



JOURNAL OF THE FRANKLIN-OGDENSBURG MINERALOGICAL SOCIETY

VOL. 46 — SPRING/FALL 2005

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- The geology of Double Rock pegmatite
- The Kemble family, long-term Franklin mineral collectors
- Gr
 ünerite added to the Franklin-Sterling Hill species list
- More reflections on Franklin wollastonite

The Franklin-Ogdensburg Mineralogical Society, Inc.

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MEMBERSHIP INFORMATION

Anyone interested in the minerals, mines, or mining history of the Franklin-Ogdensburg, New Jersey, area is invited to join the Franklin-Ogdensburg Mineralogical Society, Inc. (FOMS). Membership includes scheduled meetings, lectures, and field trips, as well as a subscription to *The Picking Table*.

MEMBERSHIP RATES FOR ONE YEAR:

🗆 \$20 Individual	🗅 \$25 Family	
NAME		
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STATE	ZIP	
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DENISE KROTH, TREASURER, FOMS

240 Union Avenue, Wood-Ridge, NJ 07075

The PICKING TABLE



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ABOUT THE FRONT COVER:

This specimen of bright yellow-orange–fluorescing cuspidine was found on the Buckwheat Dump on May 26, 2005, by Fred Lubbers. He found it in the pile of material removed from a 15-foot-deep trench that was dug for the Spring 2005 NJESA Show "Triple Diggg." The material that was deposited on the west side of the trench produced many fine specimens of cuspidine. This specimen, which measures $3.75'' \times 3'' \times 2'' (9.5 \times 7.5 \times 5 \text{ cm})$, is one of the biggest and richest of the two dozen or so pieces recovered at this spot in the spring and summer of 2005. Currently in the Roman Gaufman collection. Photo by Tema Hecht.



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Subscription to *The Picking Table* is included with membership in FOMS. For membership, back issues, and information, write to:

Denise Kroth, Treasurer, FOMS

240 Union Avenue Wood-Ridge, NJ 07075

The Picking Table is the official journal of the Franklin-Ogdensburg Mineralogical Society, Inc. (FOMS), a nonprofit organization. The Picking Table is published twice each year and features articles of interest to the mineralogical community that pertain to the Franklin-Ogdensburg, New Jersey, area. Articles related to the minerals or mines of this district are welcome for publication in The Picking Table. Prospective authors should address correspondence to:

The Picking Table Attn: Mark Boyer 25 Cork Hill Road Ogdensburg, NJ 07439 markaboyer@earthlink.net

The views and opinions expressed in *The Picking Table* do not necessarily reflect those of FOMS or the Editors.

The FOMS Executive Committee also publishes seasonally the *FOMS Newsletter*, which informs members of upcoming activities and events sponsored by FOMS and other local mineral-related organizations.

FOMS is a member of the Eastern Federation of Mineralogical and Lapidary Societies, Inc. (EFMLS).

FRANKLIN-OGDENSBURG MINERALOGICAL SOCIETY, INC. 2005 MEETINGS & ACTIVITIES

Activities marked with an asterisk (*) are not sponsored by FOMS but may be of interest to its members.

SATURDAY, MARCH 19, 2005

9:00 A.M. to Noon — FOMS Field Trip – Buckwheat Dump, Franklin, N.J.

10:00 A.M. to Noon — FOMS Micro Group, Kraissl Hall, Franklin Mineral Museum.

1:30 to 2:30 P.M. — FOMS Meeting and Lecture, Kraissl Hall, Franklin Mineral Museum

Bill Truran: "The Last Day at the Franklin Mine"

SATURDAY, APRIL 16, 2005

9:00 A.M. to Noon — FOMS Field Trip — Mine Run Dump and Passaic and Noble Pits, Sterling Hill Mining Museum, Ogdensburg, N.J.

1:30 to 3:30 P.M. — FOMS Meeting and Lecture, Kraissl Hall, Franklin Mineral Museum

George Hanna: "The National Parks of the Southwest."

SATURDAY AND SUNDAY, APRIL 23 AND 24, 2005

*33rd Annual New Jersey Earth Science Association (NJESA) Gem & Mineral Show and 9th Annual FOMS Outdoor Swap and Sell

Franklin Middle School, Washington Ave., Franklin, N.J. NJESA Show hours: Saturday, 9:00 A.M. to 5:30 P.M.; Sunday, 10:00 A.M. to 5:00 P.M.

Swap and Sell hours: Saturday, 7:30 A.M. to 6:00 P.M.; Sunday, 9:00 A.M. to 5:00 P.M.

SHMM/FOMS/NJESA Banquet and Auction, Saturday, 6:30 P.M. at the Sterling Hill Mining Museum

*Field Collecting: Organized by the Delaware Valley Earth Science Society (DVESS) and the North East Field Trip

Alliance (NEFTA). Trotter Dump, Franklin: Saturday, 9:00 A.M. to 7:00 P.M., then after dark from 7:30 P.M. to 11:00 P.M.

Buckwheat Dump, Franklin: Saturday, 10:00 A.M. to 4:00 P.M.

Sterling Hill, Ogdensburg: Sunday, 9:00 A.M. to 3:00 P.M.

*The 5th Annual Sterling Hill Garage Sale, Christiansen Pavilion, Sterling Hill Mining Museum, Sunday, 1:00 to 3:00 P.M.

SUNDAY, MAY 1, 2005

1:30 P.M. — *Annual Miners Day and Volunteer Appreciation Day at the Franklin Mineral Museum.

SATURDAY, MAY 14, 2005

1:30 to 3:00 P.M. — FOMS Meeting and Lecture, Kraissl Hall, Franklin Mineral Museum.

Richard Volkert: "Pegmatites of Northern New Jersey."

SUNDAY, MAY 22, 2005

9:00 A.M. to 3:00 P.M. — FOMS Field Trip — Lime Crest Quarry, Limecrest Road, Sparta, N.J.

SATURDAY, JUNE 4, 2005

7:30 to 10:30 P.M. — *Spring Night Dig and Mineral Sale at the Buckwheat Dump, Franklin. Sponsored by the Franklin Mineral Museum.

SATURDAY, JUNE 19, 2005

1:30 to 3:30 P.M. — FOMS Meeting and Lecture, Kraissl Hall, Franklin Mineral Museum.

Bernard Kozykowski: "The Mill Site Revisited: A Slide Presentation."

SATURDAY, JULY 23, 2005

8:00 A.M. to Noon — FOMS Field Trip — Eastern Concrete Materials Quarry, Hamburg, N.J.

SATURDAY, SEPTEMBER 17, 2005

9:00 A.M. to Noon — FOMS Field Trip — Mine Run Dump and Passaic and Noble Pits, Sterling Hill Mining Museum, Ogdensburg, N.J.

10:00 A.M. to Noon — FOMS Micro Group, Kraissl Hall, Franklin Mineral Museum.

1:30 to 3:00 P.M. — FOMS Meeting and Lecture, Kraissl Hall, Franklin Mineral Museum.

Greg Jacobus: "Microminerals of Franklin and Sterling Hill."

SATURDAY AND SUNDAY, SEPTEMBER 24 & 25, 2005

*49th Annual Franklin-Sterling Gem & Mineral Show / Sponsored by the Franklin Mineral Museum. Franklin Middle School, Washington Ave., Franklin, N.J. Show hours: Saturday, 9:00 A.M. to 6:00 P.M.; Sunday, 10:00 A.M. to 5:00 P.M.

Swap and Sell, sponsored by FOMS, on the school grounds from 7:30 A.M. to 6:00 P.M. on Saturday and from 9:00 A.M. to 5:00 P.M. on Sunday.

The FOMS Annual Banquet and Auction, Saturday, 6:30 P.M. at the Lyceum Hall of the Immaculate Conception Church, Main St., Franklin.

*The Sterling Hill Mining Museum Garage Sale on Saturday and Sunday from 1:00 P.M. to 3:00 P.M.

*Collecting on the Mine Run Dump and Passaic and Noble Pits from 9:00 A.M. to 3:00 P.M. on Sunday.

SATURDAY, OCTOBER 15, 2005

9:00 A.M. to Noon — FOMS Field Trip — Franklin (Farber) Quarry, Franklin, N.J. 1:30 to 3:00 P.M. — FOMS Meeting and Lecture, Kraissl Hall, Franklin Mineral Museum. Bill Butkowski: "New Jersey Zeolites."

SUNDAY, OCTOBER 16, 2005

9:00 A.M. to 3:00 P.M. — FOMS Field Trip — Lime Crest Quarry, Limecrest Road, Sparta, N.J.

SATURDAY, NOVEMBER 5, 2005

6:30 to 9:00 P.M. — *Fall Night Dig and Mineral Sale at the Buckwheat Dump, Franklin. Sponsored by the Franklin Mineral Museum.

SATURDAY, NOVEMBER 19, 2005

9:00 A.M. to Noon — FOMS Field Trip — Buckwheat and Taylor Road Dumps, Franklin, N.J. 1:30 to 3:00 P.M. — FOMS Meeting and Lecture, Kraissl Hall, Franklin Mineral Museum. Richard Volkert: "Update on Franklin Marble Age-Dating."

From the Editor's Desk

Mark Boyer 25 Cork Hill Road Ogdensburg, NJ 07439

Early in the evening of January 13, 2005, after leaving work, I went to visit John Cianciulli at his home. I had chatted with John on the phone earlier that afternoon, and he asked me to drop by after work to pick up a mineral specimen that he had examined for a fellow collector. When I arrived at his front door, I was given the startling news that he had just passed away.

John had spent his final day "on the job" as curator of the world-famous Franklin Mineral Museum, posting eBay items, talking to people on the phone, and shooting the breeze with whomever came in to visit. Despite his failing health, John kept active, doing what he loved in his "second home" up to the very last day of his life.

The last issue of *The Picking Table* (Vol. 45, No. 2) was in its final production stages when John died. John's contributions to *The Picking Table* were innumerable, yet mostly uncredited. He wrote a column on museum events for each issue, and he contributed at least one new article a year on his mineralogical research. On the production end, John was greatly instrumental in shooting and scanning photos and providing other technical assistance.

In addition to his wealth of knowledge on minerals and mineralogy, John was a repository of the anecdotal history of mineral finds, collections, and even particular specimens. On a December 2004 visit to the curator's office, Paul Shizume and I, impressed with one of John's detailed elaborations on a particular museum specimen, asked if any of this were written down. "That's *your* job," John replied. Perhaps it's just as well we *didn't* preserve for posterity some of John's more colorful elaborations, but it is indeed tragic that we no longer have access to John's vast mineral knowledge and poignant memories.

