THE PICKING TABLE

JOURNAL OF THE FRANKLIN-OGDENSBURG MINERALOGICAL SOCIETY

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IN THIS ISSUE

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THE PICKING TABLE

VOL. 54, NO. 1 – SPRING 2013

About the Front Cover

A splendid specimen of manganosite from Franklin, showing well-defined octahedral parting surfaces. These are not crystal faces, despite common belief. The partings result from breakage along exsolved lamellae of zincite (clearly visible as the red films in the photo) and arise from the same process as the familiar exsolution lamellae of willemite in tephroite (see Mark Boyer's article on p. 36 in the spring 2012 issue of *The Picking Table*). Franklin Mineral Museum specimen 7039, 10 × 8 × 7.5 cm (4.0" × 3.1" × 3.0"). This specimen came to the Franklin Mineral Museum in 2007 and was formerly no. 22584 in the collection of the Academy of Natural Sciences of Philadelphia. *Earl R. Verbeek photo.*

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The Picking Table is the official publication of the Franklin-Ogdensburg Mineralogical Society, Inc. (FOMS), a nonprofit organization, and is sent to all members. *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.

Members are encouraged to submit articles for publication. Articles should be submitted as Microsoft Word documents to Richard J. Keller, Jr. at: PTMemberFeedback@gmail.com.

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

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FRANKLIN-OGDENSBURG MINERALOGICAL SOCIETY, INC.

Spring – Summer 2013 Activity Schedule

COMPILED BY TEMA J. HECHT
600 WEST 111TH STREET, APT. 11B
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thecht@att.net

SATURDAY, MARCH 16, 2013

9:00 AM - NOON
FOMS Field Trip
Collecting at the Braen Quarry (a.k.a. Franklin Quarry),
Cork Hill Road, Franklin, N.J.
If gate is open, drive through and park to the left of the gate.
Please don't block the roadway.

10:00 AM – NOON
FOMS Micro Group
Franklin Mineral Museum
BYO microscope and minerals.
Call Ralph Thomas for information: 215-295-9730.

1:30 PM – 3:30 PM
FOMS Meeting
Franklin Mineral Museum
Lecture: *Micromineral Photography for the Cash-Strapped Collector*, by Derek Yoost.

SATURDAY, APRIL 20, 2013

9:00 AM – NOON
FOMS Field Trip
Collecting at the Taylor Road Dump.
Meet at the Franklin Mineral Museum.
Park, sign in, and walk from there. Fee charged.

10:00 AM – NOON
FOMS Micro Group
Franklin Mineral Museum

1:30 PM – 3:30 PM
FOMS Meeting
Franklin Mineral Museum
Lecture: *The Luminescence of Fluorite*,
by Earl R. Verbeek, PhD.

SATURDAY AND SUNDAY, APRIL 27 AND 28, 2013

SPRING SHOW WEEKEND
41st Annual NJESA Gem & Mineral Show
held in conjunction with the
18th Annual FOMS Spring Swap-and-Sell.
Sponsored by the New Jersey Earth Science Association,
the Sterling Hill Mining Museum,
and the Franklin-Ogdensburg Mineralogical Society, Inc.

Franklin Middle School, Washington St., Franklin, N.J.
NJESA Show hours:
Saturday, 9:00 AM – 5:30 PM; Sunday, 10:00 AM – 5:00 PM.
Swap-and-Sell hours:
Saturday, 8:00 AM – 5:30 PM; Sunday, 9:00 AM – 5:00 PM.
Admission $5.00 per person,
children under 14 free with paying adult.
For Swap-and-Sell information, contact
Chet Lemanski after 8:00 PM at 609-893-7366.

BANQUET AND AUCTION
Saturday evening at the GeoTech Center,
Sterling Hill Mining Museum.
Admission limited to 60 people.
Social hour 5:30 PM – 6:30 PM,
followed by an all-you-can-eat buffet 6:30 PM – 9:30 PM.
Banquet tickets are $20.00 each and include
all food, coffee, tea, and soft drinks. **BYOB!**
Silent Auction 5:30 PM – 7:30 PM.
Live Auction begins 7:45 PM.
Both auctions are for the benefit of all three show sponsors:
NJESA, FOMS, and SHMM.

****FIELD COLLECTING: SUPER DIG**
Sterling Hill Mining Museum
Organized by the Delaware Valley Earth Science Society (DVESS).
Schedule: Saturday, 9:00 AM – 11:00 PM
$20.00 per person includes extended mine tour and registration.
$1.50 per pound for material collected.
Preregistration required;
see www.uvworld.org for more information.

****GARAGE SALE**
Sterling Hill Mining Museum, Christiansen Pavilion
Schedule: Saturday and Sunday, 10:00 AM – 3:00 PM

**Collecting on the Mine Run Dump and in
the Fill Quarry, Passaic Pit, and "Saddle" area.
Sterling Hill Mining Museum,
Sunday only, 9:00 AM – 3:00 PM (Open to the public!)
Fees for mineral collecting: $5.00 admission
plus $1.50/lb for all material taken.

SUNDAY, MAY 5, 2013

NOON
**Annual Volunteer Appreciation and Miners Day Tribute at the Franklin Mineral Museum, including special events and a concert by the famous Franklin Band.

SATURDAY, MAY 18, 2013

9:00 AM – NOON
FOMS Field Trip
Sterling Hill Mining Museum
Collecting permitted on the Mine Run Dump and
in the Fill Quarry, Passaic Pit, and "Saddle" area.
$5.00 admission fee
plus $1.50 for each pound of material taken.

10:00 AM – NOON
FOMS Micro Group
Franklin Mineral Museum

1:30 PM – 3:30 PM
FOMS Meeting
Franklin Mineral Museum
Lecture: *Fluorescent Minerals from the Ilimaussaq Complex in Greenland*, by Pat Hintz.

SATURDAY, JUNE 1, 2013

7:00 PM – 10:00 PM
**Spring Night Dig and Mineral Sale at the Buckwheat Dump.
Sponsored by the Franklin Mineral Museum.
Open to the public – poundage fee charged.
Eye protection, flashlight, and UV lamp advised.
For more information, contact the Franklin Mineral Museum:
973-827-3481.

SATURDAY, JUNE 15, 2013

9:00 AM – NOON
FOMS Field Trip
Collecting on the Buckwheat Dump. Fee charged.

10:00 AM – NOON
FOMS Micro Group
Franklin Mineral Museum

1:30 PM – 3:30 PM
FOMS Meeting
Franklin Mineral Museum
Lecture: *Blacksmithing at the Mine* (blacksmithing demonstration and discussion), by Mark Zagursky.

6:00 PM – 10:00 PM
**Night collecting at the Sterling Hill Mining Museum.
Night collecting on the Mine Run Dump and
in the Passaic Pit and "Saddle" areas.
Fees for mineral collecting: $5.00 admission
plus $1.50/lb for all material taken.
Eye protection, flashlight, hammer (carpenter's claw hammers not allowed), and UV lamp advised.
Open to Sterling Hill Mining Museum members only.

**Scheduled activities of the FOMS include meetings, field trips, and other events.
Regular meetings are held on the third Saturdays of March, April, May, June, September, October, and November, and generally comprise a business session followed by a lecture.
FOMS meetings are open to the public, and are held at 1:30 PM, usually in Kraissl Hall at the Franklin Mineral Museum, Evans St., Franklin, N.J. (check listings for exceptions).**

**Most FOMS field trips are open only to FOMS members aged 13 or older.
Proper field trip gear required: hard hat, protective eyewear, gloves, sturdy shoes.**

****Activities so marked are not FOMS functions but may be of interest to its members.
Fees, and memberships in other organizations, may be required.**

Any information in this schedule, including fees, is subject to change without notice.

Thanks go to Charles Butts, Earl Verbeek, Ralph Thomas, Bernard Kozykowski, James Van Fleet, the Franklin Mineral Museum, and the Sterling Hill Mining Museum for this information.

From the Editor's Desk

RICHARD J. KELLER, JR.
13 GREEN STREET
FRANKLIN, NJ 07416
franklinnj@hotmail.com

Greetings one and all, and welcome to another year of FOMS meetings, field trips, *Picking Tables*, and getting to know each other all over again.

Once again, we are proud to present you with what we feel is an over-the-top issue of *The Picking Table*. Included in this issue are two excellent articles that were initiated well over a year ago. During this time, we were able to more closely examine the articles, then update and expand them. What this should tell you is that we make a concerted effort to not simply put articles together and publish them to get the *PT* out on time—it's much more involved than that. *"We will publish no article before its time,"* and the *PT* will remain on schedule.

An example of this is Mark Boyer's article on Ore-Contact Wollastonite from Franklin. Had this been published last year, it would not have been as complete as it is at this time. So, to anyone who has submitted an article but has not yet seen it in print, fear not. Submissions are not ignored, nor thrown out. We are just seeking the right time to publish them.

As you may already know, due to circumstances, Jim Van Fleet has moved up from our 2nd vice president to the presidency. Mark Dahlman has graciously agreed to take on the position of 1st vice president, which leaves us with a FOMS officer vacancy for 2nd VP. The current officers and trustees have had conversations about a few members that we would like to see throw their hats in the ring and assume this vacant spot. How this plays out will be announced most likely at the April 2013 FOMS meeting...after we've approached these members to ask about their interest. If YOU would like to be considered for this position, please call or e-mail me.

As far as fund-raising efforts are concerned, we are still well-stocked with the Franklin-Ogdensburg-themed U-Haul T-shirts (all sizes still available) and have been able to restock on copies of *The Picking Table* on DVD.

As some of our members already know, a concerted effort to create a website devoted to Franklin-Sterling Hill minerals has been underway since April 2009. This effort is headed by Dr. Earl Verbeek, who to date has photographed more than 1,500 specimens from the collections of the Franklin Mineral Museum and more than a dozen private collectors. Much up-front planning on website design and functionality has already taken place, and in late January 2013, construction of the actual website was begun. The first task was to develop some preliminary Web pages for review; we hope that phase will be complete by the time FOMS members receive this issue of *The Picking Table*. Once the design phase is over, Earl and his team will populate the Web pages with hundreds upon hundreds of color photographs and extended captions for each. This website is intended for all who wish to learn about Franklin-Sterling Hill minerals, and as such, the emphasis is on specimens that clearly illustrate a particular species, texture, structure, or assemblage, as opposed to specimens that are merely attractive or collector favorites. There will be no shortage of the latter, however. And yes, fluorescent minerals will be included.

Finally, I'd like to point out that our secretary Tema Hecht remains vigilant in keeping the FOMS Activity Schedule up-to-date on the FOMS page in Facebook. Anyone needing to know how to access this schedule can ask any of the FOMS officers.

So sit back in your favorite chair (with or without your favorite beverage) and enjoy this issue of *The Picking Table*.

President's Message

JAMES VAN FLEET
222 MARKET STREET
MIFFLINBURG, PA 17844
vanfleet@bucknell.edu

Greetings, and thank you all for your continued support of FOMS. Yes, your membership helps to support everything that the Franklin-Ogdensburg Mineralogical Society does, or hopes to do. We publish an outstanding journal in *The Picking Table*, and for many of you, this twice-yearly publication is the chief tangible reward of membership. We support two mineral shows every year. These shows; the many exhibits put together by local collectors, curators, and characters; and the banquets that follow are a few more really important and enjoyable benefits of participation in FOMS. We wish more of you would participate!

But we also wish we could do more for our members. It is a theme that I see repeated over and over each time *The Picking Table* prints a column titled "President's Message." We strive to increase our membership, to communicate in an effective and timely manner, and to deliver some real benefits for the small but dedicated group of people who think Franklin and Sterling Hill, with their mining history and their mineral treasures, really are the most fascinating places on the planet!

When Rich Keller informed me that I was next in line for presidential duties and responsibilities, I worried that I would not be able to fill his shoes — he has accomplished a lot! But I also warned him that I would have an agenda. I want to see FOMS have a strong online presence, with real benefits to our members; a steady stream of information; and access to historic documents, photos, and back files of publications — and I found out that these were not new ideas, but have long been stated goals, and progress is being made. Rich himself has digitized the entire run of *The Picking Table* and made it available on DVD. Tema Hecht has created a Facebook page for the FOMS, and members can join to see our schedule of events. Expect more as we continue to move into the digital age.

Everyone I talk with in this organization shares another goal: We want to see membership grow, and the average age of members to come down a bit! To stay active and successful, every organization or club needs new members, with new enthusiasm, fresh ideas, and some energy to get things done. Our greatest goal, the preservation of Franklin and Sterling Hill and their minerals for generations to come, will be achieved when the next generation steps up.

Now Rich is nudging me, saying, "Yeah, that's right, but who are you?" Well, unfortunately, I'm not the new generation — I've been in and out of the local scene since I first volunteered to help sandblast the change room at Sterling Hill, and later helped set up their display of mining lamps in the museum. At the time, Dick Hauck asked me if I wanted to go underground, but back then I didn't care about collecting "rocks."

