PACIFIC NORTHWEST CHAPTER
FRIENDS OF MINERALOGY

March 2025

PNWFM NEWSLETTER

Cassiterite and minor varlamoffite Genna Zinc Smelter. FOV 2.0mm

Photo by Henk Smeets Via British Mictomount Society. Used with permission. See article on page 5.

Inside this issue:

President's Message

Jessica Robertson

Happy Spring! As I write this, the cherry tree is blossoming and the daffodils are budding out, sure signs of better weather on the way. PNWFM is already hard at work planning our 2025 events, too.

First up, **our spring meeting will be Saturday, April 26 at the Rice Museum of Rocks and Minerals in Hillsboro, Oregon**. It has been many years (decades?) since PNWFM has held a spring meeting, and we're looking forward to reviving connections for our members in the Portland area. The planned schedule begins with a casual meet & greet and "tailgate" rock swap at noon (look for our logo sign!) followed by talks for members in the NW Gallery at 2:00, with a membership meeting at 3:30. If you'd like to extend some social time after the museum closes, please let a member of the board know or drop a note to our Facebook page–we would like to estimate a head count to reserve a group space at a nearby restaurant for dinner. If you would like to stay in the area that evening, a good option is the Staybridge Suites Hillsboro North at 6225 NE Casper Ct in Hillsboro.

PNWFM is also planning a presence again at **Seattle Mineral Market on May 17 and 18.** This is a great, high-energy outreach event where we meet and share with the public. We need help with setup/takedown, auctions, and just general help at the tables. Please contact me if you can pitch in.

And our biggest event of the year– our **2025 Symposium (theme: Color in Minerals) is planned for the weekend of October 11**! We are excited to return to Ellensburg and CWU and will post more details soon. Save the date!

(continued on page 3)

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We can still use more donations for upcoming 2025 outreach events, particularly for Seattle Mineral Market (SMM). More common, less expensive mineral specimens are ideal for events like SMM that are targeted at a broad public audience. If you have some old dusty flats or bags of shorl or quartz points, halite, some lesser garnets, tumbled agates, etc., please consider uncovering them from the big stack in the garage and donating them to PNWFM.

Did you miss any of our 2024 Symposium talks? Good news! They are all now uploaded for viewing on the Mineral Nation YouTube channel: https://www.youtube.com/@MineralNation Watch or re-watch all the fantastic presentations by Terry Wallace, Nick Zentner, Ian Merkel, and Clark Niewendorp, as well as our Collector's Round Table discussions, all on the theme of “Precious Metals and Golden Memories.”

Our symposium and event planning team meets monthly via Zoom. If you’d like to help or even just watch and weigh in, please contact me to be added to the planning email list. See you soon!

PNWFM 2025 SYMPOSIUM

SPRING RENDEZVOUS

SATURDAY, APRIL 26, 2025

Rice NW Museum of Rocks and Minerals
26385 NW Groveland Drive, Hillsboro, OR

Schedule of Events

12:00: Meet & greet/tailgate rock swap.
2:00: Two talks for members in the NW Gallery
3:30: Business meeting

If you’d like to join for a casual dinner at a nearby restaurant afterward, please help us estimate head count for table reservation by sending RSVP to jar7709@hotmail.com

