







- THE WESTWARD LOOK MINERAL SHOW









MARCUS BUDIL

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## INTRODUCTION

#### **WELCOME TO MINERAL CITY!**

It's that time again where we get to talk rocks, buy rocks, and live the 24/7 mineral lifestyle for a couple of weeks.

Wow it's been 5 years since Mineral City first rose from an empty lot on Lester Street. There are over 120 dealers in our community now and we continue to grow with two new additions to Mineral City.

We want you all to welcome, "Mineral Nexus" and, "Mineral Galleries on Lester" to the neighborhood. Scott and I encourage you to visit, "The Stope" a mining-themed meeting room in the center of Building D. We have assembled a collection of mining artifacts for permanent display in the room. The Stope will also feature cases with guest mineral collections for your viewing pleasure, as well as being the new home of the Mineralogical Record here in

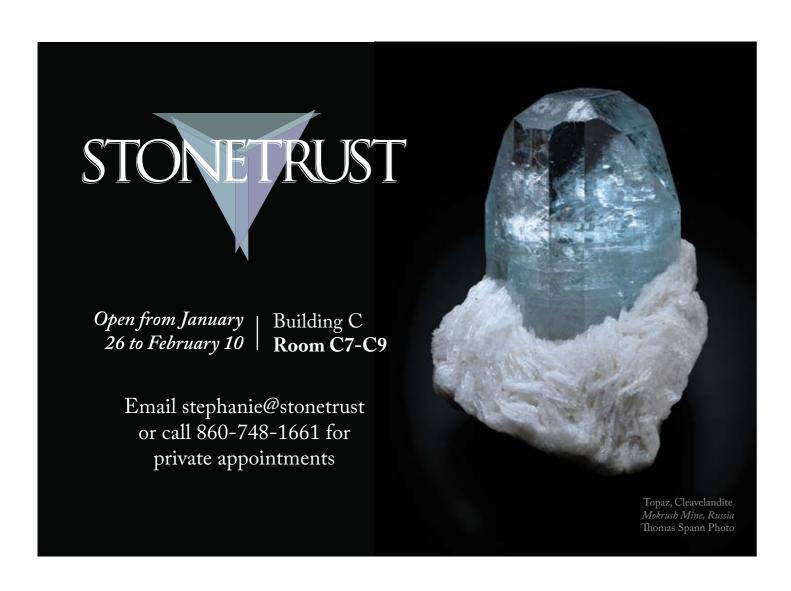
Mineral City. The Stope will not only have beer, wine, and coffee available, but it will also be a pleasant place to enjoy them while showing off your new finds to your friends.

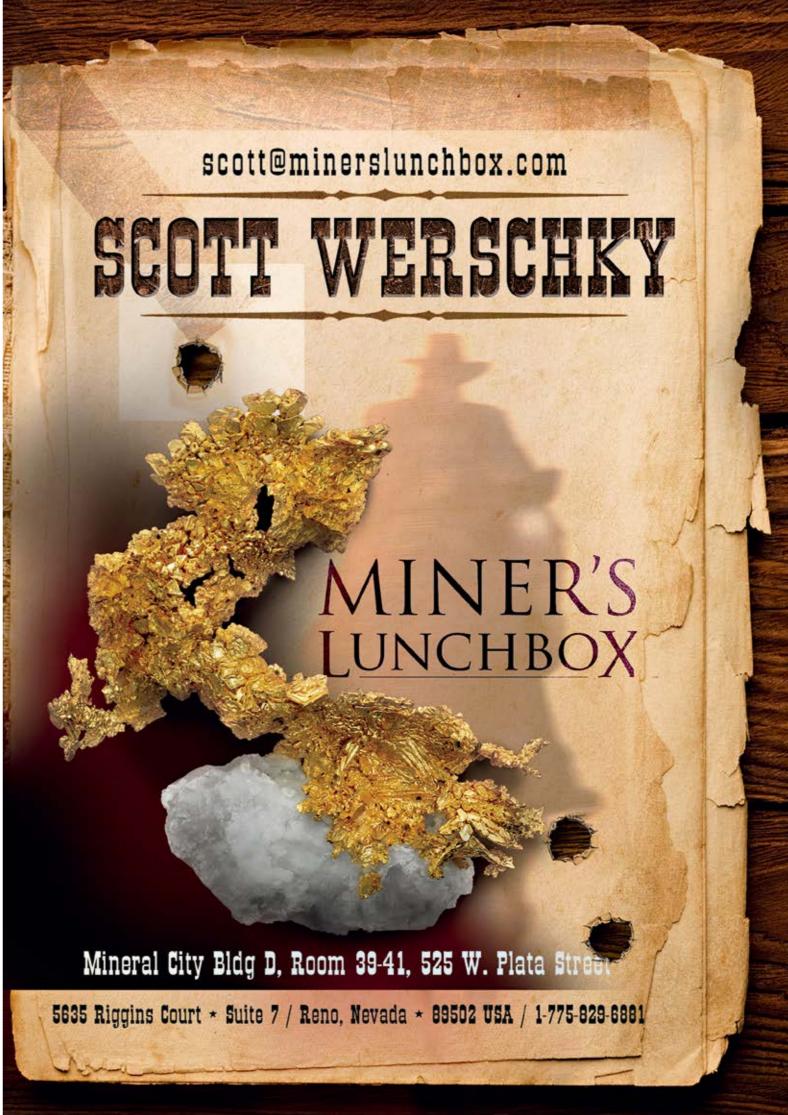
This year the cases in the hallways will again feature the collections from the Young Mineral Collectors group so be sure to check out all 12 of the cases.

New this year is an outdoor gathering area in between Buildings C and D. Food will be available in this area, and with the success of last year's concert and party, we are doing it again. This year our concert features the music of Pink Floyd by the cover band, "Shine on Floyd."

Come for the rocks, stay for the fun-there's always something happening at Mineral City!

- Graham Sutton





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## MINERAL CITY ACTIVITIES

Get ready for the 2024 Mineral City Show! Here are some features to check out during your visit:

## THE STOPE

We are excited to introduce THE STOPE, a new gathering area in Mineral City to trade stories, share rocks, and make memories! The Stope will be located in Building D, Room 24-26. Amenities include beer, wine, coffee, guest cases, a sitting area, mining paraphernalia, and a new home for the Mineralogical Record!



**GATHERING AREA** 

We will have a gathering area in the lot between Buildings C and D, with delicious options for food and refreshments. The Shine On Floyd concert will be hosted here on the Gathering Area concert stage!



#### MINI HALLWAY CASES

This year, Buildings C and D will feature twelve mini hallway cases, featuring the collections of members of the Young Mineral Collectors:

Zachary Bell Jesse Sansevere Antonio Nazario Austin Cockell Tomer Shapira Lauren Vanicelli Jason Zaborszki Rory Boyan Jonathan Vasilyev Hannah Brodhagen

MINERAL CITY EVENTS

"Tucson Starts Here" Party THE STOPE - Building D, Room D24-26 Friday - Jan 26 - 6:00 PM

Mineral Galleries on Lester Block Party 501 Lester St. Saturday - Jan 27 - 6:00 PM

The Mineral City Party Featuring SHINE ON FLOYD! Between Buildings C - D (Gathering Area) Friday - Feb 2 - 6:00 PM

Last Hurrah in Building E! 445 W Plata St. Thursday - Feb 8 - 4:30 PM

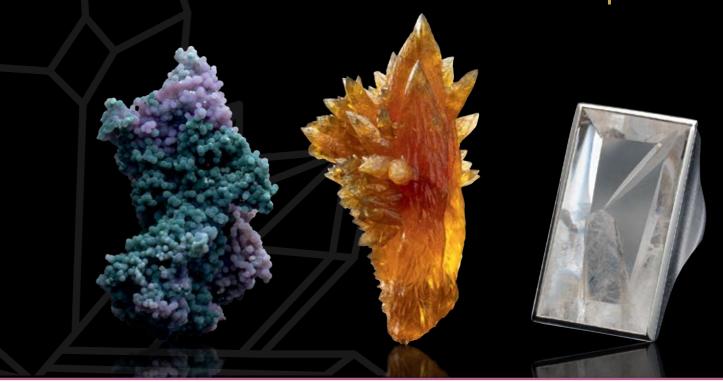




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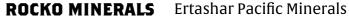


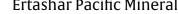




















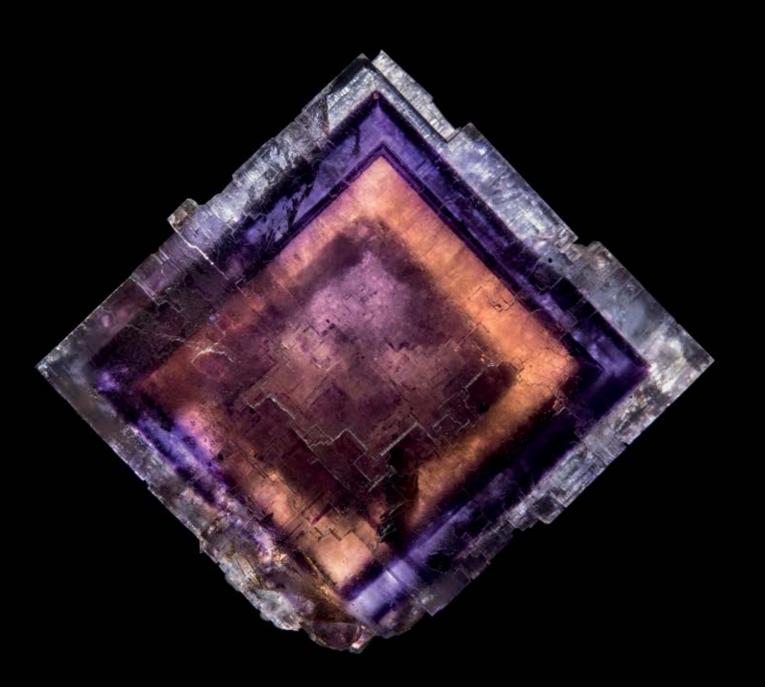


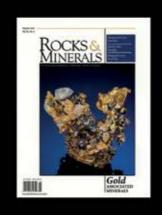


# Gallery of Fine Mineral Specimens



# Laboratory & Photography Services



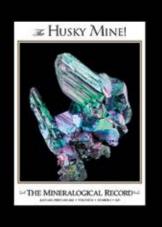




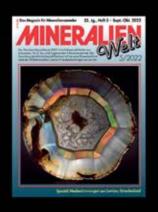




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...Come visit us!

By Bryan Swoboda, Jordi Fabre i Fornaguera, and Carles Manresa Pla. Forward by Salim Eddé



he mim museum celebrated its tenth anniversary in October 2023, and was expected to welcome 50,000 visitors for the whole of 2023 - which is quite an achievement in a small country such as Lebanon. The mineralogy section started in 2013 with 1,100 specimens and now, ten years later, the collection has doubled in size while maintaining the same level of quality. I feel that this milestone is an excellent opportunity to reflect back on the origin and raison d'être for the mim.

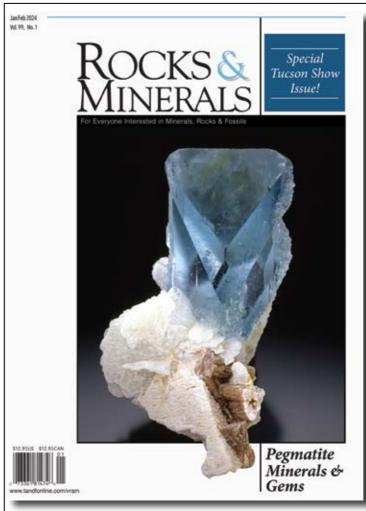
One question that I'm consistently asked is am I still a collector? The answer is a resounding, "YES!!!" Maybe now more than ever I am an avid collector who keeps gathering with the same fascination I've had since 1997. Spectacular specimens of pedestrian species as well as rarities in well-formed samples. I'm a collector who unabatedly seeks to add trophies to his collection. For me, a magnificent crystal of a rare species such as bismuthotantalite from Nigeria, acquired in 2021, has the same effect as a more classical slab of bicolor tourmaline from Brazil, acquired in 2022. Actually, the major challenge I have set to myself is to gather as many different species in as nice an example as possible.

The mineralogy section of the mim today hosts 510 different species - 10% of the known species in the mineral kingdom. That leaves a lot of room for growth!!

But then, people keep asking me: why did I get rid of this whole collection and turn it into a museum? My answer is simply because I didn't see myself as Uncle Scrooge, playing with these objects in my vault at night for sheerly my own pleasure. I discovered that the greatest pleasure is to share these unexpectedly aesthetic wonders with everyone. Minerals bind us all, across all cultures, because

Tanzanite (variety zoisite). Merelani mines, Merelani Hills, Lelatema Mountains, Simanjiro District, Manyara Region, Tanzania. 14.5 x 5.5 x 3.5 cm, mim specimen #1313: An enormous brute of a Tanzanite crystal (zoisite variety), lustrous and very transparent, with hardly any inclusions and with distinct trichroism from red at the base, through violet, and ending with bluish tones at the crystal's termination -perfect-. Some graphite is present at the base of the crystal, something characteristic for some specimens from this locality. The fact of displaying trichroism, without special lighting and without the need to turn the piece to observe it, makes this an almost unique specimen. James Elliott photo





Come see us in the tent January 26–February 10, 2024 at the **La Fuente de Piedras Show** Lester & N 13th Ave., Tucson, AZ 85705 in the center of the **Mineral District**.



