



to promote, support, protect and expand the collection of mineral specimens and to further the recognition of the scientific, economic and aesthetic value of minerals and collecting mineral specimens.

BULLETIN OF FRIENDS OF MINERALOGY

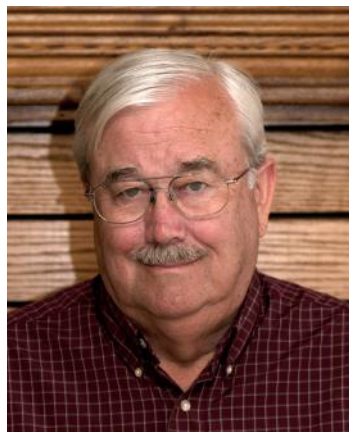
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President's Message By William W. Besse

I am sure you are aware the COVID-19 has caused the postponement or cancellation of all meetings and symposia for the foreseeable future. This is necessary to slow the spread of the disease. Hopefully, this will be over in a few months so that some of the events can be rescheduled.

Otherwise we will have to wait for those events next year. The main thing is to keep safe.

Just because large groups are not recommended does not mean that you cannot enjoy mineralogical pursuits. It is a good time to research, get your collection in order, and go collecting. Yes, field collecting, for as long as there no travel restrictions in your area, it is a good way to spend time away for crowds, get exercise, and add to your collection. If you like camping, better yet as you will be away from possible contamination.

Tucson show has passed for this year. There were lots of changes in many of the shows with more ahead in the next year or so. Even though FM did not present any lectures this year, there were many informative talks at the TGMS Show as well as at the Fine Mineral and Mineral City Shows.

The FM Board of Director's annual meeting was an active affair. There were several motions presented and awards for educational displays and articles were announced. See the meeting minutes in this bulletin for details. One important note is that there were representatives of the Mineralogical Society of America (MSA) in attendance. They described the new MSA outreach program to see if there was interest. There was. Their program will attempt to match speakers for clubs and other events, plus online knowledge assistance.

To say the least, the current, most important message is to stay safe.

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FM ANNUAL BUSINESS MEETING –Minutes
Saturday, February 15, 2020
Tucson, Arizona

Attending: Chris Whitney-Smith, Jeanine Mielecki, Erin Delventhal, Mark Jacobson, Peter Modreski (FMCC proxy for Bob Hembree), Don Buchanan, Virgil Lueth, Jessica Robertson, Alexander Schauss, William Besse, Gloria Staebler, Linda Smith, Carol Frost (MSA), Ann Benbow (MSA)

President Besse called the meeting to order at 8:00 am and declared a quorum present.

Reports from attending representatives of affiliate organizations:

Colorado Chapter report was given Tuesday, Feb. 11 at the general meeting by Mark Jacobson. He reported that the chapter had new badges.

Reports from officers:

President Besse

Vice President Schauss

Secretary Smith:

Linda noted that not all members are receiving the newsletter.

Treasurer Staebler:

Gloria distributed a one page Income Statement for 2019 and a one page Balance Sheet for 2019. She reported that member dues were off for several reasons and some chapters were behind in forwarding dues. She reported no audits were conducted in 2017, 2018 and 2019.

Reports from Committees and non-elected positions:

Nominating Committee for Directors at large presented five names: Gloria Staebler, William Besse, Matt McGill, Jessica Robertson and Jeanine Mielecki

Symposium Funding Committee: No report (Erin, Alex, Chris)

Action Items:

Unanimous approval to resolve communication issue with newsletter with Erin volunteering to distribute the national newsletter in the future.

Unanimous approval of the request to fund \$500 to support the 41st Annual New Mexico Mineral Symposium. Virgil Lueth abstained.

Unanimous approval to hire an independent auditor to audit our books at up to \$500.00, with any excess to be paid by Alex Schauss

Approved: Colorado Chapter will oversee the awarding of the Educational Award on behalf of National at the Denver Show.

Approved: Motion stating that all ballots submitted will be verified active members with names and we accept the ballots that were submitted for this election. One against.

The question came up in regards to our Non-Profit paperwork and Gloria said that the Southern California Chapter would take care of this since we are registered in California.

An Educational Awards committee was formed consisting of Virgil, Erin and Jessica with Jessica committee chairman.

The board received the results of the recent election of four new Board members: William Besse, Matt McGill, Jessica Robertson and Jeanine Mielecki

It was approved that Gloria Staebler will continue as Treasurer for 2020.

The representatives from the MSA stated that they would like to do more in regards to supporting the mineral community. They have free resources online and publish the *American Mineralogist* as well as *Elements* magazine. They mentioned that they have outreach funds that would support speakers. It was suggested by Alex that collaboration and cross information between publications would be beneficial.