PACIFIC NORTHWEST FRIENDS OF MINERALOGY
2025 SYMPOSIUM

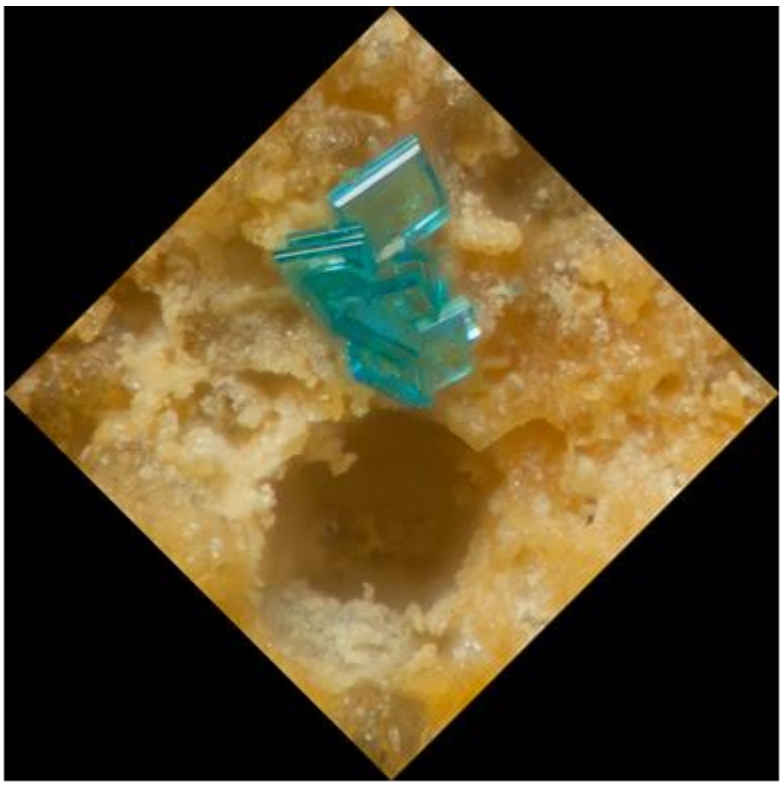
COLOR IN MINERALS

ELLENSBURG, WASHINGTON
OCTOBER 10-12, 2025

SAVE THE DATE

Evening Vendors
Saturday Evening Banquet and Live Auction
Saturday and Sunday Symposium Talks at CWU
World-Class Mineral Displays
And More Announced Soon!

EYE CANDY



Pseudoboleite
Margarita Mine, Caracoles, Sierra Gorda Dist., Antofagasta Region, Chile

FOV: 0.41 mm

How bizarre do you want them…?

Henk Smeets

Readers may remember David Roe going into rhapsodies about Ullie Wagner's images of cassiterites from Genna Zinc Smelter at the 2023 BMS Symposium and a subsequent brief article in BMS NL 121. Now Henk waxes lyrical too!

The Genna Zinc Smelter near Letmathe/Iserlohn in the Sauerland region of Germany was built around 1859, to process mainly zinc and copper ores from the region and beyond. The smelter itself was active from 1866 until 1925. The dumps were still accessible until the late 1980's. Nowadays the site has been completely cleared and turned into a nature landscape. The dumps however produced a large number of slag minerals: Mindat lists 176 valid minerals, but in their book "Genna/Iserlohn" (2020) Ulrich Wagner and Bernd Döhnel describe 168 different species.