Fluorite and quartz, 21 cm aross, Planggenstock, Göschenenalp, Kanton Uri, Switzerland mim Museum #2198, James Elliott/FMI photo. Reproduced with permission.

If you want to read more about the mim Museum in Beirut, Lebanon and its founder Salim Eddé, check out our 2023 November/December issue!

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Rocks and Minerals Magazine

minerals tell stories of voyages, technological discoveries and civilizations. In addition to this, I find that minerals are an excellent way of illustrating science to both schoolchildren and university students (40% of our visitors). Minerals teach us about mathematics, physics and chemistry all packaged in a beautifully aesthetic work of art. Oh, and I would be remiss if I were to forget grandma's wisdom: "you know, my grandson, nobody has ever taken anything with him in the afterlife!" I know it's hard to believe, but I don't even have a piece of flint at my home - my entire collection is on display at the museum!

Still, people wonder: "you must expect a return on this investment". Indeed I do, as there is no such thing as a free lunch in this world. So, I'm finally going to tell you which return I expect: If a visit to this museum inspires a single child to pursue a scientific or artistic vocation, then I'll have more than recouped my investment.

Let me conclude with an amusing anecdote I witnessed recently. I saw two parents dragging along two sulky teenagers into the mim, with the Y-shaped headphones screwed firmly on their ears and crooked mouths. They entered the collection and I happened to cross their paths on their way out. The headphones had been removed, the teenagers' eyes were shining and they were talking to their parents and asking them lots of questions!!! When I saw this, I said to myself: if this museum manages to cheer up sulky teenagers and get them so turned on, it's got real potential!

- Salim Eddé

All captions were written by Jordi Fabre and Carles Manresa. The accompanying article in the Nov/Dec 2023 issue of Rocks & Minerals magazine was written by Bryan Swoboda.

Väyrynenite. Lolu Dahku mine, Roundu Valley, Skardu District, Gilgit-Baltistan, Pakistan, 14.5 x 3 x 2 cm, mim specimen #1852: When I saw this specimen for the first time, I couldn't believe that it could be a Väyrinenite, because the ones that I had seen before barely exceeded 3-4 cm. Nevertheless, this specimen with a length of 14.5 cm. with elongated and perfectly terminated crystals, of an intense pinkish orange color, between translucent and transparent, leaves us speechless. James Elliott photo



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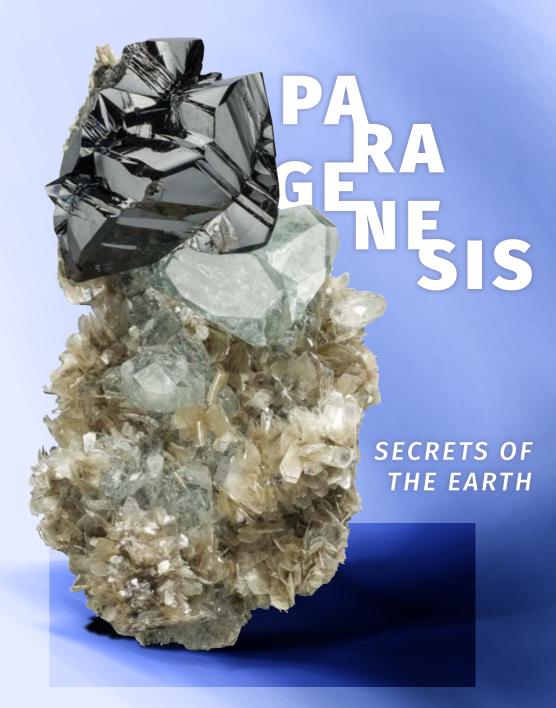
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## MINERAL & GEM

59th SHOW

26-30 JUNE 2024









Fluorite. Planggenstock, Göscheneralp, Kanton Uri, Switzerland. 42 x 32 x 26 cm, mim specimen #2102: Huge octahedral Fluorite crystal with very well defined faces and edges, translucent and of a uniform pink color, implanted on a matrix of granitic rock. To the eyes of a mineralogist, imagining such a piece is a chimera, but no, it is real, and it is in the mim. The quality of the crystal is amazing, considering its enormous size, with a presentation on matrix that is outside any common parameter. One of the largest or even the largest octahedral crystals discovered so far in the Swiss Alps.



Stibiotantalite. Urandu mine, Shigar Valley, Shigar District, Gilgit-Baltistan (Northern Areas), Pakistan, 4.5 x 2 x 1 cm, mim specimen #2128: Stibiotantalite floater crystal with polycrystalline growths on the main face, of an intense and uniform orange color, with a "spearhead" termination; and with small cylindrical incrustations, probably tourmalines. What stands out in this specimen is undoubtedly its color, which is incredible for the species. James Elliott photo



Malachite. Kalukuluku mine, Lubumbashi, Katanga, D.R. Congo. 60 x 48 x 26 cm, mim specimen #2185: Set of perfectly terminated stalactitic crystals, without any damage, a very noteworthy fact considering the size of the piece and of the crystals, very lustrous, and implanted on a limestone matrix. This piece has been dubbed the "Emerald City" - a whole forest of vertical crystals, with hardly any twisting, something typical for Congo specimens, and with a quality similar to the best specimens from the Shilu mine in China with the same 'chatoyant' effect. And being in matrix gives this piece an added value. Federico Picciani photo



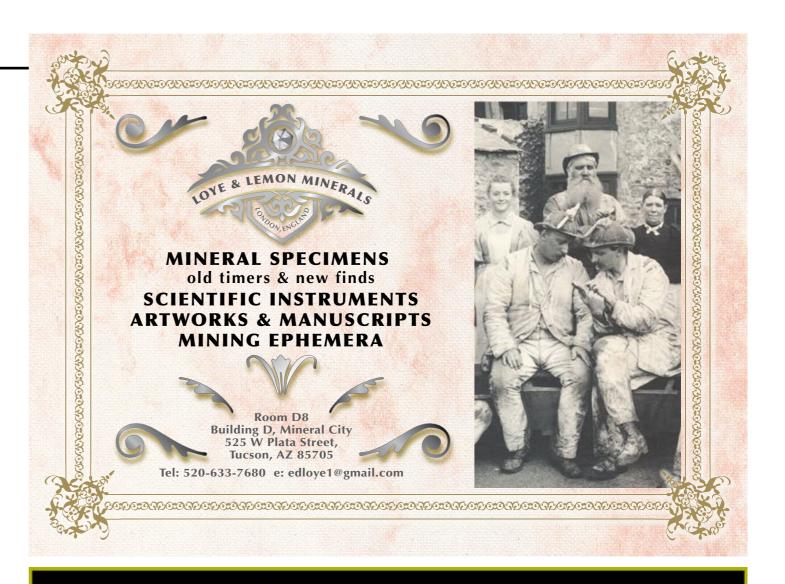
Calcite twin, Guangxi Zhuang Autonomous Region, China. 10.5 x 7.5 x 7 cm, mim specimen #1151: Perfect V-shaped Calcite twin formed by two flattened pseudohexagonal crystals of an excellent transparency and luster, perfectly showing the inclusions of rock within the crystals. The sharpness of the crystals is spectacular on seeing them in person. James Elliott photo



Andradite (variety demantoid), Ambanja, Diana, Antsiranana, Madagascar, 14.5 x 8.5 x 4.5 cm, mim specimen #1101: Group of Andradite crystals (demantoid variety) with perfect trapezohedron crystal forms, very lustrous, bicolored amber-green, translucent and on a beautifully contrasting whitish rock matrix. Aesthetics and luster at their best, the expression of a unique find, being one of the best specimens from that discovery. James Elliott



Hambergite. Tamponilapa, Sahatany Valley, (Mt. Ibity), Vakinankaratra Region, Antananarivo Province, Madagascar. 21.5 x 10.5 x 1.5 cm, mim specimen #1309: Huge Hambergite floater crystal, with faces and edges very well defined, and with small Calcite incrustations on the surface, and turbid inclusions demarcating areas of greater transparency. What may appear to be an internal fracture at the top is the result of natural recrystallization that embellishes the specimen, if that were possible, even more. Although the photo does not show it, the crystal looks much more transparent when seen in person, and its size is three or four times greater than what has been known up to now for this mineral species (with this quality). James Elliott photo





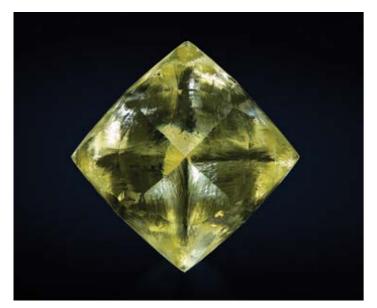
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A BIG thank you to all our customers for an incredible year!

Our Mineral city offerings were so well received in 2023 that we are expanding with a second showroom in the same hall! For the past year we have been preparing lots of exceptional specimens, several collections, classics, and new finds. From top pieces to excellent values at all levels there is something for everyone. Please come by and say hello!!

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Diamond. Schutsekama mine, Riet River, downstream of Ritchie, Northern Cape Province, South Africa.  $3 \times 3 \times 3$  cm, mim specimen #2199: Perfect octahedral Diamond crystal with very sharp edges, and with its faces augmented by the effect of rounded pyramidal forms. Of a very fine and delicate yellowish color, the specimen has great clarity and an intense luster. With its distinct inclusions oriented in the shape of a cross, it represents beauty in its purest state. James Elliott Photo



Diamond. Udachnaya-Vostochnaya pipe, Daldyn, Daldyn-Alakit, Sakha Republic (Yakutia), Russia. 2.5x1.9x 1.9 cm, mim specimen #1591: This diamond specimen represents the epitome of the cubic system. A perfect octahedron with smooth and flat faces and very sharp edges with sulfide inclusions - probably pyrrhotite and pentlandite. The fact that this specimen does not exhibit rounded faces indicates that the kimberlite that hosted it had an extremely fast vertical rise towards the Earth's surface. A diamond that is not at all boring, thanks to the inclusions it exhibits. James Elliott Photo



Helvine, Quartz. Hexigten Banner (Kèshíkèténg Qí), Chifeng (Ulanhad), Inner Mongolia Autonomous Region, China,  $20 \times 14 \times 12$  cm, mim specimen #1371: Group of Helvine crystals in subparallel growth arranged in a very aerial manner and with perfectly sharp tetrahedron forms, with a very bright brown color, implanted on a matrix formed by a druse of translucent Quartz crystals. A specimen with very fine aesthetics. It is unusual for Helvine to exhibit so many groups of crystals. Due to its presentation and the number of crystals, this piece can be considered one of the best for the species. James Elliott photo





Bournonite. Viboras mine, Machacamarca, Cornelio Saavedra Province, Potosí, Bolivia. 16 x 16 x 14.5 cm, mim specimen #2269: Huge group of Bournonite crystals grouped in subparallel fashion and with the very sharp "cogwheels"; so characteristic of this species. The crystals have an outstanding metallic luster. Probably one of the best known Bournonite specimens from this classic Bolivian deposit, standing out above all for its size. Augustin de Valence photo



Tellurium. Koçkbulak Au-Ag-Tekoni, Navoiy viloyati, Republic of Uzbekistan.  $3.0 \times 1.5 \times 5.0$  cm, mim specimen #2275: Tellurium floater crystal, partially doubly terminated and of considerable dimensions for this mineral species, from an epithermal deposit which produces gold and silver. An unimaginable piece until the moment of seeing it in the mim, the best known specimen for Tellurium, unique, exceptional. Augustin de Valence photo



Cubanite. Henderson No. 2 mine, Chibougamau, Nord-du-Québec, Quebec, Canada. 19 x 11 x 6 cm, mim specimen #1036: Huge completely twinned crystal (sixling) of Cubanite, very sharp and lustrous, implanted on anorthosite matrix with small Calcite crystals. Undoubtedly the best known piece of Cubanite on matrix. As far as our knowledge there is no known equivalent Cubanite specimen comparable to this piece. Augustin de Valence photo



Catapleite. Poudrette Quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. 12 x 8 x 5 cm, mim specimen #460: Complete "rose" formed of Catapleite crystals with a hexagonal shape and delicate cream color with pearly luster, very difficult to obtain due to the type of deposit it comes from. As is usually the case with the mim's chosen pieces, one must take into account the extraordinary dimensions of the specimens. Augustin de Valence photo



Kesterite. Mount Xuebaoding, Pingwu, Mianyang Prefecture, Sichuan Province, China,  $5 \times 4 \times 3.5$  cm, mim specimen #1033: Kësterite crystal with sharp faces and edges, of considerable size for the species, and implanted on a matrix formed by a druse of Quartz crystals, giving a harmonic and balanced contrast to the whole. The main tetragonal faces exhibit a very uniform patina of Mushistonite, giving an extra beauty to this already very showy piece. James Elliott photo



Spangolite. Czar mine, Copper Queen mine (Halero mine), Queen Hill, Bisbee, Warren District, Mule Mountains, Cochise County, Arizona, USA. 14 x 13.5 x 6.5 cm, mim specimen #1063: Group of hexagonal crystals of Spangolite of a very dark and deep blue color arranged on a copper-bearing rock partially covered with green Malachite microcrystals which provide a beautiful color contrast. This specimen could be considered the best known to date for this species, a rare Cu and Al sulfate. It stands out for its size, something that usually happens with mim specimens. Augustin de Valence photo



