamilton and Rohleder both have extensive backgrounds in Environmental Management and Marine Ecology, which is almost 180 degrees opposite of mining opal in arid Outback Australia.
- 3** The company mined the largest colored plesiosaur tooth on record in 2012.
- 4** Discovered an opalized fossil in a bower bird nest at the Corcoran Opal field. Fossil is pictured above.
- 5** The company guarantees that every stone sold is solid natural opal, ethically and sustainably mined in Australia and provenance is known almost down to the square meter.

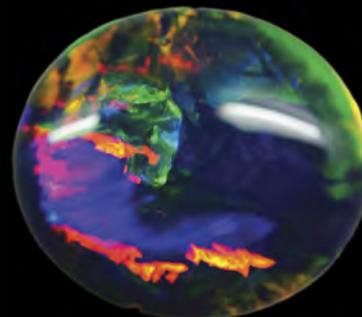
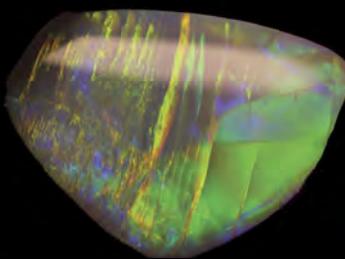
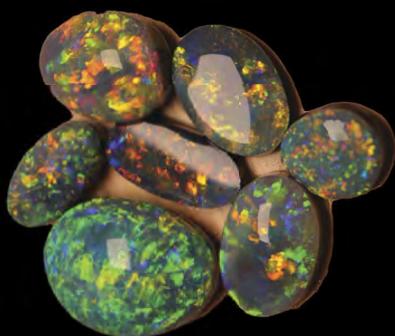
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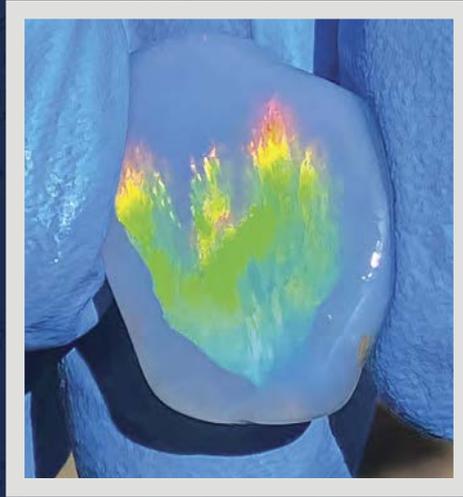
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ENCHANTING

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Life-Long Love for Prospecting
Leads to Nevada Opal Discovery

ANTOINETTE RAHN

ENCHANTING NEVADA BLUE

Nevada-native Steve Smith can't remember a time when he wasn't immersed in rockhounding or inspired by fellow rockhounds.

"My first hard rock prospect was for garnets in Nightingale, Nevada, with a geologist neighbor of mine (Melvin Johnson). He paid my brothers and me with quartz crystals for mowing his lawn," recalled Smith, who was four years old when he was bit by the prospecting bug. "He taught me geology and how to read stones, along with giving me my first rock book."

Two additional mentors in Smith's life who had a hand in the development of his rockhounding interest and knowledge were Jimmy Mac and Jim Stockton. The two men brought a then 12-year-old Smith on various prospecting excursions, most memorably a trip to Peterson Mountain in Washoe County, Nevada, he said.

"From these people, I learned so much. They were my teachers, and I thank them for taking sight to a sick kid and showing me a way to live with more freedom than I ever had known before or since," Smith explained.

Smith went on to advance his abilities and knowledge to locate stones and elements across Nevada and identify what he refers to as "my calling to share these treasures with people of the earth."

Without question, Smith's life-long passion for prospecting has produced many rewards, perhaps most significantly the discovery of a unique blue opal.

While prospecting with partners in 2007, the group came upon the old Star-fire Opal Mine in central Nevada. Smith's research into the area revealed it was mined in the 1930s as part of a contract related to Tiffany & Co. A few years after discovering the once-active mine, Smith located another site downrange from



ENCHANTING NEVADA BLUE

the Starfire locality, he said. In 2016, he claimed the site and named it the Hooper Spirit Opal site. Currently, the government military owns the land, Smith said, but he has “grandfathered access” and continues to explore and dig in the area.