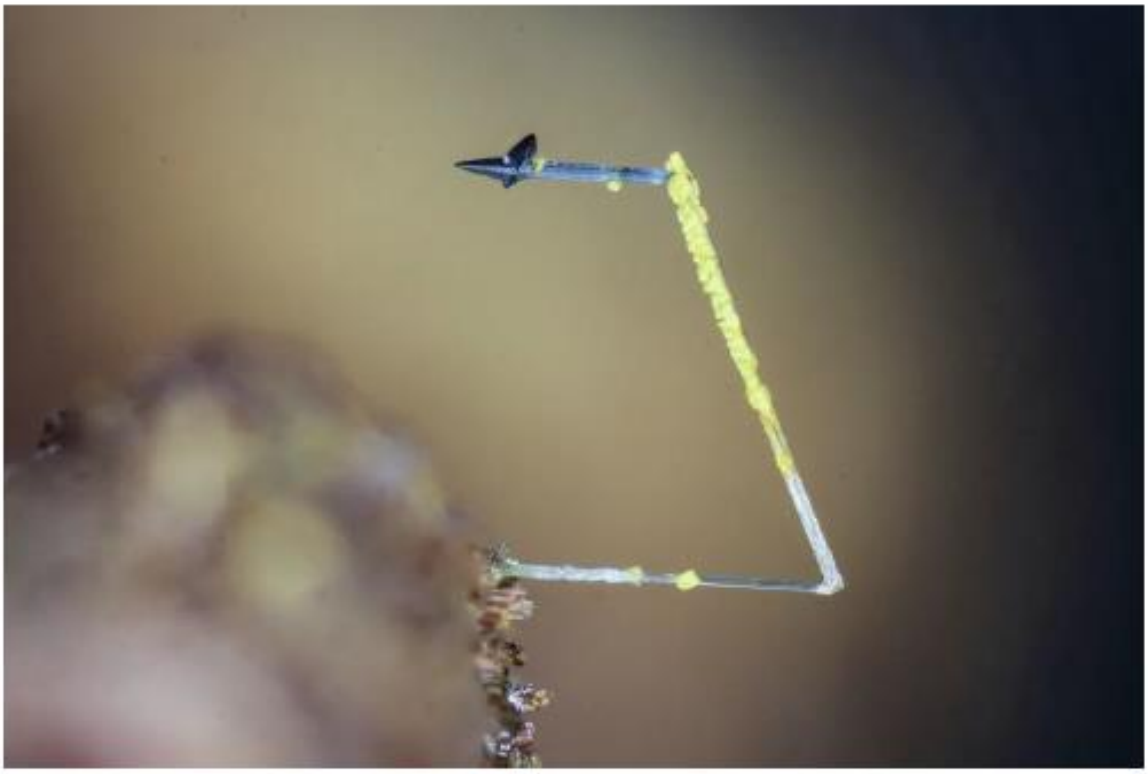
I never visited the site – it was already gone before I even started collecting minerals - but in the course of years I managed to obtain quite some fine specimens from old collections. I have become more and more fascinated by the site and its minerals especially after I received the book as a gift from the authors.

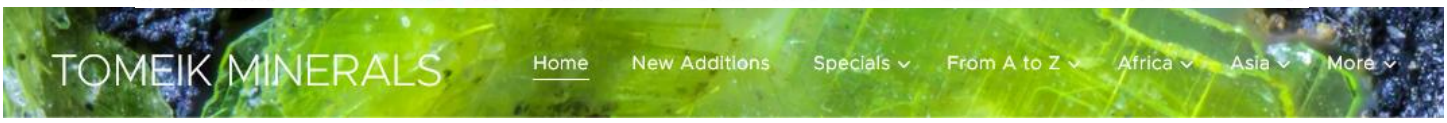
And very recently I acquired a large collection directly from one of the authors. In due time I will write an extensive article on the site and its minerals, but for now I present to you some of the minerals that the slags produced which are in my view both remarkable and extremely attractive.

In the photos you see blue/grey needle like crystals in all kinds of bizarre shapes and forms which have been known for a long time to be cassiterite. In many cases they are partially covered by yellow crystallizations, these are varlamoffite – which makes sense because varlamoffite is a secondary tin oxide. Sometimes you see orange crystals*, which are oxyplumboroméite (formerly called bindheimite) and occasionally white crystals, that can be either crusts of hydrozincite or zincaluminite as tiny hexagonal platelets.