Announcements:

The awards were announced:

Magazines:

Mineralogical Record, "The Almaden Mining District, Ciudad Real, Spain"

By Borja Sainz de Baranda Graf, Cesar Menor Salvan

Rocks & Minerals, "Minerals of the Kabwe ("Broken Hill") Mine, Central Province, Zambia" by Malcolm Southwood, Bruce Cairncross, Mike S. Rumsey

Mineral News: The Mineral Collector's Newsletter, "Albert Barnes Whitmire: Operator of the Crystal Gem Mines, Teller Colorado" by Mark Ivan Jacobson

Mineralogical Monograph, "Pala Pink and Mesa Grande Mauve" by Ryan Bowling

Displays:

Institutional award: The Gemological Institute of America (GIA) for "the science behind world class diamonds"

Non-institutional: The collective cases that comprise the Young Mineral Collectors group (YMC)

Meeting adjourned at 9:35am.

Submitted respectfully,

Linda V. Smith, Secretary

Award Winners TGMS Banquet February 15, 2020



Mark Jacobson accepted the award for best article in the Mineral News: The Mineral Collector's Newsletter, "Albert Barnes Whitmire: Operator of the Crystal Gem Mines, Teller Colorado". Photo by Erin Delventhal.

Representatives of the Young Mineral Collectors group (YMC) accepted the award for best educational non-institution display at the TGMS Show for their collective cases. Photo by Steve Kaminski.



Dona Dirlam accepted the award for best educational institution display at the TGMS Show on behalf of The Gemological Institute of America (GIA) for "the science behind world class diamonds". Photo by Erin Delventhal.

Australia Pollucite Occurrences with Citations

Mark Ivan Jacobson

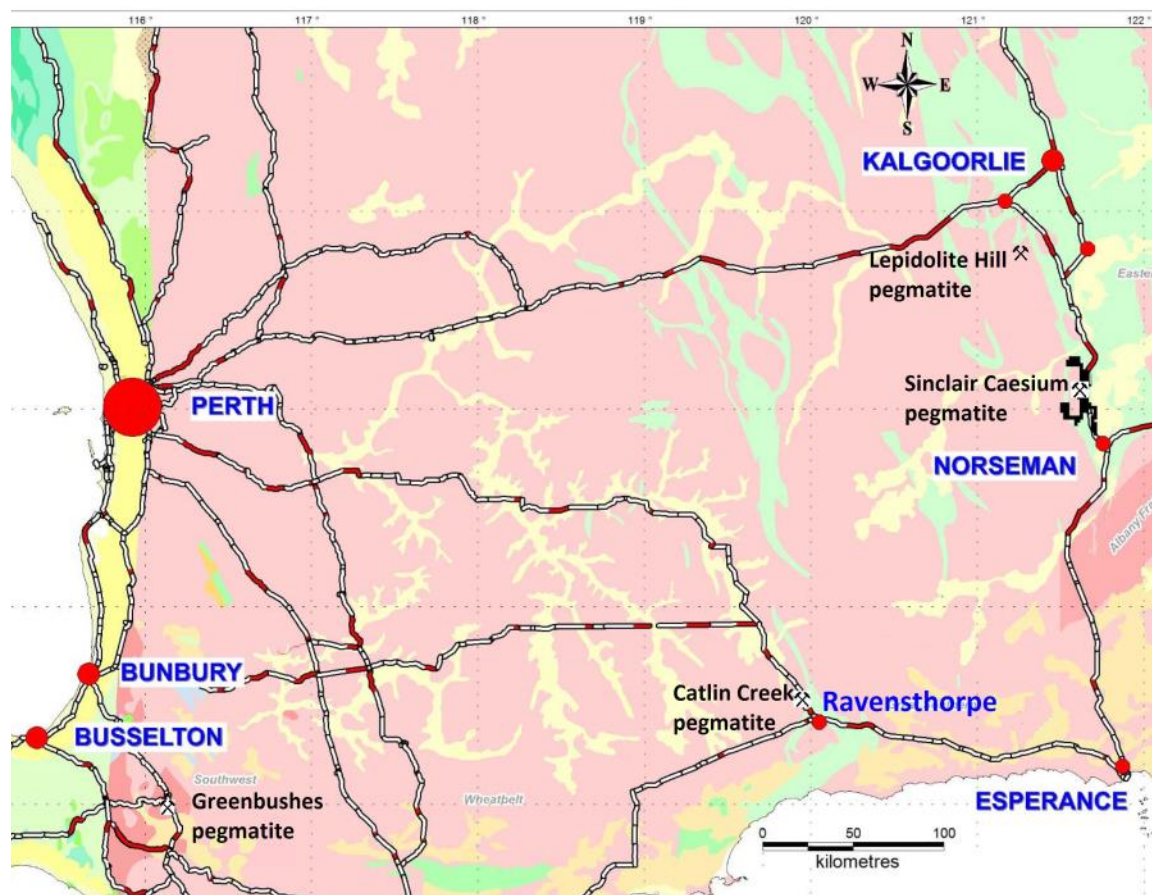


Figure 1. Location map in Western Australia of the Lepidolite Hill pegmatite, Sinclair Caesium pegmatite and Greenbushes pegmatite. Map adapted from Pioneer Resources Ltd. ASX announcement.