Now I'm a bit more interested. As an engineering/geology librarian, I'm all about sharing information. I also have the use of analytical equipment in the Bucknell University Geology Department to pursue some amateur mineralogy. I have found that there are many questions that still need answering when it comes to Franklin minerals. I hope we can share some information in the coming year.

Happenings at Sterling Hill

WILLIAM KROTH
PRESIDENT, STERLING HILL MINING MUSEUM
30 PLANT STREET
OGDENSBURG, NJ 07439

This winter brings some changes at the Sterling Hill Mining Museum. Although we are open for weekend tours, we have managed to squeeze some much-needed improvements into our facility.

First, the Paul Christiansen Pavilion, located just north of the museum store, has been upgraded with a new concrete slab that replaces the old gravel floor. A masonry knee-wall has been installed, and this spring, removable plastic panels will be fitted to give the once-open structure more of a greenhouse environment so that its use may be expanded well into the winter for all types of events. A propane heater will be installed to keep temperatures warm, and a group of Eagle Scout candidates will refinish the 16 picnic tables there. To cap things off, a large masonry barbeque has been installed adjacent to the pavilion to accommodate our guests. Our ultimate goal is to use this improved facility to alleviate crowding in the museum store eating area and perhaps to have certain FOMS events here. Much of the design on this project was done by volunteer architect and engineer Mike Pierce.

Second, the ramps leading to our main (Zobel) exhibit hall, main collecting dump area, and our new Fossil Discovery Center have been widened and hot-asphalt paved. This will provide a smoother pathway for visitors in wheelchairs and collectors with hand trucks. A new steel pedestrian bridge now connects the roof of the GeoTech Building with these ramps to make access easy and level.

Third, the Zobel exhibit hall is being air-conditioned. Our goal is not only to keep our visitors cool, but also, by installing filters as part of the system, to reduce dust from open windows and the passing through of our many visitors. Keeping our many world-class displays clean should be a much easier task!

Finally, Krogh's Restaurant & Brew Pub in nearby Sparta, N.J., will be aging their 15th anniversary run of home-brewed Imperial Stout in the Sterling Hill adit. Once the beer is brewed and fermented at Krogh's, it will be put in three large oak casks, transported to Sterling Hill, and allowed to age one year near the main shaft station. This joint venture is being conducted for a number of reasons: to help a good neighbor and fellow business, to make visitors aware of how beer was stored prior to the age of refrigeration, and to demonstrate alternate uses for depleted mines. As a by-product, several newspaper articles have given both parties good publicity!

If you are in the area, please stop by the Sterling Hill Mining Museum and we will be glad to show you these improvements.

Franklin Mineral Museum Report

LEE LOWELL
COLLECTIONS MANAGER, FRANKLIN MINERAL MUSEUM
32 EVANS STREET
FRANKLIN, NJ 07416

The museum's archive room has undergone significant renovations. New wall shelves and bookcases have been installed. The mining maps, books, magazines, and documents, many of which are historic, will be cataloged. This room is humidity-controlled. Mark Boyer, a museum board member, is coordinating this effort.

The display cases for the Welsh collection are being cleaned and the computer catalog of thousands of specimens is being revised to assure that the catalog list is consistent with the specimens displayed. Steve Misiur is working methodically to complete this effort.

The Franklin-Sterling Hill color book project is soliciting cash donations for the publication of this book in 2014, the 50th anniversary of the Franklin Mineral Museum's founding. Significant funds have been raised to date thanks to the efforts of Van King, who, along with Peter Chin, is coordinating this effort. Donations are tax-exempt since the museum is a not-for-profit corporation. This book will contain hundreds of color photos of the Franklin-Sterling Hill minerals with descriptions plus historical information related to this world-famous mining district.

The Franklin Mineral Museum is involved in a significant gem and mineral show, which will provide national publicity for the museum. During the spring of 2012, the museum received an invitation to participate in the New York/New Jersey Gem and Mineral Show scheduled for April 12 to 14 this year. The show theme is "The Minerals and Fossils of New York and New Jersey." The show organizer, Lowell Carhart, suggested that the museum provide a large display of fluorescent and white-light specimens for this show, which will be held at the New Jersey Convention and Exposition Center in Edison, N.J. This show is advertised in all of the various rock, mineral, and gem magazines, including website coverage. Show signs will be placed on all of the major roads leading to the show location.

As an enticement for the museum's participation in this show, Mr. Carhart provided significant funds to the museum for the purchase of new shortwave display lamps for use at this show. These lamps will be retained by the museum for use at other shows in which the museum provides displays. Traveling and lodging expenses will also be provided for museum personnel involved with this show.

Through the efforts of Steven Phillips and Richard Hauck, there will be a total of 13 display cases. Fluorescent minerals will be displayed in ten cases, and three cases will contain white-light specimens. The fluorescent minerals will be provided by the Franklin Mineral Museum, the Sterling Hill Mining Museum, and Warren Miller. Minerals for the white-light displays will be provided by the Franklin Mineral Museum, Richard and Elna Hauck, and Phamily Minerals. This will be a great show, and all Franklin-Sterling Hill collectors and connoisseurs should plan to attend.

The 56th Annual Franklin-Sterling Gem & Mineral Show

September 29 and 30, 2012

STEVEN M. KUITEMS, DMD
14 FOX HOLLOW TRAIL
BERNARDSVILLE, NJ 07924

Come rain or shine, the show must go on! Well, it did rain a bit, but the exhibitors came from near and far to showcase the mineral heritage of the Franklin and Sterling Hill mining district. The dealers also braved the elements to sell their minerals and gemstones; there were 26 "indoor dealers" in the large and small gyms of the Franklin School, and three booths on the auditorium's stage where fluorescent minerals would be sold. The school on Friday night was a beehive of activity, as 11 fluorescent exhibits and 10 white-light exhibits also had to be installed. Saturday morning the outdoor rush for Swap-and-Sell position took place, with 58 dealers lined up at the gate. Sunday drew 33 "swappers," again fewer than usual due to the morning mists.

The absence of Joseph Kaiser was truly felt during the show's setup and teardown, and the timely and fitting dedication of the show program to Joe was greatly appreciated. I hope show-goers keep those programs around for reference as they contain two important lists, updated every year: the list of verified mineral species found at Franklin and Sterling Hill, and a check-list of fluorescent minerals from the district.

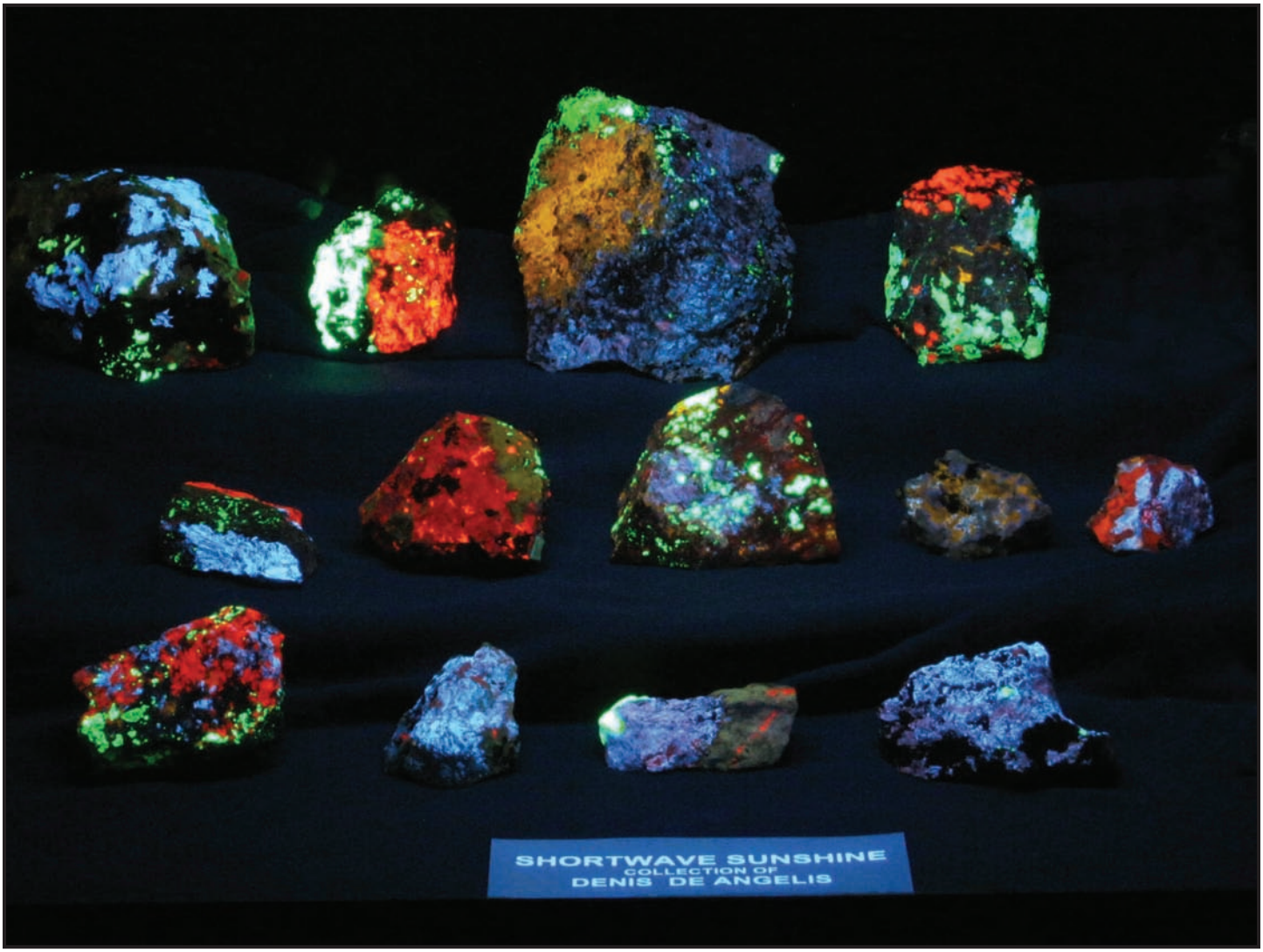
There were 10 white-light exhibits in the main gymnasium. Dick and Elna Hauck presented "Minerals & Mining in Art," with beautiful examples of the lapidary arts in mining scenes and models, as well as the most ornate silver and agate spoons I have encountered. Mark Mayfield impressed local collectors with "Field Collected New Jersey Minerals"; his thumbnail and miniature specimens would surely make any field collector happy if they were in his or her bucket. The Franklin Mineral Museum's case, "Thin Sections," offered Franklin and Sterling Hill ore specimens matched with corresponding thin sections; I do not recall seeing a similar exhibit. John Kolic, miner par excellence, put in a case of mouth-watering "Franklin and Ogdensburg Minerals," many of them self-collected—pure "eye candy" for aficionados. Your reporter, Steven M. Kuitems, exhibited "Classic Minerals From Franklin & Ogdensburg." This case emphasized three mineral species characteristic of Franklin's Parker Shaft Suite—epidote-(Pb), previously known as hancockite; hendricksite; and ganophyllite—and the minerals associated with them. Paul Shizume presented a very colorful case, "Ore Minerals Willemite, Zincite, and Franklinite." The gemmy willemites and "streaky zincite" were my favorites. Stephen Sanford's "Sphalerite at Sterling Hill" display required one to pause and read the informative labels describing the chemistry and geology that each specimen represented. Jim Chenard treated us with classic specimens from the northern and eastern United States, mined in the same era as Franklin's zinc ores but with different target metals such as iron and lead. Pete Gillis gets the Hefty Specimen Award for the large and weighty boulders he collected at Sterling Hill, with vugs containing large (2.5 cm) crystals that have been visually identified as anglesite crystals. Phamily Minerals rounded out the white-light displays with a commercial case, "Things for Sale."

The fluorescent exhibits, coordinated by Richard Bostwick, were led off by the Franklin Mineral Museum's remarkable examples of "Rock Veins." The Sterling Hill Mining Museum followed suit with "Patterns of Red and Green," an assortment of visually striking specimens to remind us that in the realm of Franklin and Sterling Hill, if it fluoresces red there is a 99% chance it's calcite, and if green there is a 99% chance it's willemite. Your reporter presented "Franklin Delights," a case full of the bright and colorful Franklin and Sterling Hill specimens that collectors search for. Claude Poli displayed "Secondary Willemite From Franklin and Sterling Hill," a variety of showy specimens useful to collectors in distinguishing primary willemite from secondary recrystallized willemite. Denis DeAngelis's case of "Shortwave Sunshine" was the most stunning visual gathering of margarosanites and associated fluorescing species in the exhibit area; yes, they were bright and bedazzling. This kind of display makes one realize how good Franklin-area minerals can be under the right UV lamp. Rich Keller's case of willemite combinations with other species ("I'm Detecting a Pattern Here") highlighted the idea that our finest specimens are not just monochromatic but truly polychromatic. "Simply Green" was the opposite of Rich's case, as Andrew K. Mackey emphasized the fluorescence of the major ore mineral willemite in its many forms. Chris Luzier's "Rainbow Connection" showed why mineral collectors are attracted to the wide variety of Franklin and Sterling Hill specimens for their many colors as revealed under shortwave UV. John Dymond's "Phossing Willie" display was equipped with a timer to turn its UV lamp off and on to demonstrate,

brilliantly, the phosphorescence of secondary willemite. Chris Gillis, with "Eye Candy" as his theme, illustrated the visual pleasures of fluorescent mineral collecting, while his brother Pete put together a large case housing a full range of local material in three sections, separately illuminated by shortwave 254 nm UV, midwave 305 nm UV, and longwave 366 nm UV—hence the title "One Man, Three Bands."