Fortunately, John did preserve in written form some of his last research. Shortly before his death, John completed two articles on Franklin minerals for publication. One of these, which reports grünerite being added to the Franklin species list, appears in this issue of *The Picking Table*. The other, on a newly discovered occurrence of genthelvite from Franklin, will be published in a future issue of *The Picking Table*, pending completion of related research.

However, John left much unfinished work. Research initiated by John and currently in progress includes a new amphibole species from the Franklin Marble, an unidentified apatite mineral (possibly svabite!) from Franklin, and an iron analog of gonyerite from Sterling Hill. These projects are now in the capable hands of other researchers at other institutions, and hopefully soon we will be able to report their findings. Other projects for which John's research and notes were regrettably lost included a comparative study of greenfluorescing sphalerite from Franklin, N.J., and Balmat, N.Y. Happily, the museum's new researcher/curator and long-time FOMS member, Joe Orosz, has stepped in to continue the important work of local mineral science.

In the past year, we lost two other significant contributors to the success of *The Picking Table*. On September 28, 2004, Gary Grenier, our staff photo editor and regular feature writer, passed away after a long illness. Then three weeks later, on October 18, Jay Lininger, the man who helped us revitalize and affordably colorize our journal, died suddenly. Regrettably, these three major players on *The Picking Table* team never lived long enough to see the fruition of their efforts on our last issue. Yet their contributions to the science of mineralogy, the history of mining, and the hobby of rock collecting will live on in the pages of this and future issues.

Although we've lost some heavy hitters, the FOMS activities, research, and publications will continue to build on their work. Gary's loss was a severe blow to the PT, but we are fortunate to have Tema Hecht, an accomplished photographer herself, now serve as our photo editor. We also welcome to our editorial staff Dru Wilbur, an enthusiastic Franklinphile who is well-known to most of the Franklin collecting community. We still need participants to write field trip reports, show reports, or perhaps a new column. I'm encouraged by the renewed interest of FOMS members that I've seen in recent unsolicited article and photo submissions to the PT. Please keep 'em coming! And don't hesitate to contact me if you have ideas or talents to share.

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Notice to Readers of The Picking Table

If you have a copy of the Fall 2004 issue (Vol. 45, No. 2) of *The Picking Table*, you may have noticed some printing and production errors. While we on the *PT* staff work hard to deliver a quality product for the club, some things are beyond our control and can go wrong. Such was the case with the Fall 2004 issue. The most noticeable mistake was the four blank pages at the end of the issue. This does not mean that there is anything missing; it just means that four blank pages were inserted when the layout was created. Since we don't do the layout ourselves, nor did we see a comp or PDF of the layout at proofreading stages, this error went undetected. The other egregious foul-up was that some copies were assembled by the printer with either duplicate pages or missing pages. Other lesser defects seen in a few copies include smudged ink on a page or two and uneven trimming.

Normally the *PT* is delivered from the printer to the managing editor for inspection of the print run. Random copies from each box are inspected, and any obviously defective or damaged copies (there are always a few) are culled from the boxes. In the case of the Fall 2004 issue, the *PT* was delivered from the printer directly to the FOMS table at the Spring NJESA show. Copies were distributed to members and to the general public immediately, without an inspection of the shipment. Consequently, many defective copies were distributed before the production errors were noticed. A decision was made to continue distribution of the issue, so long as the printed pages were at least all present and in the correct order.

Some readers have expressed dissatisfaction with the color accuracy of the photos in the wollastonite article. This matter was investigated thoroughly and the explanation is rather complex. The inconsistency in the color of the wollastonite from one image to the next can be attributed to the variety of sources for the images. Some were selected from series of bracketed exposures for best color accuracy by consensus of the PT staff while viewing them projected on a screen. Others were single images of rarely photographed specimens. Add to this other variables such as different photographers, cameras, settings, lighting, backgrounds, and film characteristics, and in some cases, the effects of age (some slides were over 30 years old). About half of the photos were photographed as digital images, and the 35mm slides were scanned by more than one scanner. The only way to obtain any semblance of color consistency is to minimize the variables; in other words, to have one photographer shoot all the images in the same medium with the same equipment and techniques and to develop and render the images the same way.

As for the overall color accuracy, additional factors came in to play. Scanning the slides appears to have shifted the oranges more toward yellow, as seen in the digital images in laser printouts and on-screen. When the issue was printed directly from the disk of the layout, all the images shifted toward red on the printed page. The result was that the color of the wollastonite was slightly improved over the digital images as they appear on screen, but the blue areas in the images, such as backgrounds and the minerals hardystonite and margarosanite, became darker and more subdued.

The PT is printed directly from a digital file, thus eliminating the quaint, old-fashioned concept of a printers' proof. The traditional print production process allowed for adjustments along the way at every stage (as long as money was no object!) It was a time-consuming, labor-intensive, and expensive process, but the quality control it afforded was superior to today's digital methods. Modern technology has made it impossible to correct and adjust color once the image is committed to disk, and we can do nothing but cross our fingers and hope for the best.

In short, we got as good a representation of the true color as possible, considering the limitations of the color-printing technology that our PT budget allowed. Ah, well ... live and learn, they say. And that issue of the PT was an educational experience, to say the least. It was an ambitious project, beyond the scope of our respective skill sets as wordsmiths and language doctors on the PT staff. Tragically, Gary Grenier and Jay Lininger, who would have guided us over the technological hurdles, passed on just at the point in the production of the PTwhen their contributions would have become crucial.

Since all 600 printed copies have the four blank pages at the end, we on the *PT* staff and the FOMS executive committee have decided to "live with it," as this doesn't detract from the readability of the issue. However, if you have a copy with missing or extra printed pages or lopsided trimming, we will replace it with a "good" copy, such as it is. Please contact Denise Kroth to arrange for a replacement copy, and please accept our apologies for any inconvenience. x

Message From the President

Fred Young

234 Warbasse Junction Road Lafayette, NJ 07848

"All the rare finds have been made." This statement is easily understood when it refers to a rare blue diamond. It is unlikely that another Hope Diamond (on display at the Smithsonian Institution in Washington, D.C.) will ever be found again. When this statement refers to the rare mineral deposit in Franklin and Ogdensburg, New Jersey, it is less clear but still very relevant.

The year was 1959. There was no Franklin Mineral Museum. There was no Sterling Hill Mining Museum. The world's most magnificent mineral deposit was waiting to be memorialized, but no one was listening.

The only ongoing preservation of the mineralogical, geological, and historical record of this mineral deposit was being prepared by accountants of the New Jersey Zinc Co. and stored in dusty cabinets. There was no interest in many of the minerals found in the deposit that had no commercial value. For those few mineral enthusiasts who had interest in these minerals with no commercial value, the only published paper on all the mineral species discovered up to 1935 was Palache's paper #180, and it was out of print with little hope of a reprint.

Then later in the year 1959, three mineral enthusiasts with a vision, Richard Hauck, Sunny Cook, and John Hendricks, made their rare find. They founded the Franklin-Ogdensburg Mineralogical Society.

The number one purpose of this new society, as its constitution stated, was: "To participate in the operation of a sound permanent museum for Franklin minerals in Franklin, New Jersey."

Early members in the Society carried out this pledge in 1965. Local Kiwanis businessmen founded the Franklin Mineral Museum in Franklin, New Jersey, and the Franklin-Ogdensburg Mineralogical Society provided much-needed support, and the mineral culture that exists today began a decades-long growth.

The Society had another purpose equally as important to its founders. It was to develop new information on Franklin/ Sterling Hill minerals, make it available to membership and the general public, and promote fellowship by providing an active program of lectures and field trips.

FOMS had an easy time growing and building its

worldwide reputation. One decade at a time membership flourished, research on new local mineral species flourished and collections flourished.

The early "List" of mineral species within the geographic definition of the deposit grew to almost two hundred, and membership grew to almost eight hundred. Local collecting sites offered FOMS members a rare assortment of minerals that have helped to build many private collections.

Then in the last decade something happened. Naysayers, some very high up in the chain of command, said FOMS had gone off course. The "List" had grown to over 350 species, but membership had declined to 273. Many local collecting sites were either mined out, flooded, or off limits, and according to one prominent FOMS member, New Jersey might be paved over in 30 years. Research on new species from the deposit was in danger of declining, possibly leading to a limit to new species. The "Old Guard" membership was less active or moving out of the area. Prices on local minerals driven by supply and demand had increased to a level that discouraged and sometimes eliminated new collectors. Various eBay mineral sales engines were taking the punch out of our shows, affecting the income FOMS received from the "Pond" dealers.

It seemed that many good specimens had gone into a few private collections or to museums, and there were fewer basement/attic/garage collections left from the old days. Our esteemed journal, *The Picking Table*, had a hard time getting submissions except from a small core of authors.

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Like the rare blue diamond in Washington, D.C., a rare mineral deposit like the one in Franklin and Ogdensburg would probably never be found again. It is therefore more important today than it was in the early years to protect the heritage and goals of the founders and keep our club strong and relevant.

FOMS was created by mineral enthusiasts for mineral enthusiasts with a specific interest in Franklin/Sterling Hill mineralogy and geology, but we have become more than just mineral enthusiasts. We volunteer willingly and enthusiastically to support the operation of two world-class museums. We work very hard to make two annual mineral shows successful. We publish a journal that speaks to a worldwide audience. We provide seven lectures annually to our members, providing them with current facts from geologists, mineralogists, authors, and others.

We can continue to enrich our collections as we head into our forty-sixth year, but we can also enrich the minds of our youth through educational programs. We can support scientific research by geologists and mineralogists who have an interest in our area of New Jersey, giving us the prospect of discovering new facts about our minerals and how they were formed.

We can contact other mineral clubs and encourage a pooling of our resources with the aim of bringing in new, younger members and exploring new collecting sites.

We can support our *Picking Table* journal by encouraging colleagues with an interest in writing about the "Holey Land" to submit their papers to our user-friendly editor, Mark Boyer. We can even subtract from our collections from time to time and make loans to educational organizations to support an understanding of their rare mineral deposit.

As your 23rd president, I will make my best effort to be as loyal to the goals of our founders as our last 22 presidents were. Let's stay the course and go into this season and have fun, but let's not lose sight of the purpose of the Society. \bigstar

Excerpt from the Constitution of FOMS: Article II: Purpose

The general purpose of this society shall be to implement the following specific purposes with active programs designed to secure their accomplishment:

- 1. To participate in the operation of a sound, permanent museum for Franklin minerals in Franklin, New Jersey.
- 2. To collect and preserve mineralogical, geological, and historical knowledge relating to the Franklin-Sterling Hill ore deposits.
- 3. To develop new information on Franklin minerals and mineralogy through cooperative scientific programs with universities and other organizations and individuals.