Pollucite, Orthoclase, Tourmaline, Quartz. Chhappu, Braldu Valley, Shigar District, Gilgit-Baltistan, Pakistan. 16.5 x 15.5 x 13.5 cm, mim specimen #2231: The "Snail". White Pollucite crystal with very well defined faces and edges, on an Orthoclase matrix perforated by a multitude of translucent and lustrous green tourmaline crystals greater than 5 cm long. Completing this combo is a very elongated and translucent Quartz crystal, which also has Tourmaline inclusions, adorning the piece to a very high degree. Pollucite might normally be considered a "boring" species, but this specimen is quite the opposite. Federico Picciani photo



Uraninite. Koksha Valley, Badakhshan Province, Afghanistan.  $5.5 \times 3.5 \times 3$  cm, mim specimen #1162: Very lustrous and dark dodecahedral crystal with octahedral truncations, on a matrix of Albite, and in which the marked striations on the crystal faces stand out. Of an indisputable beauty, it is noteworthy that this was one of only two Uraninite crystals ever found in this lapis lazuli mine. For its pure crystallography, brilliant luster, implanted in a matrix... it far exceeds what has been known up to now and in some ways hardly seems real for the species, but it exists and is in the mim. James Elliott Photo



Chalcocite. Bristol Copper mine, Bristol, Hartford County, Connecticut, USA. 12 x 12 x 11 cm, mim specimen #1013: Group of twinned crystals with a pseudohexagonal outline with divergent growths, metallic luster and dark grey color from a classic locality for the species. This is an exceptional piece, gathering all the best characteristics of its American deposit of origin, comparable to the best English Chalcocites but with sharper crystals, and better size and color. Finally, that patina gives a final "historical" touch to the specimen. Augustin de Valence photo



Liddicoatite. Tsitondroina, Ikalamavony District, Haute Matsiatra Region, Madagascar.  $33.3 \times 16 \times 13.5$  cm, mim specimen #1474: A "tower" composed of crystals of Liddicoatite with the prism terminated by a perfect plane, with very well defined faces and edges, lustrous and translucent and of a very deep mauve color with reddish reflections, with small remnants of Quartz at the base as a matrix. The size of the piece is monumental, in addition to its superb presentation and architecture. Augustin de Valence photo



Legrandite. Ojuela mine, Mapimí, Mapimí Municipality, Durango, Mexico. 19 x 13.5 x 10.5 cm, mim specimen #958: The "Aztec Sun". An iconic specimen of a singular beauty that would be difficult to surpass. Bundle of divergent crystals, in the form of a "V", of Legrandite of an intense and uniform yellow color with microcrystalline scorodite and traces of limonite on the crystal terminations. Without a doubt one of the best specimens in the museum -if not the best- for color, shape, size and presentation on matrix. It is somewhat embarrassing to try to describe such a specimen; it is better to observe and remain silent. Augustin de Valence photo



Zeunerite. Brumado, Bahia, Northeast Region, Brazil. 9 x 7 x 4 cm, mim specimen #711: Group of flattened crystals of Zeunerite forming parallel tablets, free of damage, of a uniform and deep green color, on a rock matrix formed by crystals of Magnesite and Calcite. Because of its intense color, which exceeds the rest of the known Zeunerite specimens, and being on matrix, it represents one of the best specimens for the species. Augustin de Valence photo



## Building D | Room D31

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Phenakite. Mandrosonoro, Ambatofinandrahana District, Amoron'i Mania Region, Fianarantsoa Province, Madagascar. 20 x 5.5 x 5 cm, mim specimen #1689: Huge doubly terminated floater crystal of Phenakite, considering its dimensions. With very well defined faces and edges, very translucent in the upper part, with an interior phantom and distinct growth striations. Augustin de Valence photo



Whewellite. Shaft 371, Schlema-Hartenstein District, Erzgebirgskreis, Saxony/Sachsen, Germany.  $17 \times 10 \times 6$  cm, mim specimen #495: Organic compounds are not usually very aesthetic but, in the mim, theory and reality sometimes get confused. Extraordinary V-shaped crystal of Whewellite with the faces and edges perfectly well defined, undamaged, and pearly white. Simply perfect, something not easy for specimens with an organic chemistry, and as is so often the case with mim specimens, with an enormous size. Augustin de Valence photo



Elbaite. Sosedka vein, Malkhan (Malchan), Krasnyi Chikoy, Zabaykalsky Krai, Russia. 38 x 13 x 13 cm, mim specimen #1788: One more Elbaite? Apparently yes, but this size? Many Elbaites have come from Malkhan but have not surpassed this one, for its color, its perfect terminations and the translucency of its crystals. James Elliott Photo



Veszelyite. Black Pine mine, John Long Mountains, Philipsburg, District (Flint Creek District), Granite County, Montana, USA. 7.5 x 5.5 x 3.5 cm, mim specimen #1956: A classic for this deposit, Veszelyite, a rare phosphate of Cu and Zn, as a large complex crystal of very deep blue color formed by several doubly terminated tabular crystals implanted on a Quartz matrix. Three quartz crystals stand out behind the Veszelyite as a backdrop providing a pleasant color contrast. Has an excellent presentation, very aerial, for the deposit of origin.



Milarite. Fiescher Glacier area, Fiesch, Goms, Wallis (Valais), Switzerland. 5 x 4 x 4 cm, mim specimen #701: Single crystal of Milarite, of enormous size for the species, formed by a well developed hexagonal prism, partially coated by Chlorite microcrystals on the upper termination. If looking for something to ask for, perhaps we would ask a little bit bigger matrix, although this is amply compensated by the size of the Milarite crystal. Augustin de Valence photo



Copper. Keweenaw County, Michigan, USA. 8 x 7 x 6 cm, mim specimen #1125: Pure crystallography which we can observe in this huge native Copper crystal, with its well-defined faces and edges, an elongated tetrahexahedral morphology, with the edges very distinct due to their more ocher color while the faces of the crystals exhibit a darker color due to a patina. Accompanying this dominant crystal are small copper crystals, giving even greater gravitas to this specimen. For crystal sharpness and crystal size, it is an unbeatable Copper. James Elliott Photo



Topaz. Pan-taw, Kyatpyin North, Mogok Township, Pyin-Oo-Lwin District, Mandalay Region (Mandalay Division), Myanmar (Burma).  $34 \times 32 \times 20$  cm, mim specimen #2143: Divergent group of champagne colored Topaz crystals with well defined faces and edges and very clear and transparent terminations, all on a matrix of white Orthoclase with a Quartz crystal (smoky variety) completing this very elegant combo. An "atomic bomb" of a specimen; for its color and translucency of the crystals that reach 6 cm, sharp, uniform and all on matrix. A monstrous climax to these selected pieces. Augustin de Valence photo



Zincite. Sterling mine, Sterling Hill, Ogdensburg, Franklin mining district, Sussex County, New Jersey, USA. 5 x 3 x 2.5 cm, mim specimen #1475: Opaque cherry-red crystal with the shape of a hexagonal pyramid, with curvatures at the edges, implanted on a matrix partially covered with cobalt-bearing calcite. The specimen comes from the type locality for this mineral species and is of great beauty due to its color, crystal definition, and size. Considering that the deposit is already extinct and that new pieces from there will never be seen again, this is one of the best known examples of Zincite from what has been described. James Elliott Photo

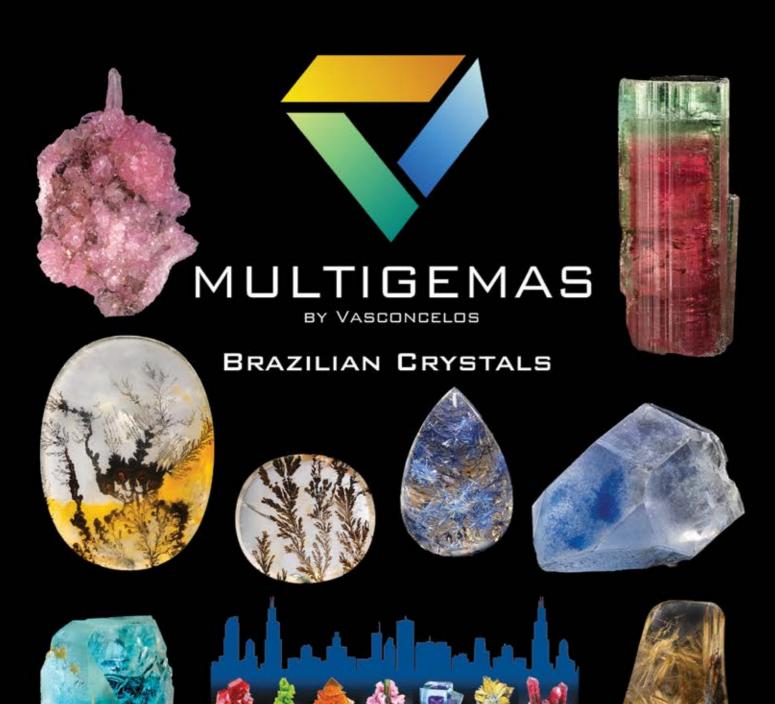


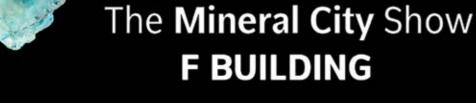
Fluorite, Quartz. Planggenstock, Göscheneralp, Uri Kanton, Switzerland.  $21 \times 13 \times 9$  cm, mim specimen #2198: Huge specimen composed of an octahedron of Fluorite with a deep pink color, very sharp and profiled, between transparent and translucent, with intense color zoning in the center of the crystal, implanted on a crystal of doubly terminated water-clear Quartz, both species in a perfect state of conservation, unusual for a specimen of these dimensions. A perfect combo that together with the first specimen described above form an unbeatable couple in terms of Alpine Fluorites. One more mineralogical, the other more showy, what more could you ask for? James Elliott Photo



Hübnerite. Yaogangxian mine, Yizhang, Chenzhou Prefecture, Hunan Province, China.  $12 \times 12 \times 10$  cm, mim specimen #1695: Aerial group of black and very lustrous Hübnerite crystals, on a small rock matrix, subparallel and with preferred growth orientations, flattened and with very marked polycrystalline growths on the faces. Its definition and size, without damage and with a very marked luster, make this piece another icon of mineralogy, especially since it is not the more common Ferberite. James Elliott Photo

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### **50 BEST OF SPECIES** MINERAL SPECIMENS FROM THE MIM MUSEUM



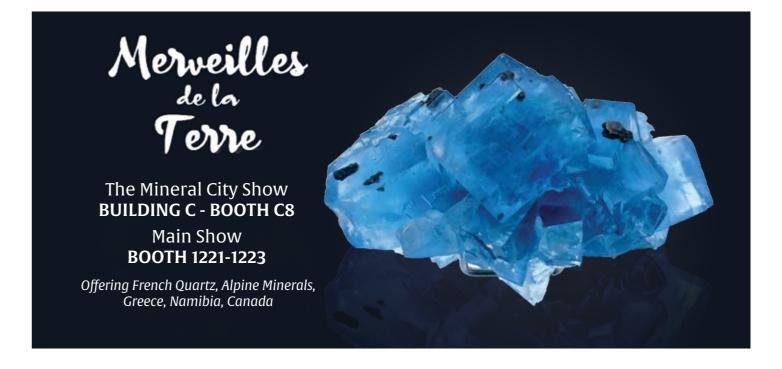
Fluorapatite. Minas da Panasqueira, Aldeia de São Francisco de Assis, Covilhã, Castelo Branco, Cova da Beira, Center, Portugal. 20.5 x 13 x 11 cm, mim specimen #1533: So many Panasqueira Fluorapatites... but what Fluorapatites crystals in this specimen! A pair of perfectly sharp crystals, implanted on a matrix of Siderite and Quartz microcrystals. The apatites are translucent, with purple zoning. The luster and color are simply extraordinary. Of the best known from Panasqueira, for color, size and luster. Augustin de Valence photo

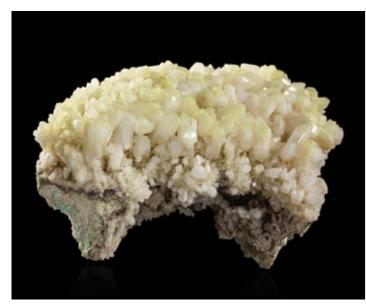


Euclase. Gachalá mining district, Gachalá Municipality, Eastern Emerald Belt, Cundinamarca Department, Colombia. 15.5 x 8 x 4 cm, mim specimen #2047: What to say about this specimen? First of all, try to imagine what the crystal is like from its dimensions. To this let's add its perfect lanceolate termination, its translucency, with marked growth striations and a deep and uniform turquoise-blue color. The probably biggest specimen ever found of this mineral species. Color, color, and color! James Elliott Photo



Beryl (variety emerald). La Pita mining district, Maripi Municipality, Western Emerald Belt, Boyacá Department, Colombia. 9.5 x 4.5 x 4 cm, mim specimen #1675: Prismatic crystal of Beryl (emerald variety) of intense green color, translucent in the upper part of the crystal, with very well defined faces and edges and perfectly terminated. Due to its size, sharpness and, above all, transparency, this specimen is especially outstanding for the locality, James Elliott Photo





Parahopeite. Kabwe mine (Broken Hill mine), Kabwe, (Kabwe-Ka Mukuba), Kabwe District, Central Province, Zambia.  $16.5 \times 10 \times 10$  cm, mim specimen #838: Group of tabular Parahopeite crystals with creamy yellowish tones, implanted in rock matrix partially covered with Hopeite crystals. Especially the aerial presentation of the crystals as well as its luster makes this an aesthetic specimen for these mineral species, which do not normally stand out for their beauty, Alessandro Clemenza Photo