Greenbushes pegmatite, Greenbushes, Western Australia. Pollucite was reported as a daughter mineral in a fluid inclusion (Partington et al. 1995, p. 627).

Lepidolite Hill pegmatite, Londonderry pegmatite field, Shire of Coolgardie, Western Australia.. A small pollucite mass was recovered from one drill core in 1967 (Jacobson 2004, p. 3; Jacobson, Calderwood, and Grguric 2007, p. 265). A petrographic slide of this material as well as samples are also present within the Western Australia State Museum collection in Perth.



Figure 2. Pollucite in the Western Australia Museum collection from Lepidolite Hill. Mark Jacobson photo.

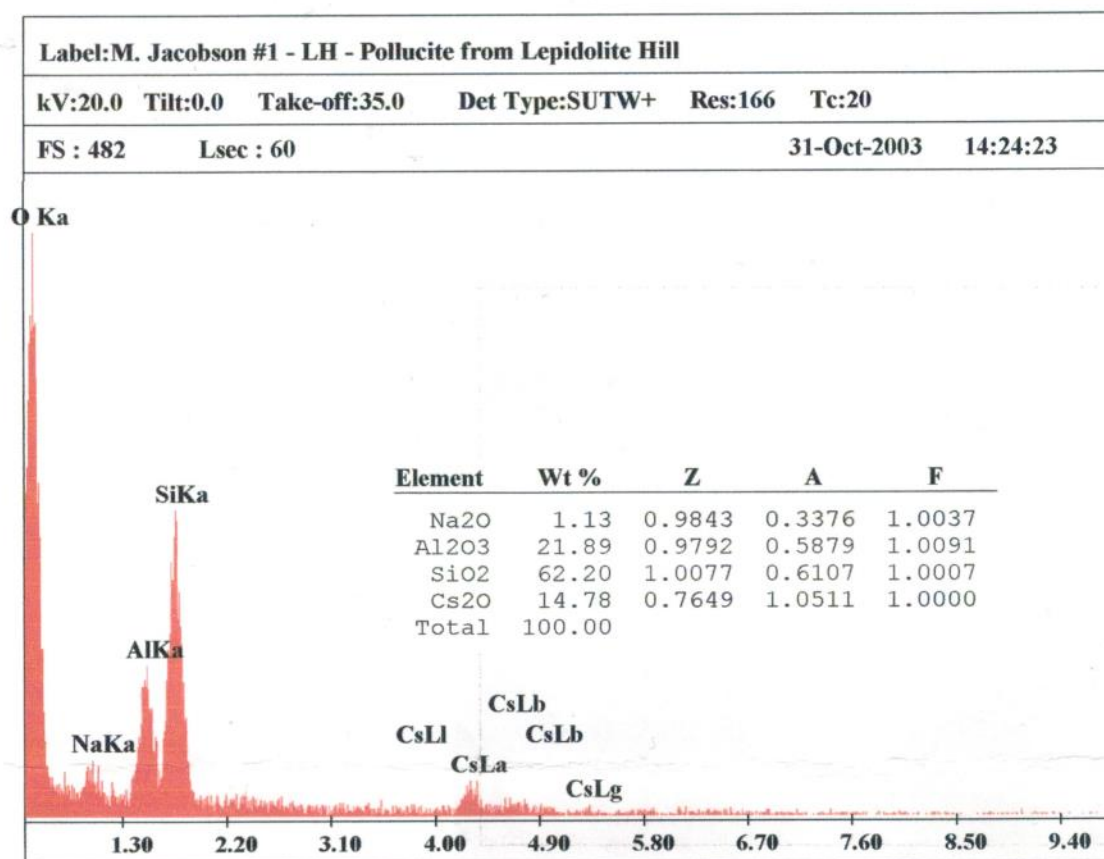


Figure 3. An uncalibrated XRF analysis of one loaned grain of pollucite, 1 mm in diameter. The grain was returned to the museum. Lepidolite Hill from the Western Australia Museum collection. Analysis done by Excalibur Minerals, Charlottesville, VA.