Thanks to all who braved the less than ideal weather to place their exhibits for all to see, learn from, and truly enjoy! Your efforts are what really make this show special. Please encourage other collectors to come out and display their specimens of our rich mineral heritage.

Big Al Lombardi, with a friend, flogging his rocks at the Franklin show. *Tema J. Hecht photo.*



"Shortwave Sunshine" — Denis DeAngelis's display of high-quality Franklin "rump-kickers." *Mark Boyer photo.*

Scenes From the 56th Annual Franklin-Sterling Gem & Mineral Show

Ominous clouds do little to dampen the enthusiasm of show-goers Jeff Cessna and Andy Muir. *Tema J. Hecht photo.*

Former Sterling Hill miner and FMM manager Steve Sanford examines an unusual camptonite vein in willemite. *Tema J. Hecht photo.*

Don Newsome, president of UV Systems in Renton, Washington, in good company at the banquet. *Tema J. Hecht photo.*

Ray Latawiec and Dick Bostwick engaged in "Synchronized Auctioneering" *Tema J. Hecht photo.*

Juan Gonzalez: "Collector of Minerals ... Hunter of Adventure." *Mark Boyer photos.*

Earl Verbeek enjoying a well-deserved break during the banquet. *Tema J. Hecht photo.*

The co-op dealer table has always been a favorite place to find the best in local fluorescent minerals. *Mark Boyer photo.*

The Franklin Mineral Museum

◈◈◈

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

Exhibited 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 mineral 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. Picnic grounds. Gift shop offering for sale: local and worldwide minerals, fluorescent specimens, agate slabs, onyx carvings, UV lamps, hammers, mineral books, T-shirts, postcards, and much more.

Separate admission fees to the Museum and the Buckwheat Dump. Admission to the Museum includes guided tour.

OPERATING SCHEDULE:

Open to the public
March – Weekends Only
April 1 – December 1
Monday through Friday: 10 AM – 4:00 PM
Saturday: 10 AM – 5:00 PM
Sunday: 11 AM – 5:00 PM
Closed Easter, July 4th, and Thanksgiving
Groups by reservation, please

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

The Sterling Hill Mining Museum, Inc.

◈◈◈

30 Plant Street, Ogdensburg, NJ 07439
Museum phone: 973-209-7212
Fax: 973-209-8505
Web: sterlinghillminingmuseum.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
Museum store stocked with minerals, books, T-shirts, caps, etc.
Food concession and picnic area
And much more!

Every day a collecting site will be open for an additional $5.00 fee.

Contact the mine office for details.

Schedule of operation:

April 1 through November 30, Museum store is open 7 days a week, 10:00 AM to 3:00 PM. General public tours at 1:00 PM. Group tours may be scheduled by appointment at other times during the day.

December 1 through March 31, **WEEKENDS** - Museum store is open 10:00 AM to 3:30 PM and general public tours are at 1:00 PM (weather permitting). Group tours may be scheduled during weekdays by appointment (weather permitting). Please call if you have any questions.

In April, May, June, September, October, and November, tours at 1:00 PM or by appointment.

The temperature in the mine is 56°F.

From Furnace to Borough—Franklin's Transformation

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On March 18, 2013, Franklin will celebrate its 100th anniversary as a borough. Franklin has a colorful and rich history; it has been known as "The Model Mining Town of the East" and has been proclaimed "The Fluorescent Mineral Capital of the World." There have been great changes in the town over the centuries. This article will describe the changes that took place from its rural beginnings to today.

OLD FRANKLIN FURNACE IN HARDYSTON TOWNSHIP (UP TO 1870s)

From well before recorded history, our area was occupied by American Indians. It has been noted that there was an Indian crossing along the Wallkill River towards Ogdensburg near the still-existing springs, and a path leading to the nearby Wildcat Indian Shelter that was occupied perhaps 10,000 years ago. Later, pioneers came west from New York City for various reasons, including farming. The Franklin area also attracted those with an interest in mining. As settlers arrived, large tracts of land were formed into Hardyston Township, named for a Royal Governor of New Jersey—Josiah Hardy—in 1762.

The area near Franklin Pond offered rich natural ores—magnetite, calcite from which lime could be produced, and the puzzling ores of Mine Hill. This era of early Franklin centered around the Franklin Pond area, and the locale was known as Franklin Furnace. A forge was built here around 1765 and attributed to Michael Rorick, and was followed by a furnace built by William Potts and others. Potts was a Tory with leanings toward the British, and it is felt that the settlement was named for the Royal Governor William Franklin (Benjamin Franklin's son), because William—contrary to his father—sided with the British.

When those who sided with the British left the area, the ironworks were run by John Ford and later the Sharps, who had other property nearby, the renowned Dr. Samuel Fowler, and, still later the Ames family. Franklin Furnace included a furnace to smelt the iron ore to ingots, several forges close by to create products from the ingots, waterwheel-powered bellows to help heat the ore, charcoal sheds for fuel, and, of course, mines from which ore was obtained. This must have been a bustling and noisy place.

Also here were a paint works, a general store, and a mining store. Further along the ever-important northward-flowing Wallkill River was a gristmill near the Greer Hotel, a sawmill, the stone Baptist Church on the hill above, and a general store.

Figure 1. Painting of early Franklin showing facilities for processing of iron ore.

Miners' and workers' housing may have included log homes, homes with flat-cut wood, and row houses. Two handsome stone houses remain: the Fowler home at the foot of Main Street and the nearby Benjamin Scott home. While another forge (Darrah's) was evident farther north along the Wallkill River near the Scott Road bridge, much of the rest of what is now Franklin Borough remained a rural farming and dairy community, with family names including Mabee, Rude, Wood, Fountain, Tuttle, Katzenstein, and Scott.

Two paintings show the earliest views of Franklin—one shows the iron operations that were dependent upon wood for fuel (Figure 1), and the other (Figure 2) shows some of the attendant facilities to supply the societal needs—the Baptist Church on the hill, the one-room wooden school, the hotel and livestock stables near the mill pond for the gristmill on the left, a blacksmith shop, and a post office. The same wooden bridge over the Wallkill can be seen in both paintings. What is probably the oldest extant photograph of this area (Figure 3) shows how busy Franklin Furnace was in its rural days.

Figure 2. Painting of early Franklin showing a school, church, post office, etc.; see text for details.

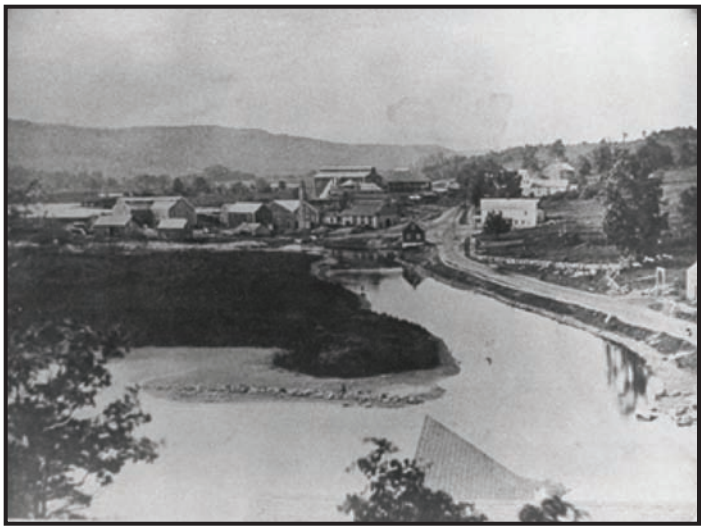

Figure 3. Early photograph of rural Franklin.

Figure 4. Late 1800s blast furnace in Franklin.

THE GROWING MINING COMMUNITY (1870s TO 1910s)

During the 1860s, Franklin Furnace was in the sights of a number of important people in the United States. Through Dr. Samuel Fowler's marketing, people took notice. United States Senator Oakes Ames and his Massachusetts family of iron producers came to the area to work and improve the facilities and bring in timber. Moses Taylor of New York City, one of the richest men in the Civil War era, helped create several of the railroads of the region and brought the rails to the ironworks, as well as coal for fuel from the Scranton, Pa., region. In Franklin a large brick furnace was built, one of the largest blast furnaces in the nation (Figure 4). The operation was significant, although sporadically worked, from about 1870 to 1900. A dozen or so homes were built along Cork Hill Road, and brick company housing—Brick Row—was added on another hill above the Pond. A lime kiln in the Fowler Quarry was on a rail line, and operations for crushing the white calcite took place at the Franklin Quarry (today's revolver and rifle range), which also used the rail lines. The other commercial minerals of Franklin, up on Mine Hill, contained zinc. A business associate of Moses Taylor was Samuel Squires Palmer, who helped build a plant in Palmerton, Pa., to produce the zinc contained in the heretofore difficult-to-process ores found on Mine Hill.

The Mine Hill Railroad swung along the hillside from the main rails up to the newly opened Parker Shaft and mill (sites of today's Franklin Fire Department), and later the rails extended to the Open Cut, also known as the Taylor Mine. A railroad junction was built near Greenspot, an area that had a spring where the grass was green year-round. Nearby was the confluence of the New York, Susquehanna & Western Railroad (formerly the New Jersey Midland), the Lehigh & Hudson River Railway, the Sussex Railroad (later the Sussex branch of the Delaware, Lackawanna & Western Railroad), the extension for the Mine Hill Railroad, and the extension to the Atlas Mines. A store run by McCarthy was in Greenspot, and the Sterling Hotel occupied a place on the small hill above, where the dirt road went west over a stone bridge to North Church and also north as Hamburg Road.

Figure 5 is a view to the east that shows the primitive character of the town, with small dirt roads such as Nestor Street, which would be lost along with the Sterling House in the mining operations. In the distance can be seen the headframe and boiler-house stacks of the Parker Mill. There were also many homes on High Street at the time for workers at the Parker Mine.

Figure 5. Houses in early Franklin; note the narrows dirt roads, not much more than paths.

Figure 6. Crowds gather in celebration of Franklin's incorporation as a borough in 1913.

THE CELEBRATION OF THE BOROUGH OF FRANKLIN

After 1900, the town became even more different from the surrounding countryside. The New Jersey Zinc Company had become the dominant force in the town. The iron industry in the Northeast had largely dried up, but with the zinc-making process optimized, the rich zinc ore resources of Franklin supported the zinc industry. The plethora of miners and mill operators necessary for the work were coming into town, many from Eastern Europe—in fact, they represented about 20 nationalities. Shop owners kept these newcomers furnished with food and supplies. A new world-class zinc-processing mill was built between the railroad junction and Greenspot. The Zinc Company provided the community with electric power, water, a neighborhood house, housing developments, Shuster Parks, and recreation.

After 1910, this development was underway at full throttle. The hamlet of Franklin Furnace was distinctly different from the surrounding rural nature of Hardyston Township. It was the townspeople's desire to have their own town, and thus Franklin Borough was born on March 18, 1913. Figure 6 shows what a joyous occasion it was when the town was born. The building in the background is the general store, which soon afterward moved across the street to a brick building, and that wooden building became the cherished Neighborhood House, with a library, kindergarten, dances, and entertainment.