Alamosite. Tsumeb mine, Tsumeb, Otjikoto region, Namibia.  $6 \times 5 \times 4$  cm, mim specimen #1085: Group of white Alamosite crystals in a hemispherical radial arrangement growing around a dark and lustrous core, probably Hematite, with a high concentration of crystals, very compact, and with a remarkable adamantine luster. Lovely shape for a usually not so nice specimen. Augustin de Valence photo



Cerussite. Kombat mine, Kombat, Grootfontein District, Otjozondjupa Region, Namibia.  $10.5 \times 7.5 \times 7.4$  cm, mim specimen #1062: Perfectly twinned dominant crystal of Cerussite, with total transparency and exceptional luster, pure "lead crystal". The piece has been analyzed, having 78% lead and the remaining 22% carbon and oxygen. Its high refractive index causes the display of iridescent reflections. Probably the nicest specimen of Cerussite ever recovered from the Tsumeb mines. That a museum like the mim has this type of specimen demonstrates that it is a tenacious curator of great world classics, something that few museums can boast. James Elliott Photo



Herderite. Stak Nala, Haramosh Mountains, Baltistan District, Gilgit-Baltistan (Northern Areas), Pakistan.  $22 \times 13 \times 12$ cm, mim specimen #1070: Herderite crystal implanted on an Orthoclase matrix, very sharp, between translucent and transparent, and emerald-green in color. A species of pegmatitic origin formed during the last hydrothermal episode. Stands out for the intense color of the crystal, its sharp definition, exquisite final presentation, and its very balanced matrix-crystal ratio. Augustin de Valence photo





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Shigaite, Rhodochrosite. N'Chwaning mining area, Kuruman, Kalahari manganese field (KMF), Northern Cape Province, South Africa.  $4 \times 2.5 \times 2$  cm, mim specimen #1372: Group of Shigaite crystals, one of them clearly dominant, hexagonal in outline, polycrystalline growths on the flattened crystal faces, and a very deep reddish orange color, associated with small pink crystals of Rhodochrosite on the base adding extra beauty to a piece already of a very fine aesthetic. James Elliott Photo



Topaz. Katlang, Mardan District, Khyber Pakhtunkhwa, Pakistan. 13 x 12 x 7.5 cm, mim specimen #2217: "The Rocket". A very "geological" specimen. This Topaz crystal was split into 4 parts due to tectonic deformation of its host rock until it finally got cemented back into one piece by its carbonatite matrix with crystals of calcite. The color of the Topaz is an extraordinary cherry-red, unusual for the species, due to the presence of chromium, and remarkable above all for the very high color intensity of the crystals. Augustin de Valence photoa



Silver. Kongsberg mining District, Kongsberg, Buskerud, Norway. 15 x 10 x 4 cm, mim specimen #1360: Very aerial arborescent specimen formed by Silver crystals with a lovely branching architecture and the rhombohedral shapes of small whitish Calcite crystals. A very representative piece, and of course enormous, from the world renowned and historic Kongsberg locality. Design and aesthetics in equal parts, this piece of Silver with Calcite represents a dancer in perfect harmony. James Elliott Photo

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Wodginite. Sapucaia do Norte, Galilea, Minas Gerais, Brazil. 7 x 5.5 x 2.5 cm, mim specimen #214: Group of twinned Wodginite crystals, one of them clearly dominant, with a black color and a satin luster, with small remnants of a matrix formed by Mica crystals. Although initially this specimen might go unnoticed, the size of the crystals is three or four times greater than what was previously known for this species (with this quality), so, the specimen is not a beauty, but more than outstanding. Augustin de Valence



Chrysoberyl (variety alexandrite). Cheremshanskoye, Rijeka Takowaya, Ekaterinburg, Ural Mountains, Russia. 10.5 x 10 x 5cm, mim specimen #2222: Chrysoberyl crystal (alexandrite variety) with complete cyclic twinning, implanted in mica schist matrix. One of the outstanding characteristics of this specimen is that illuminated with LED light it shows greenish areas, which turn reddish under halogen light. Nicknamed "the Rising Sun" in allusion to its perfect position on the matrix, with no damage, something unusual for this type of specimen, and with a very aerial disposition. Augustin de Valence



Malachite. Mashamba West mine, Kolwezi District, Lualaba, Katanga Copper Crescent, Katanga (Shaba), Democratic Republic of the Congo (Zaire). 12 x 11 x 7 cm, mim specimen #1589: Diverging crystals of primary Malachite growing in two preferred orientations, very deep green in color and with curved faces forming subparallel tablets opening from the center outwards like a flower. A specimen of noteworthy size for primary crystals of Malachite, a species more commonly found as a secondary mineral. An explosion of natural beauty -mineral in this case- that an artist could probably never have conceived as a work of art. Augustin de Valence photo



Rutile. Saparay mine, Warsak, Khyber Pakhtunkhwa, Pakistan, 12.5 x 7 x 4.5 cm, mim specimen #2230: Huge and curious specimen of Rutile, with a dominant and doubly terminated main crystal, very elongated, with translucent areas where its bronze color stands out, accompanied by smaller Rutile crystals and darker Aegirine crystals. Presents an unusual morphology for a Rutile and it could be confused with a Tourmaline, although the main crystal shows a clear tetragonal cross section. The diaphaneity of the crystal, with that gemmy quality in addition to its size, make this piece a joy for the senses, especially the visual. Augustin de Valence



Pezzotaite. Ambatovita, Mandrosonoro, Ambatofinandrahana District, Amoron'i Mania Region, Fianarantsoa Province, Madagascar. 7 x 6 x 3.5 cm, mim specimen #567: Crystal with a hexagonal outline, with well-defined faces and edges and a flat termination that shows dichroism in pink to fuchsia tones, slightly translucent, and of more than considerable size for the species. From the only deposit found so far, with sharper crystals than is expected for the species. Augustin de Valence photo



Zunyite. Larak island, Hormozgan Province, Iran. 9.0 x 9.0 x 8.5 cm, mim specimen #2255: Another emblematic mim piece: a pair of Zunyite crystals with sharp tetrahedral morphology with perfectly matched faces and edges, reddish brown in color, implanted in a rock matrix partially covered by splendant microcrystals of Hematite on which the pair of Zunyites rest. As if that were not enough, the dimensions of the crystals make them among the largest and best known for the species, and from a modern locality. Augustin de Valence photo



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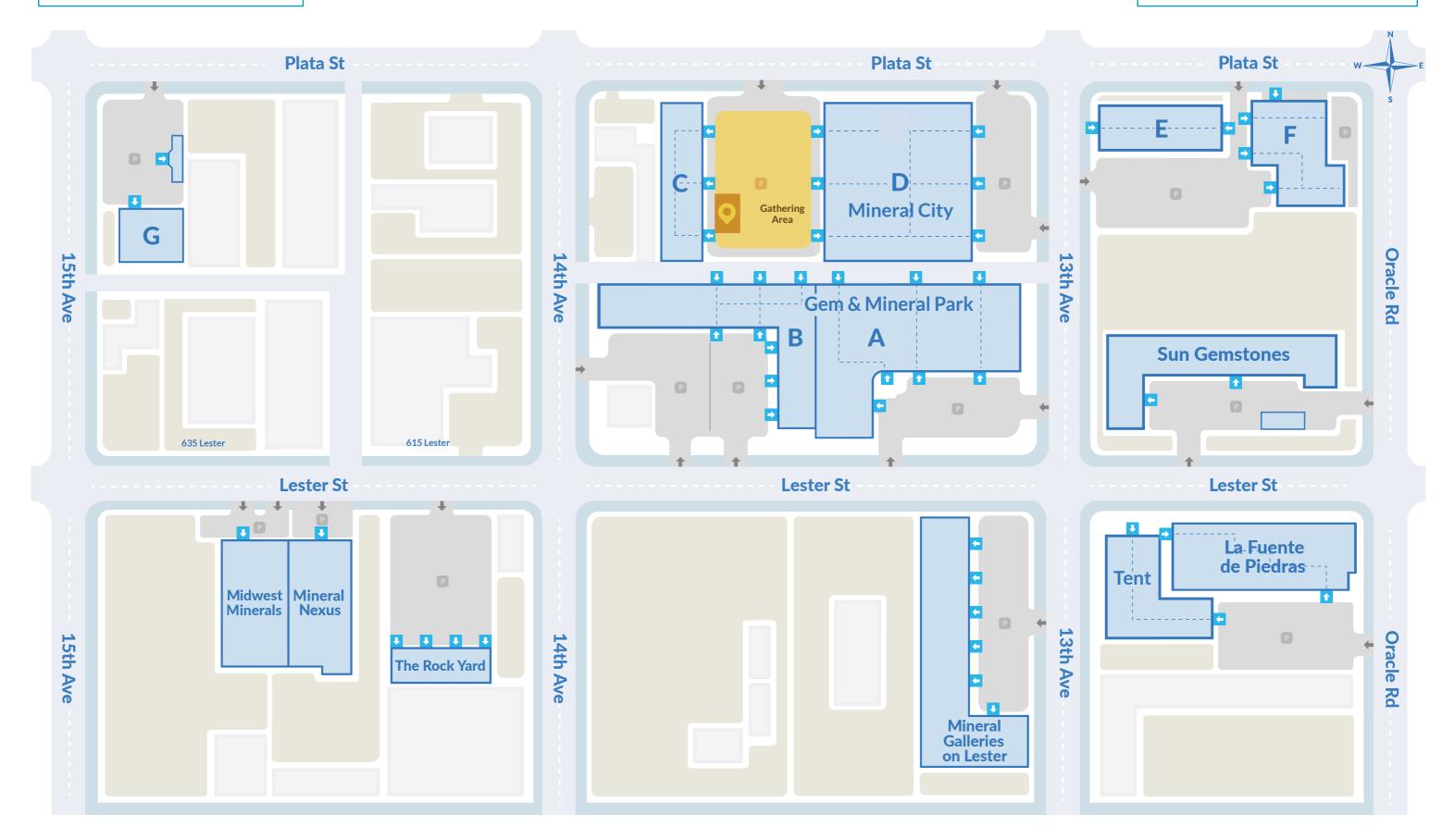
The Westin Westminster



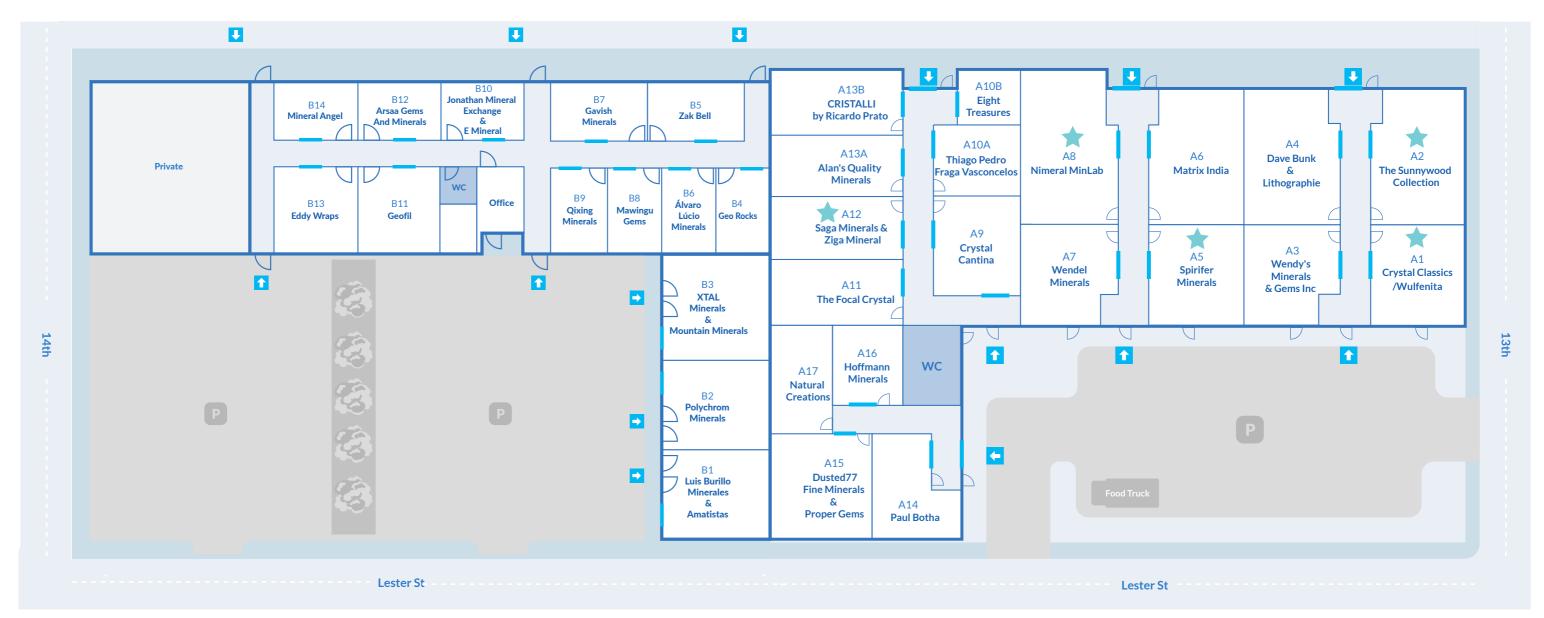
## THE MINERAL CITY SHOW MAP

**BUILDING MAPS** | Next Page

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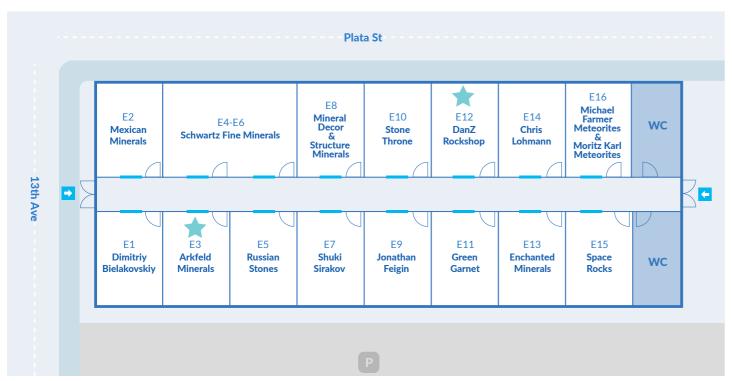