Sinclair Caesium mine, 35 km N23°E of Norseman, Shire of Dundas, Western Australia., Pollucite was mined in January 2019 by Pioneer Resources Ltd. for shipment to Canada. Numerous Company reports on pegmatite document its geology, exploration and mining. Prior to May 2019, the company mined 19,000 tones of pollucite ore with an average grade of 9.1% cesium oxide (Pioneer Resources Ltd. May 27, 2019 public report). Ore was shipped to the Cabot processing mill at Bernic Lake, Manitoba, Canada. Pioneer stockpiled the mined microcline, petalite, lepidolite, eucryptite after petalite, quartz and beryl for later sales. Other minerals found are montebrasite, niobium-tantalum minerals, muscovite, quartz, and albite variety cleavelandite. A brief history of its discovery and mining with an overview of the pegmatite geology was presented at the September 2019 Australasian Exploration Geoscience Conference (Crook et al. 2019).

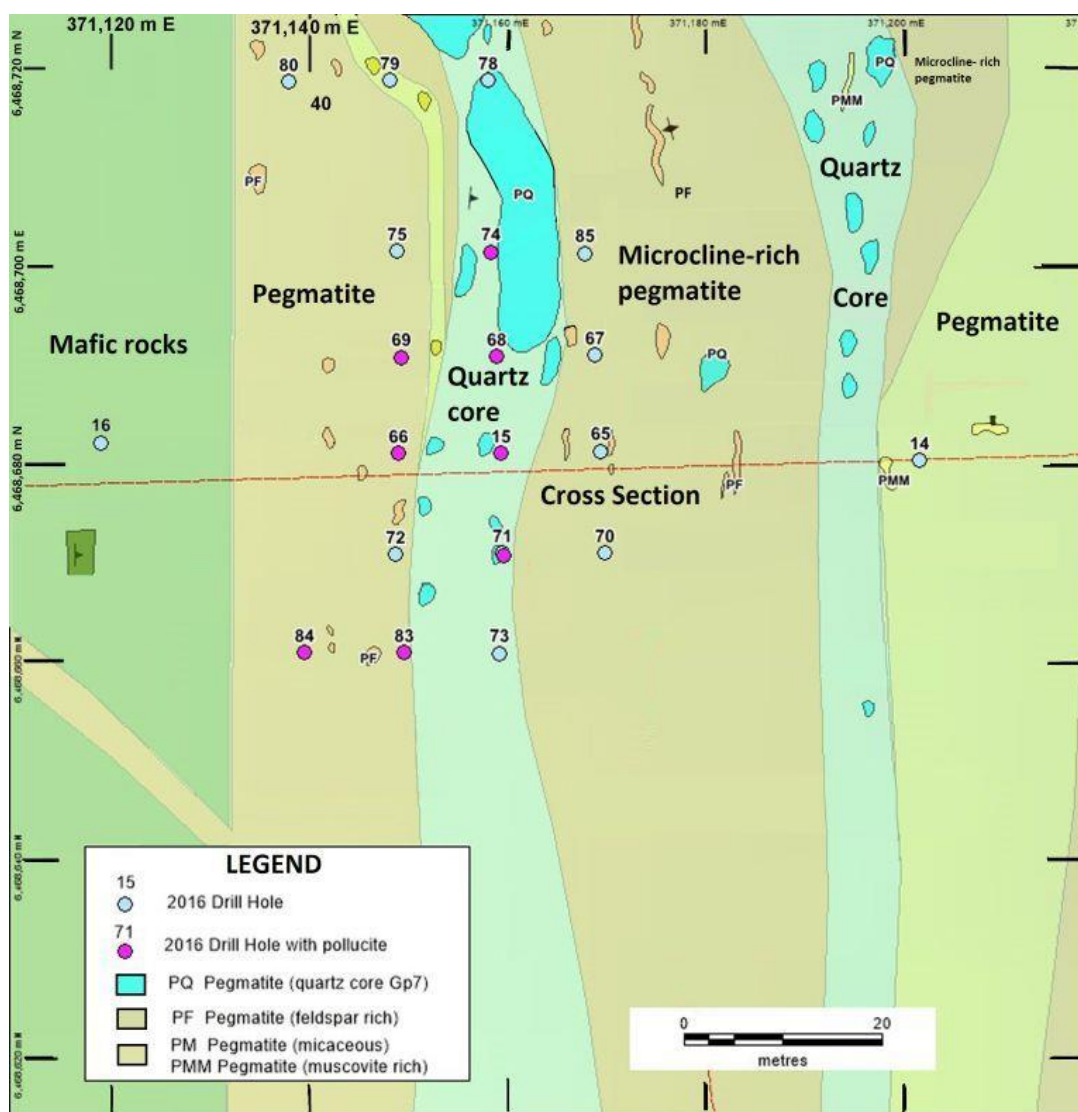


Figure 4. Surface geology prior to mining across the central area of the Sinclair Caesium pegmatite with surface drill hole locations. Adapted from Pioneer Resources Ltd. ASX announcement.