WORLD-RENOWNED ZINC MINES (1910s TO 1954)

As Franklin became a borough, the zinc-mining operations came to characterize the town and its inhabitants. Production and attendant construction took off. The bricks left from the abandoned iron furnace were used "in town" to build the following structures: the Zinc Company general store, later to become Herzenberg's drugstore (or "Herzie's"), the still-existing time office and large changehouse, the superintendent's home on the hill (later known as the McCann house), the borough hall (that was located on High Street), and the fire department. The brick was also used for additions to the grammar school and some of the local businesses. Some of the homes from Thomas Alva Edison's iron-mining operation above Ogdensburg on Sparta Mountain were brought to Franklin and provided housing in Laceytown, at the end of Rutherford Avenue (the old Hamburg Road), and on Mill Street (originally called Sterling Park). One building, the Edison schoolhouse, became the Hungarian Church, and another was a storehouse for the Littell bottling works. Many bungalows were built in the 1910s in "Siberia" and "Mexico" on the north end of Sterling Street. In the 1920s, the "Better Homes" section of Franklin had over 40 homes, paved streets with sidewalks, fire hydrants, sewers, and garages. The old one-room wooden school near the old Baptist church was replaced in the 1870s

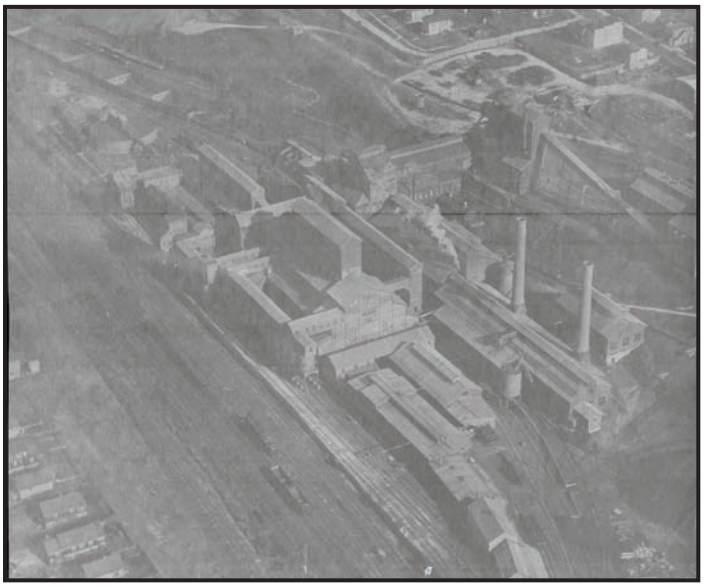

Figure 7. Bird's eye view of the Palmer Mill operations.

with a brick one. Eventually a high school for the region was built on the hilltop overlooking the town; it is now the Franklin Elementary School.

Two World Wars and growth in the United States drove the production of zinc. Employment at the Zinc Company remained steady, even during the Great Depression. The town became world-renowned because of its large ore deposit, the great zinc-processing plant (Figure 7), and the number of essential zinc products supplied from the ground beneath Franklin at a time when zinc was a very important material. The bounty of natural minerals in the form of specimens astounded the scientific community. The many types of minerals found, and the unparalleled quantity of fluorescent examples, made the town a known entity to even those taking a basic geology course in college. New techniques for mining were established here, as were ways to accommodate miners and their families: the hospital, schools for learning the trades, housing, roadways and sidewalks, care for miners' families, and other resources that were then cutting-edge in society. The "Model Mining Town of the East" and its successes were equaled in the spirit of the community.

Franklin's miners, mostly immigrants, displayed a deep drive to work hard for their families and establish their place in America. The citizens of Franklin were standout players in football and baseball of the time, and they gave their talent and lives in the World Wars that needed them. They radiated the can-do spirit that made a place for the town of Franklin in the Twentieth Century.

FRANKLIN BEYOND THE MINES (1954 TO PRESENT)

Franklin Borough experienced a big change in 1954 when the zinc mine closed after exhausting the orebody. The huge community of miners was now out of work. Some went to work in the nearby Sterling Mine, but many found mining jobs in Morris County or moved to other mining areas far away. The "father figure" of the New Jersey Zinc Company was gone. The mine shaft was cemented over, the Palmer Mill was mostly torn down, and the Open Cut filled with water.

Over time Main Street lost its luster and allure as the center of the community. The close-knit social structure where everyone knew one another and worked with them day by day, and perhaps knew the family "from the old country," no longer existed. Most of the old-timers who knew the great mining days of Franklin have passed on. The heritage of Franklin has almost slipped away from first-hand memory. Activity on Main Street has shifted over to the Route 23 corridor. Along this roadway many vehicles pass daily on their way north or "down the line" to where many of today's jobs are found. Along this corridor have been constructed several malls, fast food outlets, large "box stores," and convenience marts. Activity is still present in Franklin. The population has grown and the remaining farms are being turned into housing developments, some with golf courses.

Reminders of the heritage of the great times of Franklin do remain. The town has been recognized by the N.J. State legistlature as "The Flourescent Mineral Capital of the World." Perhaps 30,000 people a year come to the Franklin Mineral Museum, which sits on the site of the old Taylor Mine. This organization still recognizes the remaining miners every May on Miners Day. The Franklin Historical Society maintains a trove of memorabilia that reminds us all of Franklin's greatness. The Franklin-Ogdensburg Mineralogical Society preserves and promotes the vast knowledge of the well-identified mining heritage. And the award-winning Franklin Band (Figure 8) still sounds off in parades and outdoor concerts as it has since the 1870s Munsonhurst Fourth of July festivities.

Figure 8. The Franklin Band marching down Rutherford Avenue.

Fluorescent Chrysotile From Sterling Hill, New Jersey

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Figure 1. Granular calcite-franklinite ore, from Sterling Hill, cut by a vein of fibrous chrysotile intergrown with calcite. The adjacent rock contains additional chrysotile in the form of equant, rounded, reddish-brown and greenish-brown to dark brown grains, presumably pseudomorphous after willemite. Specimen measures 7 × 6.5 × 6.5 cm. Franklin Mineral Museum specimen via Mark Boyer.

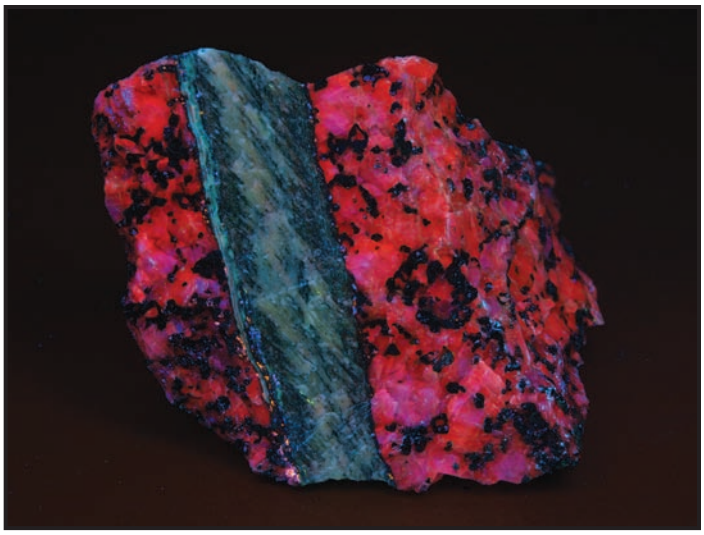

Figure 2. Same specimen as in Figure 1, shown under medium-wave ultraviolet light. Chrysotile in vein fluoresces weak pale yellow; granular chrysotile in adjacent wall rock shows no noticeable response. The tiny orange- and blue-fluorescing grains along the vein margins are sphalerite; patchy blue fluorescence in calcite host rock is hydrozincite.

INTRODUCTION

Minerals of the serpentine group, notably chrysotile and to a lesser extent lizardite, are widely present at both Franklin and Sterling Hill. They are late-stage hydrous magnesium silicate minerals that formed by hydrothermal alteration of earlier species, among them willemite and tephroite, and are also common components of hydrothermal veins cutting the orebodies and the enclosing marble (Dunn, 1995). Although long recognized in the area (Fowler, 1825), local serpentine was not documented as a *fluorescent* mineral until 2004, when a brief description of a fluorescent serpentine from Franklin appeared in *The Picking Table* (Cianciulli, 2004). In the present paper, we describe additional examples of fluorescent serpentine, most from Sterling Hill.

ANALYTICAL TECHNIQUES

The general appearance of local serpentine under a loupe (pale to dark brown color, resinous luster, exceedingly fine grain size, no cleavage, irregular to conchoidal fracture) are useful clues to its identity. Unless otherwise indicated, however, all serpentine samples discussed in this paper have been confirmed as such by X-ray diffraction (XRD). The instrument used was a Philips (now PANalytical) X'Pert Pro MPD powder diffractometer with a Cu K-alpha radiation source. X-ray settings were 45 kV and 40 mA. The analysis software used was X'Pert Highscore, which matches the resulting diffraction peaks to mineral IDs in an internal library. In all specimens X-rayed to date, the serpentine has proved to be chrysotile.

TWO EXAMPLES FROM STERLING HILL

On May 7, 2004, one of us (ERV) recovered a specimen of fluorescent serpentine, not then recognized as such, from a boulder that had been excavated the day before by John Kolic from the footwall of the east limb of ore along the west wall of the fill quarry at Sterling Hill, about 50 ft south of the ore pillar. Approximate mine coordinates for this occurrence are 540 N, 1500 W. The specimen consists of an irregular vein

Figure 3. A thin coating of translucent to nearly transparent, honey brown chrysotile coating a fracture surface in lean ore composed of medium-gray calcite, abundant grains of black franklinite, reddish-brown grains of serpentinized willemite(?), and small, scattered grains of sphalerite. James Van Fleet collection; 9 × 5 × 4 cm.

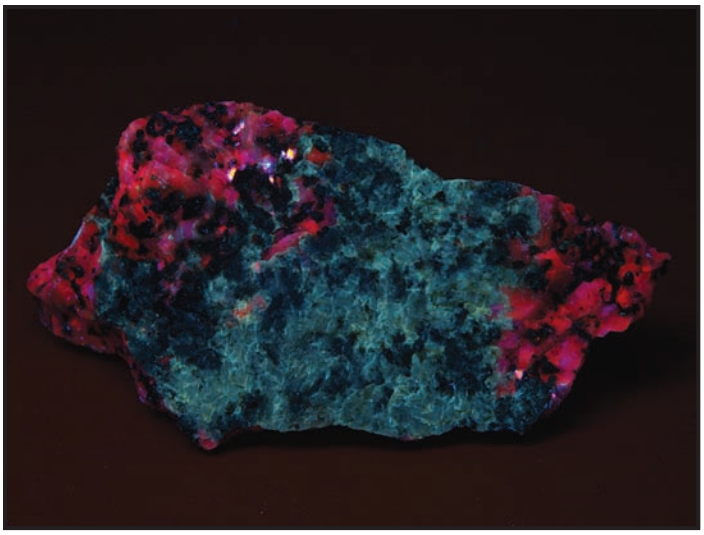

Figure 4. Same specimen as in Figure 3, shown under longwave ultraviolet light. The coating of chrysotile fluoresces ghostly white, the underlying calcite weak red (bright red under SW UV), and a few grains of sphalerite (top of photo) pink to blue.

0.6 to 1.7 cm thick of fibrous, dark gray to greenish-brown calcite from a fault opening in lean, medium-gray, granular franklinite-calcite ore. The vein material was noted to fluoresce dim, pale yellow under longwave (LW) ultraviolet (UV) light, a response in strong contrast to the moderately bright, orange-red fluorescence of the host rock. Both responses were, at the time, attributed to calcite. Also noted in the rock were scattered rusty-looking grains of a mineral that resembled willemite but showed no fluorescence, and was tentatively identified as serpentinized willemite or an altered humite-group mineral. The fault zone from which this specimen came is well exposed along nearly the entire length of the west wall of the fill quarry and consists of multiple irregular fault strands of shallow dip. At least two phases of movement have occurred along this fault zone, the second of which is recorded by the fibrous calcite noted above.

Several years later, in 2008, Mark Boyer recovered additional specimens from this same occurrence, one of which was subsequently X-rayed by JVF. The XRD data showed the vein material to be a mixture of calcite and chrysotile; a representative example is shown in Figures 1 and 2. Dissolution of the calcite component in dilute hydrochloric acid left a residue that fluoresces identically to the vein material, revealing the source of its fluorescence to be the chrysotile, rather than calcite as originally supposed. Additional chrysotile forms thin coatings on fracture surfaces in some of the specimens collected by Mr. Boyer, and these too show a pale yellow fluorescence under LW UV (Figs. 3 and 4). Numerous specimens exist from this find and are now widely dispersed among collectors. One such specimen is currently (2013) in the fluorescent displays of the Franklin Mineral Museum.

A second find of fluorescent chrysotile dates from the spring 2009 digs at Sterling Hill, when collectors removed specimens of fluorescent calcite intergrown with dolomite (the material locally nicknamed "crazy calcite") from a large boulder in the Passaic Pit. Under SW ultraviolet light, these specimens show the typical intricate intergrowth of red-fluorescent calcite and nonfluorescent to weakly fluorescent dolomite, but some contain multiple layers that show no fluorescence. These layers, in daylight, are of dark appearance and contain more franklinite than the adjacent rock. Longwave UV revealed the rock also contained sphalerite, both as disseminated grains and as heavier concentrations in the dark, franklinite-rich layers. In several specimens collected, an additional mineral, one that fluoresces weak greenish-yellow LW, was noted in these same layers.

Examination with a 14× loupe revealed that the yellow-fluorescing mineral was amber brown in daylight, in anhedral grains with a resinous luster. A steel dental tool was used to scrape some of this material from the surface of the rock to provide a sample for X-ray determination. The resulting scan revealed the presence of calcite, dolomite, sphalerite, franklinite, magnetite, and chrysotile. Clearly the initial sample was not very "pure" and included every constituent of the rock. Accordingly, a second sample was taken, using a hammer and nail to selectively chip out grains of the amber-brown mineral. The fragments were tested under LW UV to confirm their yellow fluorescence. They were then crushed and the franklinite and magnetite removed using a strong magnet. The resultant, purified sample was X-rayed and proved to be chrysotile, along with a little calcite and dolomite.