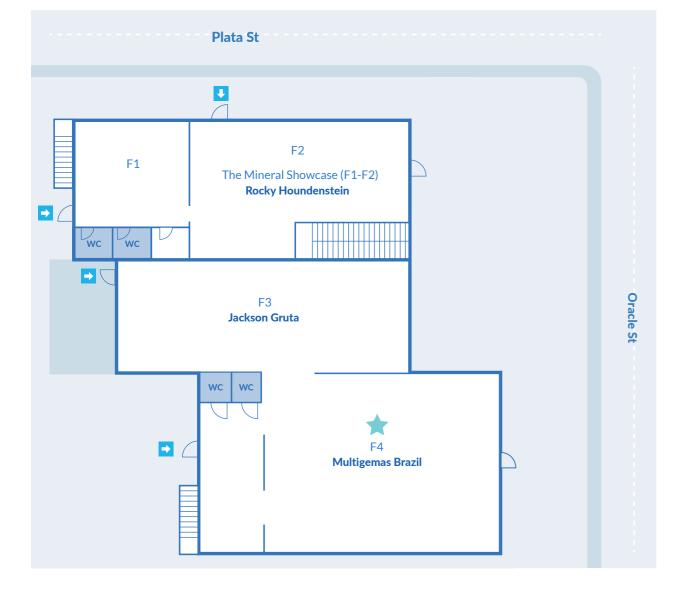
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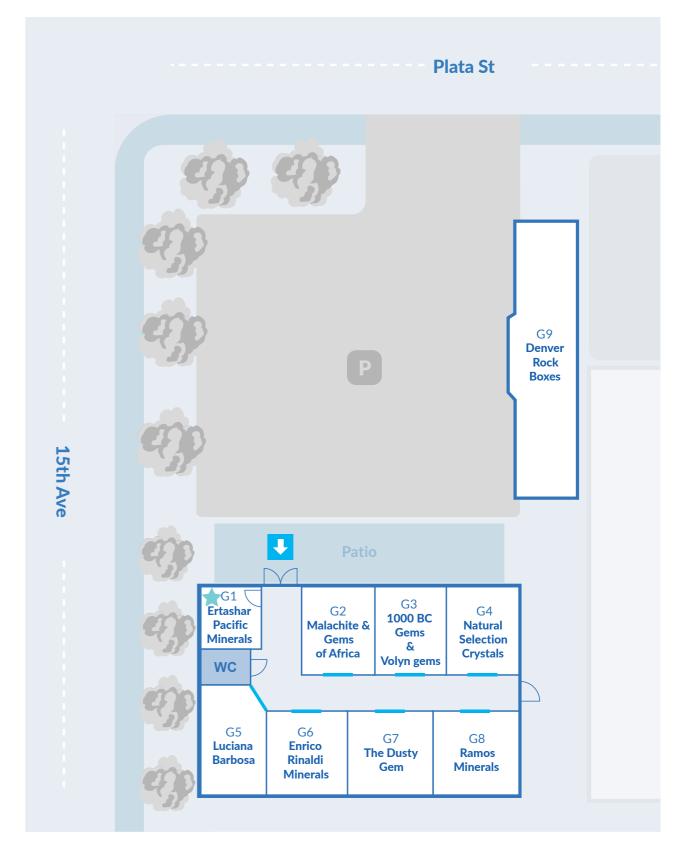


## BULDING E 445 W Plata St, Tucson, AZ 85705, USA



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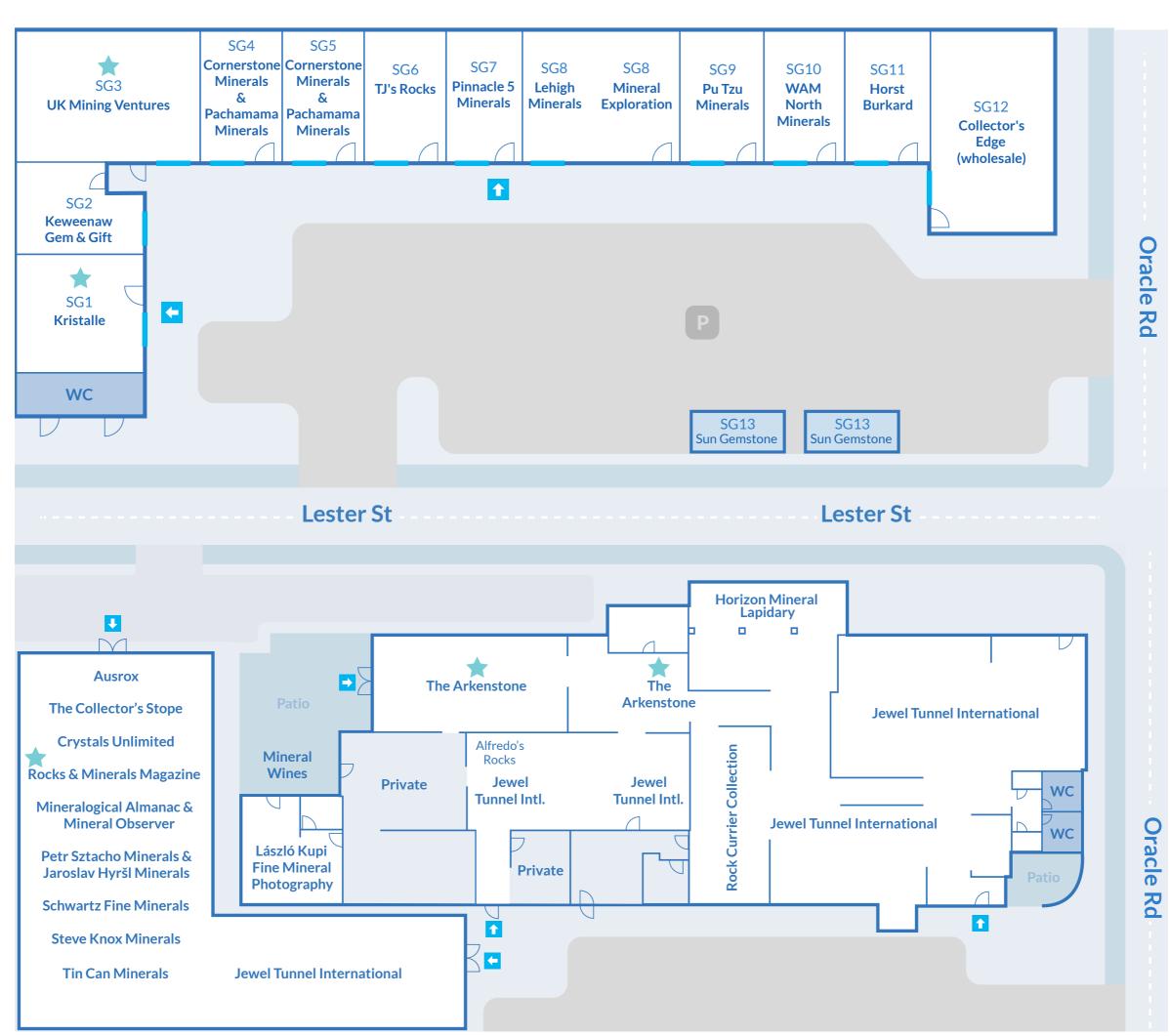




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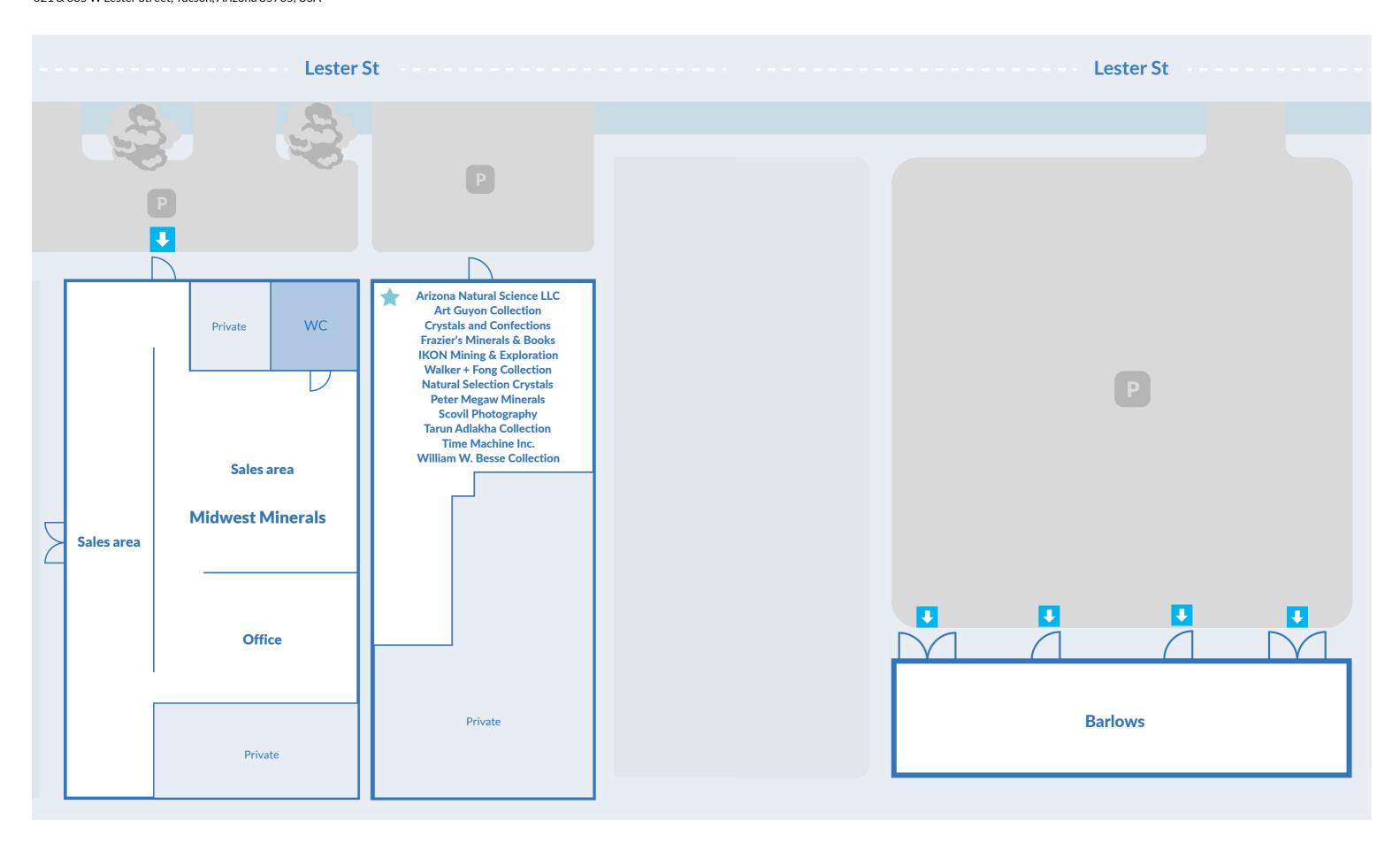