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- 4. To obtain and make available in proper perspective, accurate information on Franklin minerals and mineralogy.
- 5. To facilitate collection of Franklin minerals while conserving materials for future students and collections.
- 6. To facilitate identification of Franklin minerals.
- 7. To promote fellowship and advancement of mineralogy and geology by providing meetings of those interested in the Franklin area.

Franklin Mineral Museum News

Lee Lowell

Collections Manager Franklin Mineral Museum P.O. Box 54 Franklin, NJ 07416

Due to the untimely passing of our curator, John Cianciulli, on January 13, 2005, this report is provided by Lee Lowell, who is currently serving as the museum's collections manager.

The museum is now faced with the difficult task of finding another curator. With the help of president Steven Phillips, the board of trustees, and several trustworthy volunteers knowledgeable with the local mineralogy, the museum will fill in some of the gaps left by John's passing. The locks of several museum doors have been changed to assure adequate security of the museum's collections during this transition period.

The museum has added two new members to the board of trustees. Mark Boyer and Phillip Crabb will certainly enhance the board's effectiveness. The museum welcomes them aboard.

The September mineral show, sponsored by the museum, was a success, although the attendance was down slightly from the 2003 show. Internet mineral sales are affecting the attendance of many of the country's mineral shows, but despite this trend the show, which is the largest annual fundraiser for the museum, provided considerable funds needed to cover the extensive annual costs of operating our nonprofit museum.

The fall 2004 night dig on the Buckwheat Dump drew 47 collectors, who hauled away 518 pounds of rocks, and the museum netted over \$1,000 in poundage fees.

The museum acquired many mineral specimens through donations and purchases during the fall. To keep the sale of minerals as an active function of the museum, we need donations. We also purchase individual specimens and collections of any size. Some of the minerals obtained are at times worthy of addition to the permanent collections. The owners of these additions are acknowledged on the display labels. A second occurrence of the mineral genthelvite from the Franklin Mine was observed by John Cianciulli and was verified through X-ray powder diffraction by Joe Orosz. The January 05 issue of *Mineral News* contains the article on this find. Other research activities started by Cianciulli will be continued, and the results will be reported in later newsletters and *The Picking Table*. We plan to continue the scientific analysis of "unknowns," those that are unrecognizable and those which raise questions.

The memorial service for John on 30 January 05 was an appropriate and emotional affair. Over 120 people attended, and the museum was bursting at the seams to house everyone in "John's second home." President Steven Phillips led the program, and many folks shared fond memories about John.

John spent many years as the assistant curator and in 2002 became the curator when Jack Baum retired. John gave his heart and soul to the museum for 10 years with curatorial tasks and many prior years as exhibits chairman for the September show and his service on the museum board of trustees. All of his contributions were made without financial compensation from the museum. The museum board decided to honor John by placing him in the museum's Hall of Fame located on the wall leading to Kraissl Hall.

Once again the museum thanks all of the volunteers who helped with the mineral activities under John's guidance and those who assisted with the September show. The president, Steven Phillips, gets little credit for all of his many hours of backbreaking work for hauling mineral collections to the museum. Volunteerism is still alive at Franklin, and we are all fortunate that the great zinc deposits here still attract the help of those interested in helping the museum preserve the great heritage here. X

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The Franklin Mineral Museum

Evans Road/P.O. Box 54, Franklin, NJ 07416 (between Main Street and Buckwheat Road) Phone: (973) 827-3481 www.franklinmineralmuseum.com



Exhibiting by means of guided tours, Franklin-Sterling Hill mineral specimens, educational exhibits in mining methods and history, including a life-size replica of underground workings, artifacts, gemstones, zinc uses, and a 32-foot-long fluorescent display. Included in the tours is the Jensen-Welsh Memorial Hall built especially to contain the Wilfred Welsh collections of fossils, Native American relics, and worldwide minerals and rock specimens assembled for teaching purposes.

Mineral collecting on the Buckwheat Dump. Ample parking, and picnic grounds. Two special collecting areas for small children and the handicapped.

Offering for sale: minerals, fluorescent specimens, mineral sets, agate slabs, onyx carvings, UV lamps, hammers, lenses, mineral books, T-shirts, patches, postcards, and refreshments.

Franklin, New Jersey "The Fluorescent Mineral Capital of the World"

Operating Schedule: Open to the Public March - Weekends Only April 1 to December 1 Monday through Saturday: 10 AM - 4 PM Sunday: 11:30 PM - 4:30 PM Closed: Easter, July 4th, and Thanksgiving Groups by reservation, please

Separate admission fees to the Buckwheat Dump and the Mineral Museum. Admission to museum includes guided tour. Special collecting areas by appointment: additional fee charged.

The Sterling Hill Mining Museum, Inc.

30 Plant Street Ogdensburg, N.J. 07439 Museum phone: (973) 209-7212 Fax: (973) 209-8505 www.sterlinghill.org

DON'T MISS THE RAINBOW ROOM!

Featuring acres of things to see indoors, outdoors, and underground, including: Antique mining equipment displays Mining memorabilia displays Historic buildings Underground guided tours Gift Shop stocked with minerals,

books, T-shirts, caps, etc. Food concession and picnic area And much more!

On the last Sunday of each month (or other times for groups by prior arrangement), a collecting site will be open for a nominal additional fee. Contact the mine office for details.



Schedule of operation:

April 1 through November 30, 7 days a week, 10:00 A.M. to 3:00 P.M. Open March and December on weekends or by appointment, weather permitting.

In March and December, tours at 1:00 P.M. In April, May, June, September, October, and November, tours at 1:00 P.M. or by appointment. In July and August, tours at 11:00 A.M. and 1:00 P.M.

The temperature in the mine is 55°F.

News From Sterling Hill

Joe Kaiser

40 Castlewood Trail Sparta, NJ 07871

A new phase in the Sterling Hill education program begins with the completion of the Ellis Astronomical Observatory. With generous donations from Franklyn and Lavina Ellis and Robert Landmesser and the efforts of many supporters and volunteers, a gleaming white fiberglass building and rotating dome now greet those entering the property. More important are the telescopes housed inside, powerful "eyes" to study extraterrestrial geology.

Groups are starting to reserve time for viewing of planets, star systems, and other phenomena. An organization has been formed, The Sterling Hill Astronomy Group, which will be open to the public so anyone can join for a modest annual membership fee. Club membership is \$25.00 per person and \$35.00 for a family and will provide monthly viewing as well as special event observing. For further information, please contact Bill Kroth by e-mail at WKROTH8394@aol.com or telephone at (201) 933-3029 after 5:00 p.m.

The ore bins and conveyor belt system have been powerwashed inside and out. In October, the entire structure was painted with a primer and two coats of gray paint. This paint should protect the loading bins and conveyor housing from the weather for at least the next ten years.

The Sterling Hill Institute of Geosciences received a generous donation of microscopes, which are being refurbished and will be used in our laboratory. The scopes will also be used in teacher workshops. An analysis of stream sediments might

be a workshop on New Jersey's water resources. Similarly, the glass sands of southern New Jersey and the greensands of coastal areas are logical subjects for microscopic study during workshops on the economic resources of the state.

A meeting was held with representatives of Verizon Corporation about making two-way live videoconferencing a reality at Sterling Hill. This would enable live video feeds into schools and greatly expand our educational program. We expect to have a working plan in place in a few months.

John Kolic has been removing unstable rock masses on the ridge edge of the Passaic Pit to reduce dangers to the collecting public. The mineralization in this zone provides a real treat to species collectors who come out on the last Sunday of the month. Night collecting took place on the fifteenth of October for members of the Sterling Hill Mining Museum.

The museum has recently purchased the former New Jersey Zinc Company Alco S-2 diesel locomotive from the company's plant in Palmerton, Pennsylvania. Since railroad track no longer runs to Sterling Hill, arrangements are being made to transport this important artifact to the museum grounds.

The Oreck mineral exhibit has been improved with new additions and identification of items with new labels. The Hesselbacher Room in the Warren Museum has new exhibits and more labeling. Internet users can check the current status of ongoing events by visiting the Sterling Hill Mining Museum website, www.sterlinghill.org. X



This year's Miners Day celebration at the Franklin Mineral Museum feted several former New Jersey Zinc Company employees who had worked at Sterling Hill. *Mark Boyer photo.*

Miners Day and Volunteer Appreciation Day, May 1, 2005

Lee Lowell

53 Foxtail Lane Hamburg, NJ 07419

The weather didn't look promising early Sunday morning. It rained on Saturday, and Sunday morning was overcast, but around 10:00 a.m., the sun came out in full glory. The museum's special day again survived the weather as it has for many prior years. Seldom has it rained on this event over the 32 years that it has been held. All guests were treated to an excellent variety of food, drinks, and desserts arranged by museum manager Doreen Longo.

Museum president Steven Phillips acted as the master of ceremonies. Following music provided by the Franklin Band, Steven thanked the approximately 50 folks for attending. He said a few words about the contributions of the New Jersey Zinc Company miners and those who volunteered to help the museum with its projects over the past year. Steven introduced the museum staff and officers and praised the efforts of several museum volunteers. The 18 former New Jersey Zinc Co. employees who attended were asked to state their names and identify in what area they worked at the mine. All of these folks worked at the Sterling Hill Mine. One of these was John Paiva, who turned 100

years old in June. No Franklin miners were present.

Steven then introduced Dr. Tom Turner, superintendent of Franklin schools, who announced two of the local school science fair winners. Six other student winners were not mentioned since they will be given their awards at their school graduations. Steven thanked Anne Wronka for coordinating the science fair activities with the local schools and providing the award bonds.

Lee Lowell was asked to speak about the contributions of John Cianciulli and present the Hall of Fame plaque dedicated to John. Lee mentioned that John spent a major part of his life over the past 15 years volunteering his efforts as the museum's assistant curator and curator. The plaque, which contains John's photo and biographical information, was shown to those present, and Lee stated that this plaque will be mounted on the Hall of Fame wall in the museum.

Steven again thanked all for attending and asked the former New Jersey Zinc Co. folks to remain for a group photograph to be taken of them. \bigstar

Photos From the Field

Bird's-eye view of the Farber Quarry, Franklin, FOMS field trip on October 16, 2004. At the Farber digs, collectors can drive in to collect everything from thumbnail specimens to 200-pound decorative landscape rocks. Mark Boyer photo.





✓ View of Farber Quarry looking north. This site has not been commercially quarried since about 2000. Current plans are to develop a residential community here similar to Crystal Springs in Hamburg. *Mark Boyer photo.*

Collectors are dwarfed by huge mounds of broken marble. In the last few years, this particular rockpile has yielded many fine specimens of norbergite, diopside, and tremolite. *Mark Boyer photo*.



Photos From the Field



This photo taken April 23, 2005, shows the Ding Dong open pit being filled with sludge dredged from the Franklin Pond. Over 80,000 cubic yards of muck now fills the Ding Dong pit, which once resembled a bowl-shaped crater. Eric Weis photo.