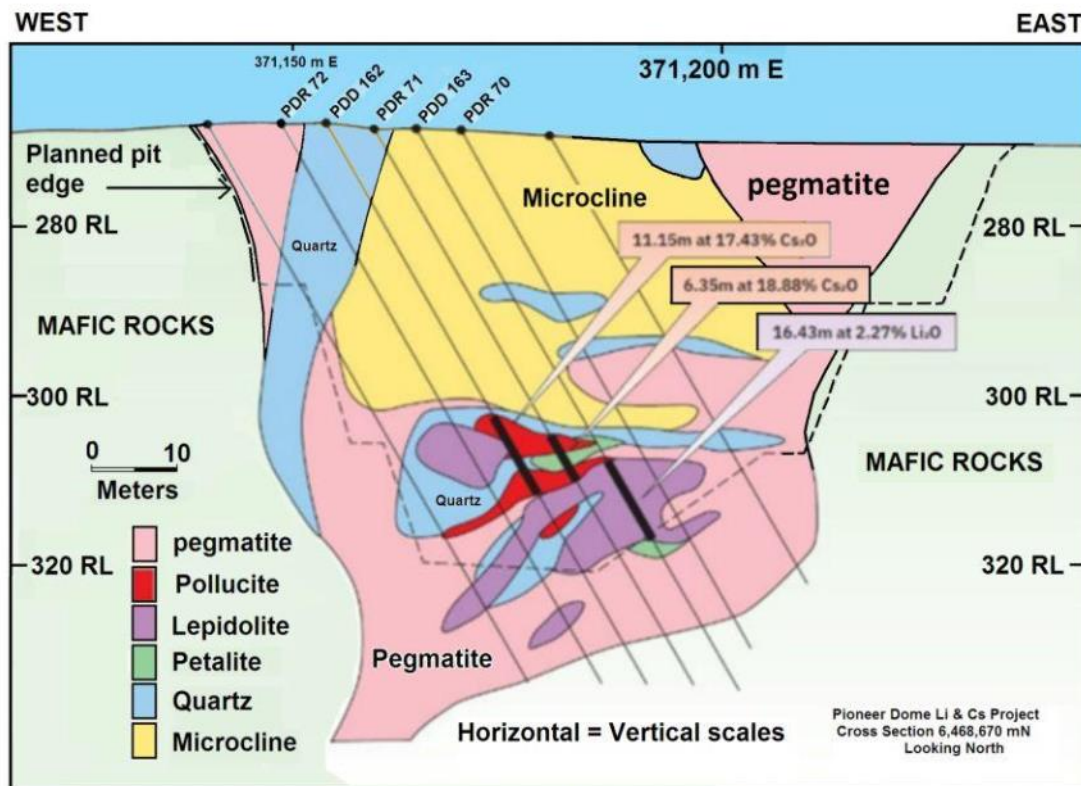


Figure 5. Geologic cross section of the central area of the Sinclair Caesium pegmatite, along 6,468,670 m N; view looking north. Adapted from Pioneer Resources Ltd. ASX announcement.

King Col pegmatite, SW corner of license E45/2533, Shire of Hedland, Pilbara, Western Australia.

"Pollucite, a cesium bearing mineral, also identified from the previously reported high grade cesium intercept of 1 m @ 8.63%Cs₂O from 25 m in hole KR011" (March 1, 2018 De Grey Mining Ltd. Mt. Hawthorn, WA ASX announcement) has been confirmed. The King Col pegmatite (7,699,800 m N and 682,600 m E, UTM 50, GDA94 datum) has very little surface expression and lies southwest of the Tabba Tabba pegmatite and north of the Pilgangoora spodumene pegmatite field. Other minerals confirmed from this pegmatite are tantalite, lepidolite, spodumene and petalite.