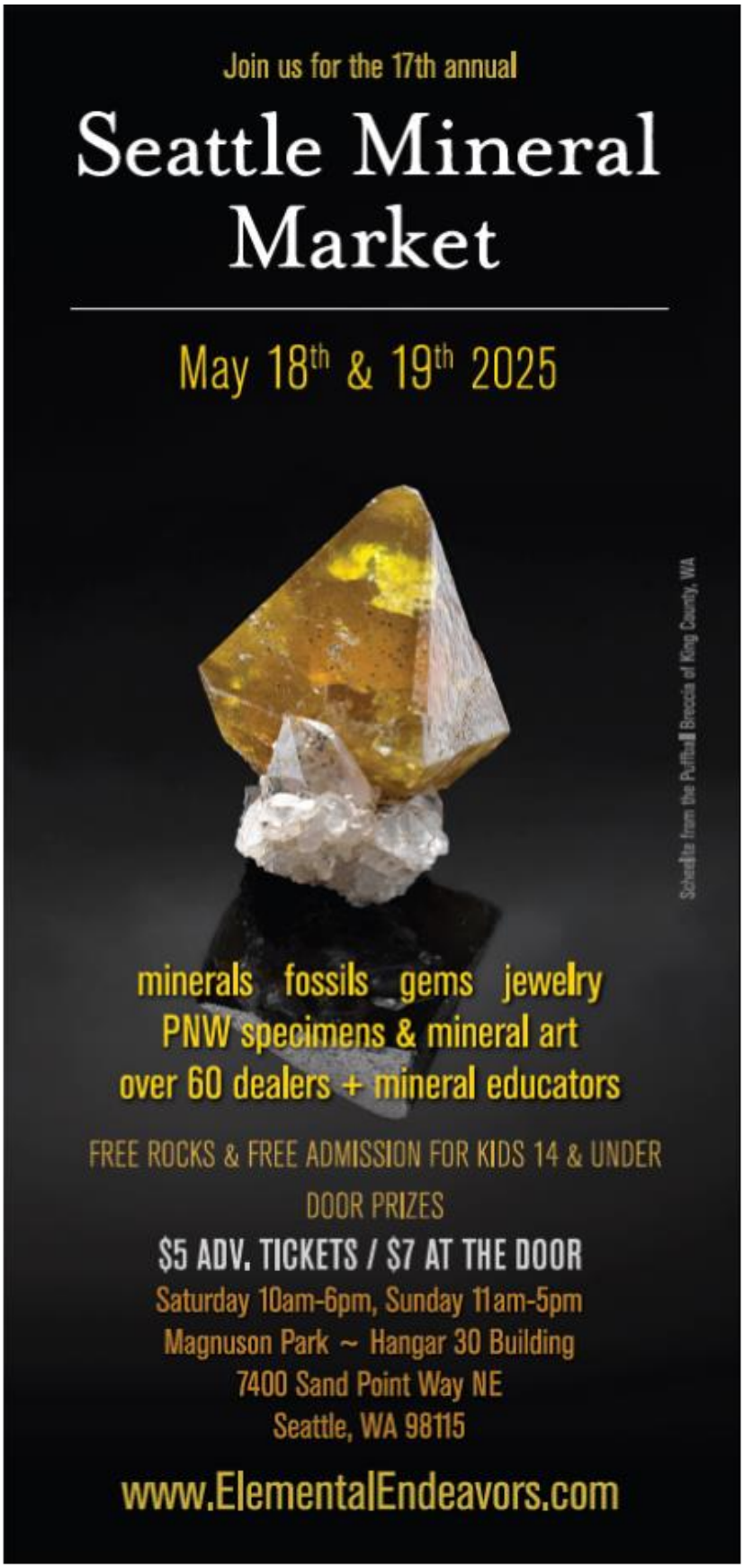
The field of view of all the photos ranges from 0,5 to 2 mm. Of course all photos are by myself, they can also be seen on my website at **www.tomeikminerals.com**.

From the British Micromount Society Newsletter, #124. Used with permission





https://www.tomeikminerals.com/


Join us for the 17th annual
Seattle Mineral Market
May 18th & 19th 2025
Scheelite from the Puffball Breccia of King County, WA
minerals fossils gems jewelry
PNW specimens & mineral art
over 60 dealers + mineral educators
FREE ROCKS & FREE ADMISSION FOR KIDS 14 & UNDER
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7400 Sand Point Way NE
Seattle, WA 98115
www.ElementalEndeavors.com

A Study Comparing the Luminescent Properties of Barite Concretions from Warden Point, England and Elk Creek, USA, by Calvin Harris

Introduction

Barite crystal specimens from Warden Point, Warden, Swale, Kent, England, UK and Elk Creek, Roubaix, Galena Mining District, Lawrence County, South Dakota, USA are featured in this article. While the crystals formed within concretions, they have dissimilar forms, sizes and colors. Although different from each other they are typical of the specimens found in their respected localities. This paper describes the fluorescence and phosphorescence of these barite crystals when exposed to shortwave (254nm), mid-wave (312nm), longwave (351nm) and longwave (370nm) ultraviolet wavelengths.