Figure 5. Altered granular ore from the 1750 level at Sterling Hill, consisting of abundant black franklinite, white calcite (stained red by hematite where in contact with franklinite), and abundant honey brown to ochre brown, translucent chrysotile with resinous luster and conchoidal fracture. A layered vein of tan to reddish brown, fine-grained sphalerite cuts the specimen at a low angle to the photographed face. James Van Fleet specimen, 8.5 × 7 × 4 cm.

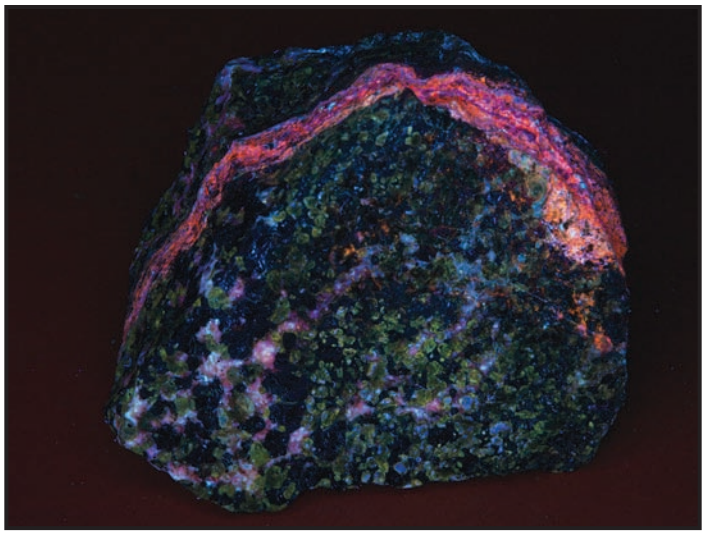

Figure 6. Same specimen as in Figure 5, shown under longwave ultraviolet light. Grains of chrysotile, likely pseudomorphous after willemite, fluoresce weak pale yellow, while the sphalerite in the vein fluoresces orange through pink to blue.

Figure 7. Vuggy, ivory-colored, microcrystalline to fibrous chrysotile cementing grains of franklinite, chlorite, calcite, and rounded, brownish-green grains of an unidentified mineral, probably serpentine pseudomorphous after willemite. James Van Fleet collection; 14 × 8 × 5 cm.

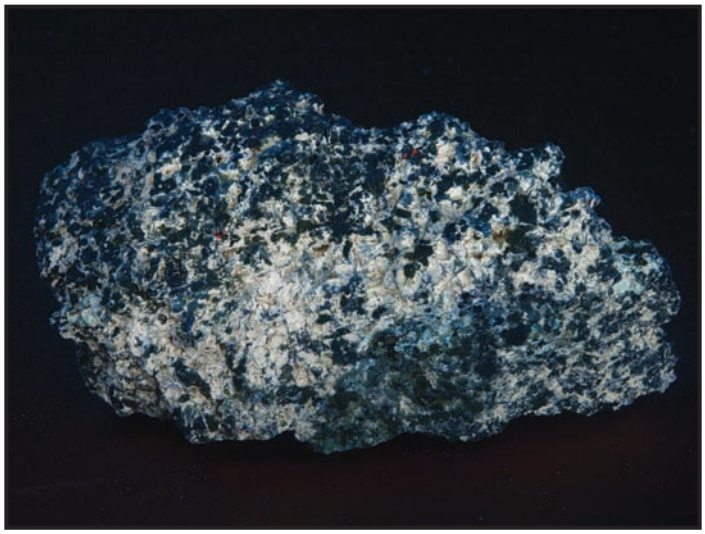

Figure 8. Same specimen as in Figure 7, shown under longwave ultraviolet light. The matrix chrysotile fluoresces weak to moderate yellowish white. Scattered grains showing dull red fluorescence are residual calcite.

THE SEARCH FOR MORE

The results documented above prompted one of us (JVF) to search for more examples in local collections, at mineral shows, and from online mineral vendors. It now appears that fluorescent serpentines from the local area are at least modestly common, but their generally dim fluorescence and common admixture with other minerals, chiefly calcite, have largely prevented their recognition. Figures 5 through 8 show some of the specimens obtained thus far. In each of them, XRD of the fluorescent material confirmed chrysotile as the chief mineral constituent. Additional specimens (Figs. 10-14) were made known to us by Richard Bostwick as this article was in preparation; these have not been X-rayed and thus are sight-identified only as serpentine. To date, we have examined nearly two dozen specimens of fluorescent serpentine from the local area and feel confident that many more exist. Fluorescent serpentine has now been recognized from Sterling Hill (Figs. 1-12), Franklin (Figs. 13 and 14), and from one of the local quarries (not shown).

Figure 9. Massive tan serpentine bordered by "cherty" pink sussexite and white calcite, the whole in contact with altered granular ore at left, and minor secondary zincite (orange) at top. The specimen measures 17 × 12 × 9 cm and is from the east limb of the North Ore Body at Sterling Hill. Richard Bostwick collection; formerly no. GG2707 in the collection of Gary Grenier.

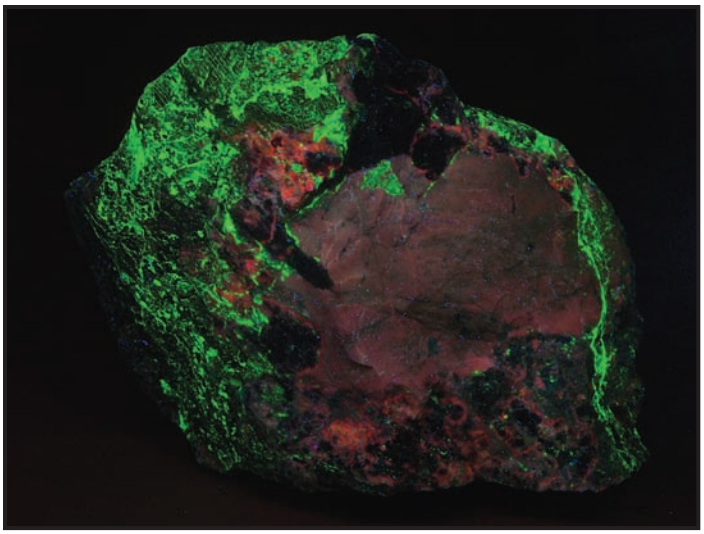

Figure 10. Same specimen as in Figure 9, photographed under medium-wave ultraviolet light to show the dim orange-tan fluorescence of the serpentine. Pink areas indicate calcite; green is willemite.

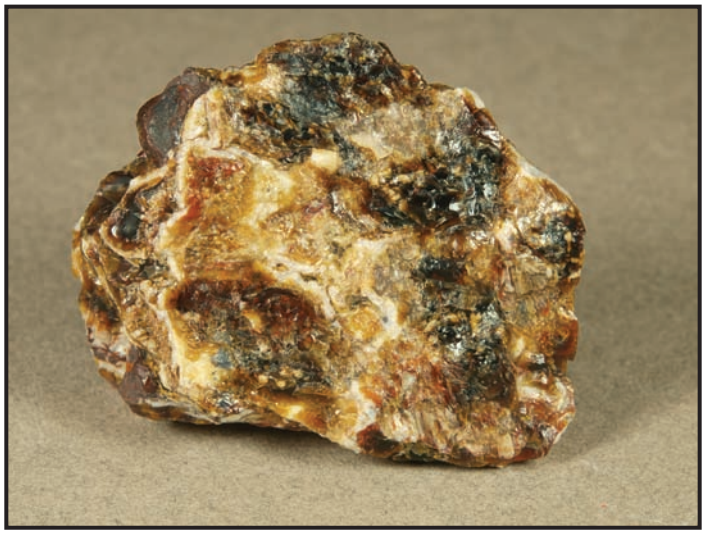

Figure 11. A vein consisting of translucent to locally transparent dark brown serpentine and white calcite, both in thin, irregular layers, upon a matrix (not visible, on back of specimen) of altered granular franklinite-calcite-willemite (serpentinized) zinc ore. The photograph was taken perpendicular to one of the serpentine layers in the vein. The specimen, 5 × 4 × 3 cm, is from the North Ore Body at Sterling Hill. Richard Bostwick specimen, formerly in the Al Smith and "Sunny" Cook collections.

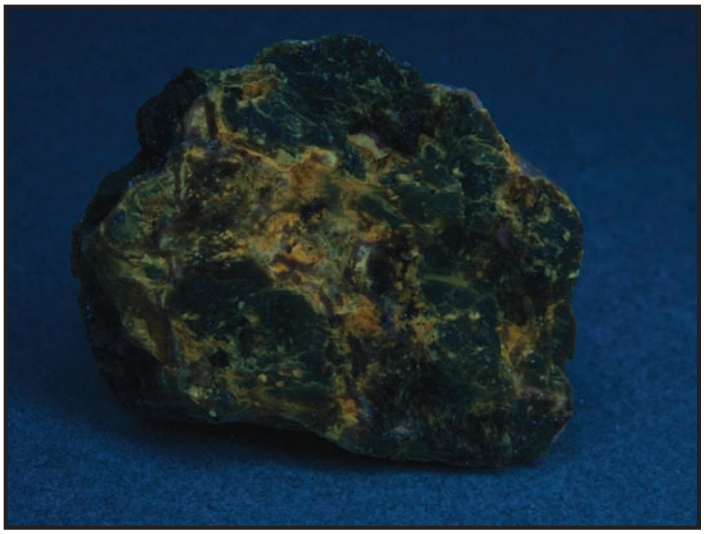

Figure 12. Same specimen as in Figure 11, photographed under longwave ultraviolet light to show the dim yellow to orange fluorescence of the serpentine.

Among the local serpentine specimens examined to date, chrysotile that occurs as a component of chrysotile-calcite veins and as coatings on fracture surfaces is most likely to fluoresce; the occurrences recognized to date come mostly from Sterling Hill. The most common associated minerals are calcite, dolomite, sphalerite, and franklinite. Massive material that formed as replacements of precursor minerals in the rock matrix is less likely to show any response. Collectors might profit from examining Sterling Hill serpentine specimens in their own collections with a longwave UV lamp and some patience, preferably in a very dark room. The fluorescent response is "mild" at best.

Figure 13. Orange-tan serpentine (probably serpentinized willemite) hosting myriad tiny grains of franklinite in contact with larger grains of franklinite and coarse-grained white calcite. The specimen is labeled Franklin rather than Sterling Hill and measures 6 × 5 × 3.5 cm. Richard Bostwick collection; formerly no. DW721 in the collection of Dru Wilbur.

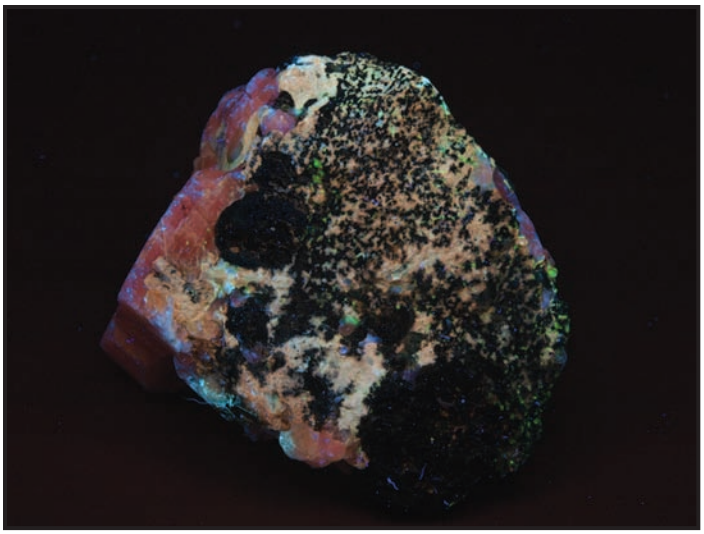

Figure 14. Same specimen as in Figure 13, photographed under longwave ultraviolet light. Serpentine fluoresces pale orange-tan to ivory, calcite dull red, and scattered grains of willemite dull green.

Incidentally, fluorescent serpentine is not especially rare on a worldwide basis, as shown in part by the number of localities (11) listed by Dr. Gerhard Henkel (Verbeek and Modreski, 1989). The most common fluorescent response recorded by Dr. Henkel for fluorescing serpentines was cream to yellow or white LW, similar to that of our local material. The common massive green serpentines that form the main component of the rock *serpentinite*, often quarried as a decorative facing or carving stone, are the least likely to fluoresce, probably because the same iron (substituting for magnesium) that gives most such serpentine its green color also deters its fluorescence. Much more likely to show fluorescence are serpentines that in daylight are of pale to medium brown color, like our local examples and the "deweylite" from the State Line chromite district along the Pennsylvania-Maryland border.