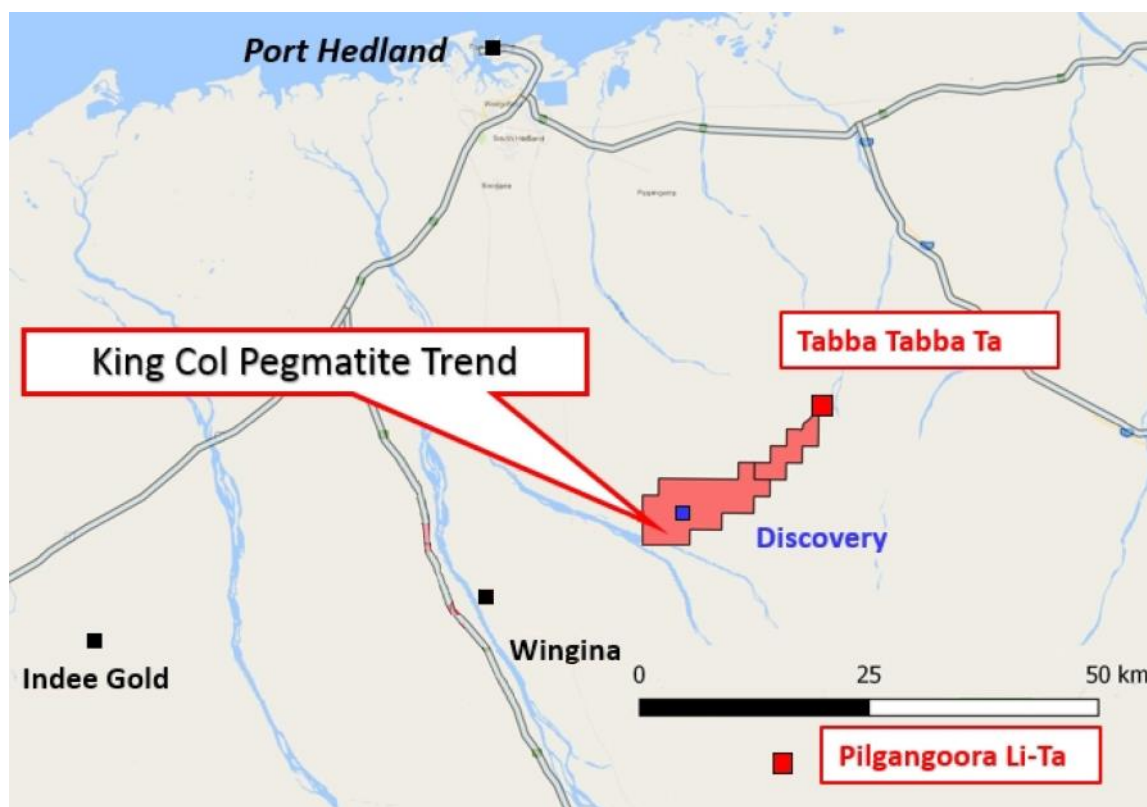


Figure 6. Location map of the King Col pegmatite discovery. Basemap from De Grey Mining Ltd., ASX announcement 1 December 2016.

References cited

Crook, David; Stuart T. Kerr Jess A. Booth, Nigel W. Brand, and Russell Panting. 2019. The Discovery and Geology of Sinclair, Australia's first Caesium Deposit. *Australasian Exploration Geoscience Conference*, September 2-5, 2019, Perth, Australia, paper 88. 5 p.

Jacobson, Mark Ivan. 2004. First occurrence of pollucite in Western Australia: Lepidolite Hill Pegmatite, Coolgardie. *Mineralogical Society of Western Australia bulletin*, February, v. 4, no. 1, p. 3.

Jacobson, Mark I.; Mark Calderwood, and Benjamin Grguric. 2007. *Guidebook to the Pegmatites of Western Australia*. Hesperian Press, Western Australia, 356 p.

Partington, G. A., N. J. McNaughton, and I. S. Williams. 1995. A review of the geology, mineralization, and geochronology of the Greenbushes pegmatite, Western Australia. *Economic Geology*, v. 90, p. 616-635.

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

Introduction

The Warden Point and Elk Creek specimens featured in this article consist of barite crystals that formed within concretions. These crystals 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 four different ultraviolet wavelengths.

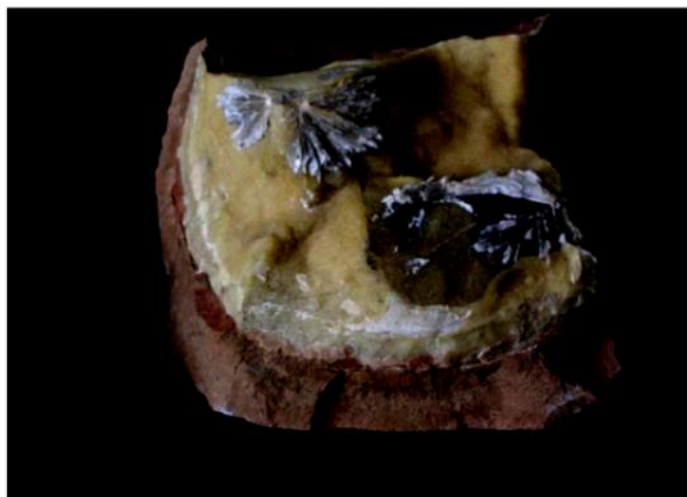
Geological Settings

The host rock at Warden Point consists of Eocene clay that formed near the coast of Isle of Sheppey, 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 septarium 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"x 1". The smaller spray is roughly rectangular and measures 1.75"x 0.5". The height of these sprays was too shallow to measure. Overall, this specimen has a square configuration with a concave base; its dimensions are 4"x 3.75"x 2.5".