Collector Christina Fulton at the Trotter dig, April 23, 2005. A Franklin collector this pretty is rarer than roeblingite. She really knows her minerals, too. Eric Weis photo.





Friends, benefactors, and volunteers of the Ellis Observatory at Sterling Hill gathered for its dedication on April 24, 2005. Left to right: Bill Kroth, Anthony Tomaselli, Derek Yoost, Gordon Powers, Lavina Ellis, Franklyn Ellis, Neil Wintringham, Dr. Warren Miller, and Bob Boymistruk. *Tema Hecht photo*.

▶ One of the collecting sites for the FOMS dig at Lime Crest Quarry, May 22, 2005. Despite being limited to the upper reaches of the quarry, collectors found a wide diversity of mineral specimens. Among the finds reported were aegirine, allanite crystals, phlogopite, fuzzy balls and tufts of dark green actinolite, spinel crystals, purple fluorite, sprays and needles of stilbite, LW cream-fluorescing calcite crystals, epidote crystal druses, stromatolites, pegmatite with a pink scapolite/ diopside mix, and sparkly, sugar-grain heulandite. *Mark Boyer photo.*





◀ This lake is what has become of Lime Crest Quarry, once a collector's paradise, now just a fond memory of the wonderful crystals of corundum, spinel, graphite, pyrite, fluorite, titanite, etc., of past field trips. The now-abandoned processing plant standing above the tranquil blue water creates a surreal, dream-like scene, like an alabaster city in the clouds. *Mark Boyer photo.*

Steve Kuitems and son, Daniel, collecting at water's edge in the Lime Crest Quarry, May 22, 2005. At this spot, Steve was working on a large wedge of marble with purple fluorite, quartz crystals, and stromatolite patterns. Collectors now would have to trade their helmets for scuba gear to collect in this spot. Mark Boyer photo.



Photos From the Field



✓ Your tax dollars at work. Unfortunately, it seems that no one at the Sussex County Historical Society fact-checked or copyedited the text of their historical marker located on North Church Road in Franklin. Correction #1: Franklinite certainly isn't a rare mineral in *these* parts. Correction #2: Dr. Fowler didn't discover franklinite. Correction #3: Franklinite does *not* fluoresce! In addition to these factual errors, the sign exhibits a general disregard for grammar, syntax, and punctuation. Sadly, this kind of carelessness spreads misinformation and turns civic pride into embarrassment. *Mark Boyer photo.*

Fred Lubbers and Joe Mercurio digging on the Buckwheat Dump, May 1, 2005. At this location throughout the Spring of 2005, Fred and several other collectors have unearthed about a dozen cuspidine-bearing rocks of various sizes. For those willing to dig and work hard, the Buckwheat Dump is still a productive collecting site. Mark Boyer photo.





One of the cuspidine specimens found by Fred Lubbers on the Buckwheat Dump, May 26, 2005. This showy specimen, with a reaction rim of willemite surrounding andradite, measures 3.75" x 2.75" (9.5 x 7 cm). Mark Boyer specimen no. 1360. Tema Hecht photo.

Geology of Double Rock Pegmatite From the Buckwheat Open Cut

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Introduction

Any mention of the Franklin and Sterling Hill mines invariably brings to mind thoughts of the exotic and fascinating mineralogy of these world-class zinc ore deposits and their equally famous host, the Franklin Marble, or of the historic mining legacy of these deposits. Rarely do the recognized, but uninspiring, granite pegmatites that intrude the Franklin Marble receive much attention. All with good reason, too. For the most part the pegmatites lack the interesting mineralogy of the ore deposits, their constituent minerals generally do not fluoresce, they are rather plainly colored, and they are of no commercial value. Yet, these pegmatites have considerable scientific value because they provide important information on the geological conditions that were occurring in the New Jersey Highlands following the regional metamorphism of the zinc ore deposits about 1030 million years ago. In addition, the pegmatites at Franklin are responsible for the formation of a considerable number of minerals along their contacts with the marble and orebody. Of the countless granite pegmatites in the Highlands, only one has merited the honor of having its name preserved in the geologic literature. This notable pegmatite is, of course, Double Rock.

Geologic Setting

Pegmatites are an especially common and abundant rock type in the New Jersey Highlands. However, confusion often arises from the fact that not all pegmatites are the same age or formed in the same manner. The oldest pegmatites in the Highlands are about 1100 million years old and predate the regional metamorphism that occurred between 1090 and 1030 million years ago. Some of these pegmatites formed from late-stage magmas related to the Byram and Lake Hopatcong granites, whereas others are migmatites that formed from melting of gneisses containing quartz and two feldspars. The rest of the pegmatites are postorogenic and undeformed; that is, they lack metamorphic foliation (parallel alignment of minerals in the rock). They are younger than 1030 million years and unquestionably postdate the time of metamorphism. Some pegmatites containing quartz + albite-oligoclase ± amphibole, biotite and rutile were formed from melting of sodium-rich gneisses of the Losee Metamorphic Suite and have an age of 1029 ± 1 million years (Volkert, 2004a). Pegmatites associated with the 1020 ± 4 million-year-old Mount Eve Granite (Drake et al., 1991) are younger still and have an age of 1004 ± 3 million years (R.E. Zartman and P.B. Moore, unpublished data).

The youngest postorogenic pegmatites in the Highlands are <1000 million years old, and it is in this group that Double Rock belongs. These pegmatites occur as tabular veins or dikes, or as small irregular bodies that are undeformed and cut across earlier-formed metamorphic foliation and folds in older Precambrian rocks. Locally they contain xenoliths (inclusions of older country rock). They have sharp contacts and lack any evidence of chilled margins, suggesting that temperatures were roughly similar between pegmatite and country rock during intrusion. Postorogenic pegmatites typically are unzoned, are mineralogically simple (microcline + oligoclase + quartz or albite-oligoclase + quartz) and have the composition of alaskite (granite with <5% mafic minerals). Mafic minerals, where present, consist of amphibole (hastingsite) in pegmatites intruding granites and gneisses and clinopyroxene (hedenbergite) ± titanite in pegmatites intruding marble. Postorogenic pegmatites throughout the New Jersey Highlands commonly contain magnetite $\pm U \pm Th \pm rare$ earth element (REE) silicate and oxide phases (Volkert, 2004b).

Double Rock Pegmatite: Description and mineralogy

A large pegmatite body at Franklin known as Double Rock (Palache, 1935) intruded the west limb of the zinc ore deposit (Fig. 1) where exposed in the Buckwheat open cut glory hole that eliminated the pre-existing Taylor mine. The exact location is 122 m south of the Trotter Shaft at mine coordinates 1697S-1747S and approximately 800W-850W (Dunn, 1995). A review of the historical literature provides little clue as to the person(s) responsible for naming Double Rock or even the year in which it was named. It has been speculated by Jack Baum and John Cianciulli that the name was introduced informally by miners in reference to the fact that the west limb of the orebody was split in two by the intrusion of this pegmatite body. The year in which this name was introduced is unknown, but the name Double Rock is written on a photograph of the pegmatite dated 1905, from the archives of the Franklin Mineral Museum (Fig. 2). The first mention of the name Double Rock in the geologic literature is by Palache (1935). Ries and Bowen (1922), in an obvious reference to Double Rock, described an unnamed pegmatite approximately 91 m long and 30 m wide along the west limb of the orebody and north of the large mafic dike. The dip of this pegmatite was nearly vertical (Frondel and Baum, 1974).

Double Rock as currently exposed is predominantly white to pale pink in color, although microcline was reported by Frondel and Baum (1974) to be locally colored green toward its contact with the ore (Venuto, 1953 as reported in Dunn, 1995). Texturally, the pegmatite ranges from medium- to



Figure 1. Generalized geologic map of the Franklin mine showing the location of Double Rock. Modified from Spencer et al. (1908).

very coarse-grained (Fig. 3), and Frondel and Baum (1974) describe crystals of microcline that were as much as 12.8 cm across. Double Rock is composed of microcline, plagioclase, quartz, and less abundant allanite, magnetite, biotite, titanite, zircon, and thorite (Frondel and Baum, 1974). The current exposure contains plagioclase in excess of microcline and locally contains large allanite crystals (Fig. 4). Where in direct contact with the marble, pegmatites at Franklin that intrude the west limb of the orebody contain a border of pyroxene, scapolite, garnet, and epidote, and where in contact with ore they contain a border of rhodonite, garnet, and willemite that is uncharacteristically red (Frondel and Baum, 1974). Spencer et al. (1908) and Ries and Bowen (1922) reported the assemblage rhodonite, hardystonite, leucophoenicite, jeffersonite, gahnite, and garnet along the contact between pegmatite and ore.



Figure 2. Photograph of Double Rock taken in 1905, from the archives of the Franklin Mineral Museum. Note the man standing at the base for scale.

Age

Double Rock pegmatite is undeformed, cuts across both the ore deposit and foliation in the marble, and contains xenoliths of foliated gneiss, providing compelling evidence for an age younger than the marble and the ore deposit. Further proof comes from the fact that Double Rock contains fragments of zinc ore (Frondel and Baum, 1974), as well as of the underlying Furnace magnetite bed (Frondel, 1972). Because the ore deposit is metamorphosed and, therefore, older than 1030 million years, the field relationships provide a rough upper limit for the age of the pegmatites at Franklin.

In order to obtain a more precise age of the timing of pegmatite intrusion, a single, moderately elongate, prismatic crystal of clear to milky zircon measuring approximately 2 mm



Figure 3. Current exposure of medium- to very-coarse-grained, undeformed Double Rock pegmatite in the Buckwheat open cut. Hammer is 28 cm long. *Photo by Rich Volkert*.



Figure 4. Allanite crystals in Double Rock pegmatite from the Buckwheat open cut. Top key is 7 cm long. *Photo by Rich Volkert*.

in length and 0.5 mm in width was removed from Double Rock pegmatite by P.B. Moore and broken into fragments. Four of the clearest, abraded pieces were then chosen by R.E. Zartman for individual thermal ionization mass spectrometry (TIMS) analysis. The analytical results are reported at 95% confidence limits. The calculated age, which was derived from multiple analyses, was plotted on a concordia diagram and yielded a four-point regression age of 986 \pm 4 Ma, which is accepted as the age of Double Rock pegmatite (R.E. Zartman and P.B. Moore, unpublished data).