## LA FUENTE DE PIEDRAS

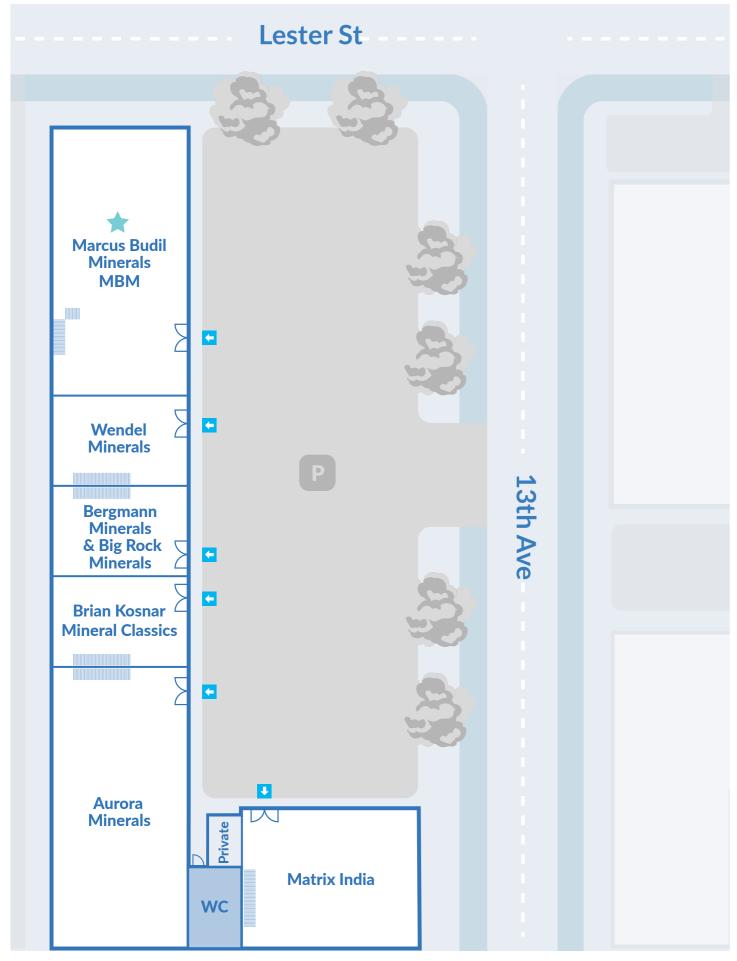
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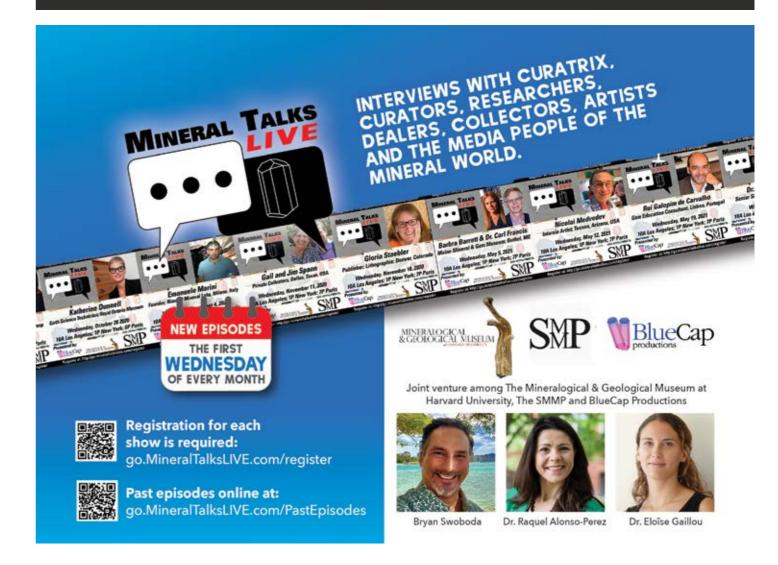
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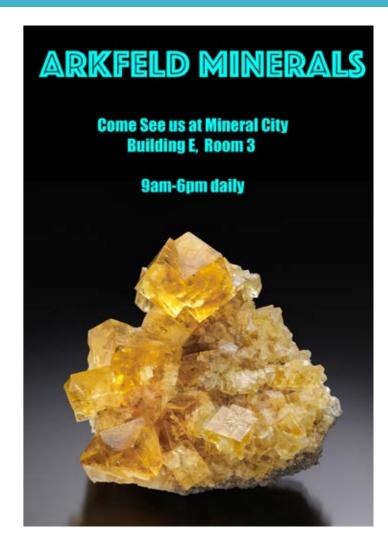
G3	1000 BC Gems	E13	Enchanted Minerals
D27-29	Adelaide Mining Company, The	G6	Enrico Rinaldi Minerals
A13A	Alan's Quality Minerals	<b>G1</b>	Ertashar Pacific Minerals
LF	Alfredo's Rocks	D17	Escaut Minerals
B6	Álvaro Lúcio Minerals	A11	Focal Crystal, The
B1	Amatistas	D28-30	Foxtail Gallery
D27-29	Anton Watzl Minerals	MNX	Frazier's Minerals & Books
MNX	Arizona Natural Science LLC	B7	Gavish Minerals
LF	Arkenstone, The	B4	Geo Rocks
E3	Arkfeld Minerals	B11	Geofil
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MNX	Art Guyon Collection	C13	Geonica
MGL	Aurora Minerals	D10	Geonica
LF	Ausrox	C2	Grateful Earth Minerals
 D9	Axinite	E11	Green Garnet
TRY	Barlows	D19	Green Mountain Minerals
D34	Barnett Fine Minerals	A16	Hoffmann Minerals
MGL	Bergmann Minerals	LF	Horizon Mineral Lapidary
MGL	Big Rock Minerals	SG11	Horst Burkard
D6	Brazarte Minerals	MNX	IKON Mining & Exploration
D21	Bruce Woods Minerals	D2	Investments From Earth
C12	Capistrano Mining	C1	ITECO
E14	Chris Lohmann	F3	Jackson Gruta
SG12	Collector's Edge	LF	Jaroslav Hyršl Minerals
LF	Collector's Stope, The	LF	Jewel Tunnel International
	Cornerstone Minerals	D40	John Cornish Minerals
A13B	Cristalli by Ricardo Prato	E9	Jonathan Feigin
A9	Crystal Cantina	B10	Jonathan Mineral Exchange
D33	Crystal Circle, The		KARP Mining
A1	Crystal Classics	SG2	Keweenaw Gem & Gifts
D3	Crystallize	SG1	Kristalle
MNX	Crystals and Confections	LF	László Kupi Fine
LF	Crystals Unlimited	-	Mineral Photography
E12	DanZ Rockshop	SG8	Lehigh Minerals
A4	Dave Bunk Minerals		Leonard Himes
G9	Denver Rock Boxes	A4	Lithographie
E1	Dimitriy Bielakovskiy	<b>C6</b>	Lithos Minerals
D42	DMS Collective	D7	Little Big Stone
D1	Donald K. Olson	D8	Loye & Lemon Minerals
	and Associates	G5	Luciana Barbosa
A15	Dusted77 Fine Minerals	B1	Luis Burillo Minerales
G7	Dusty Gem, The	G2	Malachite & Gems of Africa
B10	E Mineral	D13	Marco Tironi
C4	Earth's Treasures	MGL	Marcus Budil Minerals (MBN
B13	Eddy Wraps	A6	Matrix India
A10	Eight Treasures	MGL	Matrix India

<b>B8</b>	Mawingu Gems
<b>C8</b>	Merveilles De La Terre
<b>E2</b>	Mexican Minerals
E16	Michael Farmer Meteorites
<b>MWM</b>	Midwest Minerals
D39-41	Miner's Lunchbox
B14	Mineral Angel
MGL	Mineral Classics
<b>E8</b>	Mineral Décor
SG8	Mineral Exploration
F1-2	Mineral Showcase, The
<b>D17</b>	Mineral'ys
LF	Mineralogical Almanac
D24-26	Mineralogical Record, The
D38	Mintang
E16	Moritz Karl Meteorites
<b>D20</b>	Moritz Karl Minerals
D34	Most High Minerals
В3	Mountain Minerals
F4	Multigemas Brazil
A17	Natural Creations
G4	Natural Selection Crystals
MNX	Natural Selection Crystals
<b>A8</b>	Nimeral MinLab
C10	Opalescent Daydreams
SG4-5	Pachamama Minerals
A14	Paul Botha
D4	Persson Rare Minerals
MNX	Peter Megaw Minerals
<b>C3</b>	Peter Muller
LF	Petr Sztacho Minerals
D20	Phantomminerals
D32	Pinnacle 5 Minerals
SG7	Pinnacle 5 Minerals
<b>B2</b>	Polychrom Minerals
A15	Proper Gems
SG9	Pu Tzu Minerals
D11	Pyritas de Navajun
<b>B9</b>	Qixing Minerals
G8	Ramos Minerals
D40	Reel Amethyst Mine
D18	Rocko Minerals
LF	Rocks & Minerals Magazine
F1-2	Rocky Houndenstein
D31	Rudolph Minerals

**E5** 

**Russian Stones** 

	A12	Saga Minerals		
	D43-45	Samora Minerals		
	C5	Saphira Minerals		
	E4-6	Schwartz Fine Minerals		
	LF	Schwartz Fine Minerals		
MNX		Scovil Photography		
	D23-25	Shannon and Son's Minerals		
	D44	Shicheng Minerals		
	<b>E7</b>	Shuki Sirakov		
	E15	Space Rocks		
	A5	Spirifer Minerals		
	LF	Steve Knox Minerals		
	E10	Stone Throne		
	C7-9	Stonetrust		
	D24-26	Stope, The		
	E8	Structure Minerals		
	SG13	Sun Gemstones		
	A2	Sunnywood Collection, The		
	MNX	Tarun Adlakha Collection		
	D43-45	Thee Ancients		
	A10	Thiago Pedro Fraga Vasconcelo		
	MNX	Time Machine Inc.		
	LF	Tin Can Minerals		
	SG6	TJ's Rocks		
	SG3	UK Mining Ventures		
	D22-37	Unique Minerals		
	D12	Valenzuela's Minerals		
	D5 & 15	Viettminerals		
	G3	Volyn Gems		
	MNX	Walker + Fong Collection		
	SG10	WAM North Minerals		
	C11	Way Too Cool		
	D5 & 15	Webminerals		
	D35-36	Well Arranged Molecules		
	A7	Wendel Minerals		
	MGL	Wendel Minerals		
	<b>A3</b>	Wendy's Minerals & Gems, Inc		
	MNX	William W. Besse Collection		
	A1	Wulfenita		
	B3	XTAL Minerals		
	B5	Zak Bell		
	A12	Ziga Minerals		





## SPARKLING RARITY — SPERRYLITE

By Ivo Szegény – Kladno, Czech Republic – karp@karp.cz – KARP Mining, LLC



"Manhattan" sperrylite, considered to be the most beautiful existing sperrylite. Specimen 8 cm wide. Spann collection. Tom Spann photo.

Did you know that **sperrylite** is the only Platinum-containing mineral species (except for native platinum) that forms crystals observable with the naked eye?

Did you know that the only active **sperrylite** locality, Talnakh, is located 200 miles north of the Northern Polar Circle?

Did you know that **sperrylite's** light reflectivity is about 55% which allows you to use it as a mirror while you shave or brush your hair (of course if you possess a crystal big enough ...)?

Having a good sperrylite specimen is a dream of every, "ore mineral" or precious metals collector. However, getting it is not easy. Many people may think that traveling across Russia sounds like a great adventure but, the reality is, traveling to Talnakh is much more than that...it's closer to Mission Impossible.

#### **INTRODUCTION**

Talnakh is part of a four-city conglomerate with a combined population of over 300,000 people located near the mouth of the Yenisey River in the far reaches of Northern Siberia. Historically, the most famous city of Dudinka has

been an important Yenisey River / Northern Polar Ocean sea port. However, the biggest city of the conglomerate - Norilsk - is an administrative center and it serves the region as the airway hub. Travelers desiring to visit Norilsk have only two options of arriving there - an airline connection from various Russian cities or a 10-day boat cruise on the Yenisey River from the city of Krasnoyarsk about 1,500km (932 miles) away.

These circumstances allow local authorities to have iron-clad control over all incoming and outgoing traffic. The whole Norilsk region is actually a state-in-state region, allowing it to make, and enforce, its own rules. And one of

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### **SPARKLING RARITY** — **SPERRYLITE**



the major rules is: all visitors (particularly foreigners) are unwanted! Especially since 2001 it is extremely hard to get the permits required to enter the area. The author was able to visit this region about ten times between the years of 1994 and 2000, obtaining some life-lasting experiences in the process. A brief abstract of his notebooks is the subject of the bulk of this article.

#### **GEOLOGY AND MINERALOGY**

Sperrylite is a mineral crystallizing in a regular system, with the chemical composition of PtAs2. It was first described by H. L. Wells in 1889, based on material collected by the American chemist F. L. Sperry at the Vermillion mine, Sudbury district, Ontario in Canada. There are three major sperrylite locations: Talnakh, Sudbury and the inactive locality of Tweefontein Farm in South Africa.

The Talnakh ore field is generally a super-rich Cu-Ni deposit. The ore zone covers an area of aproximately  $1 \times 3$  km, at an average thickness of 20 m. Its size and ore concentration makes it one of the richest ore deposits (if not THE richest) on Russian territory.

The mineralization of the Talnakh ore field is dominated by Cu and Ni sulfides, with the unique presence of platinum-group element minerals. The Oktyabr deposit, where the Talnakh ore field is located, is the Type Locality of twelve mineral species not counting the sixteen Type Localities from Talnakh. That brings it to a total of TWENTY EIGHT Type Locality mineral specimens giving you an idea of the mineralogical importance of this region.

Although the mineral paragenesis of the Talnakh area deposits is exceptional in general, the sperrylite specimens are the most fascinating for collectors. But the journey from the deposit to the collectors' shelves is a very long and convoluted process.