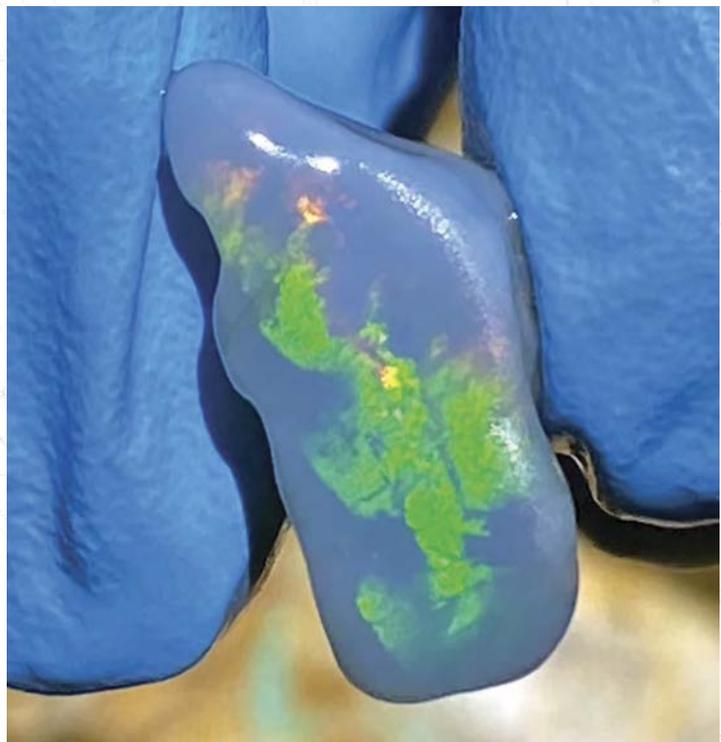
The geological formation of the Hooper Spirit Opal site contains some deposits that extend quite deep and increase in size the further down one travels, Smith said. He reports digging down 25 feet and leaving off at a two-inch vein section, where the yield was very high with fire present in 40-60% of the take home.

“All of this material has great chalcedony inclusions,” said Smith. “Most of the fire from the Hopper site is line-in pattern. Opal from the site has more flash fire present in the darker blue base, due to more chalcedony mixes.”

In addition to the enchanting opal he’s discovered in the site, Smith reports a wide variety of additional minerals and fossils present. Among those he’s also found are grape, horn, and purple plum agate, green jasper and white jasper veins up to three feet wide, a unique orange banded jasper agate mix, massive ultraviolet-reactive calcite, huge sequoia fossil tree trunks, and titanite on-field spar with epidote fans. Additionally, he’s found native iron, rhodium, gold, silver, copper, and cobalt lithium ores.

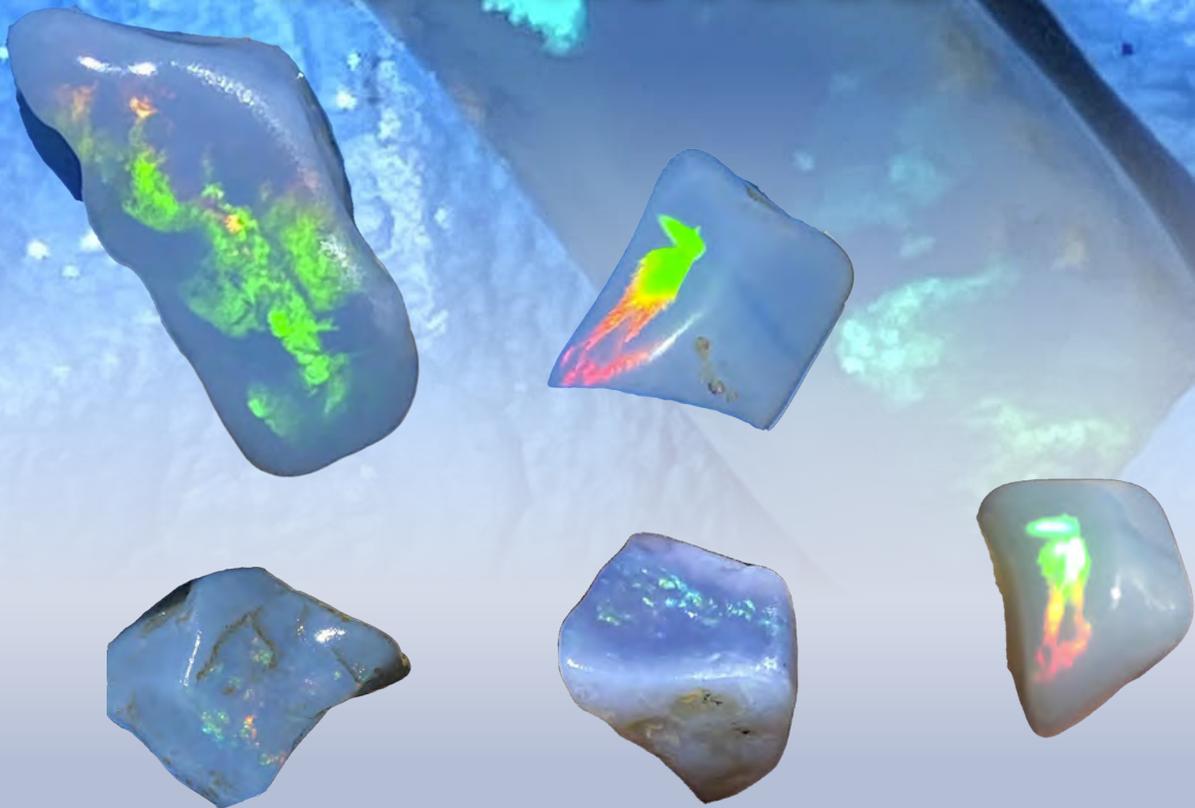
To say a life spent prospecting is a life well lived may not be the proper application of the famous quote, but when it comes to Smith’s life, it’s a truth that continues to shape the way he views the world and nature.