Geochemistry

Postorogenic pegmatites in the Franklin-Sterling Hill area, as well as regionally in the New Jersey Highlands, have highly

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evolved geochemical compositions that consist of 75 to 79 wt. % SiO₂, 11 to 14 wt. % Al₂O₃, 6 to 11 wt. % K₂O+Na₂O, and typically low amounts of TiO₂, CaO, MgO, and P₂O₅. Potassium-rich pegmatites plot as alkali feldspar granite and sodium-rich pegmatites as tonalite on various granite classification diagrams. Samples of Double Rock pegmatite were collected in August 2003 by R.A. Volkert for major and selected trace element geochemical analysis using inductively coupled plasma optical emission spectrometry (ICP-OES). The results are given in Table 1. Although rare earth element data are lacking, the abundance of allanite in Double Rock suggests that it contains locally high concentrations of light REE, particularly cerium, and the low yttrium implies low amounts of heavy REE.

Table 1. Geochemical composition of Double Rock pegmatite

Weight percent oxide		Parts per million	
SiO ₂	77.27	Ba	172
TiO ₂	0.01	Rb	28
Al ₂ O ₃	13.77	Sr	289
Fe ₂ O ₃ ^t	0.43	Y	16
MnO	0.00	Nb	<5
MgO	0.00	Zr	136
CaO	2.09	U	<5
Na ₂ O	5.32	Th	<5
K ₂ O	1,11		
P ₂ O ₅	0.00		
Total	100.00		

Preliminary geochemical work on Double Rock and the rest of the postorogenic pegmatites in the New Jersey Highlands indicates that they are geochemically diverse despite sharing a similar age. Furthermore, they are geochemically unlike the Byram and Lake Hopatcong granites or the Mount Eve Granite. Chemical diversity may be due to partial melting of different source rocks, different amounts of partial melting, effects of crystal fractionation during cooling, or contamination by assimilation of country rocks during magma transport and emplacement. Postorogenic pegmatites are the subject of a study in progress that will help differentiate among these various possibilities and provide important information on the geologic conditions in the Highlands during their formation.

Origin of Double Rock

The tectonic setting about 1100 million years ago in the New Jersey Highlands was compressional and involved the collision of the proto-eastern North American (Laurentian) and Amazonian continental plates. This collision produced double thickening of the crust and metamorphosed most of the rocks currently exposed in the Highlands under conditions of upper amphibolite to granulite facies at 1090 to 1030 million years ago. Most tectonic models call for the gravitational collapse of thermally weakened and overthickened crust following continent-continent collision, resulting in postcollisional extension (e.g., Kusky, 1993). Postorogenic magmatism in the Highlands occurred under similar conditions through heating and localized melting of the crust due to extension following collisional crustal thickening. Small volumes of undeformed coarse-grained granite like the Mount Eve Granite and discordant pegmatites like Double Rock were intruded into the older Precambrian rocks between 1004 and about 940 million years ago, well past the metamorphic thermal peak. U-Pb dating of uraniferous mineral phases from magnetite deposits near Ringwood yields an age of 975 ± 2 Ma (Grauch and Ludwig, 1980), in close agreement with the time of postorogenic pegmatite emplacement, strongly suggesting a petrogenetic relationship. Thus, it appears a second, smaller metallogenic event occurred in the Highlands between 990 and 940 million years ago that was responsible for producing subeconomic to small economic deposits of magnetite $\pm U \pm Th \pm REE$. We now know that Double Rock was emplaced during this time, and many of the interesting alteration and secondary minerals at Franklin very likely were formed then as well. There is no question that as time goes on the unique zinc deposits at Franklin and Sterling Hill will continue to give up their secrets.

Acknowledgements

We are grateful to Steven and Reginald Phillips of F&R Associates, LLC for access to the Buckwheat open cut, and to Lee Lowell for assistance in collecting samples of Double Rock. Fred Young and the late John Cianciulli are thanked for suggesting this article. Earl Verbeek provided a thorough and helpful review of the manuscript.

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\$5000.00, paid in U.S. currency or materials, includes:

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- Copy of Dr. Pete Dunn's "The Story of Franklin and Sterling Hill"

Collecting passes are not valid for special collecting events. Membership cards or benefits will not be reissued if lost or misplaced. Benefits and events subject to change.

Sterling Hill Mining Museum Foundation

30 Plant Street Ogdensburg, NJ 07439-1126 Phone: 973-209-7212 Fax: 973-209-8505 Web: www.sterlinghill.org

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Upon Furthur Reflection ... A Correction to "Wollastonite From Franklin, New Jersey"

Richard C. Bostwick

600 W. 111th St., Apt. 11B New York, NY 10025

In the article "Wollastonite From Franklin, New Jersey" in the Fall 2004 *Picking Table*, Figure 16 on page 21 is captioned, "This magnificent Second-Find wollastonite specimen features layers of calcite and hardystonite. Ownership and size unknown." This specimen is in fact the Lawson Bauer "Second-Find" wollastonite described on page 20, paragraph 2, as the only located Second-Find piece, from 290 pillar, 1000 level. That description includes the ownership (National Museum of Natural History) and size (approximately 6" × 4.5" [15 × 11.5 cm]) of the specimen, and states "Esthetically this is a remarkable specimen, and unfortunately it has not been photographed." The esthetic judgment stands, and happily the image and the description can now be connected to the same specimen.

The image in Fig. 16 was scanned from a Henry Van Lenten

35mm slide found in the Franklin Mineral Museum archives by *Picking Table* managing editor Mark Boyer. The slide included no information about the specimen, just the rubber-stamped name of the photographer. The slide was discovered when the article was in its final stages of editing and the accompanying photos had already been selected, but Mark, editor Earl Verbeek, and the author agreed that the image and the specimen were both remarkable and should be included in the wollastonite article. Although the author had seen, and taken notes on, the Bauer specimen in 1978, he failed to recognize it as the specimen in the image. Subsequent to the article's publication, the author gradually made the connection between the description on page 20 and the image on page 21. That connection was confirmed by Dr. Pete J. Dunn in a letter dated June 1, 2005, written in response to a pertinent question from the author.

34TH ANNUAL NEW JERSEY EARTH SCIENCE ASSOCIATION GEM & MINERAL SHOW with OUTDOOR SWAP

SATURDAY, APRIL 29, 2006, 9:00 A.M. TO 5:00 P.M. SUNDAY, APRIL 30, 2006, 10:00 A.M. TO 5:00 P.M.

FRANKLIN SCHOOL, FRANKLIN, N.J. WASHINGTON AVE. OFF BUCKWHEAT ROAD

DONATION: \$5.00 per person; children under 14 FREE with paying adult

A collaborative effort by the Franklin-Ogdensburg Mineralogical Society, the New Jersey Earth Science Association, and the Sterling Hill Mining Museum, all nonprofit organizations.

For general information: Sterling Hill Mining Museum (973) 209-7212 Dealer information: Russell Brarens (732) 469-1047

Trotter Dump – Buckwheat Dump – Sterling Hill **TRIPLE DIGGG!!!** April 29 & 30, 2006

Along with the 34th Annual NJESA Gem & Mineral Show!

The Delaware Valley Earth Science Society (DVESS) and the North East Field Trip Alliance (NEFTA), in cooperation with the Franklin Mineral Museum and Sterling Hill Mining Museum, invite you to share a unique collecting experience. This field trip has attracted dedicated collectors from across the globe. Be one of them this year! Read the following terms, and then contact the coordinator below to reserve your spot.

TROTTER MINERAL DUMP

Saturday • April 29th Facilities fee: \$20 Daylight Hours: 9 AM to 7 PM Night Hours: 7:30 PM to 11 PM Daylight pound rate: \$1.50/pound Nightlight pound rate: \$3/pound

Provided:

- Running water
- Restroom facilities
- Darkroom for admiring your fluorescent minerals
- Electricity (in darkroom)
- Offroad parking area

No one under 9 years old will be permitted on the site.

BUCKWHEAT DUMP

Saturday • April 29th Facilities fee: included in Trotter fee Daylight Hours: 10 AM to 4 PM (NO night dig) Daylight pound rate: \$1.50/pound **Provided:**

Restroom facilities

- Darkroom for admiring your fluorescent minerals
- Electricity
- Offroad parking area
 Children MUST be accompanied by an adult.

STERLING HILL

Sunday • April 30th Facilities fee: \$10

The \$10 fee will be collected onsite by the Sterling Hill Mining Museum at time of first entry (bring cash!) and will be credited against poundage fee. Daylight Hours: 9 AM to 3 PM

(NO night dig)

Daylight pound rate: \$1.50/pound

Provided:

- Restroom facilities
- Electricity (in darkroom)
- Offroad parking area
- Darkroom for admiring your fluorescent minerals

No one under 13 years old will be permitted on the site.

PLEASE NOTE: EACH OF THE THREE SITES IS OPERATED BY A DIFFERENT ORGANIZATION, SO THERE ARE DIFFERENT FACILITIES, FEES, RULES, ETC. FOR EACH SITE, AS SHOWN ABOVE. IN ADDITION, THERE ARE RULES AND REQUIREMENTS THAT ARE COMMON TO ALL THREE SITES AND TO THE "DIG" IN GENERAL. THESE ARE BELOW:

- Tools and UV lights will be available for purchase at the Franklin Mineral Museum and the Sterling Hill Mining Museum. Both Trotter and Buckwheat Dumps will have excavation/turnover of fresh NEW soil areas.
- Attendance is by advance reservation. Sign up early! See below for details and visit the information page on the website for details on registering online at www.UVworld.org. We MUST have at least 100 people. This event is RAIN OR SHINE, so come prepared!
- Local hotels/motels fill up quickly, so if you are staying in the area overnight, be sure to reserve early.
- All collectors must carry liability insurance that covers damage to the property, such as the insurance offered by

the EFMLS to its affiliate clubs. Your club must cosponsor the activity in order to be covered by Federation policies. If you have no other means of insurance, you may join the DVESS to get it. Proof of personal liability is acceptable. Collectors enter any site at their own risk and must sign a hold-harmless liability waiver when registering.

- Standard Federation safety rules apply–safety goggles and durable footwear are mandatory (no sneakers or sandals).
 Work gloves are strongly recommended. PLEASE note the age requirement at each site!
- All guests at Trotter/Buckwheat sites receive a \$1 discount coupon for a tour of the Sterling Hill Mining Museum (good only on Sunday, April 30th).

TO REGISTER BY MAIL, SEND \$20 PER COLLECTOR, MADE OUT TO DVESS, TO:

Jeff Winkler, 55 White Way, Pompton Lakes, NJ 07442 E-mail: TripMaster@UVworld.org Phone: (973) 835-2582

The Kemble Family and William I. J. Kemble, a Long-Term Mineral Collector at Franklin and Sterling Hill

Pete J. Dunn

Mineral Sciences Smithsonian Institution P.O. Box 37012 Washington, DC 20013-7012

Garret Kemble, the Kemble Family, and Its Household

The Kemble family lived between the Franklin and Sterling Hill orebodies on Cork Hill Road in Franklin. The position of the family farm is shown on a map published by Dunn (2003; Volume 2, page 260), labeled "Kimble Farm," as in the original version. Garrett Kemble was born about 1794, and he was the family patriarch at the time the Franklin and Sterling Hill orebodies were opened. He was a farmer and a mineral collector, and two of his sons, Michael R. Kemble and William I. J. Kemble, played roles in the local mining history.