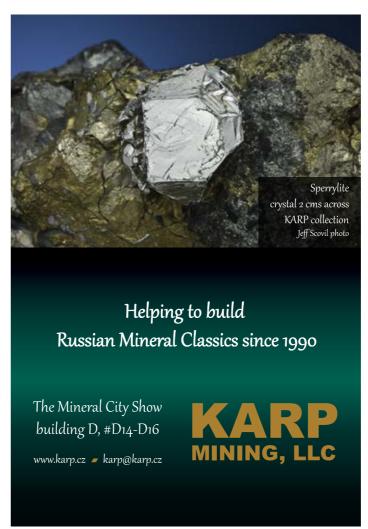
#### SPERRYLITE PREPARATION

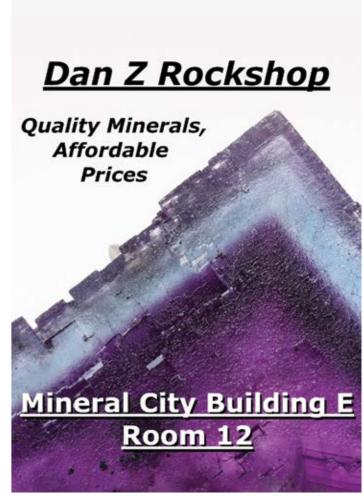
Thank you, Mother Nature, that you have gifted sperrylite with the hardness 6.5! The biggest problem of the specimen preparation process is that sperrylite crystals are embedded in the solid sulfides, from which they need to be exposed. The mechanical removal, using a hammer and chisel, causes a lot (A LOT, I swear!!) of damage thereby making it an unacceptable solution. Chemical extraction techniques proved to be slightly better but brought with them their own set of difficulties making it equally unacceptable. Therefore, through trial and error, the air-abrasive technique has proven to be the most efficient way of preparation.

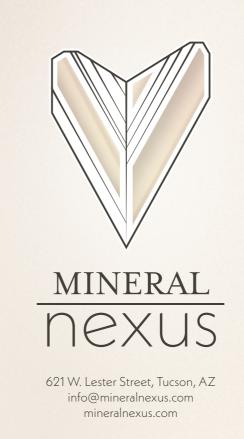
KARP company is the most prolific supplier of sperrylite specimen in the world with the author having personally cleaned the vast majority of them. In the beginning, there was the, "Sandblasting Period" (the, "Chisel Period" does not



"Manhattan" sperrylite in the process of preparation.







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X-ray of the "Manhattan" sperrylite. FOV 4.1 cm.

count as I've struck it from my subconscious due to its painfulness). I used glass beads for cleaning but, unfortunately, the glass beads created many open cracks on the sperrylite crystal faces. One day in 1996 my business partner, Vaclav, mislabeled our powder containers and I ended up blasting the sperrylite with what I thought were the standard glass beads. Soon I realized I was using a different powder because I was A) removing a lot of the matrix and B) not causing any cracks on the crystals. A new era of sperrylite prep work has started thanks to this mistake! The different powder has contributed to a much higher quality of cleaned sperrylite specimens and has allowed the world's most beautiful sperrylite specimens to surpass even my imagination.

Properly sandblasting a sperrylite requires slow and patient work. Blindly sand-blasting a piece of ore would take you tens of hours with highly uncertain results. Instead, we've found that using an x-ray machine would save us days of work and allow for a more careful extraction making it an indispensable part of our process. Using a sufficiently powerful x-ray machine, you can create x-ray negatives of ore pieces due to the fact that the density of the matrix is significantly lower than that of the sperrylite crystals. In fact, during my humble beginnings, I used an x-ray at a dentist friend's laboratory!!

Time spent on the preparation of one specimen varies from several minutes up to 20 hours. The sandblasting itself is a big adventure to me comparable to digging specimens at a mineral locality. I usually make an idea of how to work out the specimen after studying an x-ray picture and my imagination starts working at the same time. But quite often I'm still surprised that the final specimen often looks very different than I had imagined. Occasionally I'm severely disappointed with the results but, most of the time, I'm absolutely thrilled with what is uncovered.



"Manhattan" sperrylite. Jeff Scovil photo.

One example I remember clearly is when I set aside a small piece of ore that was cut off of a bigger specimen. X-ray pictures revealed a group of sperrylite crystals about 2 x 2 mm in size hidden within the matrix. I delayed working on this piece for about one year as I thought the crystals weren't terribly significant. When I finally got around to prepping the specimen, the results absolutely shocked me. All of the crystals I had seen in the x-ray were vertically elongated in a way that was completely hidden on the x-rays. In the end, I received a unique specimen with a skyscraper-type look made up of a dozen crystals measuring 2 x 2 x 20 mm!!!!

#### MY BELOVED DIARY...

And now it is finally time to enjoy secrets of my travel notebooks...



"Twelve apostles" sperrylite in chalcopyrite. Specimen size 6 cm. Private collection. Jeff Scovil photo.



"Christmas Tree" sperrylite, group size 4 x 3 cm. Ex. FMI specimen, now in MIM Museum collection. James Elliot photo.

Even in the dark, Norilsk fulfilled my expectations when I first visited there in 1994. I had imagined a concerto of wire, concrete pipelines, frost, wind, ice, snow, smoke and stink. I was not disappointed. Concrete houses in various stages of deterioration stood fully engulfed in an undulating cloud of smoke that had been belched forth by the local smelters in a region that, on the best of days, could accurately be called a complete ecological catastrophe. The smelters and metallurgical plants are located all around the city, bringing their heavy pall of air pollution into the city regardless of the wind direction. It's a kind of broken-down hell on the 69th parallel, made even worse, if this could be imagined, during the summertime by hoards of ravenous mosquitoes and multiple layers of heavy metal-laden dust blowing into the city off of the mine dumps.

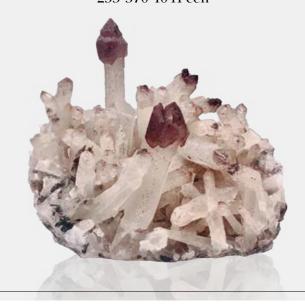
Everything here is built on top of the permafrost, so even the nine story apartment buildings sit atop concrete pilings, extending like rickety legs, into the ground. The entrances into these apartments often look like ice caves, sometimes full of vapor or filled with water pouring out like waterfalls from broken pipes. Most local residents dream of moving away, but life in this place soon crushes such dreams.

## **Bruce Wood Minerals**

International fine Minerals

#### MINERAL CITY – ROOM D21

brucewoodminerals@comcast.net 253-370-1041 cell





Elongated speryllite crystal in chalcopyrite. Crystal size 1.8 cm. Spirifer collection. Joaquim Callén photo.

Workers would come here planning to stay for five or ten years to make some money but the salary checks always come three to six months late making it very difficult to save up money. Then, the hyperinflation of the early 90s destroyed the remaining value of whatever meager sums they were able to set aside.

To make matters worse, the incredibly harsh climate was another thing the miners had to deal with during the long, tough winters. Medical research studies have shown that no one can live here in the cold, and inescapable pollution, for more than seven years without suffering a permanent impact on their health. Locals say that the cold by itself is not as bad as the sudden changes in atmospheric pressure and temperature - sometimes fluctuating by as much as 40°C (70°F) in a few hours. Because of the dry air the cold winter temperatures of -57°C (-71°F) are not as uncomfortable as one might expect as long as there is no wind. However, the slightest wind at that temperature changes everything.

And of course, it is dark in the winter – the polar night lasts for six weeks with no sunshine at all. And when there is sunshine during the winter, the sun does not rise very high above the horizon. Summers are short and, as the local joke goes, a miner who was asked how the summer had been in Norilsk replied that he'd heard it was nice, but unfortunately he was working his underground shift at the mine and missed it.

The severity of the climate, however, tends to bring people closer together. I was once invited to a wedding feast during one of my visits. By the third day of the celebration the music and dancing on the seventh floor could still be heard from the entrance on the ground floor. There was food, vodka and fun that one simply could not refuse.

In December of 1994, a steam plant in Talnakh broke down, and all heat to the apartments in the area was cut off. People switched to their electric heaters, all at the same time, and the local electric transformer burst into flame. No heat, no hot water, no electricity. Many houses froze and their hot water radiators also froze solid and cracked. Temperatures fell below -18°C (0°F) inside the apartments and it took weeks for everything to be replaced or fixed. The women and children moved into the kindergarten building, in an unaffected part of town, while the men gathered together and drank vodka in the dark as they guarded their property from thieves. Even by March I could see 20-meter-high, 5-meter-wide rusty ice flows covering apartment buildings. As a friend of mine told me, "You can exist here, but you can't really live here."

Even for an outsider like myself, leaving Norilsk is not so easy. I would have to wait in line, exposed to the cold and wind, for a limited-capacity bus to the airport. But even arriving at the airport didn't always mean an end to my journey. Oftentimes, because of the unpredictable weather, the airport might unexpectedly close for a few hours, a few days or even a week. I was lucky that first time in 1994 when my flight was delayed for ONLY 11 hours. Even ticket availability was often very limited, and tickets could not be purchased in the Czech Republic, where I live, so I had to wait until arriving in Russia to buy my tickets for the flights—which made for good training in improvisation. I could safely say that, with all my global traveling, those flight were some of the worst airplane flights in my life. But what can you do when it's the only option available?

#### **PERSPECTIVES**

Sperrylite-containing zones are spread unevenly throughout the ore body and specimens can only be found when mining activity is taking place in these areas. There were only two (!) significant productive zones found during the past 30 years. In 1997, from lenses embedded in sulfide ore, hundreds of specimens, characterized by smaller crystals, were collected. The last find was bigger and occurred in the early 2010's. Another group of approximately one hundred specimens was collected from the zone close to the top of the ore body. Those pieces were characterized by



Sperrylite on chalcopyrite. Specimen 5.6 cm tall. Rice NW Museum collection. Jeff Scovil photo.

bigger isolated crystals yet of a lower overall quality. Many of these crystals were, unfortunately, highly fractured due to the high geostatic pressure.

Today's situation in Talnakh does not seem to be too promising regarding new finds of sperrylite specimens. Local authorities have put more and more pressure on everyone to prevent illegal collecting of any material containing even the slightest trace of Pt-group element minerals. Export of even small pieces of ore through the local airport is strongly restricted with severe penalties for any violators. At the mines, a team of Safety Surveillance Miners are now employed, around the clock, to prevent any specimen harvesting. There were several attempts made to arouse the interest of the mine owners in mineral specimen collecting. Unfortunately, no interest was ever shown.

#### CONCLUSION

There were always piles of specimens in my warehouse that waited for preparation work and these piles seemed to be endless. Now, I'm down to my last dozen pieces and I get feelings of sentimentality when I'm listening to the miners' stories about zones that were the size of a dining room table and were full of scattered sperrylite crystals. Let's keep our fingers crossed that these stories will continue and that Talnakh will not turn into a historic, yet lost, locality.

#### If you would like to read more about the topic we recommend this article:

T. Gressman, I. Szegeny, W. Wilson. 2010. Sperrylite from the Talnakh ore field, Norilsk Region. The Mineralogical Record, 41/2.



Sperrylite on chalcopyrite. Specimen 10 cm wide. Scott Rudolph collection. Jeff Scovil photo.

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SPECIAL EXHIBIT AT THE MINERAL CITY SHOW 2024 (ROOM #A5)

## FLUORITES FROM STRZEGOM, POLAND

By Tomasz Praszkier – Mineral Museum Szczawno-Zdrój, Poland & Spirifer Minerals LLC



Pink fluorite octahedrons on feldspar with smoky quartz, epidote and chlorite. Collected in 2012 in Andrzej III quarry, Strzegom, Poland. Size 9.5 cm. Joaquim Callén photo.

luorite is one of the most common and desired mineral species among mineral collectors worldwide. This species provides us with a feast of colors and paragenesis, regular shapes and quite common occurrences provides collectors with not only a large variety of specimens to collect, but also an abundance of specimens on the market. Fluorite occurs in a wide spectrum of geological environments but fluorite specimens from pegmatites are one of the rarest environments for these colorful, highly-collectible minerals.

Fluorites from granitic pegmatites in the Strzegom area of SW Poland are almost completely unknown to international collectors. Although there are a lot of, "legends" about them circulating among collectors, their, "mystery" remains due to the fact that the vast majority of them stay in the local collections in Poland. Our 2024 exhibit, "Fluorites from Poland" reveals, for the very first time to the general public, the crème de la crème of these mysterious specimens.

All specimens in the exhibit come from the Spirifer Geological Society collection which, in the future, will be permanently housed in the growing Mineral Museum in Szczawno-Zdrój, Poland. Currently the museum headquarter is under profound reconstruction as we adapt the 120-year old

historic building to be a modern, secure public museum. We hope that the Strzegom fluorites, among several thousands of other specimens, will be ready to view in their, "final home" some time around 2026-27. Specimens in the Museum will be exhibited on two floors featuring, "General Mineralogy" and, "Minerals of Poland."

#### Strzegom pegmatites and their fluorites

The Strzegom-Sobotka granitic massif is located in the Lower Silesia area of Poland. The massif was formed by several different types of Carboniferous-age granites (around 310-290 mya). In the Strzegom area, the granite forms gentle hills bruised by a countless number of quarries both abandoned and still operating. The granite in the area has been known for 200 years as a rock with very good physical properties – hard, solid and resistant. It is widely used for architectural purposes. Pegmatites scattered in the, "pure"



Gem fluorite on albite, microcline with smoky quartz and chlorite. Collected in 2008 in Grabina II quarry, Strzegom, Poland. Size 17 cm. Joaquim Callén photo.







presents the special exhibit

## Fluorites from Poland



The Mineral City Show

Spirifer Minerals room #A5



Group of fluorite crystals on feldspar and smoky quartz with chlorite, known as "The Crown". Collected from "Alpine Pocket" in 2018 in Borów 17 quarry, Strzegom area, Poland. Size 13.6 cm. Jeff Scovil photo.

granite are treated by the quarry owners as waste, but us mineral collectors know better.