“I find the earth as the greatest teacher, and it offers its teaching and beauty to all who wish to see it,” he said. “Opal shows me the life I speak of in a movement-type detail.” 💎



STEVEN SMITH MINERALS

from Nevada



**Main discovery: Blue hard precious opal with a chalcedony mix,
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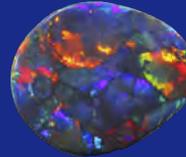
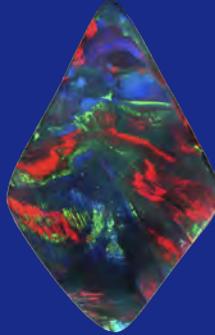
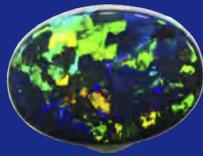
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Village Smithy Opals, Inc has served the opal enthusiast market since 1997 as the source of one of the largest selections of rough opal available online. Owners are self-proclaimed “opalholic” Steve Newstrom and his business partner and wife, Darlene.



(Left) Close up of medium grade Coober Pedy opal from Greek Gully opal field. (Right) Brilliant red and lime green flashes of color present in this white based rough Welo opal from Ethiopia.

VILLAGE SMITHY OPALS, LLC

ROYAL PEACOCK OPAL MINES

Located in Virgin Valley, Nevada, Royal Peacock Opal Mines is a fee digging destination and gift shop, which has been in the Wilson family for four generations. Carrying on the legacy and love of opals is owner, Julie Wilson, and her son Jake Anderson.

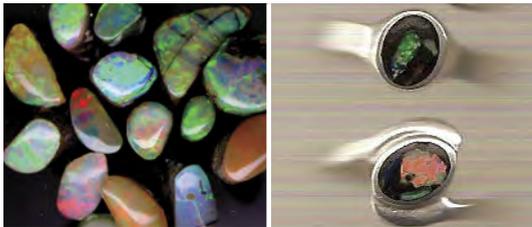


(Left) Found in the tailings at Royal Peacock Opal Mines, this opal beauty is perfect for displaying. (Right) Spending time sorting through the tailings at a mine is often a worthy endeavor at Royal Peacock.

ALEECEE CALVERT-FOSTER

OPAL RESOURCES CANADA, INC.

Opal Resources Canada, Inc., is the site of the only precious opal mine in Canada, with formal mining operations and mine-your-own public access. Also, opal cutting services and jewelry-making services are available, as well as an online shop.



(Left) A stunning and creative op-sicle made of opal cabochons. (Right) These rings feature opal chip inlay stone from the Klinker mine in British Columbia, Canada, set in silver.

OPAL RESOURCES CANADA

THE ARKENSTONE GALLERY OF FINE MINERALS

The Arkenstone Gallery of Fine Minerals has been a pioneer of the online mineral market since the mid-1990s and has significantly contributed to the expansion of today's growing interest in mineral collecting. The Dallas-based business is led by founder, Dr. Rob Lavinsky.



(Left) Ethiopian opal bracelet, 52 cts. (Right) This carved example of opal hails from the Huanuni tin mine in Bolivia. The mine is the largest of its kind in Bolivia. This piece measures 81mm.

ARKENSTONE GALLERY OF FINE MINERALS

KINGSLEY NORTH

Kingsley North is located in the picturesque, Upper Peninsula of Michigan. The company is a household name wherever lapidary work takes place. In business since 1977, today the company offers rough and polished stone, lapidary equipment and supplies.

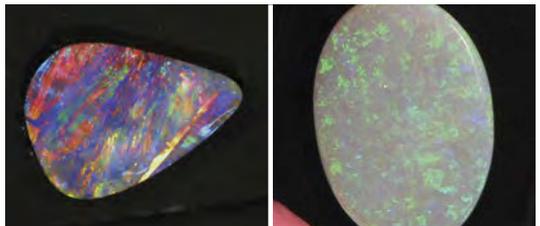


(Left) Rough rock bins of the Kingsley North store are a rock-hounds' dream. (Right) Opal, be it set in silver or gold, makes for a superb showcase stone in jewelry.

