The PICKING TABLE

JOURNAL OF THE FRANKLIN–OGDENSBURG MINERALOGICAL SOCIETY

Volume 41, No. 1 - Spring 2000 $10.00 U.S.

Minehillite

Scheelite

Land Access

Million Dollar Show

SEE A MILLION DOLLAR$ IN GOLD !

28th ANNUAL NJ EARTH SCIENCE ASSOCIATION
GEM & MINERAL SHOW & Outdoor Swap & Sell

***Two show locations**, directly across the road from each other:*

- **Robert E. Littell Community Center** (Formerly known as the Franklin Armory) **and**
- **Hardyston Township School**

both near intersection of Routes 23 and 517
in Franklin, NJ

This is an indoor & outdoor event

Free shuttle service is available

April 29, 2000, Sat. 9 AM - 5:30 PM
April 30, 2000, Sun. 10 AM - 5 PM

Donation: ***$4.00 per person*** - Children under 14 FREE with paying adult
Donation covers both show locations

Over 100 Dealers in Gems, Minerals and Fossils

A collaborative effort by the
Franklin-Ogdensburg Mineralogical Society
New Jersey Earth Science Association
Sterling Hill Mining Museum
all non-profit organizations

For information: Sterling Hill Mining Museum (973)209-7212

The PICKING TABLE

JOURNAL OF THE FRANKLIN–OGDENSBURG MINERALOGICAL SOCIETY

Feature Articles

Columns

Activities

Announcements

On the Cover: (Left to Right) Jay Apt, Director, Carnegie Museum of Natural History; Marc Wilson, Curator, Carnegie Museum of Natural History; Earl Verbeek, Fluorescent Mineral Curator, Sterling Hill Mining Museum; Richard Hauck (Carnegie Award Receipient), President, Sterling Hill Mining Museum; Steven Phillips, Vice-President Sterling Hill Mining Museum; Steve Misiur, Curator, Sterling Hill Mining Museum

The Picking Table

Vol.21, No. 1 - Spring 2000

Managing Editor
Peter Chin

Editors
Richard C. Bostwick
Tema J. Hecht
Paulus Moore
Earl Verbeek
Gary Grenier

Production & Design
Wellington Chin

The Picking Table is published twice each year, in March and September, by the Franklin-Ogdensburg Mineralogical Society, Inc. (FOMS), a non-profit organization.

The Picking Table is the official journal of the FOMS, and publishes articles of interest to the mineralogical community which pertain to the Franklin-Ogdensburg, New Jersey area.

Articles related to the minerals or mines of the district are welcome for publication in *The Picking Table*. Prospective authors should address correspondence to:

FOMS/Picking Table
13089 Park Crescent Circle
Herndon, VA 20171

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

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

Subscription to *The Picking Table* is included with membership in the FOMS. For membership, back-issuse, and information, write to: John Cianciulli, Treasurer FOMS, 60 Alpine Road, Sussex, New Jersey 07461.

FRANKLIN-OGDENSBURG MINERALOGICAL SOCIETY, INC.

SPRING 2000 ACTIVITY SCHEDULE

Saturday, March 18, 2000

10:00 A.M. - Noon — F.O.M.S. Micro Group, Franklin Mineral Museum.

1:30 - 3:30 P.M. — F.O.M.S. Meeting and Lecture, Franklin Mineral Museum:

Mining Methods in New Jersey, by Mark Zdepski, professional geologist.

Saturday, April 15, 2000

9:00 - Noon — F.O.M.S. Field Trip — Buckwheat Dump, Franklin Mineral Museum.

10:00 - Noon — F.O.M.S. Micro Group — Franklin Mineral Museum.

1:30 - 3:30 P.M. — F.O.M.S. Meeting and Lecture — Franklin Mineral Museum:

The Crater at the Edge of the World, by Geoffrey Notkin.

[A visit to the 70-mile-wide Popigai meteorite crater in northern Siberia]

6:30 P.M. - 9:00 P.M. — **Night Collecting on the Mine Run Dump, Sterling Hill, for members of the Sterling Hill Mining Museum Foundation. Fee: $1.00/lb.

Eye protection, flashlight, and UV lamp advised.

Saturday and Sunday, April 29 and 30, 2000

SPRING SHOW WEEKEND

The Seventh Annual F.O.M.S. Spring Swap-and-Sell, held in conjunction with the **28th Annual N.J.E.S.A. Gem & Mineral Show**. Both events are being held at the Robert E. Littell Community Center and the Hardyston School in Franklin, the F.O.M.S. Swap-and-Sell outside and the N.J.E.S.A. Show inside. The Littell Center and the Hardyston School are located at the south end of Franklin on opposite sides of Route 23, near the intersection with Route 517.

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

N.J.E.S.A Show hours: Saturday, 9:00 A.M. to 5:30 P.M.; Sunday, 10 A.M. to 5:00 P.M.

[For Swap-and-Sell information, contact Chet Lemanski after 8:00 P.M. at (609) 893-7366.]

BANQUET AND AUCTION:

Banquet and Auction Saturday evening at the GeoTech Center, Sterling Hill Mining Museum. Social hour at 5:30 to 6:30 P.M. followed by an all-you-can-eat buffet from 6:30 to 7:30 P.M. Banquet Tickets are $13.50 each and include all food, coffee, tea, and soft drinks. B.Y.O.B.!! Silent Auction from 5:30 to 7:30 P.M., and Live Auction at 7:45 P.M. Both auctions are for the benefit of all three show sponsors: NJESA, FOMS, and the Sterling Hill Mining Museum.

FIELD COLLECTING:

**Trotter Dump Field Trip, organized by the Delaware Valley Earth Science Society (DVESS). Schedule: Saturday, 9:00 A.M. to 7:00 P.M., then after dark from 7:30 P.M. to 11:00 P.M. $20 for all day, plus $1 per pound for material collected before 7:00 P.M. and $2 per pound for material collected after dark. For reservations contact Don Halterman, 1708 Ralston Drive, Mt. Laurel NJ 08054. E-mail information at: trotterdump@yahoo.com

**Collecting Sunday from 9:00 A.M. to 3:00 P.M. at the Mine Run Dump, Sterling Hill Mining Museum. Admission $10 (good for 10 pounds), plus $1/lb. for additional material collected.

Sunday, May 7, 2000

1:30 P.M. – **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 20, 2000

8:00 A.M. - Noon — F.O.M.S. Field Trip — Noble and Passaic Pits, Sterling Hill Mining Museum ($1/lb., 10 lb. minimum); Pits open from 8:00 A.M. to 3:00 P.M. for SHMM Assoc. members.

10:00 – Noon — Micro Group — GeoTech Center, Sterling Hill Mining Museum.

1:30 P.M. - 3:30 P.M. — F.O.M.S. Meeting and Lecture — Franklin Mineral Museum

Memories of Franklin and Ogdensburg, by Bernard Kozykowski

Sunday, May 21, 2000

9:00 A.M. - 3:00 P.M. — F.O.M.S. Field Trip — Lime Crest Quarry, Limecrest Road, Sparta, NJ. This is an invitational field trip hosted by the F.O.M.S., and is open to members of mineral clubs which carry E.F.M.L.S. membership and liability insurance. Proof of E.F.M.L.S. membership/insurance required. Proper safety gear a must.

Saturday, June 3, 2000

8:00 – 11:00 P.M. — **Spring Night Dig and Mineral Sale at the Buckwheat Dump, Franklin. Sponsored by the Franklin Mineral Museum. Open to the public – poundage fee charged. Eye protection, flashlight, and UV lamp advised.

Saturday, June 17, 2000

9:00 A.M.- Noon — F.O.M.S. Field Trip — Franklin Quarry, Cork Hill Rd., Franklin.

1:30 P.M. - 3:00 P.M. — F.O.M.S. Meeting and Lecture, Franklin Mineral Museum.

Review of Three Mineral Collecting Localities at Anthony's Nose on the Hudson River near the Bear Mountain Bridge, by John Betts.

Scheduled activities of the F.O.M.S. 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. F.O.M.S. meetings are open to the public, and are held at 1:30 P.M., usually in Kraissl Hall at the Franklin Mineral Museum, Evans St., Franklin NJ (check listings for exceptions).

F.O.M.S. field trips are generally held on the mornings before regular F.O.M.S. meetings. These field trips are open only to F.O.M.S. members aged 13 or older. An exception to the membership requirement is the Lime Crest Quarry field trip, sponsored twice a year by the F.O.M.S.; this is open to members of clubs which have E.F.M.L.S. liability insurance or equivalent coverage. Proof of membership is required for all field trips, as well as proper field trip gear: hard hat, protective goggles or glasses, gloves, and sturdy footwear.

**Activities so marked are not sponsored by the F.O.M.S. but may be of interest to its members; such functions may incur fees and/or require membership in other organizations

Message from the President

By Steven Kuitems, D.M.D.

Peace, tranquility, and quiet marked the passage of my New Year's Day. I hope yours was this way also after the excitement and anticipation of New Year's Eve celebrations. For the most part the hype and worry many feared for Y2K has not materialized, and all the emergency centers remained boringly calm. I turned on my computer and found nothing amiss in this ethereal world, neither did I find anything out of place among the more tangible collectibles in my rock room. Thankfully those are not time-sensitive. No, I found nothing more than the usual clutter, and the challenge of finding what I really need at any given moment, though sometimes a bit of housecleaning can have its rewards for the collector.

What really was on my mind, though, was the nagging feeling that maybe something was missing after all....not specimens, but information. Yes, at times I find there appears to be an entropic tendency for bits of information I though were secure to leap suddenly from their prior comfortable abode into the ignominy of some forgotten corner of my memory bank. In other words, I did not provide a hard copy as a default backup. Therefore I resolve to start writing down more information for myself (and my specimens) in this New Year.

What is all this leading to? Not just an introspective moment leading to a New Year's Resolution, but a concern that as prior generations pass on to their deserved rest or retirement, we don't forget to preserve their accumulated information, knowledge, and experiences. In many cases the opportunity for preservation has irretrievably passed, and only speculation remains. I am reminded of this when I see the dwindling numbers of retired Franklin miners, and wonder about their experiences working in the mine, and the many stories that were never written down. There are certainly more opportunities to find miners who worked in the Sterling Hill mine, and record their experiences underground. This would make a fine project for anyone interested in preserving local oral history.

One of the little joys in preserving data of this sort is to create a wider base of information for appreciating the rocks and minerals our society has chosen to preserve. It is very satisfying to know not only the identity of our minerals, but also who collected them and where in the mine they came from. What story does a specimen tell us about geology, mining history, and the human endeavors that lead to its recovery? Yes, I could go on, but I will not belabor the point; I am as guilty as anyone in not keeping the information that came with a specimen when I acquired it. Indulge me, please, while I share two examples which recently gave me joy. The first was a 2" x 3" specimen from Franklin that had several bright yellow spots of greenockite in a carbonate-serpentine matrix, not terribly exciting in itself. Now as it turned out, it had not one but two labels, one of which included the name of the man who had collected it...none other than the venerable Charles Palache! Those who know and appreciate significant Franklin people can enjoy the contrast this greenockite makes with some of the ignominious, unlabeled, and otherwise undocumented specimens that lurk in my collection. The second example comes from the Rutgers Geology Museum's collections, where one can appreciate the data one man wrote down, preserving precise mine coordinates for many specimens he collected underground at Franklin: none other than Mr. Rowe, mine captain. Not only do we know the whereabouts for many of his specimens, but also the who and what...