In the early years there were no hotels in Franklin. Visitors were hosted by local farmers, probably pleased with extra income, current news, and evenings of presumably interesting conversation. Garret Kemble's home was one of these informal overnight destinations.

Garrett Kemble stated in testimony, "I have become familiar with the minerals found on [Mine Hill] and have been on it frequently. I have become familiar with the minerals found on it. I have got minerals there. I have collected minerals for a cabinet, and some of them are from there. I have had intercourse with scientific men in reference to the minerals on Mine Hill; with Dr. Fowler first, and Professor Nuttall from England, Vaux of Philadelphia, Alger of Boston, and Dr. Jackson and others. All of them came to my house, to see the cabinet, to hunt minerals, and some of them staid with me. Mr. Nuttall was half the time at my house and Dr. Fowler's for a whole summer season. I assisted them in collecting minerals.... When I have been looking for specimens on these hills, I was looking for cabinet specimens. I never looked for the ores."

The visits of Nuttall and Jackson probably date to the early and mid-1820s. Francis Alger of Boston visited Franklin about 15 times, beginning in 1845 and continuing into the 1860s. This innkeeper activity assured that Garrett Kemble's offspring grew up in an intellectually enlightened environment with some of the best minds in mineralogy sojourning with the family from time to time. Michael R. Kemble, and especially William Kemble, thus came to learn of minerals and mineralogy from their father and distinguished visitors.

Michael R. Kemble

Unlike his younger brother William, Michael Kemble does not play a large role in Franklin and Sterling Hill's mining history. He was born about 1819, was an attorney, and practiced in Franklin and Hamburg. With regard to his mining experience, he stated, "I have had the supervision of the men working in the New Jersey Zinc Mine in 1849, and awhile, I think, in 1852, at Sterling Hill. I think I took charge of it in 1852, last of February or first of March, and continued till July or August. I was a licensed attorney at that time, but not practicing."

Michael Kemble also was a mineral collector. "I have gathered minerals frequently, for cabinet specimens first, and afterwards for specimens of ore. I gathered a cabinet for myself, and gathered at the same time minerals for exchange.... By [the term] a 'snug specimen,' what I meant by it is, that it is a specimen well selected, and well calculated

to stand in a cabinet to represent that kind of ore."

The available records show that Michael Kemble had been very active in the buying, selling, and leasing of zinc and franklinite mineral rights in the mid-1850s. He sold some mineral rights to the Tri-Union Company and the Sussex County Zinc and Iron Company (Dunn, 2003, Volume 2, pages 262-263), and repurchased them in 1863 from the same firms. These mineral rights were to lands comprising 1,397 acres in Sparta, Byram, Green, Newton, Hardyston, and Vernon Townships, and also to other lands. None apparently had any relation to the zinc deposits at Franklin and Sterling Hill.

It was not difficult to sell franklinite or zinc mineral rights in the 1850s; it was a seller's market! Michael Kemble did overreach, though, in selling rights at such a distance from the zinc orebodies. His ultimate act of chutzpah, however, was his 1854 sale to the Sparta Iron Company of:

- 1. One half of all zinc, franklinite, and other ores in a 200acre lot in Byram Township
- 2. All the zinc and franklinite in a 58-acre lot in Byram Township
- 3. All the zinc and franklinite in a 600-acre lot in Newton and Byram Townships
- 4. All the zinc and franklinite in 1,200 acres of land owned by John Humphries on Allamuchy Mountain.

None of the above properties is known or was known to contain franklinite or zinc ores. The Sparta Iron Company, having acquired some probably useless mineral rights, was not heard from again.

William I. J. Kemble

William I. J. Kemble was a remarkable, long-term mining foreman or superintendent at both Franklin and Sterling Hill. He was born about 1822, developed an interest in minerals as a young boy, and lived most of his life near Cork Hill Road between Franklin and Sterling Hill. He bore an uncommon burden in that his name was very often misspelled or given incorrectly, and his middle initials were often reversed. The literature thus presents him under sometimes confusing names, to a greater extent than any other local mining figure.

William Kemble as a Mining Foreman and Superintendent

William Kemble worked for more mining companies and independent operators than any other local mining person. He was widely known for his skills and presumably for his discretion as well, inasmuch as he moved freely among competing firms. His earliest exposure to commercial mining, as opposed to mineral collecting, was probably with Dr. Fowler's operation of his Franklin Furnace Company.

His exposure is documented by his testimony in 1877 with respect to William Ames's efforts during his operation of the Franklin furnace between 1836 and 1847: "I know Bill Ames, in his working in the blast-furnace there, tried [franklinite] several times, and got a salamander. [Previously] Witherill and Ames attempted to work some [ore from the west limb on Mine Hill]...they got a little north of the Ding Dong ... the Ding Dong was not there then.... [They attempted to make] iron [of it] ... about 1840 [Witherill and Ames] might have taken away eight, ten, or fifteen tons [of ore] ... and treated it in a little old furnace, the Potts furnace. [The experiment was not successful]; they got a chill of the furnace."

William Kemble was also familiar with the early activities of George Ballou, an associate of Dr. Samuel Fowler: "*The most knowledge I had [on obtaining zinc from the ores] was obtained ... under George J. Ballou; that was previous to 1848.*

"He had several forms [of equipment]. One was similar to what they have working at Bethlehem now — quite like it.... The retort, through two upright walls, the furnace with the retort running through them horizontally.

"We had various ways. Another was a furnace like a cupola furnace, and the zinc [ore] put in at the top, going beneath and above. It [zinc] is taken through something like a still, and in water. That was surrounded by a box, water-tight, and filled with water. Then from that it passed out into two large iron kettles that were covered over tight.

"Next, I think, it went out with a pipe immersed in water, and in that process I have seen them before now get possibly a little metallic — about a button of it — of oxide in each of the processes. That was the first I knew of a sack used over the end of the pipe to catch the oxide and taken out of water.

"[We used] Sterling Hill ore. We took the ore in all cases, pulverized it veryfine and separated it with magnets at Franklin Furnace. We roasted the ore first to make it magnetic.... We used magnets on a little cylinder revolving like a brush to brush it off. The franklinite adhered to it and was brushed off on one side, and the red oxide went on another.

"The franklinite [Ballou] did not use, and the red oxide he did use.... All the silicate that was left in was treated, but there was but a very little left in.... I think it was in 1839 or 1840, or somewhere in that time [that Ballou reduced the ore]."

Kemble first worked zinc ore for the Sussex Zinc and Copper Mining and Manufacturing Company in its 1848 exploration at Franklin.

LETTER FROM JAMES L. CURTIS

New York April 28, 1848 Mr. W. J. I. Kimble [sic] Franklin, N.J.

Dear Sir:

This will be handed to you by Major Alexander C. Farrington, a geologist, in the employ of the Sussex Company. The Major goes to Franklin for the purpose of making a mineral survey of our mineral lands, and also to give directions about the workings. Have the kindness to show him the workings on Mine Hill, and it is important to make the opening exhibit the true width of the veins. The company will want you to continue in their employ.

With regard to his early mining at Franklin, Kemble said he first tunneled just south of the Ding Dong, the Little Tunnel, and then mined just south of Hamburg road. He and a crew also mined at the Weights and Measures Opening. All the ore was sent to Woodport.

Kemble stated, "It was loaded on the canal boat; I saw it loaded; then it went to New York, on the Hudson River, one of the docks; I don't remember the dock, and it was taken to Elm and Reade Street.... I hired the cart; saw them unload from the boat, and also dumped at Elm and Reade; I think it was on the corner.... It was an iron foundry of some kind.... [the ore] was crushed and tried in experimental furnaces.

"I was there [when they did the work] ... I saw it.... It was crushed, and they sieved it to get as fine as they could to put in the furnace.... It was crushed or stamped, one or the other; and then it was sieved to get the finest, and then the other worked over to get the finer, and in that way it was put in the furnace, mixed with charcoal.... [They attempted] to make spelter.... They did not [succeed]."

In another testimony by Kemble, he stated, "[In December 1850, on the east vein at Mine Hill Farm], I took three or four men, made a cross-cut across the vein, in the field called the Buckwheat Field, probably about a rod and a half [25 feet] from the fence. I think [the width of the vein] was about thirty five feet; the ore was franklinite.... I think I made [another cross-cut] a little north of it at the same time, but I am not positive that we crossed to the walls of the vein at the last opening. It was [done] merely to see whether [the ore] extended there."

He then worked for the New Jersey Exploring and Mining Company at Sterling Hill in the winter of 1850 and in 1851. "In 1850, I mined a large piece [of Sterling Hill ore] that went to London.... I think it weighed, as I remember now, nine tons, between eight and nine, sure." See discussion in Dunn, 2002, Volume 2, pages 164-167.

The New Jersey Exploring and Mining Company engaged in experimental work smelting the ores in Newark in 1849, and Kemble worked there as well, assisting Alexander Farrington. "In 1849, I did some work for Farrington…. It was done in Newark at High Street, at Renton's place, and they owe me for that yet. I think I was there nearly a month, in March, I think it was.

"The work there was done around the furnace, what might occur to be done: keeping a fire or putting coal in; or if a place broke loose in the furnace so the gas came out, to fix it up, and various places around the experimental furnaces that they had there, a zinc furnace I think it was.

"They tried to make spelter of [the ore], I think, in one instance, and then to make the oxide, or to catch the oxide.... [Farrington] was there, but who had the general charge I could not tell you. I know of a man of the name of Hitz, a German, was there also I think. I remember his name." The company was renamed the New Jersey Zinc Company, and Kemble stayed on for an indefinite period.

Kemble then worked as a mining superintendent for the New Jersey Franklinite Company in 1854. "[The opening called the New Opening or Southwest Opening was originally made] by myself and a few miners. I directed it. There was no [prior] opening made. I made the first; broke the ground. This was January 9, 1855."

The New Jersey Franklinite Company made private arrangements with Farrington in 1856-1857 to make zinc oxide near the pond in Franklin, and Kemble managed that process as well. "[In 1857], the operation of [Major Alexander Farrington] was in mining the ore, roasting the zinc or driving it out of it, in small ovens that we had for the purpose, and then collecting the paint or the oxide.... I was [Farrington's] superintendent at the time. My duties were to see to the mining and the roasting part of it. I kept the time of the laborers, and also saw to the crushing [of] the ore, and weighing it; also looked after and saw to the barreling up of the zinc [oxide].... I should think there were nearly or about a hundred tons of the oxide produced."