All photos by Earl R. Verbeek

ACKNOWLEDGEMENTS

The authors wish to thank Brad Jordan, Laboratory Director for the Geology Department at Bucknell University, for his assistance in obtaining the X-ray diffraction data that made this paper possible. We are also grateful to Mark Boyer and Richard Bostwick for commenting on serpentine specimens in our possession, bringing others to our attention, and providing their expertise throughout.

REFERENCES

Cianciulli, J.C. (2004), Clinochrysotile – A fluorescent serpentine from Franklin, New Jersey: *The Picking Table*, vol. 45, no. 2, pp. 37-39.

Fowler, S. (1825), An account of some new and extraordinary minerals discovered in Warwick, Orange County, N.Y.: *American Journal of Science*, 1st series, vol. 9, pp. 242-245.

Dunn, P.J. (1995), *Franklin and Sterling Hill, New Jersey – The World's Most Magnificent Mineral Deposits*. Privately published, 755 pp.

Verbeek, E.R. and Modreski, P.J., eds. (1989), The Henkel glossary of fluorescent minerals: *Journal of the Fluorescent Mineral Society*, vol. 15, 91 pp.

IN STOCK AND AVAILABLE FOR PURCHASE!

U-Haul has reissued the New Jersey version of their "Venture Across America" series of state T-shirts!

The New Jersey version needed to have a little cosmetic surgery performed, but it's been completed and we now have them in stock. The shirts can be purchased at the FOMS table during the Mineral Show in Franklin, or by contacting Denise Kroth at: DeniseB111@aol.com.

ALL sizes are available and the prices for each are as follows:

Small, Medium, or Large: $15.00 Extra Large: $16.00

XXL: $17.00 XXXL: $18.00

Shipping is $3.85 no matter how many shirts you order. All shirts are individually wrapped and sealed to ensure your shirt will arrive in pristine condition.

100% of the proceeds go the Franklin-Ogdensburg Mineralogical Society, which uses these funds to publish your *Picking Table*. There are NO administrative costs.

(NOTE: VERY minor shrinkage occurs when laundered, so plan to buy "one size up.")

Ore-Contact Wollastonite

A Previously Undocumented Occurrence at Franklin, New Jersey

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INTRODUCTION

From almost the moment it was found in 1944, wollastonite from Franklin, New Jersey, has piqued both the curiosity of mineralogists and the desires of mineral collectors. The discovery of wollastonite at Franklin was detailed by John L. Baum in 1972 (*The Picking Table*, vol. 13, no. 1). In 2004, Richard Bostwick wrote an in-depth and profusely illustrated treatise on Franklin wollastonite (*The Picking Table*, vol. 45, no. 2). Mr. Bostwick's article described all of the mineral assemblages and associations for wollastonite from the Franklin mine that were known at the time and formally defined the many wollastonite "find" names long used by collectors. As is typical for Franklin mineralogy, however, no one has the last word. In recent years, several specimens of Franklin wollastonite have come to light that do not fit neatly into the categories in Mr. Bostwick's exhaustive and important work. The present article concerns three of these atypical specimens that seem to represent a distinct and previously unrecognized occurrence of wollastonite from Franklin.

AN UNUSUAL SPECIMEN FOUND

In September of 2009, Mark Boyer acquired the high-graded portion of an old Franklin mineral collection that had been tucked away in a garage. It is presumed that this collection represented the "take-home perks" of a single Franklin miner. The specimens filled two milk-crates and comprised 16 esperites, two barites, two Third-Find wollastonites, three margarosanites, several hardystonites, and a "Parker Shaft" combination of prehnite, pectolite, and clinohedrite. Obviously, these specimens had been collected for their fluorescent species, which would date their original collection to within the last two decades of operation at the Franklin mine, when miners surreptitiously took ultraviolet (UV) lamps underground to collect specimens.

Mr. Boyer passed along to the Franklin Mineral Museum the bulk of the collection except for a few noteworthy pieces, among them two margarosanite specimens. Most margarosanite specimens derive from the calc-silicate layers at Franklin and are rich in feldspar and/or calcite; very few contain appreciable amounts of any of the three primary ore minerals (i.e., willemite, franklinite, zincite). Aware of this fact, Mr. Boyer retained the two margarosanites because of their unusual association with franklinite-dominant ore. One of these, Mark Boyer catalog no. 2519 (MB2519), measures about 4.1″ × 3.1″ × 2.8″ (10.5 × 8 × 7 cm) and is shown in Figure 1. It was sight-identified* by Mr. Boyer as light blue–fluorescing margarosanite in a layer of feldspar and pink grossular 2″ (5 cm) thick, sandwiched between franklinite-willemite ore. Other visually identified species include hendricksite, caswellite,† clinohedrite, calcite, and bustamite. Also noted was a mineral that fluoresces a bright, saturated "pumpkin orange" under shortwave UV (Figure 2). When compared with a Third-Find wollastonite specimen for its fluorescent response to shortwave UV, this mineral has the same hue and saturation, as well as a bright, rapidly decaying phosphorescence (popularly referred to as "flash"). A small flake of this mineral

* Throughout this paper, the minerals that were sight-identified primarily by fluorescent response are willemite, margarosanite, calcite, bustamite, clinohedrite, and wollastonite. Minerals sight-identified exclusively in daylight are franklinite, grossular, feldspar, hendricksite, caswellite, and native copper.

† Caswellite, no longer recognized as a valid mineral species, is a retrograde metamorphic alteration product of a pre-existing mica. Despite being refractory to definitive analysis, caswellite has a distinctive appearance that is instantly recognized by Franklin collectors and mineralogists. Thus, *caswellite* is useful as a descriptive term, in which sense it is used here.

Figure 1. Specimen MB2519. Note the abundant franklinite on either side of a zone of pink grossular and tan feldspar. Maximum width of specimen in this view is 4.1″ (10.5 cm). *Earl R. Verbeek photo.*

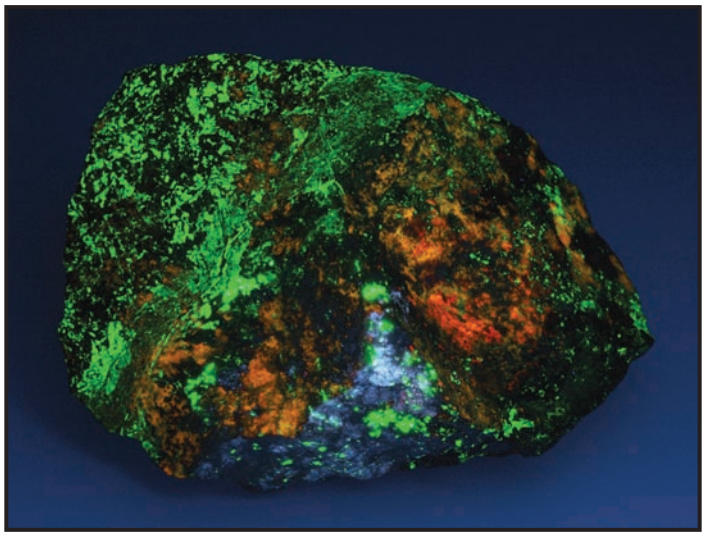

Figure 2. Specimen MB2519 under shortwave UV. Wollastonite is saturated, bright "pumpkin orange," clinohedrite is lighter orange, and margarosanite is light blue. *Earl R. Verbeek photo.*

was immersed overnight in muriatic acid (≈31% dilute hydrochloric acid); this did not noticeably change the sample's size, appearance, or fluorescence. Mr. Boyer therefore ruled out calcite as the mineral's identity and suspected that it was wollastonite.

ANALYSES AND RESULTS

In October 2009, another small fragment of this material was sent to Dr. Paul Carr of the University of Wollongong (Australia) for analysis. Dr. Carr crushed the sample in an agate mortar and subjected the resultant powder to X-ray fluorescence (XRF) analysis, which showed the major components to be Ca, Si, and Al, together with minor (1%–3%) amounts of Mn, Zn, and Pb. An X-ray diffraction (XRD) scan of the same powder showed peak positions and intensities that conform quite well to those of wollastonite and grossular, confirming Mr. Boyer's preliminary visual identification of the orange-fluorescing mineral as wollastonite and the daylight pink mineral as grossular. The few unassigned peaks, all of quite low intensity, suggest the possible presence of a small amount of feldspar in the sample, in keeping with the feldspar matrix. Based on the simplified chemistry, the presumption is that the Si and Ca are in both the wollastonite and the grossular, the Mn is a substitutional impurity for Ca in the wollastonite (and responsible for its fluorescence), and the Al is in the grossular (ideal formulas are $CaSiO_3$ for wollastonite and $Ca_3Al_2[SiO_4]_3$ for grossular). Since Ca, Si, and Al are the only major components present, the XRF and XRD analyses are in good agreement.

Table 1 shows results of the XRF analysis of the orange-fluorescing material in specimen MB2519. Note that 10,000 ppm is equivalent to a content of 1% by weight. Owing to the semiquantitative nature of the analysis, the constitutents sum to more than 100%, but the results are clear that Ca, Al, and Si make up appreciably more than 90% of the fragment analyzed. Mn, Zn, and Pb are minor but expected components. The Pb resides mostly in the feldspar, which is abundant elsewhere in this specimen, where it serves as a host for the lead silicate margarosanite. Though Ba also could be hosted in the feldspar, the slightly elevated SO_3 content hints at the presence of minor barite as well.

Table 1. Constituents >300 ppm in Sample From Specimen MB2519 Determined Via XRF Analysis (ppm = parts per million)

Constituent	ppm		Constituent	ppm
CaO	536,700		TiO_2	1,598
SiO_2	366,400		Fe_2O_3	805.4
Al_2O_3	90,870		P_2O_5	573
MnO	29,420		SrO	554.1
SO_3	13,110		MgO	550
ZnO	12,250		CuO	549.4
PbO	10,130		Cl	408.4
Na_2O	4,340		V_2O_5	306
Ba	2,385		K_2O	302

SIMILAR SPECIMENS EXAMINED

Not long after Dr. Carr reported his findings on the Boyer specimen, Richard Bostwick located two specimens in his own collection that were visually similar to MB2519 in terms of associated species, habit, and fluorescent response. In November 2009, one of Mr. Bostwick's specimens (Figure 3), which bears the Lee Lowell catalog number of 336.,

also was X-rayed by Dr. Carr; it too proved to be wollastonite. This small specimen measures 1.5″ × 1.3″ × 1.3″ (4 × 3 × 3 cm) and contains franklinite, willemite, pink grossular, margarosanite, caswellite, and minor amounts of andradite and native copper (all identified visually). The larger, uncataloged Bostwick specimen (Figures 4 and 5) measures 3.4″ × 2.3″ × 1.3″ (8.5 × 5.5 × 3 cm). It was once in the Michael and Anna Massey collection and is accompanied by a label that reads "margarosanite w/bustamite – unusual assoc." While the bulk of the pink massive material appears to be fine-grained, nonfluorescent grossular with a conchoidal fracture, also present in a small area of the specimen is a lustrous gray-pink mineral with a bladed or tabular habit, splintery cleavage, and a cherry-red SW fluorescence; conclusively, this is bustamite. This specimen is similar in daylight and under shortwave UV to the two analyzed specimens. The wollastonite in this piece is scant and can be best distinguished from the abundant clinohedrite by its "flash" phosphorescence. Other minerals include franklinite, willemite, margarosanite, calcite, and caswellite. All species in this specimen were identified visually.