To know more about a mineral specimen than just "It's a Franklin rock" is a tribute to those individuals who took the time and effort to write down what they knew, and keep it with the specimen. Scraps of fact by themselves seem unsatisfying and disjointed, but are much more satisfying when placed in the broader context of human endeavor and geologic history. When we can achieve this within our own collections I think we can have a truly great experience, and a more complete appreciation of FOMS' chosen field of study. Perhaps the special excitement around "our" locality will encourage us to continue learning, and expanding our database for the Franklin and Sterling Hill area. God bless you all in the new year, century, and millenium.

Steven M. Kuitems, D.M.D.
14 Fox Hollow Trail
Bernardsville NJ 07924

FRANKLIN MINERAL MUSEUM NEWS

John Cianciulli, Curator
Franklin Mineral Museum
P.O. Box 54
Franklin, NJ 06416

The curatorial department expects to complete some improvements to the museum's fluorescent display in time for the spring 2000 opening. We will be doing something new with the glass cage in the mine replica. Ideas are welcome! The museum has donated its X-ray diffractometer to Dr. Paulus Moore, who has set up a very fine research facility on his estate in Warwick, NY.

Curation of the museum'e collections is a never-ending job. One of the most thankless jobs the curator has is dusting shelves! Weather permitting, we expect to do this the last week in February. Any volunteers? Call us at (973) 827-6671. Dusting volunteers must not wear long overcoats with deep pockets, or carry oversize lunch bags or pails, etc.! (Just kidding.)

Over the last couple of years, mineral identification requests have increased significantly. This is a good thing. Don't be shy about showing us your treasures! You never know when you may find the next petedunnite or johnbaumite. This is how we all learn! We are still awaiting word from the Czechs on material collected on the Buckwheat Dump. Monazite collected there was revisited, and though we are not ruling out the possibility of monazite-(La), data suggesting this occurrence was insufficient to make that determination. Notes on minehillite were recently published in Bill Mattison's e-mail FrOg Newsletter. The Fluorescent Mineral Society will be publishing these notes in their newsletter, and they have also been submitted to the *Picking Table* editors for possible publication.

The following people have recently made donations to the museum:

Greg Anderson – mid-range UV lamp

Jack Baum – world-wide minerals for resale

Rich Bieling – minerals

Joe Klitsch – minerals

Mark Boyer – slide projector

Carol Durham – volunteer clerical and administrative services

Dr. Pete J. Dunn – 197 Part III monographs

Lee Lowell – minerals for resale

See FMM News, Page 7

NEWS FROM STERLING HILL

Joseph Kaiser
40 Castlewood Trail
Sparta NJ 07871

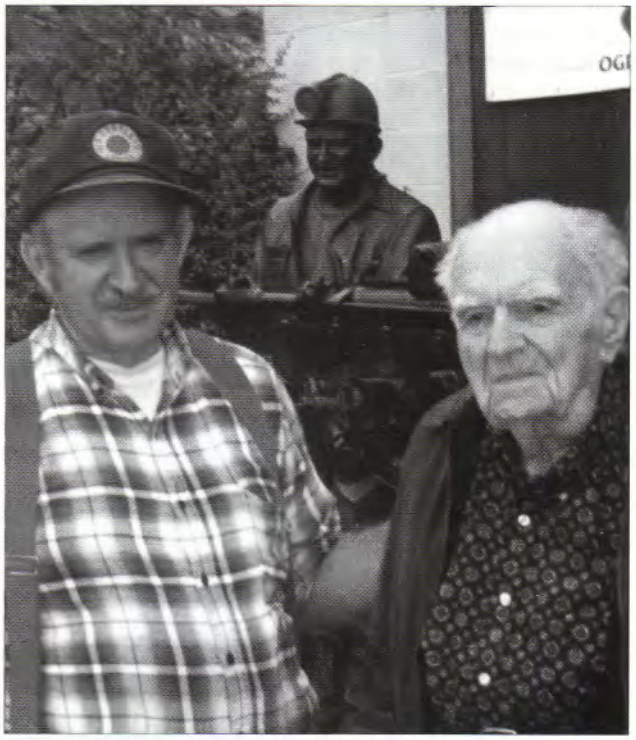
Many milestones and major events have happened over the past year. This marks the tenth year of the Sterling Hill Mining Museum, an effort to preserve and maintain something special and unique. The Thomas S. Warren Museum of Fluorescence was dedicated on October 16, 1999 in the Geo-Tech Center. That evening, visitors to the dedication were allowed a night-dig in the Passaic and Noble pits. Many took advantage of this unusual opportunity. Since then the Fluorescent Mineral Society has recognized the Thomas S. Warren Museum of Fluorescence as its official museum.

The Thomas S. Warren Museum of Fluorescence will be opening this spring once permanent displays replace the temporary ones set up for the dedication. Earl Verbeek and Richard Bostwick had helped decide on the fifteen themes chosen for the displays, including "Causes of Fluorescence," "'Terlingua-type' Calcite," and "Fossils." They were helped by Maureen Verbeek, Tema Hecht, Don Newsome, and others in setting up the exhibits.

The GEMS Teacher Education Program received praise for their program relating to the necessity and uses of mining and minerals. There are now many teachers from NY, NJ, and PA who participate in the program.

On Saturday, April 15, night collecting will take place on the Mine Run Dump for SHMM members only. Collecting in the Passaic and Noble pits for SHMM members only will be on May 20 from 8:00 A.M. to 3:00 P.M.

See Sterling, Page 23



Thomas S. Warren (r.) with SHMM President Richard Hauck at the Warren Museum dedication. (Photo by Steve Misiur)

FIELD TRIP REPORT

Steven M. Kuitems, D.M.D.
14 Fox Hollow Trail
Bernardsville NJ 07924

STERLING HILL MINE RUN DUMP

Oct. 16, 1999

An interesting Passaic Pit specimen was found, of all places, on the discard pile next to the darkroom shed; it had a 8 x 17 cm face covered with weathered sphalerite, minor galena, and a clay-like material peppered with small amounts of colorless cerussite (which fluoresces yellow in LW UV) and a blue serpierite-like mineral. One interesting specimen was broken open; it consisted of seams of greenish-gray fibrous tremolite with abundant sphalerite, along with brown mica and well-crystallized reddish-brown garnet. Several collectors located some good examples of weathered zincite-rich ore with coatings of blue-fluorescing hydrozincite.

LIME CREST QUARRY

Oct. 17, 1999

After a hot, dry summer, most collectors were pleasantly surprised by the bright fall colors that greeted them as they came through Sussex County on their way to Lime Crest. Most of these travelers were not disappointed with what was in the quarry, either.

The hunt for fluorescence proved successful, first yielding norbergite grains in bands as much as 10 cm thick; these fluoresced bright yellow in SW UV. Much energy was spent by several collectors who dismantled meter-sized boulders with a peculiar mix of opaque white feldspar grains 5-10 cm across and patches of pale smoky quartz. This feldspar had a moderately bright magenta fluorescence in SW UV. Some specimens of pale green scapolite in crude crystals and bands were located in the lowest levels of the quarry; the bands were up to 15 cm across, and they fluoresce pink in SW UV and orange-peach in LW UV.

One of my favorites for LW fluorescence is corundum. Several finds of purple to violet crystals which fluoresced bright red were found on the middle benches of the quarry. These were recovered from a series of boulders that contained coarse-grained phlogopite, small crystals of gray spinel, and stout, lustrous, and very sharp crystals of rutile as much as 1 cm across. Some of the corundum crystals, which were as large as 4 cm in diameter and 6 cm long, were zoned, and colored deep blue near their centers. Another find of corundum, in crude pale-gray to pale-blue crystalline masses as large as 4 cm, did not fluoresce.

A few scattered uvite crystals in six-sided prisms fluoresced creamy yellow in SW UV; these ranged in size from less than 2 cm to about 5 cm. The last fluorescent specimens of the day were small crystals of blue fluorapatite, typically several mm wide and less than 2 cm long; these fluoresced a bright pale blue in SW UV. Many of the fluorapatite crystals were near a large excavation that several collectors dug in the rubble to retrieve dark brown pargasite crystals that were very sharply crystallized, the largest of them being about 5 cm x 8 cm.

Several collectors found some nice pyrite cubes as large as 2" on an edge, and even a thin vein of pyrite in the gneiss. On the lowest level, in pegmatite, were many small but sharp crystals of dark brown sphene. This area also produced a few masses of pink grossular, but alas, no crystals.

The dolomite zone produced some small cm-sized masses of purple fluorite and a few white barite blades as large as 2 cm across. From the lower benches only a few isolated crystals of norbergite were recovered, the largest 1 x 2 cm, and no more than a handful of dark gray and purplish cm-sized spinels. This was truly a fine day to be out collecting in the field!

FRANKLIN QUARRY

Nov. 20, 1999

The operative word here was dust, or to be precise, white dust on everything. Due to ongoing legal action at the Lime Crest quarry by several disgruntled neighbors concerned about dust from quarry blasting, the focus of Southdown's local production has shifted to Franklin. The benefit to collectors has been a lot of action at this otherwise sleepy quarry. The challenge was in finding something that wasn't white; in future trips here it may be necessary to bring a whisk-broom and an extra bottle of water to check for potential specimen material among all the dusty white boulders.

Several people reported finding some respectable bulls-eyes of diopside, tremolite, norbergite, and fluorite. Under shortwave UV these are visible as moderately bright concentric rings of yellow and pale-blue fluorescence. The larger bulls-eyes can be as much as 30 cm across.

Some purple fluorite pods with crude 1-cm crystals were encountered in vuggy dolomitic marble from the area of the lower drop-cut. Several pyrite crystals were recovered, in both cubic and octahedral forms; most were on the small size but some were 1 cm on an edge.

Two collectors found bands several cm across of yellow norbergite grains; these had a nice bright-yellow response to shortwave UV.

Probably the most interesting material found this day was a margarite assemblage from the southern wall of the quarry. This was a mix of margarite, phlogopite, diopside, pyrrhotite, and rutile, with grain sizes ranging from 1 cm to much smaller. Under shortwave UV the margarite fluoresced a moderately weak yellow, and the diopside a moderately strong pale blue.

FMM News from Page 5

Claude Poli – manual labor
Christian Thorsten – manual labor
Tri-State Auctions – minerals for resale
Bill Welsh – mineral books
Dru Wilbur – manual labor

The recent change in curators at the Franklin Mineral Museum is one of the most important transitions in the history of that institution. The new curator wished to provide some background about himself and his predecessor, but was reluctant to appear in this capacity in the first person. The following mini-biographies of John L. Baum and John Cianciulli were written by the editors of The Picking Table *from information and drafts supplied by Mr. Cianciulli.*

The Franklin Mineral Museum enters the new millenium facing a change of seismic proportions. John Leach Baum, curator of this museum since its inception in 1965, is retiring at the age of 84. While many of the onerous chores attending routine performance of a curator's duties have been lifted from his shoulders, Jack retains his office and the title of Curator Emeritus, and is under formal instructions to "come in and play" as circumstances permit. Between his ongoing physical presence and the fact that he has always been the greatest influence on the museum's development, it is clear that his influence, guidance, and inspiration will continue to be felt.