Historically, the Strzegom area became a classic European mineralogical locality over 100 years ago. Pegmatites occurring in these granites yielded high-quality specimens and were widely described by the famous mineralogists from the 19th century. As of today, over 100 mineral species have been identified from these pegmatites. Nowadays there are over 30 working quarries in the area, including one operating, non-stop, since 1826. For over 200 years, the granite in the Strzegom area has been mostly mined as big blocks - not blasted for gravel. These blocks are later divided into smaller pieces to produce paving stones, grave stones, tiles, curbs, etc. Luckily for mineral collectors, mining techniques used to get regular, uncracked blocks avoid using strong explosives. This technique has helped to save countless specimens.

Most of the open pockets in pegmatites are small - from a few up to 20 cm. These cavities are irregularly dispersed in the area, with some local concentrations. Big pockets are found, very rarely, exceptionally reaching several meters in size - exceeding the size of a large car! One of the pockets was named by the miners, "Five Man Pocket" as five people could work in it at the same time. The vast majority of big pockets contain average quality specimens dominated by simple smoky quartz, microclines, albites and chlorites. Usually the smaller pockets are richer in the number of species formed in paragenesis, with more, "fresh" crystals forming colorful multi-species, "gardens." Despite the large number of working quarries, pockets with high-quality specimens are found only sporadically. Pockets containing good-quality, small fluorites are even more scarce. Big fluorite crystals are infrequently found and usually they are quite ugly and dull with irregular surfaces. These large specimens tend to form crystalline masses instead of well-developed single crystals. Voids with large, well-colored and well-formed fluorites are the rarest finds of all averaging one discovery every 5 years! Usually those pockets produce 1 or, maximum, 2 good specimens. This incredible rarity accounts for why they are so unknown on the international market. That, plus the fact that when they do come out, they are quickly added to local collections especially that of the Spirifer Geological Society collection.



Fluorite with "Mercedes" color zoning, 5.5 cm wide. Found in 2010 in "Andrzej Pocket", Wekom II quarry, Strzegom area. J. Scovil photo.

The color of the fluorites from the Strzegom area is usually violet-bluish and come in all shades of this color. More rarely they are navy blue. Occasionally they are vivid blue, pink or even green! So, the variety of the colors is truly surprising. Very typical for the area is the presence of the irregular color zoning (usually dark navy blue to black) and phantoms.

Usually, fluorite crystals are formed as simple octahedrons or different combinations of octahedrons, dodectahedrons and/or cubes. A few spinel law twinned crystals were found, but they are not important specimens.

The most common crystals are small, reaching up to 1 cm. Crystals up to 3-4 cm are still not unique. The best specimens contain crystals usually not exceeding 8 cm (larger ones are almost never well-formed). However, there are scarce exceptions – the biggest, very well-formed octahedron (repaired and restored) is about 20 cm big and weighs 7 kilograms!

Some of the fluorite crystals are very clean, even transparent. More often, they are partly gemmy and partly opaque. Quite commonly they also have bavenite inclusions which can make them more attractive or, if these inclusions make them white/opaque, more ugly. Occasionally pink, blue or purple fragments of the colorful gem crystals are cut into gemstones despite their softness.

Fluorite is one of the latest species in the Strzegom pegmatite crystallization sequence, and this is why they are usually found with, "clean" surfaces. Sometime they are overgrown by late stage stilbites. Fluorites usually grow on quartzes or microclines however, unfortunately, during the late stages of crystallization they usually become detached from their matrix and frequently form as floaters. Those few crystals which do stay attached to their matrix usually fall off during the collecting process. Being a soft species with perfect cleavage is not helpful. The bigger fluorite crystals



Deep blue fluorite octahedron on smoky quartz. Collected in 2019 in Grabina II quarry, Strzegom, Poland. Size 11.8 cm. Mark Mauthner photo.

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### FLUORITES FROM STRZEGOM, POLAND



The best blue fluorites from Strzegom area were collected in 2004 from "Blaue druse" in Grabina I quarry, Strzegom, Poland. Specimen size 13 cm. Joaquim Callén photo.

which are still attached to the matrix are known from only a few specimens.

To realize how rare high-quality fluorite specimens from Strzegom are, we'd like to present a few examples:

- Pink fluorites forming good specimens were found only twice in the last few decades.
- Vivid blue crystals only come from one single pocket ("Blaue druse").
- "Strzegom Alien Eye" is known to exist but only one specimen has ever been found.
- There is only one large, well-developed crystal on matrix ever
- A big, sharp octahedron specimen has also only been seen in one single specimen.
- Big, cubic crystals are known from one find.
- The single showcase that will be presented at The Mineral City Show in 2024 will contain the vast majority of the known, high-quality fluorite specimens from Strzegom area.

At the end it is worth to mention that in the last 20 years more top quality fluorite specimens from Strzegom area were preserved than during previous 170 years. Main reason of that is a serious engagement of the "Spirifer" team in the process. During the years we got possibility to teach the miners, and to discover some pockets ourselves. But probably the biggest "game changer" was to convince the

quarry's managements that specimens might be an important income for their companies, not only "distractor" for the miners. Recently it is not uncommon that we buy complete pockets still in granite, directly from the quarry owners.

#### **Perspectives**

Mining perspectives in Strzegom area are quite bright for the next decades. With high demand for the granite we can be almost sure that new pockets will be discovered. We hope to keep our good relationships with miners and mines' managements', as we hope for good luck. Luck is probably the main factor deciding now if there will be new great specimens recovered or not.

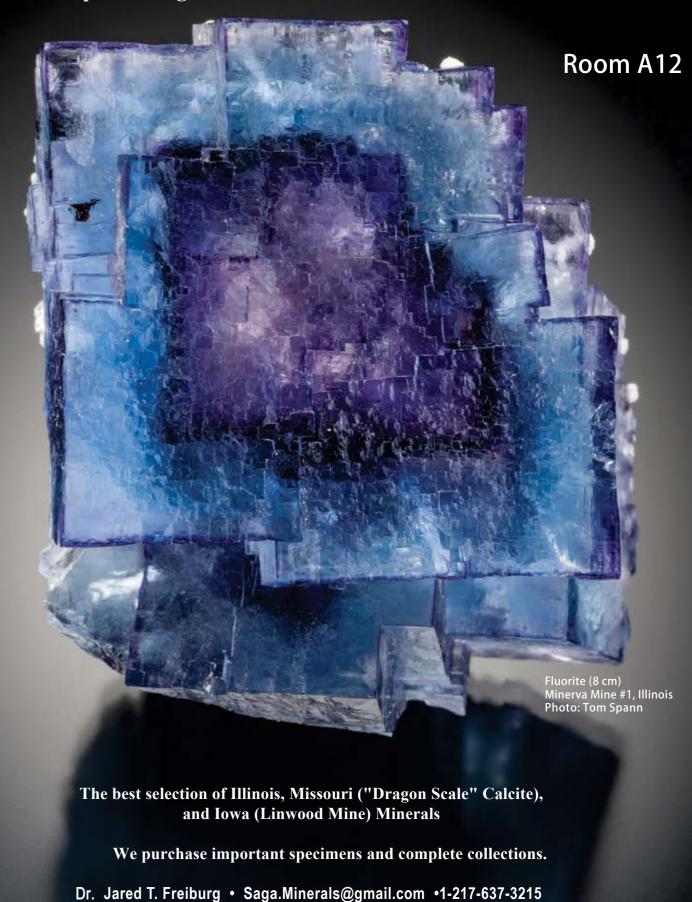


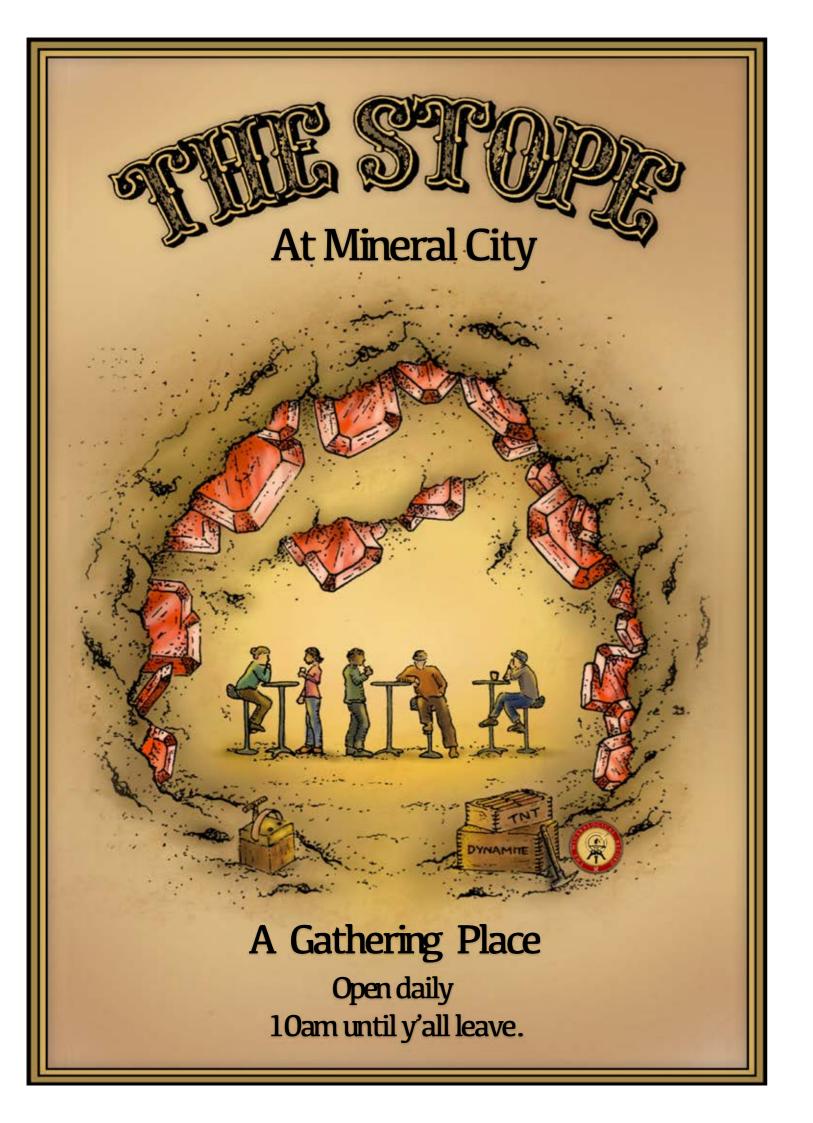
Twinned and distorted pink fluorite crystals cluster. Andrzej quarry, Strzegom area, Poland. Size 2.5 cm. Jeff Scovil photo.

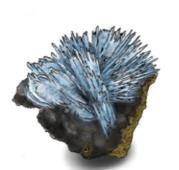
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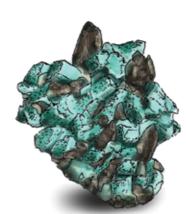
# The Stope Collections

**THE STOPE** - Not only a gathering place for an espresso, or maybe a beer, but now a place for the collector to buy minerals direct from other collectors!

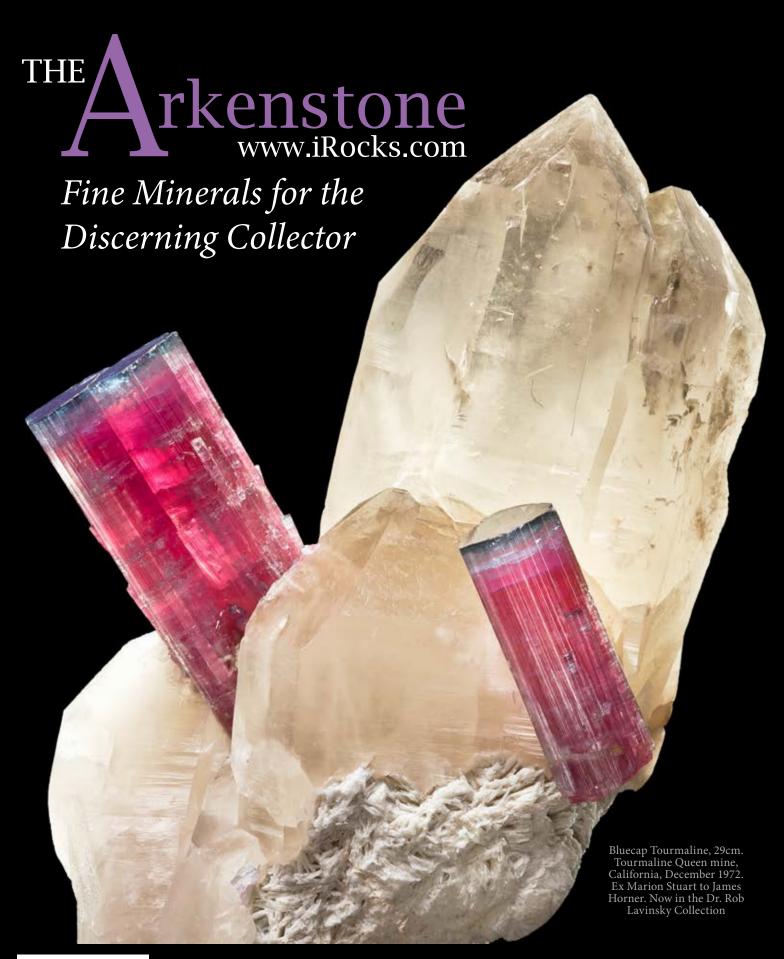
We will be featuring de-accessioned pieces from the collections of:

Randy Parnagian
Jerry Rosenthal (Tsumeb specimens)
Cynthia & Mark Hoffmann
and
Doug & Maria Fiske











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