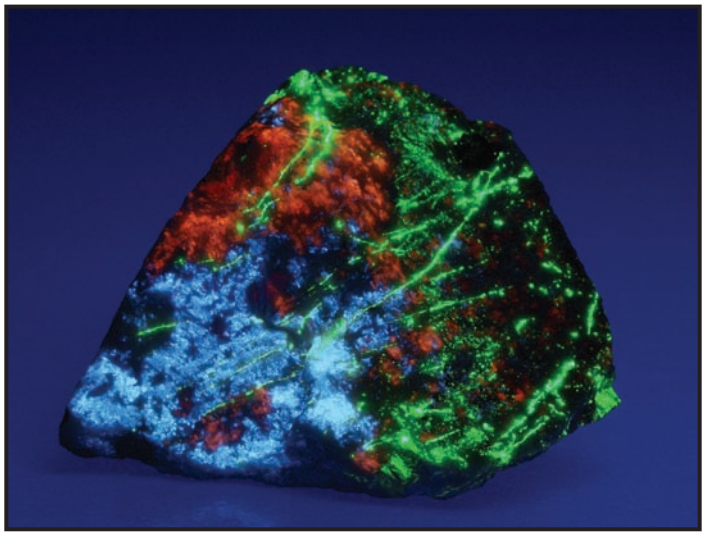

Figure 3. Richard Bostwick specimen, formerly Lee Lowell catalog no. 336., under shortwave UV, showing wollastonite (orange) and margarosanite (light blue). Maximum width of specimen in this view is 1.5″ (4 cm). *Earl R. Verbeek photo.*

COMPARISON WITH OTHER FRANKLIN WOLLASTONITE

Wollastonite specimens from the various finds at Franklin are texturally and mineralogically diverse, in part because wollastonite can form over a fairly wide range of temperatures, depending on the proportion of H_2O to CO_2 in the pore fluids (i.e., fluids permeating open fractures and grain-boundary

Figure 4. Uncataloged specimen from the collection of Richard Bostwick. Principal minerals are the same as those in Boyer specimen MB2519, shown in Figure 1. Note the massive pink grossular. Maximum width of specimen in this view is approximately 2.5″ (6.5 cm). *Earl R. Verbeek photo.*

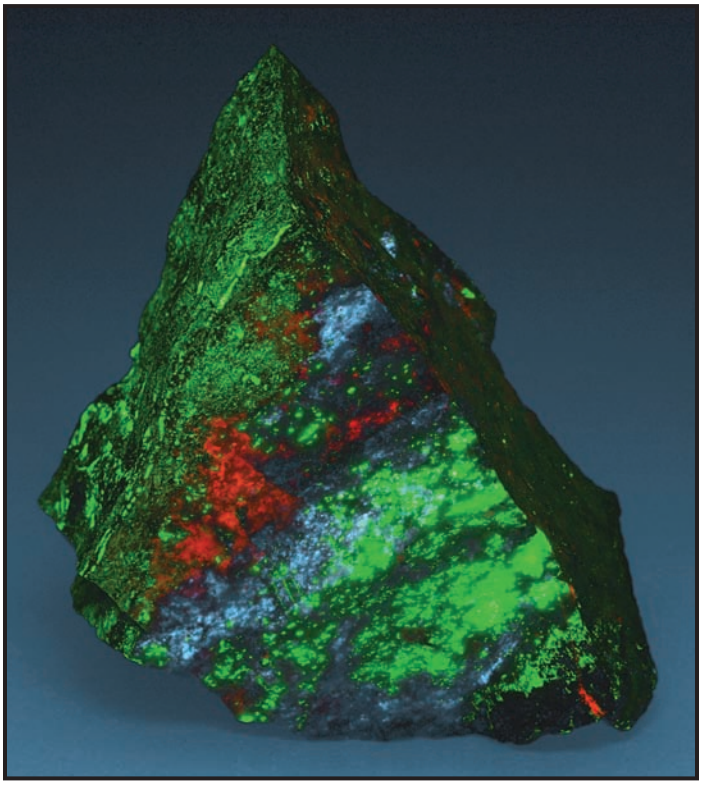

Figure 5. The same specimen shown in Figure 5 under shortwave UV, showing wollastonite (orange), margarosanite (light blue), and abundant willemite (green). *Earl R. Verbeek photo.*

cracks in the rocks) during metamorphism (Leavens, 1988). There is likely a continuum from primary, early, high-temperature wollastonite formed at peak metamorphic conditions to secondary, later, lower-temperature wollastonite that formed as part of retrograde metamorphic or hydrothermal alteration assemblages. Table 2 lists selected mineral associations for the different occurrence types of Franklin wollastonite. It shows at a glance both the similarities between occurrence types as well as the diversity of species—and, by inference, a variety of metamorphic conditions. Among the various minerals listed, clinohedrite, margarosanite, grossular, caswellite, and minehillite are indicative of alteration of pre-existing rocks.

Of the Franklin wollastonite types, the First, Second, and Third Finds appear to represent only minimally altered, primary metamorphic assemblages. The wollastonite in these finds tends to have a tabular habit except where the grains are tightly intergrown (e.g., First Find), and all show a vibrant, saturated orange fluorescence either uniformly throughout individual grains or, as in the Second Find, within their outer growth layers. Wollastonite from the Original-Find and Fibrous-habit occurrences, however, is clearly different and of later formation. Original-Find wollastonite occurs in irregular veinlike masses cutting a granular microcline-quartz matrix. Within the veins, discrete grains of wollastonite are embedded in a pale tan, fine-grained material, which for many years had been presumed to be clinozoisite. In January 2013, James

Table 2. Presence of Selected Minerals* Associated With Franklin Wollastonite by Occurrence Type† (alteration minerals are in italics)

Associated Mineral	Wollastonite Occurrence Type					
	Original Find	First Find	Second Find	Third Find	Fibrous Habit	Ore-Contact
Calcite	●	●	●	●	●	●
Willemite	●	●	●	‡	●	●
Andradite/Brown Garnet		●	●	●	●	●
Barite			●	●	●	§
Feldspar/Microcline	●				●	●
Diopside/Pyroxene	●			●	●	
Talc				●		
Clinohedrite		●	●			●
Hardystonite		●	●			
Bustamite		●				●
Grossular	●				●	●
Margarosanite					●	●
Minehillite					●	
Caswellite						●
Hendricksite						●
Franklinite					¶	●

* This chart represents a survey of specimens in each wollastonite category; individual specimens of a certain type may not have all the listed associated or accessory minerals.

† The Dump-Find wollastonite category is not included here because the few known dump-collected specimens do not collectively represent any one particular mineral assemblage or occurrence.

‡ In most cases, willemite that occurs in Third-Find wollastonite specimens is a surficial coating on wollastonite grains; it is likely attributable to willemite dust adhering to wollastonite surfaces exposed during mining. Primary willemite is known to occur naturally in a few Third-Find specimens.

§ The presence of barite in the Ore-Contact wollastonite occurrence is suggested by chemical data from the XRF analysis.

¶ Franklinite is a minor constituent in some Fibrous wollastonite specimens.

Van Fleet analyzed via powder X-ray diffraction a sample of this vein material from Franklin Mineral Museum specimen no. 557. It proved to be not one mineral, but a mixture of three species: grossular, microcline, and quartz. Wollastonite from this find fluoresces a saturated yellowish orange, a paler color than other Franklin wollastonite "finds." It also shows both a bright "flash" phosphorescence and a much dimmer, sustained phosphorescence. Fibrous wollastonite, in contrast, shows a "chalky," less saturated (more pastel) orange fluorescence,* lacks sustained phosphorescence, and occurs in hydrothermally altered rocks with grossular, minehillite, and margarosanite among the associated species. The finely fibrous habit of this wollastonite is unique among the named Franklin wollastonite types.

The wollastonite occurrence represented by the Boyer and Bostwick specimens does not conform closely to any of the categories of that mineral previously described. Whereas most other wollastonite at Franklin occurs near but not in direct association with the zinc ore, the Boyer and Bostwick specimens show wollastonite in direct contact with franklinite-willemite ore, with caswellite along the contact. The associated minerals of this newly recognized occurrence (green column in Table 2) show obvious parallels to specimens of Fibrous wollastonite (a.k.a. the minehillite assemblage), but the two are texturally distinct. The Ore-Contact wollastonite occurs not as small masses of divergent fibers, but as much finer-grained, cherty masses within which the habit of the wollastonite grains could not be discerned by hand-lens examination. This wollastonite, even where intimately intergrown with pink grossular, shows a vibrant, saturated orange fluorescence and "flash" phosphorescence identical to those of the First and Third Finds of wollastonite. In this, too, it differs from Fibrous wollastonite. Although it seems clear from textural evidence that some of the minerals of the Ore-Contact occurrence (including franklinite, willemite, andradite, and bustamite) are members of the original peak-metamorphic assemblage, and others (including clinohedrite, margarosanite, grossular, and caswellite) are of later formation, the position of the wollastonite within the overall mineral paragenesis is not yet known with certainty. However, its exceedingly fine-grained nature and intergrowth with grossular suggest that it is part of the later alteration assemblage.

CONCLUSION

Another occurrence for wollastonite from Franklin has been identified. Since the specimen base for this occurrence at present is small, only generalizations can be made as to its characteristics, much less as to its paragenesis. Of greatest significance, however, is that this is the only known occurrence of Franklin wollastonite in direct contact with primary zinc ore. And unlike other Franklin wollastonite occurrences, this one most clearly represents two distinct stages of mineral formation at Franklin: 1) primary, early-stage zinc ore (franklinite with subordinate willemite) and associated calc-silicate minerals (andradite, bustamite, hendricksite, feldspar), and 2) later alteration minerals (i.e., wollastonite, margarosanite, grossular, clinohedrite, caswellite).

At present, only three examples of this wollastonite occurrence are known. The Bostwick specimens were originally labeled expressly as margarosanite specimens, and specimen MB2519 was almost certainly also collected for its margarosanite, which is the brightest and most prominent fluorescent mineral in this piece (albeit of modest quality, as margarosanite specimens go). Hence, it is possible that other examples of this occurrence of wollastonite were preserved, even if inadvertently, and may still reside in old collections.

ACKNOWLEDGEMENTS

Thanks are due to Brad Jordan, Director of Laboratories, Department of Geology, and James Van Fleet, technician, both of Bucknell University, for the XRD analyses that identified diopside and talc in the Third-Find wollastonite assemblage and microcline, grossular, and quartz in the Original-Find wollastonite assemblage. The authors also thank Richard Bostwick for the loan of his specimens.

REFERENCES

Baum, John L. (1972), Wollastonite. *The Picking Table*, vol. 13, no. 1, pp. 4-6.

Bostwick, Richard C. (2004), Wollastonite From Franklin, New Jersey. *The Picking Table*, vol. 45, no. 2, pp. 9-36.

Carr, Paul F. and Verbeek, Earl R. (2009), Mark Boyer Specimen No. 2519, October 2009. Unpublished analyses and commentary. Data on file at Franklin Mineral Museum, Franklin, N.J.

Dunn, Pete J. (1995), *Franklin and Sterling Hill, New Jersey—the World's Most Magnificent Mineral Deposits*. Privately published, 755 pp.

Leavens, Peter B. (1988), Protore and Metamorphism of the Franklin and Sterling Hill (New Jersey) Zn-Fe-Mn Ore Deposits [abstract]. *V.M. Goldschmidt Conference*, Programs and Abstracts, p. 56.

* Recent investigation suggests that this "chalky" color under UV is due to surface alteration upon long-term exposure to the atmosphere and/or UV light. Freshly broken surfaces of Fibrous wollastonite fluoresce a more saturated orange that is comparable to the other Franklin wollastonite "finds."

Letters From the Past

GEORGE ELLING
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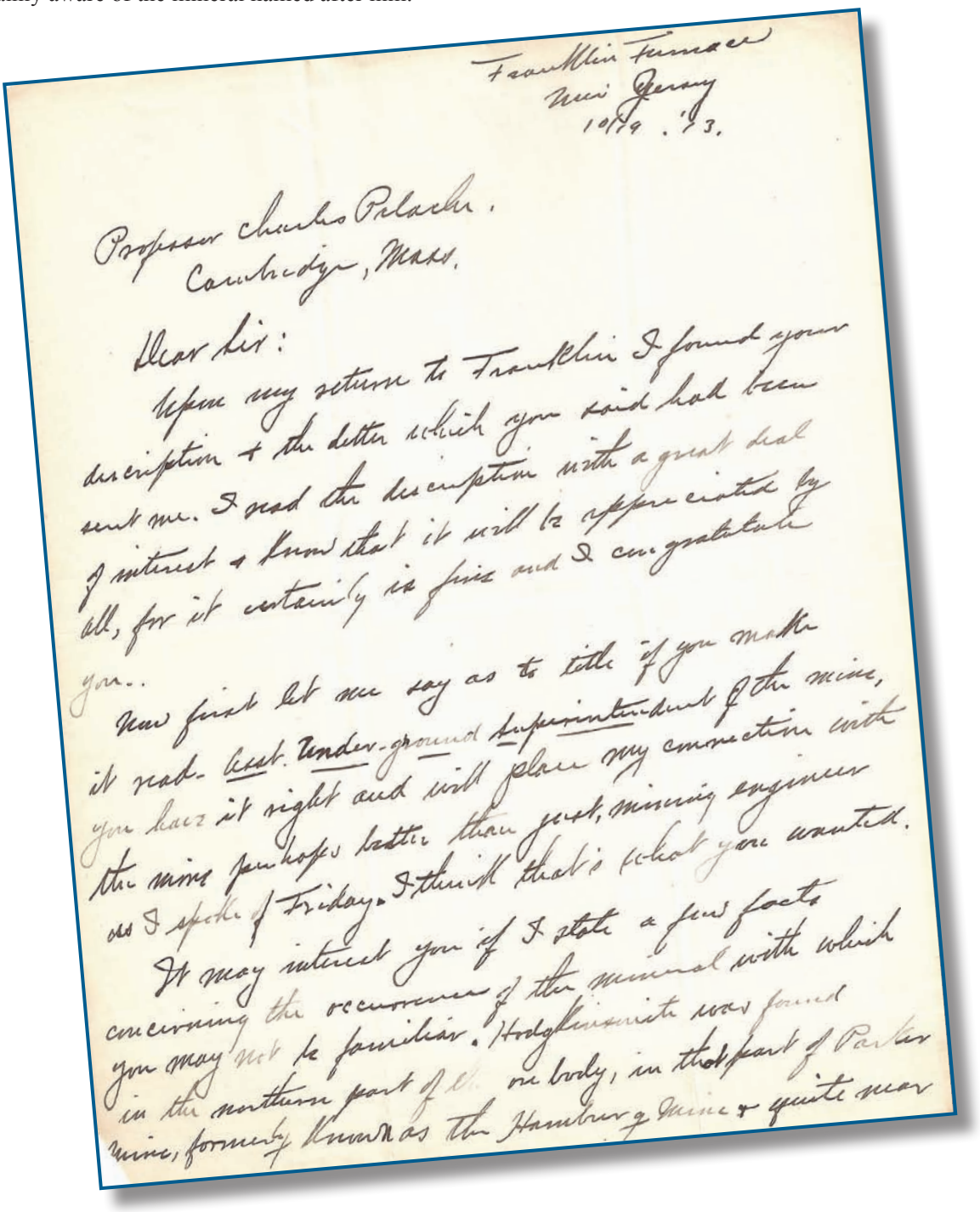
For our 9th installment of *Letters From the Past*, we are featuring a fascinating letter from Harold H. Hodgkinson to Professor Charles Palache. Very little information has been written about Mr. Hodgkinson, although we, as avid Franklin collectors, are certainly aware of the mineral named after him.