Jack's contributions as Franklin and Sterling Hill's resident geologist, mineralogist, and historian began long before his tenure as museum curator. A graduate of Harvard who studied under Prof. Charles Palache, Jack went to work for the New Jersey Zinc Co. as a geologist in 1939. His professional contributions include many internal N.J.Z. Co. reports, and scientific papers co-authored with Clifford Frondel, Cornelius Hurlbut, Jr., and Pete J. Dunn. He has also collaborated productively with many other scientists, from Lawson Bauer to Paulus Moore. It is significant that the bulk of Jack's personal mineral collection, with its wealth of studied and mine-located specimens, was donated to the National Museum of Natural History, already heavy with Franklin-area material from the Canfield, Roebling, Bauer, and Trofimuk collections.

Jack's honors include the naming of the mineral johnbaumite (1980), the presentation of FOMS's Lawson Bauer Award, and more recently the naming of John Leach Baum Hall at the entrance to the Franklin Mineral Museum.

While with the museum, Jack has not only performed all possible duties of a curator, from organizing the collections and displays to emptying wastebaskets, but has also written, spoken, and lectured extensively about local geology, history, and minerals. He has been an advocate for the museum in local political circles, and has on occasion supported museum projects out of his own pocket. The Franklin Mineral Museum without Jack Baum is unthinkable; his influence on the institution is so broad and deep that it will always be there. "If his monument you seek, look around you."

****

John Cianciulli has been promoted from assistant curator to curator of the Franklin Mineral Museum. John's interest in Franklin-Sterling Hill minerals goes back to the early 1960s. This interest intensified in 1971 after he spent time with the USAF in Okinawa and Southeast Asia during the Vietnam conflict. Prior to entering the military, John worked for a company manufacturing jet engine parts. Following his discharge he worked during the day as an auto mechanic, and at night for the 3M Company as a photographic engineer. Later he went to college under the G.I. Bill, and received an associate's degree in accounting and loan management. He then managed loan offices, first for Local Finance and then Morris County Loan. Finally he went to work for the State of New Jersey Dept. of Corrections as a vocational teacher and group counselor. Here his skills in electronics and the construction and automotive trades were particularly relevant, and he eventually used them to obtain a teaching degree from the State of New Jersey. In 1981 John was certified by the State of New Jersey to work with retarded and mentally disturbed offenders. He retired in 1987, at which time he was attending Trenton State College, majoring in education and abnormal psychology. During his career with the state he developed vocational programs which are still in use today.

In his earlier days as a mineral hobbyist John was well known as a field collector (see "Lasting Impressions," p. 40, *Picking Table,* Vol. 40, 1999) who was particularly adept at identifying rare species. During this period he assembled three notable collections, now all dispersed. He also became a skilled lapidary. Since retirement, some time after joining the staff of the Franklin Mineral Museum as a volunteer, John has devoted nearly all of his time to minerals and the local "mineralculture." He has been a trustee of the Franklin Mineral Museum since the early 1980s and has served as FOMS treasurer for many years.

By John's account, during his museum duties as volunteer and then assistant curator, the pursuit of knowledge replaced the lust for specimens typical of mineral buffs. John studied optics under Dr. Pete Dunn, and has of course worked closely for many years with the museum's former curator Jack Baum; John considers himself inspired by both men. In the last decade, as John's skills have developed, he has become more involved in formal mineral identification, and has written articles about Franklin minerals and related topics. He is widely recognized for his knowledge of minerals, notably those of Franklin and Sterling Hill.

Fluorescent Forum

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

Fluorescent Dolomite from Franklin and Sterling Hill

Fluorescent dolomite has been identified as a major component of so-called "crazy calcite" from Franklin and Sterling Hill. The name derives from the contrast between "crazy calcite's" uniform appearance in day light and its sharply zoned bright orange-red vs. moderate to weak red fluorescence under shortwave uv. The less brightly fluorescing component is dolomite. This adds another species to the fluorescent mineral *Check-List* for our area.

The term "crazy calcite" was in use when I began collecting at Franklin in 1960, but I haven't found it in print before my article, "The Fluorescent Minerals of Franklin and Sterling Hill: A Progress Report for 1977", in the March 1977 Picking Table, on p. 21: "then there is the rather well-known 'crazy calcite' which exhibits strong red fl. patches in a weak red fl. matrix."

In daylight, "crazy calcite" appears to be massive, compact, medium-grained calcite with small amounts of franklinite and other ore minerals. Under shortwave uv, typical material has cm-sized grains which fluoresce bright orange-red in a matrix which fluoresces red of medium to weak intensity. The bright orange-red fluorescence is typical of calcite from the Franklin and Sterling Hill ore bodies. The weaker red fluorescence of the mineral now known to be dolomite is within the range of calcites from the Franklin area, and is typical of calcite from many other localities.

Identification of the two phases, calcite and dolomite, was carried out on specimens from Franklin and Sterling Hill by Dr. Lance Kearns of the Dept. of Geology and Environmental Science, James Madison University, Harrisonburg, Virginia. He characterized the two species *through structure (x-ray diffraction), composition (energy dispersive* x-ray fluorescence), and physical testing (effervescence in HCl).

Coexistence of calcite and dolomite is relatively common elsewhere, and fluorescent dolomite is not unknown. Dolomite is mentioned as a fluorescent mineral 44 times from 36 localities in The Henkel Glossary of Fluorescent Minerals (Journal of the Fluorescent Mineral Society, 1988-89, vol. 15, p.38), and red is one of four fluorescent hues considered common. Manny Robbins mentions red-fluorescing dolomite from Tsumeb, Namibia, and points out that "The spectrum of red-luminescing dolomite is virtually identical in shape to that of calcite, which suggests that manganese is the activator in the dolomite also." (Fluorescence: Gems and Minerals Under Ultraviolet Light, Geoscience Press, p. 209)

See Forum, Page 9

Through the Looking Glass

Modris Baum

John Ebner

Ralph Thomas

You may have seen us before FOMS meetings, huddled over microscopes, casually dropping strange and exotic species names. We are the FOMS Micromount (MM) group! We are interested in anything related to "rocks" – small and large, Franklin/Sterling Hill and "foreign", new and historic. The microscope is a tool that enables us to enjoy all the wonderful minerals of the entire world. The best reasons to get into micromounting are the same ones that drew you to "rocks" in the first place – beauty, the challenge of finding and identifying minerals, and especially the joy of finding "sleepers". If you need further persuasion to cross over and join us, take a look at Tim Jokela's, "Ten Top Reasons to try Micromounting": http://www.canadianrockhound.com/summer99/cr993202_micromounting.html, or Quintin Wight's "Secrets Under the Scope": http://www.canadianrockhound.com/summer99/cr993201_scope_secrets.html. For those without web access, we can provide a copy of Tim's article at our meetings.

Many of us have particular strength in knowledge and specimen material in Franklin/Sterling Hill and Mont Saint-Hilaire, Quebec, Canada. We also examine minerals from outside the Franklin/Sterling Hill area that enable us to expand our knowledge and appreciation as to what makes a specimen "good" or "interesting. Although collecting was poor the past summer at that "other place", Mont Saint-Hilaire produced some excellent specimens of labuntsovite as well as recent "list" additions, thomasclarkite-(Y), horvathite-(Y) and khomyakovite. Franklin/Sterling Hill is vying for "world supremacy" for the greatest number of mineral species from a locality and among other localities vying for this distinction is Mont Saint-Hilaire. It is important to know your "enemy".

Our meetings are informal and you don't need a microscope or specimens to be admitted. Just show up and *introduce yourself! The group meets before nearly every* FOMS meeting.

April Meeting:

Our April theme will be Arizona minerals – So bring Arizona minerals! It will be a great opportunity to compare willemite and other species common to both Franklin/Sterling Hill and Arizona and also to examine many species that are unique and "best" from Arizona. For those who may be bored by Arizona minerals, Ralph Thomas will bring his "Buckwheat" collection for viewing.

Highlights from recent meetings:

Joseph Klitch's Buckwheat dump Monazites – the best we have seen and perhaps the best ever found from

See Looking Glass, Page 9

Forum from Page 8

Characteristically, "crazy calcite" from Franklin and Sterling Hill has less calcite than dolomite, so that under shortwave uv the calcite grains appear to be suspended in a dolomite matrix. Seen in isolation, some specimens remind the viewer of wollastonite in calcite from Franklin: hence the term "weekenders wollastonite" coined by Gerald DeMenna. (The resemblance disappears when "crazy calcite" and Franklin wollastonite are directly compared.

However, in some specimens the proportions of calcite and dolomite are reversed and calcite-dominant. Furthermore, both the grain size and fluorescent intensities vary. Individual grains of calcite were seen ranging from 3 mm to 3 cm in size, and while both calcite and dolomite fluoresce brightly in some examples of "crazy calcite", in others the calcite fluorescence is of only moderate intensity, and that of dolomite weak or absent.

"Crazy calcite" from Franklin appears to have come from the surface dumps, with many specimens having been collected on the Franklin Mill Site in the 1980s. Most Franklin specimens have some weathered surfaces or have been dipped in acid to clean them. In addition to the small grains of franklinite, Franklin "crazy calcite" usually has small grains of bright red zincite, in addition to colorless grains and thin veinlets of willemite which fluoresce bright green under shortwave uv and may be phosphorescent. Grains of a pale yellow, nonfluorescent, as yet unidentified mineral are also present. The best specimens of Franklin "crazy calcite" are brightly fluorescent and quite display worthy.

"Crazy calcite" from Sterling Hill was fairly rare until the opening of the surface workings to collecting in the 1990s. There it is found in the foot wall of the east vein, both in outcrop and as blocks scattered nearby, immediately southwest of the access road into the Passaic Pit. The dolomite in these specimens, and in most other "crazy calcite" from Sterling Hill, fluoresces poorly, though some examples collected in 1999 by Claude Poli and Gerry McLoughlin are exceptions to this rule. Some "crazy calcite" "collected from the east vein outcrop has thin coatings of hydrozincite which fluoresce bright blue under shortwave uv. Most Sterling Hill "crazy calcite" has small grains of sphalerite, which fluoresce orange under longwave and midrange uv. The zincite and willemite common in Franklin "crazy calcite" are generally missing in Sterling Hill "crazy calcite" but have been seen in some unusual specimens collected underground there. In one, zincite is present as part of a vein of "calcozincite"; in another, reddish-tan willemite and yellow sphalerite are present in areas more than 3 cm across.

The differential effect of weathering on calcite and dolomite can be clearly seen at the east vein outcrop on the edge of the Passaic Pit. This locality offers a superb (indeed the only) chance of studying "crazy calcite" in place, and collectors are urged to confine their activities to the abundant blocks of this material which have become separated from the outcrop.

Looking Glass from Page 8

Franklin/Sterling Hill. Ralph Thomas' collection of classics from the Buckwheat dump include "killer" brookites, and rarities such as clinohedrite, "tourmaline", lennilenapeite, albite, rutile, stilbite, hemimorphite and many, many others. Ralph will again show his superb collection at the April meeting.