William Kemble's next superintendence was at the Noble Mine on Sterling Hill, and it led to more action than he bargained for. Kemble stated, "... I commenced to work for John Noble [in 1863], at lot #10.... I think it was in the fall of 1867 or 1868 that we quit.... It was either three or four years; it might have been five years [that I worked]. He paid me, I think, \$700 a year."

There was a dispute as to the ownership of the mineral rights

to this mine. Timothy Marshall, employed by the Passaic Mining and Manufacturing Company as its mining superintendent on the adjacent lot #9, had loyalties to William Squier, one of the disputing parties, and he acted on Squier's behalf.

The following affidavit was given by John Noble. "One William I. J. Kemble was the foreman at said mine, having the direction of operations there. And [I am] informed by said William I. J. Kemble and believe it to be true that on the twenty-sixth day of February last [1864], at about half past six in the morning, one Timothy Marshall came with nine other men and threw out said Kemble out of said mine — threw out all of [my] tools, barrows, and mining implements and trucks, and carted away a large quantity of ore which [my] laborers had accumulated on the bank of said mine, to be transported to [my] works at Trenton. And took forcible and complete possession of said mine. And... Marshall and his men [have] forcibly resisted every effort of [mine]....

"And [I] say that having been advised of these violent proceedings, [I] came to said mine on the twenty-seventh day of February last [1864], and directed [my] men to take possession of said mine, and put back [my] barrows, tools, and implements, but while [my] men were so engaged, or immediately thereafter, the said Timothy Marshall came on said premises notwithstanding the efforts of [me] to keep him off, brushed violently by [me], and with even ten or more men again removed [my] property from said mine, and on being warned by [me] to desist, told [me] that he intended to obey the orders of Jewett, Squier, and Aitken.

"[I] could not resist the force which accompanied said Marshall, and could not keep possession of the mine... and was obliged to leave the mine in the possession of said Marshall...." (Discussion in Dunn, 2003, Volume 4, pages 515-516).

William Kemble went on to work for Edwin Wilson of the Bristol Franklinite Company at Mine Hill in Franklin in 1873. "[The mining was carried on] by a fellow by the name of Wilson.... I worked for him... four or five days.... We were enjoined [by the court], is the reason we stopped."

This mining also resulted in a dispute, as told by John George, superintendent of the New Jersey Zinc Company: "On the 14th day of November [1873], one William I. J. Kemble..., with a body of workmen came to Mine Hill, and, at or near a place in the vein or deposit called Greer's Opening, commenced operations with a view to remove ore at that place, being zinc ore belonging to the [New Jersey Zinc Company]....

"[I] remonstrated with the said Kemble, and forbade him to continue his operations. [I was] acting in the premises for the [New Jersey Zinc Company]; but that the said Kemble insisted, and, that in consequence, after advising with the officers of the [New Jersey Zinc Company, on] November 17th, [I], with some of the workmen in the employ of the [New Jersey Zinc Company], resisted the attempt of the said Kemble, and those under him, to continue their operations.

"The said Kemble, with the persons employed by him, left, but on November 19th instant, he returned with a body of men in numbers sufficient to overcome the resistance of [my men], and that by force he continued his operations; and... he announced his intentions to proceed to remove large quantities of the ore from said vein or deposit in defiance of the rights of the [New Jersey Zinc Company]."

The New Jersey Zinc Company sued William Kemble and the Bristol Franklinite Company, but there was no resolution of the matter. The Bristol Company, a Pennsylvania company, just defaulted and left Franklin. By doing so, the company left William Kemble, named as the primary defendant, liable for all the damages.

Before the final decree, knowing it had won by default, the New Jersey Zinc Company waived its request for a financial accounting of the ores taken, but, by the decree and tradition, the company's legal expenses had to be paid by the losing party. Accordingly, these costs, \$163.50, were charged to William I. J. Kemble. Kemble was a mining foreman at best and not a man of great financial means. He delayed paying the costs again and again, in spite of a good many entreaties by the local sheriff.

Finally, as required by law, the sheriff confiscated William Kemble's possessions. These included two horses, ten cows, four head of young cattle, one wagon, one horse wagon, one sewing machine, one gun, one churn, one lot of rag carpet, five chairs, one saw, one looking-glass, three pictures, one bedstead, bed and bedding, one stand, one lot of flowers, one candle, two hives of bees, six milk pans, one grindstone, one small cider press, a rubber hose, one grain cradle, one wheelbarrow, other items, and Kemble's interest and title in a farm near the furnace. This list is noteworthy in that it offers an insight into the home and possessions of a Franklin mining foreman in the mid-1870s. This confiscation had the desired effect, and Kemble paid \$163.50 on October 23, 1875, eighteen months late.

Charles W. Trotter, in April of 1874, started to mine zinc ore on lot #10 at Sterling Hill, and hired William Kemble as his mining superintendent. According to Kemble, "[In July, 1874], I superintended driving a tunnel in for Mr. Trotter on lot #10, some 505 feet. I have been engaged up to the present time, and I am under his employ yet. [I] worked for them there on lot #10, and after the injunction was served on him, we worked taking away the ore, and since that we are working extending the railroad switch and are at it yet."

A dispute had arisen with John Silsby, and Kemble was forced by legal injunction to stop mining. This part of the story was told by Russell (1993) and by Dunn (2003, Volume 4, pages 531-569).

Kemble as a Mineral Collector

William Kemble had a lifelong interest in mineral collecting. He was active from age 15 to at least 77, when he was providing testimony about mining operations, and his collecting activities probably extended into his advanced years. He died in 1915 at about 93 years of age. The statements below concerning the mineral-collecting side of his life are taken from numerous, separate depositions or testimonies during his career.

"I have been in Mine Hill time and again with Dr. Fowler in the early days, and I was also in 1836 or 1837 with Professor Nuttall. [I was in 1836] about fifteen years old."

"I was oftentimes with him [Dr. Fowler] on the hill collecting specimens, minerals of different kinds from the hills, and these things would come in their way, and, like all boys that want to learn anything, I tried to learn what those things were, and he gave me the names of all those minerals that were there. He was a man that collected a great many specimens and had a very nice cabinet.

"[In 1837], I was collecting some minerals for myself and some for sale.... I have sold minerals to William Vaux, of Philadelphia, and to a man of the name of Clay; I could not tell you his first name. I have also sold to Frank Alger and other parties whom I do not remember now."

Upon being asked how he acquired his mineralogical knowledge, Kemble responded: "In 1839, I was with Prof. Nuttall on the hill, and spent most of the summer season with him, and received all the instruction I could. Since then, [I learned] by reading and collecting minerals, and being with other professional men at different times from that time until the present.... I have been there with Olmstead; Prof. Hall I was with once; with Vaux, of Philadelphia; and Algers, and Dr. Kitchell. There have been others passing through I have been with, but I don't remember their names. Prof. Blake I was with. I have been with Al. C. Farrington on both hills a great many times, and I have been with all the others on both hills....

"I have [been collecting specimens of the ores and minerals found in that vicinity for sale and exchange] since the year 1839.... I selected the minerals for the New Jersey Zinc Company, to send to the World's Fair at London....

"[Franklinite] was on the Passaic side of the old franklinite opening where they used to mine for franklinite specimens these mineral hunters.... Just south of the boundary line of the New Jersey and Passaic property ... that was in a franklinite cut where people mined to get specimens. The work that was done there was principally to get franklinite specimens.... It was where Alger had done some mining prior to 1848."

In 1857 testimony, he stated that he had been "engaged in collecting minerals for [my] own cabinet and for exchanging

with others for upwards of twenty years, and [had] a familiar knowledge of the lithological appearance and characteristics of all minerals found upon Mine Hill, and also upon Sterling Hill. I have a collection of the minerals of that vicinity and other localities...."

Dr. Charles Palache, in his elegant 1935 monograph, noted that "The collection of Mr. W. J. I. [sic] Kemble, at Newton, N.J., was also interesting, particularly for its personal associations. It was rich in series of the earlier mineral discoveries, and as Mr. Kemble's memories of Franklin reached back to the days when its mineral treasures were first being brought to light, and as many of his specimens had been collected on trips with visiting mineralogists of that earlier period, much valuable information was gained from study of this collection with its owner. The collection was dispersed after Mr. Kemble's death in 1915."

References

Dunn, P. J. (2002-2005) *Mine Hill in Franklin and Sterling Hill in Ogdensburg, Sussex County, New Jersey: Mining History, 1765-1900.* Published by the author at 7821 Fort Hunt Rd., Alexandria, VA 22308.

Russell, D.E. (1993) The Trotter Tunnel at Sterling Hill: Its Construction and Litigation. *The Picking Table*, 34, (1): 19-29.

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Grünerite From Franklin, New Jersey

John Cianciulli, Curator[†]

Franklin Mineral Museum, Inc. 32 Evans Street Franklin, NJ 07416

Introduction

Grünerite, $Fe_7^{2+}[Si_8O_{22}](OH)_2$, an amphibole-group mineral, has been confirmed from Franklin, New Jersey, which adds one more species to the Franklin-Sterling Hill species list.

In May of 2004, John Bauer, son of New Jersey Zinc Company chemist Lawson H. Bauer, brought in a box containing 50 or so rocks from his personal collection for the author to examine. Among those samples there was a rusty-looking rock with a lighter color (pale yellow-green) fibrous mineral. The author recognized it as material he had seen and collected many years ago. The author once took a photomicrograph of a specimen that he had self-collected in the early 1970s. The present whereabouts of that specimen is unknown, but the photo still exists (Fig. 1). John Bauer stated that he had acquired his specimen from Nick Zipco "some years ago."

This material was collected in the early 1970s on the Trotter Dump near the beginning (north side) of the path



Figure 1. Photomicrograph of a specimen of grünerite from Franklin collected in the 1970s. John Cianciulli photo.

†Deceased.

that follows the west rim of the Buckwheat open pit. The late "Old Joe" Hines, a collector of micromounts, discovered what appeared to be weathered iron-stained pegmatite that produced minute but well-formed gypsum crystals on rustylooking crack surfaces. The tiny clusters of gypsum crystals are quite fragile and can easily be blown off of the specimen. The fibrous nature of the grünerite is most evident on freshly broken surfaces. "Old Joe" kept some of this material, as did the author and Nick Zipco.

Analysis

The dimensions of the studied specimen are $4'' \times 2.5'' \times 0.75''$ ($10 \times 6 \times 2$ cm). The predominant mineral in the specimen is an amphibole that occurs as distinct feathery to flat spherical aggregates up to 3/8'' (1 cm) of pale yellow to green fine needles with a vitreous luster. The aggregates resemble anthophyllite. Sparsely scattered throughout the specimen are irregularly shaped iron-stained quartz grains. The surface of the specimen is covered with rusty-looking goethite except where there are fresh breaks. The goethite appears to be the product of weathered pyrite. Several goethite pseudomorphs (after pyrite crystals) were observed in the specimen.