Warden Point Specimen – daylight photo

The Elk Creek sample 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"x 4.75"x 3.75". The barite crystals are elongated; the largest measures 2.0"x 0.5"x 0.5". The calcite crystals measure 0.25" and are clustered on various areas of the specimen.



Elk Creek Specimen – daylight photo

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 was used to determine phosphorescence because it proved sufficient during my previous studies.

Fluorescent and Phosphorescent Test Results

The abbreviations, **fl** and **phos** are used to indicate fluorescence and phosphorescence.

Specimen identification	Shortwave 254nm response	Mid-wave 312nm response	Longwave 351nm response	Longwave 370nm response
Warden Point	fl: bluish-white w/ tan hue; strong intensity. phos: powder-blue, moderate intensity; 15 sec. duration w/5 sec. exposure.	fl: bluish-white w/ tan hue; strong intensity. phos: greenish-blue, moderate intensity; 10 sec. duration w/5 sec. exposure.	fl: bluish-white w/ tan hue; strong intensity. phos: greenish-blue, moderate/bright intensity; 8 sec. duration w/5 sec. exposure.	fl: bluish-white w/ tan hue; strong intensity. phos: greenish-blue, low intensity; 8 sec. duration w/5 sec. exposure.
Elk Creek	fl: bright greenish-white + tan patch areas. phos: bright lime-green 9 sec. duration w/5 sec. exposure.	fl: approximately same as SW except larger tan patches. phos: similar to SW.	fl: tan, moderate brightness; phos: tan, but dimmer than fl. 7 sec. duration w/5 sec. exposure.	fl: tan, moderate brightness. phos: tan, but less intense than fl. 4 sec, duration w/5 sec. exposure.

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 that the areas showing a tan color response were larger with mid-wave exposure. 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 mineralogical variances. 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, an additional longwave wavelength.

Selected References

Robbins, Manuel. The Collector's Book of Fluorescent Minerals. 1983. Van Nostrand 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

From Your Editor

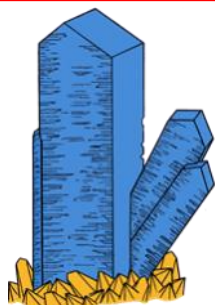
I invite all chapters and anyone from the Members At-Large to either email me their chapter newsletters or a President's report each quarter. Chapters would really like to learn from each other what is working for them or what exciting things are happening like field trips or presentations.

I request that they be emailed since I can store them in one location and not have to search around the internet for every chapter that posts theirs. Just add me to your email list. Beth Heesacker, heesacker@coho.net.

I also invite your pictures of your minerals to grace the pages of this newsletter.

Also please let me know if your President changes so I can keep the officers' page up to date.

Your articles can make this Bulletin a greater resource for mineral collectors around the world. Thank you in advance.



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/>



**COLORADO
CHAPTER
UPDATE**

<http://friendsofmineralogycolorado.org/>

Your Report could be here!



**MIDWEST
CHAPTER
UPDATE**

www.fommidwest.org

See article on page 10.



MISSISSIPPI VALLEY CHAPTER UPDATE

Your Report could be here!



NEW JERSEY CHAPTER UPDATE

<https://fomnj.wordpress.com/>

The NJ Chapter of FM definitely finished 2019 out strong and capped off a successful year. Only a small handful of members did not renew for 2020, the smallest loss we have incurred since starting in 2013. We stand at just shy of 50 members and that is taking into account the few that decided not to renew for a variety of reasons.

We started off 2020 with returning to the Rutgers University Geology Museum Open house, and once again hosted their Mineral I.D. Workshop for the afternoon. A steady flow of adults and children filtered in and out of the Workshop all afternoon, and we did our best to make the experience educational and enjoyable. The Rutgers Geology Museum Staff assisted in providing materials for children to occupy themselves through the afternoon, and the adults definitely put us to the test with all forms of polished, worked, and rough specimens to hopefully provide an I.D. We accompanied our information with advertising materials and posters of our Club and its happenings, and people enjoyed observing and asking questions. We will definitely continue to host this program in coordination with Rutgers New Brunswick.