Who we are:

John Ebner is a member of the Micromount Hall of Fame and received the Golden Microscope award in 1991. John is world renowned for his unique collection of "namesake" micromounts - mounts made by the people after whom the mineral was named. This very important collection was described in two separate issues of *Rocks & Minerals* (July/August 1988, p. 212, and March/April 1998, p. 131) and also in *Rock & Gem* Magazine (December 1997, p. 50). Currently this collection numbers 225 - 15 of them from Franklin and Sterling Hill - more species than many of us possess in toto. Altogether John's collection has over 2600 micromounts made by more than 900 mounters from 1850 to the present including micromounts made by every member of the Hall of Fame. He also has an extensive collection of Hall of Fame memorabilia.

John is also a well-known photographer, having won first place in the slide competition two years running at the Tucson Gem & Mineral show. The pictures of the first place slides were published in *Rocks & Minerals*, Nov/Dec 1988, and September/October 1990. His first published photographs appeared in *Lapidary Journal* (January 1984, p. 1416).

John's entry to minerals was a bit unusual. After many years of trying, the owner of John's favorite stamp and coin shop, Wes Crozier (who sadly passed away at the time of the Tucson show this year), finally persuaded John to attend his first "rock" show in 1969. John's reason for agreeing? He had long been fascinated by the "rock chips" resulting from the intricate carving of headstones! There is no single path to "enlightenment". Initially a "haphazard" collector, John's fame was ensured at the Baltimore Symposium in 1981 when he saw Paul Seele's collection of antique microscopes and micromounts. This was the inspiration for the now famous namesake collection. John was drawn to Franklin via the Trotter and fluorescent minerals. His other mineral interests include silver, phosphates, Mont Saint-Hilaire, and especially, Tiger, Arizona.

Ralph Thomas, a metallographer by training, is well known to "Franklinites" as the "founding father" and longtime chairperson of both the Micromount Swap/Sell/Learn of Lower Bucks County" and of "Ultraviolation".

Ralph is also an excellent microphotographer. He has made presentations at the Baltimore and Washington, D.C. micromount symposia. Ralph has made presentations to many clubs (including FOMS).

See Looking Glass, Page 19

Minehillite by John Cianciulli

Minehillite $(K,Na)_{2-3}Ca_{28}Zn_4Al_4Si_{40}O_{112}(OH)_{16}$

Margarosanite $Pb(Ca,Mn^{+2})_2Si_3O_9$

Minehillite was first described by Dunn et al (1984) has been found only in the Franklin Mine, Franklin, New Jersey. To date, it is not known from Sterling Hill and remains one of the unique minerals of Franklin.

INTRODUCTION

My first encounter with minehillite was in 1980 when I heard a rock shop was moving to a smaller location and the owner was having a special sale. Not really expecting to find much Franklin-Sterling material, I paid a visit to the rock shop, Crystal Gems, to check. The owner was a man named Paul Hansen. I later learned Paul was formerly a business partner of Mr. Charles Key. Paul rarely, if ever, had Franklin-Sterling material for sale in the shop. When I asked him if he had any Franklin samples for sale, he smirked and said, "I have a couple of tons of grunge from there." Paul let me go through some of the boxes behind the counter where I saw a lot of Sterling Hill North Ore Body material and a little Franklin willemite, etc. I found a specimen on the first pass that looked like platy margarosanite from Franklin. When I finished picking through the boxes and presented my choices to Paul, he took one look at the pearly white, platy specimen and said "That's not from Franklin, that's apophyllite from South Carolina!" He did not want to charge me for the specimen and finally agreed to accept $5.00 for the piece. I paid him the five bucks and left for home feeling overwhelmingly gratified that I had just landed the best "margarosanite" I ever held in my hands. When I got home I was a bit disappointed with the weaker fluorescence this specimen had, compared to other platy margarosanites I had seen. I was still convinced this was a premier crystallized margarosanite!

A couple of years later, I exhibited this specimen at the Franklin Show as one of the "first described" mineral species, still thinking it was margarosanite. During the show, Dr. Pete J. Dunn expressed an interest in taking a closer look at this specimen. I was happy to oblige in the name of science and out of sheer curiosity. Pete took the specimen back to the lab and a few days later called with the news that it was a well-crystallized example of an unnamed new mineral species from Franklin, New Jersey. Because of the significance of the specimen, I donated it to the Smithsonian, some 16 years ago. My prized "margarosanite" was in fact the new mineral minehillite! For years I looked for another crystallized specimen like that one, but to no avail. There was plenty of so-called minehillite available for sale, much of it was associated with fibrous wollastonite, pink grossular garnet, vesuvianite, gray feldspar (microcline), and margarosanite – an assemblage unknown for minehillite at the time. Although this assemblage is now recognized as the one for minehillite, the only confirmed specimen known at that time contained, with the exception of the gray feldspar, none of those minerals, casting doubt on the purported presence of minehillite. The material I had first encountered occurs as thick aggregates of platy, pearly crystals on gray feldspar that casually resembles dolomite. This specimen was actually part of the same assemblage, see Dunn (1995). I have seen specimens of brilliantly fluorescing margarosanite that appears identical to minehillite on gray feldspar at arm's length but contain no minehillite. Nick Zipco has two splendid examples, one of which has a 3-cm diameter complete spherule of wollastonite attached to it. Because of the close visual appearance of margarosanite and minehillite, many specimens containing only margarosanite from this assemblage or similar to it were intentional or unintentionally sold then and now as minehillite. Thus, many specimens now labeled as minehillite are of doubtful pedigree.

In the early 1990s Andy Massey acquired some material that resembled crystallized minehillite. The smaller thumbnail-size pieces he showed me were indeed minehillite, but the larger pieces that seemed similar were brilliantly fluorescent blue, casting doubt in my mind as to their true identity. At a later time, Andy showed me an interesting specimen of salmon calcite with crystals of margarosanite on one side and crystals of minehillite on the other. The sample was little bigger than a golf ball, yet different from other minehillites I had seen to date. I expressed an interest in acquiring the sample for the museum reference collection. I was told the specimen was not for sale, although Andy let me have a few flakes from both sides for optics. Optical data confirmed that indeed margarosanite coated one side and minehillite the other. The specimen was soon after sold to a collector. A couple years later, much to my delight, I found a huge mass of this material in our museum fluorescent exhibit (24 x 15 x 9 cm). I will describe this specimen later.

Several years ago, the Franklin Mineral Museum acquired the remainder of the Adam Szenai collection. There were some nice mine run Franklin specimens. Two of his specimens were standouts. One was a large gemmy willemite crystal, and the other was a thick mass of minehillite crystals on gray microcline. The minehillite specimen could be the twin of the one that reposes in the Smithsonian collection. The Adam Szenai minehillite piece is now on dis-

play in the local room of the Franklin Mineral Museum.

OBSERVATIONS

Minehillite can be, and often is confused, with margarosanite (with which it often occurs), prehnite (because of its platy appearance) and hardystonite (because of its fluorescence). I have studied the various forms of minehillite, some of which can be easily confused with visually similar appearing minerals. Minehillite can be easily and readily distinguished from similar appearing minerals by optics. Optically, minehillite is uniaxial, negative, with ω =1.607 and ε = 1.604. Margarosanite is biaxial, negative, with α=1.727, β = 1.771, and γ=1.789. Prehnite is biaxial, positive with α =1.617, β = 1.625, and γ = 1.643. Hardystonite is uniaxial, negative with ω = 1.669, ε= 1.657. Optical values are from Fleischer et al.(1984). Minehillite plates or crystals often have inclusions of native lead that cause some crystals to appear shiny black. These inclusions are easily observed under a polarizing microscope and may also be observed under a regular microscope using transmitted light. Apparently minehillite does not include lead in its structure. A barely discernible light-yellow coating (probably due to weathering) commonly coats crystal masses relatively free from lead and appears pearly white. This has been observed in crystallized masses on gray microcline. However, most specimens of minehillite are too intermixed for this to be observed.

In the absence of optical data, fluorescence is a strong diagnostic tool for distinguishing minehillite from visually similar appearing minerals. Thanks to Greg Anderson of San Diego, California, the Franklin Mineral Museum now owns a midrange ultraviolet lamp (UVP, Inc., Model UVM-57, peak output of 302 nm) . The midrange lamp is proving to be a valuable diagnostic tool. Minehillite is reported to fluoresce violet under shortwave excitation. This response has been observed universally among all samples that have been examined. Under longwave ultraviolet light I have observed the weak violet response reported by Dunn (1995). The midrange response of minehillite will dazzle you! Under midrange, the minehillite fluoresces *bright* blue to strong violet. The midrange ultraviolet lamp will facilitate distinguishing minehillite from margarosanite from mixtures of the two, the most commonly seen minehillite specimens in collections. These specimens occur with fibrous wollastonite, grossular, and vesuvianite.

If you have seen minehillite in what appears to be a variety of habits and different mineral associations in hand specimens, you may have drawn the erroneous conclusion as I did early on that there are probably several different parageneses for minehillite. We have seen the mixture with wollastonite. Some of us have seen beautiful platy crystals encrusted on gray feldspar where the feldspar fluoresces dull to medium red. Few of us have seen crystals of minehillite and margarosanite on salmon calcite. In the Spex/Gerstmann collection reposes a colossal specimen, which solves the puzzle, or should I say, connects all the above-described minehillite specimens into one paragenesis.

Spex/Gerstmann specimen # 1657

About 24 x 15 x 9 centimeters in size, this specimen was identified as "margarosanite" and cataloged as such. Margarosanite is indeed present, as large platy crystals up to 1.5 cm in maximum dimension. In cross section minehillite occurs as 1-mm crystals scattered about the edges of the margarosanite. A distinct zone of native lead surrounds a pod of gray microcline. The pod is 4x5 cm^2 in cross section. The lead is part of a reaction zone containing minehillite around the feldspar that is in contact with margarosanite on one side and what appears to be aggregates of 3 mm size grains of augite on the other. The augite corresponds to the dark green almost black diopside or clinopyroxene mentioned in Dunn et al. (1984). The identification is based visual examination and comparison with other assemblages containing augite from Franklin. No analytical procedures have been performed to confirm the exact identity of this pyroxene. A small part of this zone is in contact with pink grossular that has dark red vesuvianite inclusions. The augite occurs between the reaction zone and bright red-fluorescent, salmon-colored calcite. The rest of the matrix is also quite interesting. It appears to be a random array of pink grossular, dark red vesuvianite, pods and zones of gray microcline, augite grains, minor amounts of fibrous wollastonite (fl. orange-yellow under shortwave uv), and fluorapatite, blue-green in white light (fl. dull orange under shortwave uv). There is also present serpentine on a slickenside surface. The margarosanite fluoresces under shortwave uv (UV Systems, model 2000SW @ 254 nm), bright pale blue-violet, overwhelming the more subdued violet fluorescence of the minehillite. With longwave radiation (UVP, Inc., model UVL-56 @ 366 nm), margarosanite fluoresces dull red and minehillite is barely discernible violet color. Midrange (UVM-57 @ 302 nm) creates a magic show! The minehillite fluoresces brighter violet, and the margarosanite displays no hint of its typical shortwave blue-violet response. In stead it fluoresces bright red-orange with light to medium orange streaks that are somewhat overwhelmed by the brighter red-orange response.