KINGSLEY NORTH

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. They frequently attend mineral shows across the United States. In operation since 1974, the Thomas' offer opal from around the world.



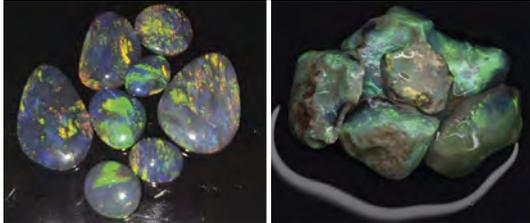
(Left) World-class teardrop sized carved Welo opal. (Right) This opal presents with brilliant contrasting fire, a trait of opal mined in Mintable, Southern Australia, where this example was found.

THE HOUSE OF TIBARA

OPAL SHOWCASE

A&S OPALS LLC

A&S Opals LLC, is the manifestation of a dream that began when the owner, Adam Sawicki, was just a child. He strives to share his knowledge and passion for opal gemstones, by offering a vast selection of opals at his online shop and additional services.



(Left) Group of Lightning Ridge rough opal, weighing 35 carats total. (Right) Gem black opals from the Grawin fields, Lightning Ridge Australia.

A&S OPALS

HERITAGE AUCTIONS

Heritage Auctions is the largest collectibles auctioneer, the third largest auction house in the world, and the largest auction house founded in the U.S. The Nature & Science division is one of the many categories of auctions the firm presents regularly.

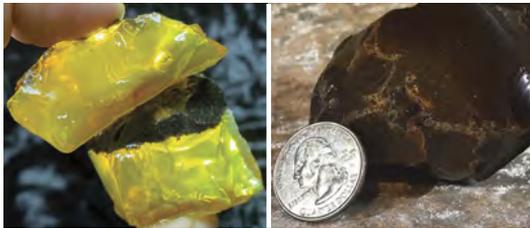


(Left) A trio of polished boulder opal specimens from Lightning Ridge, Australia. (Right) This oval cut Ethiopian opal cabochon is more than 5 carats, and boasts intense flashes of color.

HERITAGE AUCTIONS

OUTLAW ROCKS, LLC

Based in southern Oregon, Outlaw Rocks, LLC is a fifth-generation opal mining business. Outlaw Rocks specializes in offering rough and polished examples of Oregon fire opal, as well as chocolate, caramel, pink, and white opal, and lapidary jewelry.



(Left) Yellow Oregon fire opal rough mined by Outlaw Rocks at the Opal Queen Mine. (Right) 147 gram Oregon chocolate opal rough.

OUTLAW ROCKS, LLC

FORTUNE OPAL MINING COMPANY

Owners Ted Hamilton and Stefan Rohleder prospect and mine for black opal in Lightning Ridge, Australia, and they invest in additional small mining operations to specialize in wholesale sales of black opal rough and cut stones.

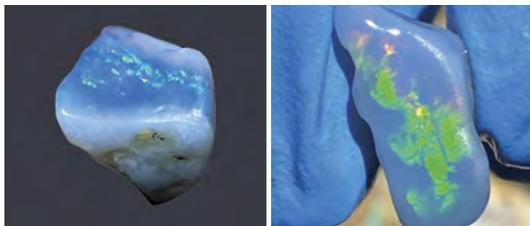


(Left) Rough black opal nodule with blue bar, 255 cts. (Right) 17 ct. reshaped black opal gem.

FORTUNE OPAL

STEVE SMITH MINERALS

A rockhound since the age of four, Steve Smith made a remarkable discovery when he came upon a hard type of precious blue opal with a chalcedony mix. Today he sells various minerals and gemstones, with the opal, which he calls Hooper Spirit opal.



(Left and right) Beautiful Blue Hooper Jean Phoenix Spirit opal from Nevada.

STEVE SMITH MINERALS

THE OPAL OUTLET SHOP

In operation since 2008, The Opal Outlet Shop, a U.S.-based business deals in opal rough from a wide array of localities, including Coober Pedy, Andamooka, White Cliffs, and Lightning Ridge, Australia, as well as opals from Nevada.



(Left) A mixed selection of opal rough. (Right) This 14.55 carat Boulder opal reveals intriguing color, include the seldom-seen orange hue.

THE OPAL OUTLET SHOP

*Thank you for reading
Illustrious Opals !*



Cut and polished opal from South Welo, Ethiopia.
Photo Credit: The Arkenstone Gallery of Fine Minerals, www.irocks.com

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