Geological Settings

The host rock at Warden Point consists of Eocene clay that formed near the coast of Isle of Sheepey, within the London Basin. Barite crystals are often found combined with sand grains to form what is colloquially known as barite roses. They also form as crystalline sprays in concretions. These concretions are found embedded in Eocene clay and are accessible when sufficient erosion takes place.

The Elk Creek locality consists of limestone formations along the Elk Creek tributary. Barite crystals can form in elongated prisms that are often yellow, amber and honey colored, and also colorless. They are found in septarian and fossil bearing concretions that form in the Pierre Shale formation of the Late Cretaceous period. The concretions can be collected as the host rock is removed through weathering.

Specimen Description

The specimen from Warden Point consists mainly of two crystalline barite sprays situated on top of a calcite matrix. They have a light tan color appearance. The larger of the two sprays is bow-tie shaped and is no larger than 1.75” × 1”. The smaller spray is roughly rectangular and measures 1.75” × 0.5”. The height of these sprays were too shallow to measure. Overall, this specimen has a square configuration with a concave base; its dimensions are 4” × 3.75” × 2.5”.

The Elk Creek specimen is a concretion fragment consisting of clear, honey-colored, columnar barite crystals and amber-colored, dog-tooth calcite crystals situated on a limestone matrix. Overall, the specimen is 6.4” × 4.75” × 3.75”. The barite crystals are elongated, the largest measures 2.0” × 0.5” × 0.5”. The calcite crystals measure 0.25” and are clustered on various areas of the specimen.

Testing Procedure

Three SuperBright II units and one SuperBright III unit were used for this study. The SuperBright II units emit the following wavelengths: 254nm (shortwave), 312nm (mid-wave), 351nm (longwave)

while the SuperBright III unit emits a wavelength of 370nm (longwave). A lead-acid battery supplied the electricity for the lamps. Each ultraviolet lamp was held about 3-4 inches to assess fluorescence and 1-2 to determine phosphorescence. An exposure time of 5 seconds proved adequate to evaluate phosphorescence.

Test Results

Warden Point Specimen

Wavelength	Fluorescents	Phosphorescence
Shortwave (254nm)	Bright intensity, bluish-white with tan hue.	Moderate intensity, powder-blue color, 15-second duration.
Mid-wave (312nm)	Bright intensity, bluish-white with tan hue.	Moderate intensity, greenish-blue, color, 10-second duration.
Longwave (351nm)	Bright intensity, bluish-white with tan hue.	Moderate-bright, greenish-blue color, 8 second duration.
Longwave (370nm)	Bright intensity, bluish-white with tan hue.	Low intensity, greenish-blue color, 8-second duration.

Warden Point,
Shortwave (254nm)

Elk Creek Specimen

Wavelength	Fluorescents	Phosphorescence
Shortwave (254nm)	Bright intensity, greenish-white + tan patch areas.	Bright intensity, lime-green color, 9- second duration.
Mid-wave (312nm)	Similar to Shortwave (254nm) except, larger, tan color patches.	Similar to Shortwave (254nm).
Longwave (351nm)	Moderate intensity, tan color.	Moderate-low brightness, tan color, 7-second duration.
Longwave (370nm)	Moderate intensity, tan color.	Moderate-low intensity, tan color, 4- second duration.

Elk Creek,
Longwave (370nm)

Findings

Regarding fluorescence, the Warden Point specimen reacted similarly to shortwave and mid-wave wavelengths. However, fluorescence and phosphorescence yielded a chromatic shift toward longer wavelengths and the duration of phosphorescence decreased when longwave radiation was applied. Interestingly, the 351nm wavelength provided a brighter phosphorescent response relative to the other wavelengths, while 370nm provided a relatively low response.