CONCLUSION

There no longer has to be a sense of ambiguity about minehillite. Of those species with which minehillite is most likely to be confused, minehillite has a unique and distinctive response to midrange ultraviolet light, as does margarosanite. Hardystonite shows little or no midrange response and prehnite can be ruled out by its shortwave response. Minehillite, though more common at Franklin than first thought, is still a very rare mineral. Aggregates of large platy crystals on gray microcline are extremely rare and are

See Minehillite, Page 22

A SCHEELITE-BEARING ASSEMBLAGE FROM FRANKLIN, NEW JERSEY

By Robert E. Jenkins II

INTRODUCTION

The history of scheelite as a valid Franklin mineral species is interesting. The mineral was first reported by Edwards (1965) from the Furnace quarry. But this material was not from the Furnace quarry, and neither was it scheelite. Dunn (1995) showed that this original find of "scheelite" was in fact, tungstenian powellite. R.C. Bostwick (written communication, 1997) relates that the powellite was collected by him in 1961 from a small unnamed dump near the southeastern edge of the Buckwheat cut.

A second and authentic find of scheelite (Dunn, 1995) was made somewhat later in the 1960s on the Trotter dump by Mr. George Giordano. Peter Chin (in R.C. Bostwick, written communication, 1997) collected some of this material in 1968. It was found near the eastern border of the dump about 60m south of the 1920s-era Trotter shaft cap. This material from the Trotter dump represents the only verified scheelite from Franklin, New Jersey.

In the 1990s Mr. Jim Richard of Butler, New Jersey collected a substantial quantity of this scheelite-bearing assemblage from the Trotter dump. Seven specimens of this material came into the possession of the author. An eighth specimen was made available from the reference collection of the Sterling Hill Mining Museum. This paper presents mineralogic, chemical, and paragenetic data on the scheelite-bearing material. Data supplement, but otherwise correspond closely to those of Dunn (1995).

The scheelite-bearing assemblage is simple, consisting of that mineral together with quartz, hematite and a Co-S-Cl phase which could not be identified. The host rock appears to be a breccia of hedenbergite fragments suspended in calcite. The hedenbergite fragments are rimmed by microcline and gahnite, and all of these minerals are partially replaced by the scheelite-bearing assemblage. An apatite mineral and an amphibole are present in the samples also, but their placement in the paragenesis could not be made with certainty. The specimens are texturally and mineralogically reminiscent of the powellite-bearing assemblages from Sterling Hill.

MINERALOGY

The mineral species reported here were examined by a combination of X-ray diffraction and electron-probe microanalysis methods. All species reported as confirmed were verified by at least X-ray powder photography. X-ray powder photographs were taken with a 114-mm Gandolfi camera, using modified Philips Automated X-ray Diffractometer with DEC VAX II hardware control. Microanalysis work was done with a JEOL JXA-35 electron-probe microanalyzer equipped with Kevex EDS (energy-dispersive spectra) detector and DEC PDP-1173 hardware control. Standardless, semiquantitative chemical analyses reported here were performed with the Tracor "SQ" computer program. All analyses were done at an operating voltage of 25 kV with 200-second counting time. All reported values represent the average for at least three spots on a single grain. The operation of the Tracor software and interpretation of its results have been briefly discussed by Jenkins (1994). Shortwave ultraviolet fluorescence response was checked with a UVP, Inc. UVG-54 lamp. Longwave response was checked with a battery-operated JME-1191 Mini Fluorescent Lantern. The relative abundance of the species in these samples is also given but should not be taken as absolute for the assemblage, due to the small number of samples examined and the probability that they were collected with a strong bias toward fluorescent species.

Amphibole

$(Na,K)Ca_2(Fe,Mg,Mn,Ti,Zn)_5(Si,Al)_8O_{22}(OH)_2$

A Ti-Zn-bearing amphibole (Table 1) is present in two specimens. It occurs as fibrous to lamellar aggregates, about 3mm in maximum dimension, which replaced hedenbergite and calcite along the margins of pyroxene masses. No textural relationships to microcline or gahnite were observed. The amphibole is green-black with a slightly brownish tone. It is distinguishable from pyroxene of similar color by its more acute prismatic cleavage. The X-ray diffraction data are inconclusive due to interference from other minerals, notably hedenbergite. The semiquantitative chemical analysis points toward an amphibole like hastingsite.

Table 1- SEMIQUANTITATIVE ANALYSIS OF AMPHIBOLE

(analysis normalized to 100% on anhydrous basis)

Oxide	Wt.%	x^2
Na_2O	1.6	2.05
MgO	2.0	
Al_2O_3	8.6	
SiO_2	37.9	
K_2O	1.2	
CaO	13.8	
TiO_2	9.1	
MnO	4.8	
FeO	15.6	
ZnO	5.4	
Total	100.0	

Specimen J9803, author's collection

Apatite $Ca_5(PO_4)_3(F,Cl,OH)$

An apatite mineral is present in five of the eight specimens as irregular gray to brownish-gray masses from a few mm^2 to about 15 cm^2 in cross-section. Apatite is also present in hedenbergite along grain boundaries and along microfractures. Other contacts between hedenbergite and apatite exhibit embayments where apatite has replaced pyroxene. Apatite is itself replaced by quartz and, more rarely, scheelite. No textural relationships were observed between apatite and amphibole, microcline, or gahnite. Apatite in one specimen also hosts inclusions of scheelite, some of which lie adjacent to microfractures. The apatite fluoresces orange of moderate intensity in shortwave ultraviolet radiation. No longwave response was observed. Approximate chemical composition of the apatite in given in Table 2. Please note that the F:Cl:OH ratio was not measured, and the member of the apatite group thus cannot be assigned.

Table 2 - SEMIQUANTITATIVE ANALYSIS OF APATITE

(analysis normalized to 100%)

Oxide	Wt.%	x^2
SiO_2	0.6	1.96
P_2O_5	39.8	
Cl	n.d.	
K_2O	0.3	
CaO	53.6	
MnO	0.7	
FeO	2.6	
ZnO	2.0	
As_2O_5	n.d.	
La_2O_3	0.4	
Total	100.0	

Specimen J9808, author's collection

Calcite $CaCO_3$

Calcite occurs as coarse, white to brownish-white cleavage masses in all eight specimens. Although some calcite is intergrown with hedenbergite, more commonlyit is in well-defined contact with hedenbergite, microcline, and gahnite. Calcite is grown against feldspar and gahnite crystal faces. Pyroxene cleavages and perhaps crystal faces end abruptly against calcite grains, suggesting breakage of the pyroxene grains prior to final crystallization of the calcite. The texture suggest a matrix-supported breccia of pyroxene fragments in calcite. Amphibole, microcline, and gahnite appear to have replaced calcite, but the latter may have been somewhat recrystallized during their formation. Calcite also hosts inclusions of several minerals and is replaced by scheelite in one specimen. Calcite from this assemblage fluoresces red of moderate intensity in shortwave ultraviolet radiation. No response to longwave ultraviolet radiation was detected.

Gahnite $ZnAl_2O_4$

Gahnite occurs in two of the eight specimens as dark green anhedral masses and octahedral crystals, both ranging from 0.5 to 2.0 mm in maximum dimension, along the margins of pyroxene masses. Crystal faces of gahnite were observed in contact with calcite and microcline.

Galena PbS

What is probably galena (EDS indication only) was noted as 5 to 15 l subhedral inclusions in calcite in one of the eight specimens.

Hedenbergite $CaFeSi_2O_6$

Hedenbergite is present in all eight specimens. It occurs as dark green to greenish-black masses which are tightly interlocking mosaics of 1 to 5 mm subhedral crystals. These hedenbergite masses range up to 12 cm in maximum dimension but appear to be fragments of larger blocks. They are imbedded in calcite and are partially bordered by amphibole, gahnite, and microcline. Hedenbergite is also partially replaced by apatite, quartz, and scheelite. The pyroxene hosts inclusions of lollingite, zircon and a REE (Rare Earth Element)-Th-P phase. Approximate chemical composition of this hedenbergite is given in Table 3.

Table 3 - SEMIQUANTITATIVE ANALYSIS OF HEDENBERGITE

(analysis normalized to 100%)

Oxide	Wt.%	x^2
MgO	4.6	2.31
Al_2O_3	1.3	
SiO_2	49.8	
CaO	20.8	
TiO_2	0.2	
MnO	2.9	
FeO	18.5	
ZnO	1.9	
Total	100.0	

Specimen J9803, author's collection

Hematite Fe_2O_3

A few flakes of black specular hematite, measuring about 0.5 mm across, are imbedded in quartz in one of the specimens.

Löllingite $FeAs_2$

Löllingite is present in one of the specimens as silvery, metallic, anhedral to subhedral masses about 5 x 5 mm in cross-section which are imbedded in hedenbergite. Contacts with the pyroxene are sharp and embayed. Löllingite also appears to be present in the same specimen as 10 to 30 l anhedral inclusions in quartz.

Magnetite Fe_3O_4

Magnetite occurs as 30 to 50 l subhedral crystals in two of the specimens. In one it is imbedded in hematite; in the other it is hosted by quartz. The magnetite contains traces of Cr and Zn.

Microcline $KAlSi_3O_8$

Pale green to grayish-green microcline is present in three of the eight specimens. It occurs as aggregates of anhedral to subhedral grains, the individuals averaging about 5 mm in maximum dimension, which partially border pyroxene masses. The feldspar has partially replaced hedenbergite and is itself replaced in some of the specimens by quartz and scheelite. Crystal faces of microcline against calcite are not uncommon, but none are developed against hedenbergite. The microcline fluoresces moderately weak, pale blue-gray in shortwave ultraviolet radiation. A semiquantitative analysis is presented in Table 4. The analysis corresponds to atomic proportions K:Ba:Na = 1.0:0.3:0.3, or barian microcline. The X-ray diffraction pattern also resembles that of microcline.

Table 4-SEMIQUANTITATIVE ANALYSIS OF MICROCLINE

(analysis normalized to 100%)

Oxide	Wt.%	x^2
Na_2O	2.4	1.88
Al_2O_3	20.6	
SiO_2	56.8	
SO_3	0.9	
K_2O	9.8	
BaO	9.5	
Total	100.0	

Specimen J9806, author's collection

Quartz SiO_2

Quartz is present in five of eight specimens. It occurs as irregularly shaped water-clear to milky to rust orange-brown masses which range from a few mm^2 to about 30 mm^2 in cross section. The quartz masses exhibit embayed contacts against apatite, calcite, hedenbergite, and microcline. Quartz hosts masses and crystals of scheelite, and has also in part been replaced by scheelite along microfractures.

Scheelite $CaWO_4$

Scheelite is present in five of the eight specimens. It occurs principally as dull to vitreous, yellow-brown to brown masses and very rarely as bipyramidal crystals. The scheelite masses range from a few mm^2 to about 4 cm^2 in cross-section, and have replaced apatite, hedenbergite, microcline, and quartz. Small amounts of scheelite were observed filling short microfractures in quartz. Two scheelite crystals, one about 3 mm on an edge and the other 9 mm, occur in a single specimen, imbedded in quartz. Inclusions of scheelite 10 to 20 l in maximum dimension appear to be present (EDS indication only) in apatite in one specimen. Scheelite from this assemblage fluoresces intense pale yellow in shortwave ultraviolet radiation, and weak pale yellow in longwave ultraviolet radiation. The semiquantitative analyses of Table 5 show that this scheelite contains significant Mo.