A sample was analyzed with a SCINTAG XDS 2000 X-ray powder diffractometer @ 45kV - 40 mA and search-match software. Results show the diffraction data are a match for grünerite. Other similar amphiboles were compared to the data and methodically ruled out. Several crystals were examined using a Philips 525-M Scanning Electron Microscope with an EDAX Super Ultra Thin Window Energy Dispersive Spectroscopy CDU detector. The microprobe analysis found substantial FeO (39.24%) and SiO₂ (47.06%) and also found small amounts of Zn (2.02%), Al, K, and Mn (1.91%), with Mg (7.12%) being dominant. OH could not be determined because averaging software employed with this instrument assigns the value of OH to one of the other elements. The resulting chemical values compared with published values are in perfect agreement for the mineral grünerite. Optically the studied mineral is biaxial negative, refractive indices are: $n\alpha = 1.664$; $n\beta = 1.677$; $n\gamma =$ 1.693, $2V > 75^{\circ}$. Optical data are well within the published range for grünerite. Dr. Paulus B. Moore reviewed the data and suggested that the grünerite analyzed here be referred to as "magnesian, zincian, manganoan grünerite."

Other Localities for Grünerite

Grünerite was named after Louis Emmanuel Grüner (1809-1883), Swiss-French chemist, who first analyzed the mineral. Grünerite has been found at many worldwide localities, notably: Australia; Carinthia, Austria; Brazil; Cameroon; Canada (Newfoundland, Northwest Territories, and Ontario); England; Finland; France (Collobrières, the type locality); Japan; Norway; South Africa; Sweden; and the United States (Arizona, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, South Dakota, Vermont, Wisconsin, and Wyoming).

Acknowledgements

The author would like to thank Mr. Joe Orosz for performing the X-ray study, Mr. Anthony Nikischer for performing the microprobe analysis, Dr. Paulus B. Moore for review of the data, and special thanks to Mr. John Bauer for the gracious loan of his specimen for study.

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[Editor's Note: A similar article written by John Cianciulli, titled "Grunerite [sic] Added to the Franklin-Sterling Hill Mineral List," appeared in the October 2004 issue of Mineral News, 20, 10, pp. 1 - 3.]

The "Peach Basket" First-Find Wollastonite

Gary Grenier[†]



Over the years I have told this story in the vein of the "big one" that got away and occasionally just shake my head in hindsight regret. During my college years, I spent every weekend that I could riding my motorcycle north to Franklin to visit friends and dealers, and to collect Franklin minerals. One such bright spring weekend in 1970 found me visiting my good friend Stan Hocking, then living on Route 23 in Hamburg. Stan had worked at the Franklin mine and had amassed a sizable collection of species and fluorescent specimens, which he offered for sale from his garage.

There was no room in the garage to park a car as he had lined the whole garage up one side and down the other with tables and shelves that were full of Franklin and Sterling Hill minerals. As I recall, Stan was up early that Saturday morning and I was the first to visit him. We opened up the garage and talked over a hot coffee. As I sat on one of the two stools in the garage, I rested my foot on a peach basket full of gray-looking massive calcite and garnet rocks. Stan informed me that he had some serious New York buyers driving in to see him and to keep an eye out for them as he went back to the house.

I waited for Stan's customers, who did show up as expected. They went through the garage in 5 minutes looking for green willemite. After buying two flats of willemite, they asked directions to the Franklin Mineral Museum and took off. I resumed my seat on the stool and my foot on the peach basket. We talked about how hard it was to get new mineral specimens to offer and how most collectors were collecting only a few of the species or only wanted green willemite and franklinite crystals.

We talked about fluorescent minerals and how they were

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taking off. He told me that he had plenty of hardystonite, but not much esperite, and everyone kept asking for esperite. Then he pointed to the peach basket and said that the wollastonite in the basket was pretty bright even if it did resemble calcite to some collectors. I took my foot off the basket and looked more closely at the specimens, picking up two and hefting them.

The wollastonites were very rich and slightly larger than my open hand. Under the UV lamp they fluoresced a very impressive orange in red-orange calcite with hardystonite and willemite. I did not get a chance to talk to Stan about where they came from or how much more there was, as another car drove up and a family popped out asking to see Franklin minerals. I quickly set the wollastonites back in the peach basket and gave it a shove under the table so as not to trip over it.

After a few more people arrived and I helped Stan sell a few more minerals, I had completely forgotten about the peach basket full of "first-find" wollastonite. It was early afternoon when I rode off to see Ewald Gerstmann at his museum. On the way, I remembered the wollastonites and wondered if Ewald would have any. I never did go back to get one from Stan or see the peach basket of wollastonites again. I did ask Ewald if he had any wollastonite, but he did not, reporting that he had sold all he had for \$2 a pound!

[Editor's Note: Gary Grenier wrote this anecdote on July 12, 2004, when we on The Picking Table staff were working on the Franklin wollastonite story for the Fall 2004 issue. Gary's photography was featured extensively in that article. Gary passed away on September 28, 2004.]

Word Search: Oxide & Hydroxide Minerals From Franklin & Sterling Hill

GEJMANGANOSITENEHPCORYPEN ORDANECORYPHANITEYPRIYTSO EZINCITEETINEMLINRAYRONAM TTBGYOOIMENTIEENIOLOCEUTI HNIASBDRLSELWTRAZPCCRTMAN INRNUROMEOLOEIAHTHISYIUNT TUNIIPRYOCRFANKPRATGPRDAB EDETILOREATEHNUONNEARPNRA EESETIKOORBGASICOISHOUUBT ITSNETININARUTILETINYCREH NIICURTEAKFAEUEAPELIIROTA ITTRGOETHRUTLECHALCTOYCOU LUEYORELMOFLSTOCOSEENPUGS TONPGROUTEISHILBGRAMETPNM ARONARUFBIUDOTIDOKDOTORAA CGAHNTEATAENALEMOTPYRCOMN RETITAMEHTSONDELWOODHRATN ETISBOCAJARETITENGAMTYSII A P E W O O D R U F F I T E A M E H C A L A P E T MUABAUERLEFEITKNECHTITEFE

Look for the following words backwards, forwards, and diagonally in the puzzle above.

ANATASE CUPRITE HETAEROLITE ROMEITE AURORITE FEITKNECHTITE HYDROHETAEROLITE RUTILE BIRNESSITE FRANKLINITE TIMENTTE SPINEL BROOKITE GAHNITE JACOBSITE TODOROKITE BRUCITE GOETHITE MAGNETITE URANINITE CHALCOPHANITE GROUTITE WOODRUFFITE MANGANITE CIANCIULLIITE HAUSMANNITE MANGANOSITE ZINCITE CORUNDUM PYROCHROITE HEMATITE CRYPTOMELANE HERCYNITE PYROPHANITE

Answers in the next issue of *The Picking Table*. (So you've got plenty of time to find them all.) — M.B.

Reference: Dunn, Pete J. (1995) *Franklin* and Sterling Hill, New Jersey: The World's Most Magnificent Mineral Deposits, Part Four. Chapter 22: Oxides and hydroxides.

In Memory of John Cianciulli

John L. Baum

Curator Emeritus, Franklin Mineral Museum P.O. Box 54 Franklin, NJ 07416

John Cianciulli brought credit to the Franklin Mineral Museum and cash to its coffers. He was a brilliant student of mineralogy. When Pete Dunn offered to teach John optical mineralogy (which was a semester course in my time), John absorbed the subject over a weekend and soon became proficient through practice. His keen eye discerned new species in interesting associations, and his wide professional acquaintance with scientists in this and other countries assured that his published articles were accurate and reliable.

John was a dedicated volunteer and to him a museum need was a challenge. While he was able, he undertook projects that made numerous improvements. One which confounded me was the recovery, transportation, and installation of Bill Welsh's enormous petrified tree sections. That John did all that he achieved despite the interruptions of public relations and misfortunes is testimony to his dedication to the scientific and commercial advancement of the museum.

John attracted adversity of biblical proportions distributed evenly throughout the many years of our association. We were involved in one such event when we were summoned to the office of an adversary law firm, and our transportation was totalled by a member of that very firm attempting to pass us on the highway. Now that took real planning by John's demon!

The future of the museum as a scientific institution was in John's hands. The interest of the collector and scientific public exists because of the unique mineralogy and the availability of specimens, and John served as the lens to focus the attention of these people and thus generated the resulting impressive sales on the Web.

Any mention of John's recent years must include his wife, Carol. Her encouragement and faith surely sustained his determination to continue when poor health and occasional frustration beset him. Without her I doubt he could have continued as he did. He richly merited the recognition and respect he was accorded by the mineral community. Our thoughts and prayers are with his family, his friends, and his colleagues as we all mourn the loss of a dedicated and courageous man.

[Note: This is the complete text of the eulogy delivered by Jack Baum at John Cianciulli's memorial service at the Franklin Mineral Museum, January 30, 2005.]

We Honor Larry Kennedy

Ralph Thomas

11 Riverdale Road Yardley, PA 19067

It is with remorse that I report the untimely passing of FOMS member Larry Kennedy in early September at the age of 63. Larry had many talents, including making people laugh at his many jokes. He was also an accomplished pianist and was a high school music teacher.

Of course, Larry's fondness for fluorescent minerals was paramount, as was his desire to infect others with his enthusiasm. Sphalerite, especially if it was phosphorescent, was his favorite, and he would seek out specimens with a vengeance. Larry was an active member of the Rock and Mineral Club of Lower Bucks County, sponsors of the Ultraviolation shows. As one of the founders and chairmen of the "Fluorescent Minerals Only" show for the past five years, he maintained the event at the highest level. His devotion to the show was unparalleled and was a large part of his life.

Larry's outgoing personality will continue to shine on as well as his fluorescent specimens. He will be sorely missed by all who knew him.



These three pieces of fluorescent concrete with margarosanite were one of the most remarkable field-collected finds of 2005. They were collected by Eric Weis during the April 2005 dig at the Trotter Dump sponsored by the Delaware Valley Earth Science Society. The largest specimen measures $6.5" \times 6" \times 3.5"$ ($17 \times 15 \times 9$ cm) and has a chunk of margarosanite about 1.25" (3 cm) in diameter. *Eric Weis photo*.



An extraordinary specimen of molybdenite collected by Joe Kaiser on the July 23, 2005, FOMS field trip to the Eastern Concrete Materials Quarry in Hamburg, N.J. The largest of the two areas of molybdenite measures $1.5" \times 0.75"$ (4 × 2 cm). Overall dimensions of the specimen are 7" × 5.25" (18 × 13 cm). *Tema Hecht photo.*