The Elk Creek specimen exhibited similar fluorescent responses to shortwave and mid-wave radiation, except areas showing a tan color response were larger with mid-wave radiation. There was a chromatic shift toward the red end of the visible spectrum for fluorescence and phosphorescence, when longwave wavelengths were used. Moreover, progressively longer wavelengths led to reduced phosphorescent duration.

The different responses between these barite samples are noteworthy and demonstrate a possible impact from various mineralogical settings. The results are based on a very limited number of samples, but there is agreement with the findings of this study and the information found in the selected references. The data from these references are based on ultraviolet equipment that were available at the time of their publication and this study adds to this knowledge with the use of mid-wave, as well as, additional longwave wavelengths.

Selected References

Robbins, Manuel. The Collector’s Book of Fluorescent Minerals. 1983. Van Nonstrand Reinhold Company, Inc., pp. 80-81.

Robbins, Manuel. Fluorescence, Gems and Minerals Under Ultraviolet Light. 1994. Geoscience Press, Inc., Phoenix, Arizona, pp. 55-61.

Campbell, Thomas J, Donald R. Campbell and Willard L. Roberts. “Famous Mineral Localities: Elk Creek, South Dakota. The Mineralogical Record, Vol. 18, No.2 Mar/Apr 1987. p. 125.

Kemp, S. J. and D. Wagner. The Mineralogy, Geochemistry and surface Area of Mudrocks from the London Clay Formation of Southern England. Keyworth, Nottingham British Geological Survey 2006. pp 1,5.

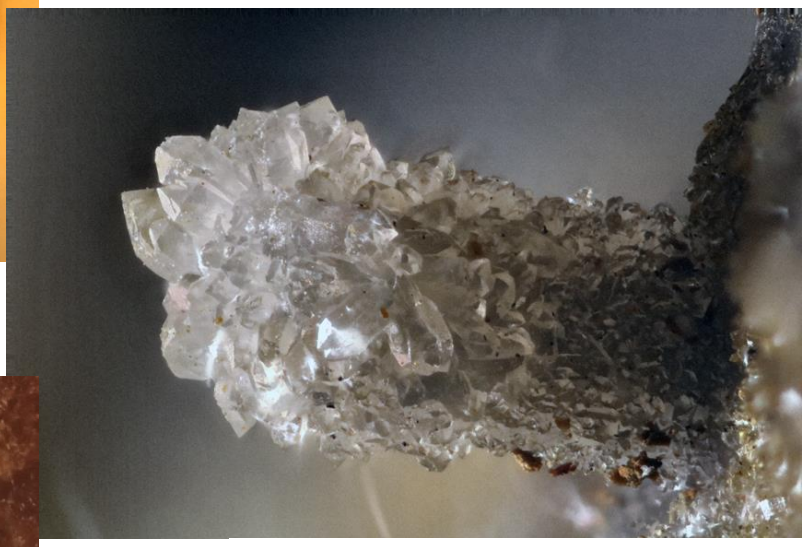
Mindat,(2020) reference search: Warden Point, Isle of Sheppey, Swale, Kent, England, UK www.mindat.org/loc-1583.html

EYE CANDY

Subparallel quartz on smectite.

Carpathite occurrence, Cook, Skamania County, Washington, USA.

Photo and copyright by Beth Heesacker.



Quartz,

Carpathite occurrence, Cook, Skamania County, Washington, USA.,

Photo and copyright by Beth Heesacker.

Calcite fan and quartz on smectite.

Carpathite occurrence, Cook, Skamania County, Washington, USA.

Photo and copyright by Beth Heesacker.

For more information on this site: https://www.mindat.org/loc-453046.html

BMS Hot Shots!

David says that he was fascinated by the haematite crystals that Elise Chaigneau & Eric Penet were selling at the 2024 Symposium and thought they would make an interesting image. He was somewhat deflated when he saw the quality of the Elise's photographs on Rock Store (**https://en.rocks-store.com/**) but took up the challenge to be second best. Obviously the riot of reflections is a major challenge as is capturing the "blacker than black". On the other hand the crystals are often proud of the background and give the opportunity for reducing the depth of field so as to soften the background.