Table 5 - SEMIQUANTITATIVE ANALYSIS OF SCHEELITE

(all values wt.%, normalized to 100%)

Oxide	J9806[a]	J9807[a]	STFR-1[b]
CaO	22.0	21.1	20.8
FeO	n.d.	n.d.	0.6
MoO_3	9.1	9.3	7.7
WO_3	68.9	69.6	70.9
Total	100.0	100.0	100.0
x^2	2.14	1.88	1.29

[a] Specimen from author's collection;

[b] ST#, reference collection of Sterling Hill Mining Museum

Sphalerite ZnS

Sphalerite occurs in a single specimen of the eight. The mineral is colorless to pale brown with vitreous to resinous luster, and occurs as scattered 0.5 to 2 mm grains on a fracture surface cutting apatite, hedenbergite, and microcline. This sphalerite fluoresces moderately bright orange in longwave ultraviolet radiation. Any shortwave response is difficult to observe because of the mineral's close association with orange-fluorescing apatite.

Willemite Zn_2SiO_4

Willemite is intergrown with hedenbergite in one specimen. The intergrowth, about 2.5 x 3 cm and attached at a corner of the sample, exhibits sharp contacts against matrix calcite and appears to be a portion of a breccia fragment. The willemite fluoresces typically intense green in short-wave ultraviolet radiation, and more weakly in long-wave.

Zircon $ZrSiO_4$

What appears to be zircon (EDS only) is present in one specimen as 15 to 20 l subhedral to euhedral inclusions in hedenbergite. In this specimen hedenbergite also hosts inclusions of the REE-Th-P phase described below.

Unknown Minerals

Several specimens exhibit rusty orange-brown to reddish-brown stains on apparent fracture surfaces. EDS analysis reveals major Fe and trace Mn, but the identity of this substance could not be determined by X-ray diffraction.

A REE (major La and Ce, minor Nd, perhaps trace amounts of other)-Th-P phase is present in one sample as subhedral 10 to 20 l inclusion in hedenbergite. Atomic proportions (the sum of REE and Th:P) are approximately 1:1 but the inclusions are to small and sparse for X-ray examination.

A few anhedral 10 to 15 l inclusions of a species containing Co, S, and Cl in approximately 1:1:1 atomic proportions were noted in quartz in one specimen. The identity of this substance could not be ascertained.

Discussion

The study material appears to contain three distinct mineral assemblages. Textural relationships establish their relative age. From oldest to youngest these are: hedenbergite+ calcite+willemite+löllingite; microcline+gahnite (+amphibole+apatite?); and quartz+scheelite+hematite. Some calcite and perhaps some löllingite were possibly recrystallized during formation of the younger assemblages. A few trace and minor minerals are not included here. Amphibole and apatite are shown queried because their paragenetic relationships to some important species could not be established. They are certainly younger than the pyroxene assemblage, however. Please note that the word *assemblage* is used here in the sense of a group of minerals. It does not necessarily suggest that the minerals of any one group formed at the same time or even closely spaced in time, nor does it imply that chemical equilibrium between the species of any given group was ever obtained. It signifies only that the hedenbergite-calcite group is older than the microcline-gahnite group , and so on.

As indicated in the mineralogic descriptions, the textures of these specimens suggest that they represent a matrix-supported breccia: fragments of hedenbergite or hedenbergite-willemite suspended in a calcite matrix. These fragments are rimmed and partially replaced by the gahnite-microcline assemblage, and both of these assemblages are bordered and in part replaced by the quartz-scheelite assemblage. Development of the latter two assemblages appears to have succeeded brecciation. Development of the breccia appears to have taken place after the formation of pyroxene.

Nothing is known of the geologic occurrence of these scheelite specimens at Franklin. A clue may be found, however, in the powellite-bearing assemblages of the Sterling Hill deposit. One may speculate that the apparent breccia body at Franklin, as represented in the samples studied here, resembles the "black rock" bodies at Sterling Hill which form part of the core between the two legs of the orebody (Metsger et al., 1958). This "black rock" at Sterling Hill is in fact, a megabreccia: very large pyroxene-dominated fragments, measuring up to several meters on an edge, suspended in calcite marble. These pyroxene blocks are partially bordered by gahnite, amphiboles, feldspars, micas, and other minerals (author's unpublished data).

At a few exposures of Sterling Hill "black rock", notably one in the Gravity Tram just below 180 level, a quartz-powellite assemblage is also present (Kolic and Sanford, 1993; author's unpublished data). The quartz-powellite assemblage occurs largely as rims on breccia fragments, where it partially replaced both early pyroxene and later amphibole, feldspar, and mica. Powellite also filled discontinuous microveinlets which cut both quartz and breccia fragments. Hematite and other minerals accompany the quartz and powellite.

The Franklin scheelite-bearing assemblage and the powellite-bearing material from the Gravity Tram at Sterling Hill are thus mineralogically and texturally similar. Their geologic occurrence in the two deposits may likewise have been similar. Scheelite ($CaWO_4$) and powellite ($CaMoO_4$) are also mineralogically and geochemically related; a complete solid-solution series extends between the two species. It is thus tempting to consider further, and in particular to speculate about, the origins of these W/Mo-bearing assemblages and the significance of the abundance of W at Franklin versus that of Mo at Sterling Hill. However, without knowing the geologic setting of the scheelite assemblage at Franklin, the true abundance of the mineral species in that assemblage, and indeed the relative abundance of the scheelite/powellite assemblages in both deposits, such speculation would be ill-founded.

Acknowledgements

Both E.I. DuPont de Nemours & Co, and the Sterling Hill Mining Museum are thanked for permission to publish these results. The author is grateful to DuPont personnel Mr. Chip Michel and Dr. Dennis Redmond for access to instruments and assistance in their operation. He also wishes to acknowledge Dr. Pete Dunn, Dr. Earl Verbeek, and Mr.

See Scheelite, Page 19

American Lands Access Association (ALAA) What & Why By George Loud

In 1991 the President of the American Federation of Mineralogical Societies (AFMS) appointed a select committee to recommend ways to make the Federation better responsive to pending legislation and proposed agency rule making which would impose restrictions on the use of public lands by amateur fossil and mineral collectors. Responsive to recommendations of that select committee, at the 1992 annual meeting of the AFMS, the AFMS directors voted to establish the American Lands Access Association as a 501(c)(4) (nonprofit) organization. Donations and membership fees paid to ALAA are not tax deductible.

Newly formed, ALAA was immediately on the defensive. Within days of the 1992 AFMS meeting, Senator Baucus introduced his "Vertebrate Paleontological Resources Protection Act of 1992" into the U.S. Senate. If enacted, the Baucus bill would have prohibited amateur fossil collecting on Federal lands except under the supervision of certain professional paleontologists. At least in part due to the opposition of ALAA and other groups, the Baucus bill died in committee.

Since the demise of the Baucus bill, ALAA has gone on the offensive at least at the legislative level. ALAA has drafted and continues to seek legislative sponsors for, both its "Fossil Preservation Act" and its "Rock and Mineral Specimen Collection Act." In 1996 the former was actually introduced into the U.S. House of Representatives and became HR2943. HR2943, like the Baucus bill before it, died in committee. However, hobbyists should be heartened by the switch from defense to offense.

Unfortunately, ALAA and like-minded organizations remain on the defensive in on-going battles with agencies of the Executive Branch of our Federal government, most notably the U.S. Forest Service and the BLM. Even though on the defensive, ALAA has enjoyed several significant victories and has been a major player in the shaping of many agency rule changes since 1992. A major letter writing campaign in 1994 was successful in obtaining changes to rules proposed by the Forest Service which, if adopted and literally interpreted, would have prohibited all collecting of minerals and fossils in our National Forests. One U.S. Forest Service representative with whom I spoke in 1994 acknowledged that there may have been a "glitch" in the language of the proposed rules. "Glitch" or not, in the end the adopted language was to the satisfaction of most hobbyists, i.e., the new rule language left us no worse than before. ALAA has enjoyed many smaller victories over the years ranging from the right to use prospecting picks, in the Kof a National Wildlife and Wilderness Area in Arizona to revision of BLM rules regarding R52477 Rights-of-Way. Another representative of the U.S. Forest Service in 1994 told me, "I never realized there were so many rockhounds out there." Indeed, ALAA has been responsible for providing a voice and a face for rockhounds in connection with numerous rule making and revision initiatives. Additionally, ALAA has intervened on the part of rockhounds on numerous occasions when problems have arisen in the field.

ALAA has also formed working relationships with many other organizations fighting to preserve multiple use for public lands, including the Blue Ribbon Coalition, the Alliance for America, treasure hunters, metal detectorists and fishing and hunting enthusiasts. Through this network of contacts ALLA has made its voice heard in almost every state and congressional district in the country. Through its periodic newsletter, it keeps its members fully apprised of pending legislation and proposed rule making, based on a continuous, on-going monitoring of both the Congressional Record and the Federal Register.

The "temporary" closure of Deer Hill in Maine last year brought these issues home to collectors here in the East. I personally have collected minerals in U.S. National Forests in Arkansas, Virginia, Maine and New Hampshire. Those of us who have collected at such sites are cognizant of the fact that the efforts of ALAA are also of considerable importance here in the East.

I am very proud that three local clubs to which I belong contribute annually to ALAA. Please consider adding your support to the effort. A membership application form appears below.

George Loud
Vienna, Virginia
Director, ALAA

Membership Application and Renewal Application
American Lands Access Association, Inc.
PO Box 87534
Vancouver, WA 98687-0543

Name_____

Mailing Address_____

City, State & Zip code + 4_____

Club Affiliation_____ (optional)

Phone number_____ (optional)

e-mail address_____ (optional)

Annual Individual Membership fee $25.00 Amount enclosed $_____

Please Mail to: Toby Cozens, ALAA Treasurer
4401 SW Hill St., Seattle, WA 98116

43rd Annual Franklin-Sterling Gem & Mineral Show

Sept. 24-26, 1999

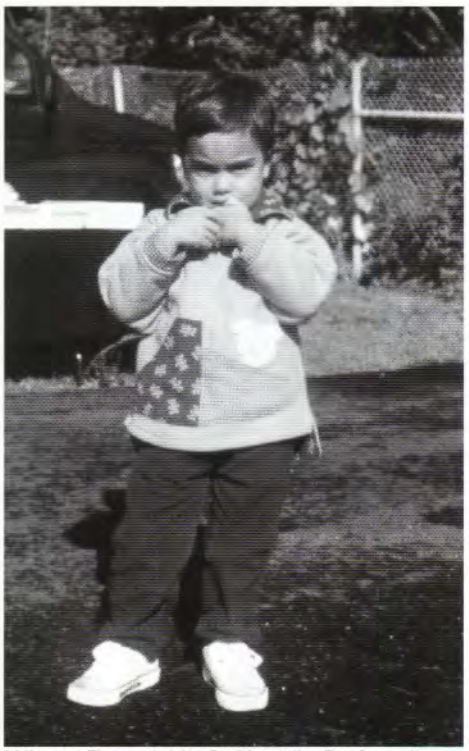
Steven M. Kuitems, D.M.D.
14 Fox Hollow Trail
Bernardsville NJ 07924

That perennial question, "What will the weather be for tomorrow?" raised strong doubts about the weekend's prospects. A balmy Friday turned in the wee hours of Saturday morning into an ominous storm-front that transformed the clear skies initially hoped for into two-and-a-half hours of rain, thoroughly soaking the volunteers and waiting outdoor dealers. The long line of early-bird rock merchants waiting for the 6:30 A.M. gate opening exuded much pessimism and frustration rather than the normal optimism. Yet we at the gate believed local weather reports that this front would race away and leave the clear skies we sought. We did our best our best to assure the doom-and-gloom crowd of the coming silver lining...