We look forward to the Spring collecting season with much anticipation. Several trips are in the works, including a potential CT weekend at Case Quarry and Hewitt Gem Mine; an eventual Herkimer trip; National Limestone Quarries trip, and several invite trips from other clubs. Trips still prove to be the most popular aspect of our club, although not too far behind would be attending shows.



PACIFIC NORTHWEST CHAPTER UPDATE

www.pnwfm.org

President's Message by Toby Seim

Greetings All,

I'd like to start by sending my thoughts and prayers out to the several families who have been affected by the Coronavirus and are dealing with serious health situations. I am hopeful that our members are actively practicing prevention methods to help deflect the issue.

There has been some recent good attention regarding our PNWFM Chapter, I can hardly keep up with the emails trickling in. Most of the content contains feedback from our recent exhibition at The Whatcom Museum "What Lies Beneath", so I'd like to give a special thanks to the following all-star cast who helped with the project:

Bart Cannon
John Lindell
Lew Landers
Rick Dillhoff
Joe George
Randy Becker
Bill McKnight
Wes Gannaway
Julian Gray
Dylan Trevors
Cory Torpin
Dick & Erma Deanne Rantz
Jeff Schwartz
Tate Wilson



It's been a wonderful five months

with the exhibition and it's sad to see it go. Visitor turnout has been very good, with people coming from throughout the Puget Sound region and beyond. There were also several education opportunities for local school students and youth groups who toured the exhibit. Good Job PNWFM!

October Symposium

Our annual Symposium is on track to be very exciting and we have collectively decided the following theme:

Aesthetic Minerals

Colors - Crystallography – Presentation

This is a very exciting theme, it presents opportunities to include the scientific aspects of the minerals and the artsy aspects of the minerals.

In addition to a new great theme, I would like to formally announce our new Symposium Chairman – Jessica Robertson!

Jessica, who is on our Friends of Mineralogy National Board, has a BA in geochemistry from Whitman College and a M.S. in Geology from Central Washington University. She is highly involved as a leader amongst young mineral enthusiasts. I believe she will be a key contributor as our chapter continues to grow.



Noble Witt Award

Last October I had the tremendous honor to present the Noble Witt Award to Randy Becker. As I listed his accomplishments, it demonstrated the level of significance the award holds. Looking at the previous members who have earned the award further confirms that it's perhaps the highest level of achievement in our respected activity. Once again, congratulations to Randy Becker for a lifetime of mineral related achievements.

**PENNSYLVANIA
CHAPTER
UPDATE**

www.rasloto.com/FM/

Your Report could be here!

**SOUTHERN CALIFORNIA
CHAPTER
UPDATE**

Your Report could be here!

**NATIONAL
MEMBERS
“AT-LARGE”**

Your Report could be here!

**Would someone like to speak up for the “at-large”
members?**

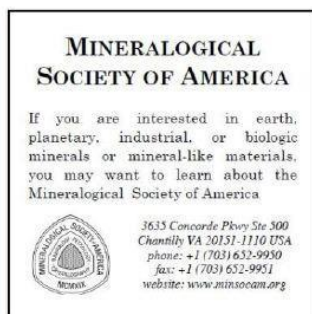
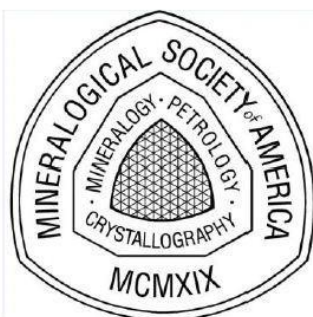
Needs, wants, comments?

FM AFFILIATES



The Friends of Mineralogy is a long-time affiliate of The Mineralogical Record magazine. The magazine was founded in 1970 by John White, who was at that time a curator in the Mineral Sciences Department of the Smithsonian Institution. With the initial help of a financial backer, Arthur Montgomery, White succeeded in launching and bootstrapping the fledgling publication to the point where it was marginally self-sustaining. After seven years as editor and publisher, White stepped aside for a new Editor, Wendell Wilson.

Since then the Mineralogical Record has grown steadily in size, quality and prominence, thanks to the contributions of over 700 authors, photographers, artists, advertisers and donors. It has become a collective labor of love on the part of the entire mineralogical community worldwide. It is the only journal to have a new mineral species named in its honor (minrecordite), and it is the only journal to have received the Carnegie Mineralogical Award. Subscriptions, back issues, books and a variety of free databases are available online at www.MineralogicalRecord.com.



Mineralogical Association of
Canada



mindat.org



Mineral News

The Mineral Collector's Newsletter