My imaging setup has now settled down to a Mirrorless Canon M6 MkII camera, 150 mm extension tube, Raynox DCR 150 and Mitutoyo x5 lens. With the Wemacro I used 20 micron steps and this image only needed 28 images. I used Helicon B to minimise the flaring and tidied up with the free software FastStone and cropped it down to a 2 mm FOV.

I learnt an awful lot in taking this image!

From the British Micromount Society Newsletter, #124. Used with permission

News from the Rice Museum

26385 NW Groveland Dr, Hillsboro, OR 97124

We are thrilled to announce our recent success at the 70th Annual Tucson Gem & Mineral Show, where we proudly took home the Betty and Clayton Gibson Memorial Trophy for Best Museum Exhibit. This year's theme, "Shades of Green – Experience the Magic," provided the perfect backdrop for our stunning display of verdant minerals.

MINERAL AUCTION

Sep 19-28, 2025

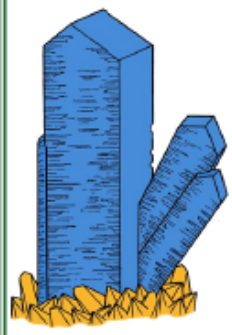
Save the date! MineralAuctions.com is hosting a benefit auction for the Museum, featuring a curated selection of fine minerals, gems, and experiences. This special auction will showcase exceptional specimens and support the Museum's mission. For more information:

https://ricenorthwestmuseum.org/auction/

Please **email articles and photos to** heesacker@coho.net

The next deadline will be June 11, 2025

Interested in a wonderful resource for teaching children about minerals?



Check out the books and other resources at Diamond Dan Publications.

http://www.diamonddanpublications.net/

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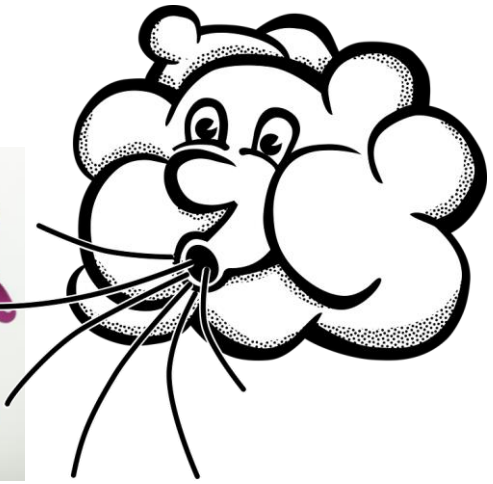

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MINERAL MEETING CALENDAR

2025:

PNWFM Spring Meeting - April 26
Rice Museum
26385 NW Groveland Dr., Hillsboro, OR 97124

NW Micro Mineral Study Group - May 10
Sons of Norway Columbia Lodge
2400 Grant St., Vancouver, WA 98660

Seattle Mineral Market - May 17-18
SATURDAY 10:00AM-6:00PM
SUNDAY 11:00AM-5:00PM
The Hangar 30 building at Magnuson Park
7400 Sand Point Way NE, Seattle, WA 98115

Northern Mineralogical Association (NCMA) - May 23-25
Eldorado Community Hall
6139 Pleasant Valley Rd., Eldorado, CA

PNWFM Symposium - TBD
Central Washington University and ???
Discovery Hall
Ellensburg, WA

Seattle Mineral Market (Special Fall Showcase) - TBD
Everett Mall
1402 SW Everett Mall Way, Everett, Washington 98208

NW Micro Mineral Study Group - Nov 8
Sons of Norway Columbia Lodge
2400 Grant St., Vancouver, WA 98660

2026:
Pacific Micromineral Conference (MSSC) - TBD
Fallbrook Gem & Mineral Museum
123 W. Alvarado St., Fallbrook, California