After two-and-a-half hours of wetness the black curtain lifted, and hopes turned into reality as 99 dealers set up their varied wares. (On Sunday there were 66.) A veritable bazaar of minerals, rock, artifacts, fossils, and jewelry emerged. Thoughts soon turned to finding hot coffee, and wondering if this or that "sleeper" specimen needed to find a home in someone's collection. Some surprises surfaced for me that were not just minerals: a fine late-1800s print of coal-mining, some nice NJZ collectables, a small Franklin copper actually collected in the mine by the dealer's father, and in-between a renewing of old acquaintances. There were specimens for everybody from novice to expert, rare new Russian species and old classics, jewelry for all tastes and pocketbooks, and especially things for the children. One special highlight was a nice variety of Långban species offered from Bob Jenkins' own collection: how fitting in light of the newly released Långban book I had just read.

The indoor components of the show were not so vulnerable to the vagaries of the weather, and later in the morning I had my next adventure there. I could now take time to appreciate the uniqueness of the Franklin show: outdoors and indoors, white light and black light, unlike any show I know of. The displays of specimens in white light by museums and FOMS members were first on my list. Yes, it was nice to see a great effort by Earl Verbeek who gathered three cases of specimens for FOMS, labeled them, and put them together in a cohesive format to facilitate learning about the weathering zone minerals at the Franklin and Sterling Hill mines. It was also encouraging to see the effort put forth to produce a variety of thematic displays of the best of our local minerals: franklinites, Parker Shaft area minerals, color in Franklin minerals, and minerals from the Franklin Marble. An exhibit by Mark Boyer and Chris Thorsten showed what can be collected in one year from our area. Yes, I think that the finest stuff was inside.

The fluorescent display area, with 12 exhibit cases and three dealers in fluorescent minerals, was no less enlightening in again proving that Franklin is truly "The Fluorescent Mineral Capital of the World." I found it hard to leave this area. The case of margarosanites from the Franklin Mineral Museum was the apogee of this fine line-up of color. Innovation showed itself in the form of a phosphorescent willemite display by Dick Bostwick (yes, some of these rocks actually do something) and as lapidary creativity in Ralph Kovach's case. A veritable cornucopia of colors and patterns from the mines of Franklin and Sterling Hill! I could easily see and appreciate the comparison offered by fluorescent specimens for sale from worldwide localities, such as the Arizona willemite that George Polman transported all the way east to NJ. That's a long way to haul rocks!



"What's Bostwickite?" Novella DeAngelis
(Tema Hecht Photo)

A new dimension was added to the show by having a second indoor sales area with eight more dealers. The pathway between the two gymnasiums was well-traveled to view a nice mix of mineral and lapidary dealers. My sister-in-law ended up with a lovely faceted sapphire from Thailand. Notable were the many people walking home with Russian specimens from the Fersman Museum guys who painstakingly unwrapped and wrapped each specimen in newspaper. It was also interesting to see the many exotic varieties of cut agates and jasper by Lisa and Zack Lawler.

The main show floor had many familiar dealer faces. Detrin's glittering post position provided a showy assortment of new Chinese fluorites, calcites, and stibnites. You could find self-collected datolites from Russia at Yankee Mineral and Gem Co., and Excalibur had a selection of fine Meikle Mine, Nevada golden barites on its center stage. Rare minerals abounded at Pequa; where does he come up with these? The Fowlers kept busy wire-wrapping throughout the show, right up to closing time. Local classics and new classics from China, India, and Pakistan filled the Mineral Cabinet's cases, with the ever-smiling Bill Butkowski trying to convince me I should own one of them; well, I went home with one of his small faceted Franklin willemites. For those with really exotic tastes, Lang's Fossils had a host of incredible extra-terrestrials in the form of meteorites or pieces thereof. Many of these beauties sell by the gram, and a pound or two of these babies can really put a crater in one's checking account...too bad, Franklin rocks...well, I won't go there. Who could ignore those really neat old classics that C. Carter Rich had in his cases in addition to a wide variety of those inscrutable pseudomorphs (I am what I once was not)? One of his recent classics that found a new home was a plate of two astounding 3-inch upright Herkimer diamonds on dolomite matrix...my friend was positively glowing as she left the show.

For those truly enthusiastic collectors, the Saturday evening FOMS buffet, with a lecture by Rock Currier and an auction to follow, just topped off a fine weekend experience. Congratulations to all who helped to make this show a reality, a job well done!!

The FOMS Banquet

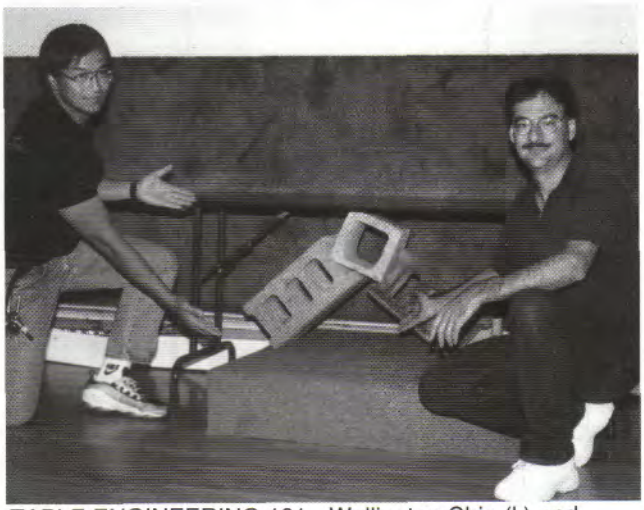
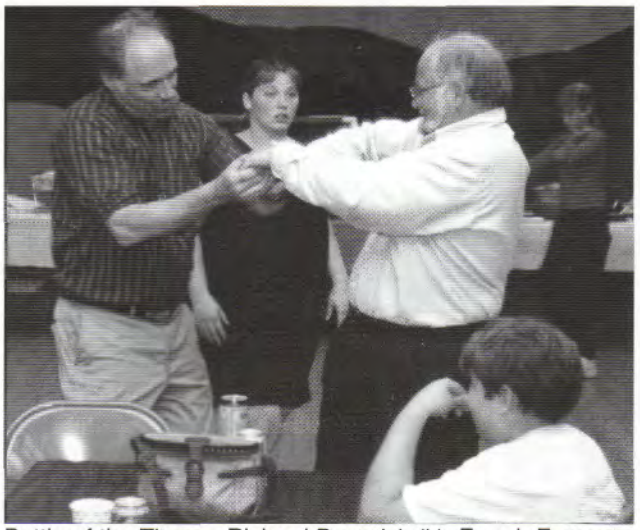


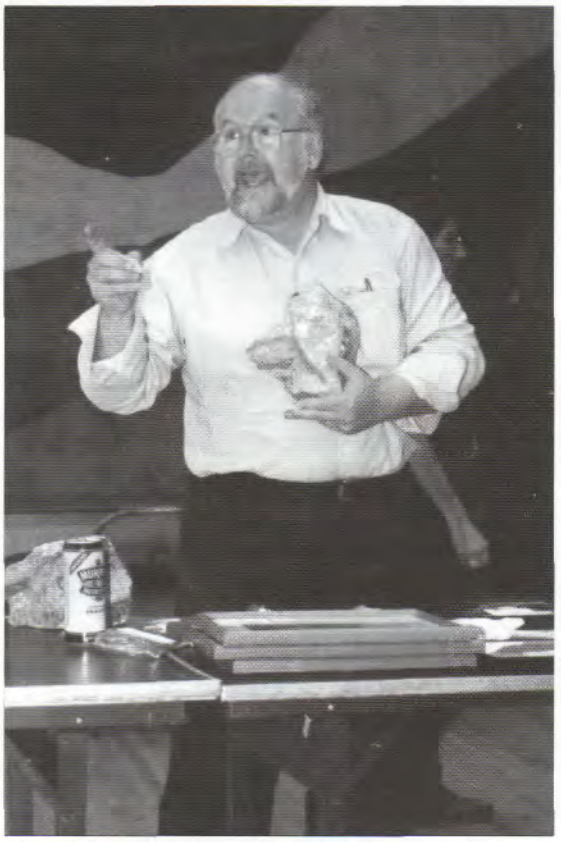
TABLE ENGINEERING 101 - Wellington Chin (l.) and James Chenard (r.) setting up a banquet table.
(Wellington Chin Photo)

Horns!!! - Banquet Guest Speaker, Rock Currier (l.) and Richard Bostwick (r.)
(Wellington Chin Photo)

Where's the show? - Steven Kuitems
(Tema Hectht Photo)



Battle of the Titans - Richard Bostwick (l.), Farrah Fawcett (c.) and Vandall King (r.)
(Wellington Chin Photo)



Giving away the store - Vandall King
(Wellington Chin Photo)

Looking Glass from Page 9

Ralph was introduced to minerals by his father with timely help from Phil Evanoff. His first collecting forays were for the garnets of "the Wissahickon", most conveniently located within walking distance of Ralph's boyhood home in Philadelphia. We should be so lucky! He is well known as a collector of mineral specimens from Pennsylvania localities, but it was the Buckwheat dump that really provided the impetus for lifelong dedication to "rocks". Ralph's collecting interests also include Mont Saint-Hilaire and trap rock minerals. Warren Cumming's article on the Fanwood & Summit quarries in May/June 1987 issue of *Rocks & Minerals* includes photographs of some world class greenockites once in Ralph's collection. Ralph's find of titanite at the Upper New Street Quarry, Paterson, New Jersey, a photograph of which appears in the July/August 1984 issue of *Rocks & Minerals*, was probably the first confirmed occurrence from a First Watchung trap rock locality in New Jersey.

Modris Baum, born a physicist, contracted "rock pox" when having been coerced into teaching "Earth Science", he decided it would be helpful if he knew the difference between quartz and calcite. Almost as lucky as Ralph in "choice" of residence and back yard, the NJ Highland portion of the mildly radioactive "Reading Prong", he soon found large zircons (the first triumph of self identification). Soon after, large chunks of allanite which he initially mistook for obsidian, were collected from a construction site near his home. From there, Buckwheat and Trotter dumps were inevitable.

After a "remission" of many years, the opening of the Sterling Hill Mine Run Dump caused a "relapse" that is still going strong. At present his main interests are Mont Saint-Hilaire and Varennes, Quebec. Franklin and Sterling Hill remain strong interests - but he prefers the adventure of self collecting (i.e., he's too cheap to buy the stuff! Recent joys were the discovery of faujasite-Na and a likely new mineral, currently designated UK110, at Mont Saint-Hilaire. He is an avid stereo-microphotographer and several of his photographs can be seen on *Alkali Nuts (MSH)* and *Eudialyte* www sites.

Scheelite from Page15

Steven Misiur for their careful critiques of the paper.

References

Dunn, P.J., 1995, Franklin and Sterling Hill, New Jersey: the world's most magnificent mineral deposits, pt. 5: Washington, D.C., self-published, 644-645.