Franklin Furnace
New Jersey
10/19 . '13.

Professor Charles Palache.
Cambridge, Mass.

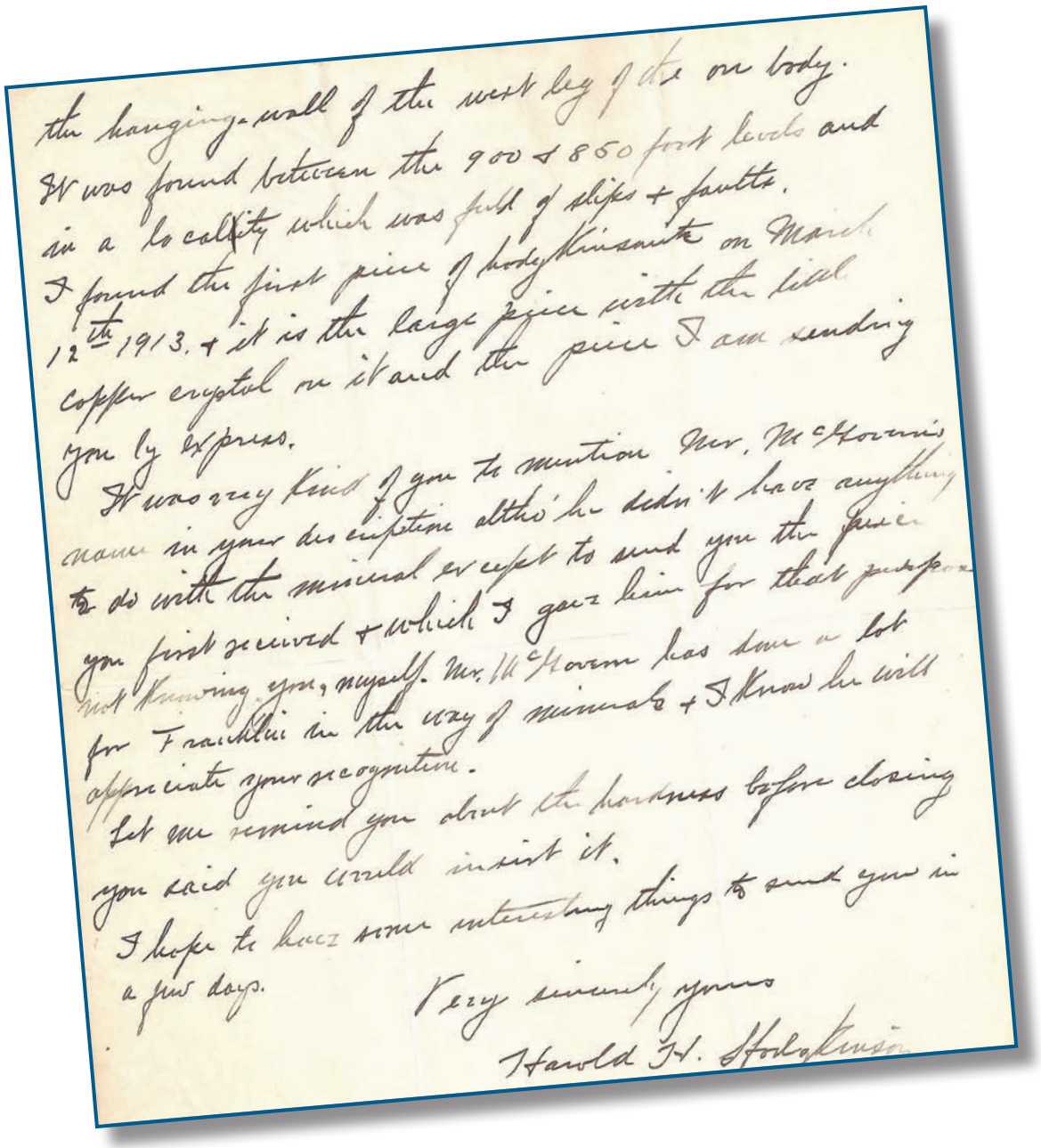
Dear Sir:

Upon my return to Franklin I found your description + the letter which you said had been sent me. I read the description with a great deal of interest + know that it will be appreciated by all, for it certainly is fine and I congratulate you..

Now first let me say as to title if you make it read- Asst. Under-ground Superintendent of the mine, you have it right and will place my connection with the mine perhaps better than just, mining engineer as I spoke of Friday. I think that is what you wanted.

It may interest you if I state a few facts concerning the occurrence of the mineral with which you may not be familiar. Hodgkinsonite was found in the northern part of the ore body, in that part of Parker mine, formerly known as the Hamburg Mine + quite near

This letter, written 99 years ago, informs Dr. Palache where hodgkinsonite was first found, and also provides a little background on Hodgkinson himself, including his job title (Assistant Underground Superintendent) at the Franklin mine. Apparently, Palache may have thought that Mr. McGovern had something to do with the initial discovery of hodgkinsonite, which Hodgkinson flatly quashes, although giving McGovern credit for doing "a lot for Franklin." We now know that the first hodgkinsonite specimen was found on March 12, 1913. Perhaps the FOMS should salute Mr. Hodgkinson on the 100th anniversary of his discovery during our first meeting this year. ⚒



the hanging-wall of the west leg of the ore body. It was found between the 900 & 850 foot levels and in a locality which was full of slips & faults. I found the first piece of hodgkinsonite on March 12th 1913, & it is the large piece with the little copper crystal on it and the piece I am sending you by express.

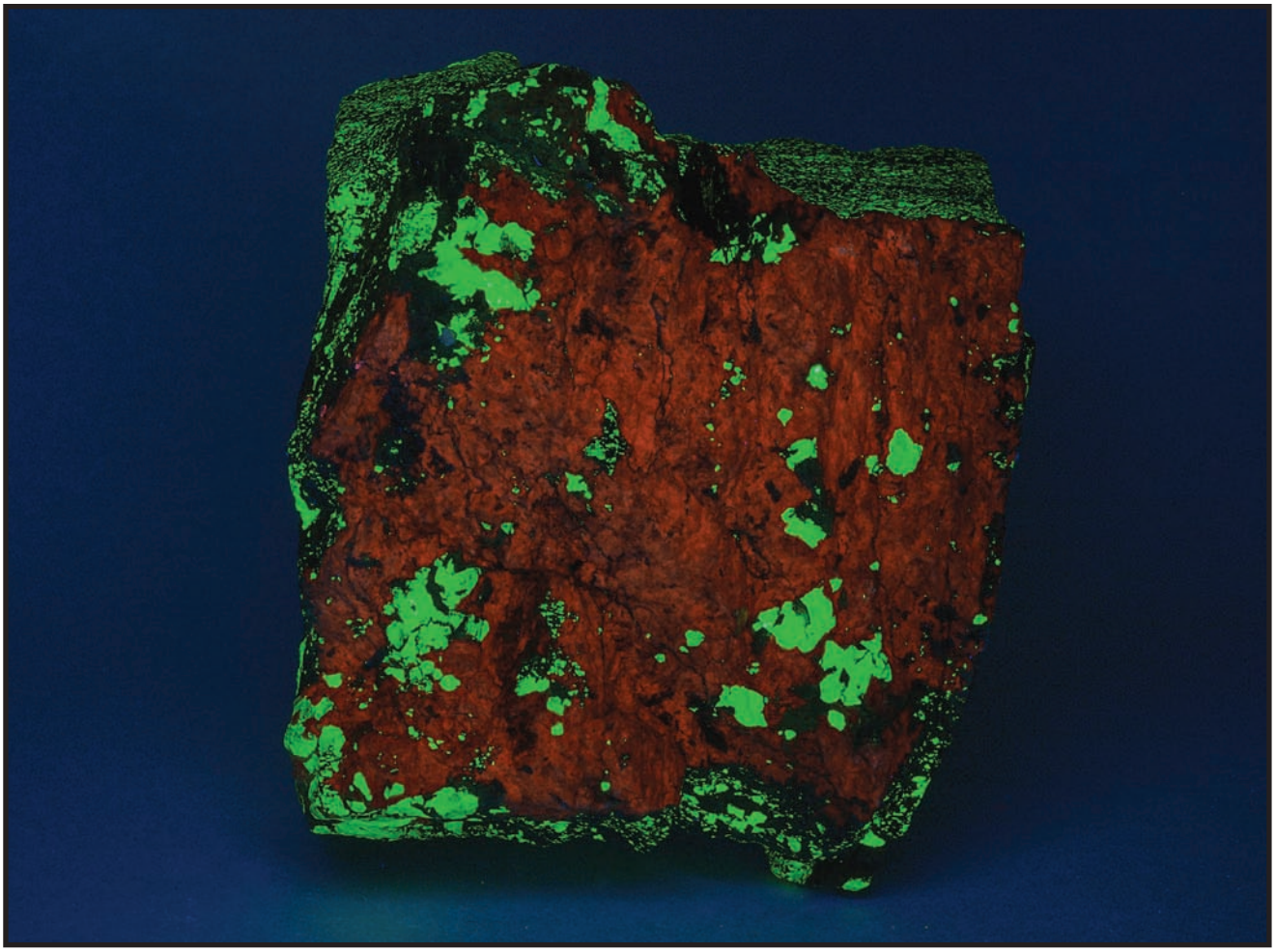
It was very kind of you to mention Mr. McGovern's name in your description altho' he didn't have anything to do with the mineral except to send you the pieces you first received & which I gave him for that purpose not knowing you, myself. Mr. McGovern has done a lot for Franklin in the way of minerals & I know he will appreciate your recognition.

Let me remind you about the hardness before closing you said you would insist it.

I hope to have some interesting things to send you in a few days.

Very sincerely yours

Harold W. Hodgkinson



Pictured here, under medium-wavelength ultraviolet (MWUV) light and daylight, is the largest known hedyphane from Franklin, N.J. It measures 7¾″ × 6″ × 5″ (20 × 16 × 13 cm) and weighs 27 pounds. It is owned by the Franklin Mineral Museum, where it was hiding in plain sight for many years in the large fluorescent mineral exhibit. The specimen's identity as a hedyphane was unknown until December 2012, when a museum volunteer, working on the ultraviolet lighting system in the fluorescent mineral exhibit, happened to notice a large, particularly unattractive rock on one of the shelves of the display. The side facing forward was a nondescript mass of granular franklinite and willemite. "What's *this* big ugly chunk of crud doing here?" he commented to the museum's collections manager, Lee Lowell. "I dunno," Lee replied. "Maybe it's in there backwards." The volunteer hefted the rock from the shelf, flipped it around, and exclaimed, "Holy cow! Do you know what this is? It's the biggest hedyphane I've ever seen!" The uncataloged specimen was forthwith taken back to Lee's office, where it was entered into the museum collections database as FMM-7428.

As noted by Dr. Pete J. Dunn, hedyphane has an apparent affinity for rhodonite, and these two minerals typically occur together in veins cutting ore. The hedyphane face of this specimen is on a vein of pink rhodonite, part of which can be seen in the daylight photo. Together the rhodonite and hedyphane are about 1¼″ (3 cm) thick. Most hedyphane from Franklin fluoresces a "burnt orange" under MWUV light, as does this specimen. Unfortunately, the museum currently has no MWUV fluorescent exhibit, so this monster hedyphane remains in the museum's reference collection for now. Hopefully someday this whopper will be exhibited, face forward, under the right light. Photographed face is 7¾″ × 6″ (20 × 16 cm). *E.R. Verbeek photos.*