Edwards, F.Z., ed., 1965, Scheelite: The Picking Table, 6, no. 2, 11.

Jenkins, R.E., 1994, Geology and mineralogy of a veinlet assemblage associated with wollastonite-bearing rocks, Sterling mine, Ogdensburg, New Jersey: The Picking Table, 35, no. 1, 16-24.

Kolic, J. and Sanford, S., 1993, Recent mineral finds from the Sterling mine, Ogdensburg, New Jersey: The Picking Table, 34, no. 2, 12-21.

Metsger, R.W., Tennant, C.B., and Rodda, J.L., 1958, Geochemistry of the Sterling Hill zinc deposit, Sussex County, New Jersey: Geol. Soc. Ammer. Bull., 69, 775-788

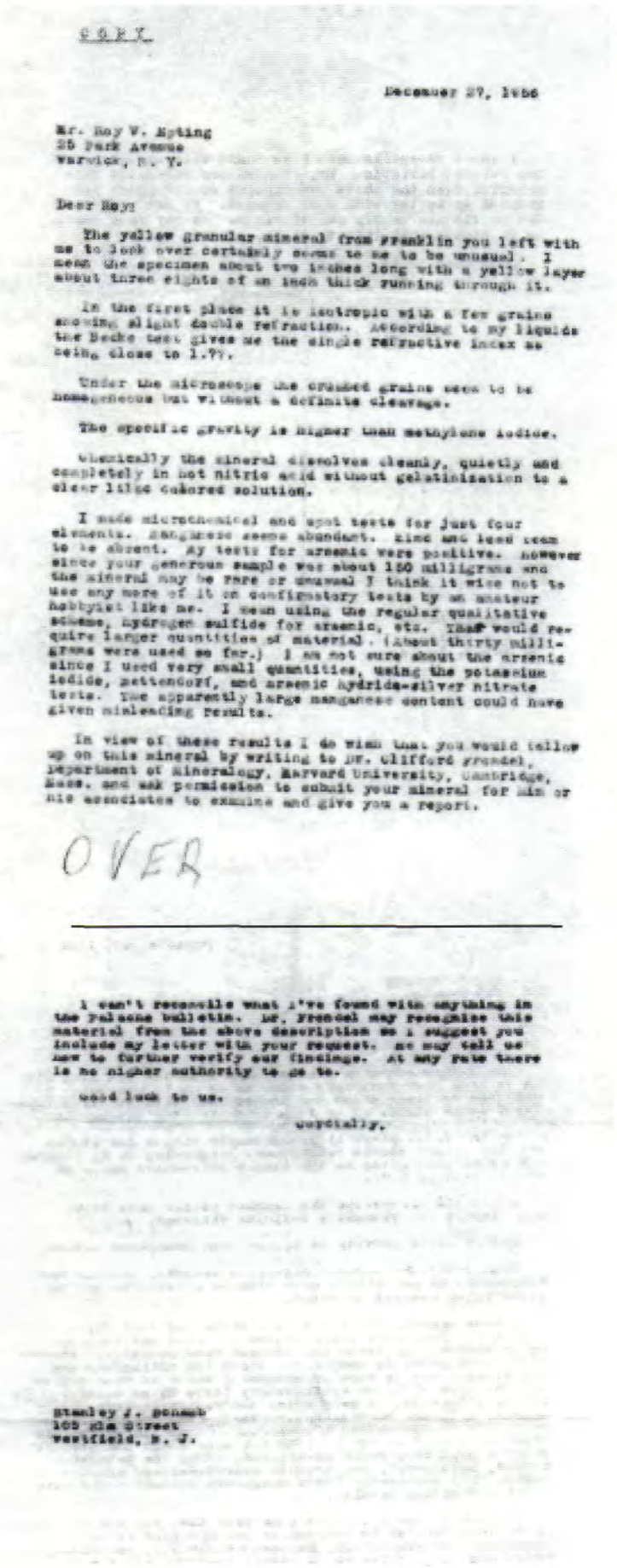
Letters from the Past

George Elling
758 Charnwood Drive
Wyckoff, NJ 07581

In our first installment of **Letters from the Past**, *The Picking Table,* Vol. 39, No. 2, pp. 35-37, we featured letters written in the early 1900s between Charles Palache and Arthur C. Spencer both of whom were collaborating with H.B. Kummel, J.E. Wolff and R.D. Salisbury in producing the historic U.S. Geological Survey's *Franklin Furnace Folio* of 1908. In this issue of *The Picking Table*, we are presenting more contemporary letters tracing the discovery and identification of manganberzeliite, a mineral new to Franklin. The letters presented here do not represent all existent correspondence detailing events leading up to the identification of manganberzellite but they do give a sense of excitement of discovery.

Manganberzeliite is a distinctive non-fluorescent yellow mineral typically found as bands cutting the ore. Specimens were probably in collections for many years misidentified as willemite because of the close resemblance of manganberzeliite to yellow willemite and ultraviolet lamps were not widely available to or used by the collecting public up to the time of the discovery of the true identity of this mineral.

In the mid 1950s, a collector named Roy Epting of Warwick, New York had a specimen which he suspected to be different and new to Franklin. He provided a sample to Stanley J. Schaub of Westfield, New Jersey for chemical analysis. Based on partial chemical analysis of the sample, Mr. Schaub determined that the mineral did not fit any of the mineral species described in Charles Palache's The *Minerals of Franklin and Sterling Hill, Sussex County, New Jersey*, U.S.G.S. Professional Paper No. 180 (1935). He urged Mr. Epting in a letter dated December 27, 1956 to submit a sample to Clifford Frondel at Harvard University for further analysis. The next letter written in December 23,1957 by Epting and addressed to Dr. Frondel gives us a sense or impression that an important discovery is about to be made. The close cooperation between collector and mineralogist is readily apparent from reading the hand written letter of uncertain date from Roy Epting to Clifford Frondel. The contributions of Epting and Schaub were formally acknowledged by Clifford Frondel and Jun Ito in their paper, "Manganberzeliite from Franklin, New Jersey", *American Mineralogist,* vol. 48, p.663-664.



COPY

December 27, 1956

Mr. Roy V. Epting
25 Park Avenue
Warwick, N. Y.

Dear Roy:

The yellow granular mineral from Franklin you left with me to look over certainly seems to me to be unusual. I mean the specimen about two inches long with a yellow layer about three eights of an inch thick running through it.

In the first place it is isotropic with a few grains showing slight double refraction. According to my liquids the Becke test gives me the single refractive index as being close to 1.77.

Under the microscope the crushed grains seem to be homogeneous but without a definite cleavage.

The specific gravity is higher than methylene iodide.

Chemically the mineral dissolves cleanly, quietly and completely in hot nitric acid without gelatinization to a clear light colored solution.

I made microchemical and spot tests for just four elements. Manganese seems abundant. Zinc and lead seem to be absent. My tests for arsenic were positive. However since your generous sample was about 150 milligrams and the mineral may be rare or unusual I think it wise not to use any more of it on confirmatory tests by an amateur hobbyist like me. I mean using the regular qualitative scheme, hydrogen sulfide for arsenic, etc. That would require larger quantities of material. (About thirty milligrams were used so far.) I am not sure about the arsenic since I used very small quantities, using the potassium iodide, nettendorf, and arsenic hydride-silver nitrate tests. The apparently large manganese content could have given misleading results.

In view of these results I do wish that you would follow up on this mineral by writing to Dr. Clifford Frondel, Department of Mineralogy, Harvard University, Cambridge, Mass. and ask permission to submit your mineral for him or his associates to examine and give you a report.

OVER

I can't reconcile what I've found with anything in the Palache bulletin. Dr. Frondel may recognize this material from the above description so I suggest you include my letter with your request. He may tell us how to further verify our findings. At any rate there is no higher authority to go to.

Good luck to us.

Sincerely,

Stanley J. Schaub
105 Elm Street
Westfield, N. J.

25 Park Avenue
Warwick, N. Y.

Dr. Clifford Frondel Curator
mineralogical Museum
Harvard University
Cambridge, Mass.

Dear Dr. Frondel:

months ago I wrote to you about a mineral specimen from Sterling Hill (in Franklin) N. J. which had been examined by Mr. Stanley F. Island of Westfield, N. J. I enclosed a letter from Mr. Island at that time in which he gave the results of the tests which he had performed. Since so much time has passed since I first wrote to you I am enclosing another copy of Mr. Islands letter. In your letter of January 9, 1957 you very graciously offered to examine the specimen. When I received your letter the specimen was not in my possession however, I now have it and have an additional specimen which is larger and appears to be the same. I am taking the liberty of sending both to you since my belief feels it may be rare and of interest.

Please note that Mr. Islands tests were performed on the smaller specimen

It was a pleasure to learn

---

that you had spent many happy days in this area. To my knowledge the marmoleta area has not been relocated. Perhaps I can become lucky. I have spent many hours searching for spinel and have found one but none of the large spinels which have been found in the past. The stone mill which you mentioned in your letter still exists.

Your offer to examine the specimen is deeply appreciated. I sincerely hope that it will prove of interest

Sincerely yours,
Roy W. Ewing

Sterling from Page 5

Sterling Hill Mining Museum Wins Carnegie Award

The Carnegie Mineralogical Award, presented every February at the Tucson Gem and Mineral Show, honors "outstanding contributions in mineralogical preservation, conservation and education". The award was established in 1987 through The Hillman Foundation, Inc., and consists of a framed bronze medallion, a certificate of recognition, and a cash prize. The recipient for 1999 is the Sterling Hill Mining Museum.

Representing the Carnegie Museum of Natural History at the presentation ceremony were Drs. Jay Apt (Museum Director) and Marc Wilson (Head, Section of Minerals). During the presentation Dr. Apt noted that a significant historical and mineralogical resource had been saved upon the creation of the Sterling Hill Mining Museum, and that the museum *in ten short years had attained considerable stature.* He emphasized that the Sterling Hill Mining Museum, far more than most others, resulted from a volunteer effort, and that much of the museum's success can be attributed directly to the large number of people who contributed so much time and talent to its creation and growth. As a symbol of that cooperative effort he asked not one, but four museum members to step forward to accept the award. Following the presentation, Dick Hauck, in his acceptance speech, echoed the concept of the museum as a group effort and gave thanks to those who had helped convert a dream into reality.

Warwick Valley Central School

CENTRAL SCHOOL DISTRICT NO. 1
TOWNS OF WARWICK AND CHESTER

WARWICK, N. Y.

ROY W. EPTING, Supervising Principal

Elementary Principals
RICHARD W. GRAEBNER
SAMUEL L. JONES

Secondary Principal
ROBERT H. HOOKER

December 23, 1957

Dr. Clifford Frondel, Curator
Harvard Geological Museum
Oxford Street
Cambridge 38, Massachusetts

Dear Dr. Frondel:

Thank you very much for your letter of November 29, 1957. I was pleased to learn that the specimens I sent to you were a very rare mineral with the possibility of being a new specie, and that it had never been reported from Franklin.

These specimens were collected many years ago and I believe were from Franklin and not from Sterling Hill. These were the only two specimens of the mineral in my possession. I have looked at some collections in Franklin and Ogdensburg since receiving your letter, but have seen no more of this mineral.

I shall try to get more information concerning the actual collection of this mineral.

When you are finished with the quantitative analysis, I should appreciate seeing the specimens again and shall certainly return a specimen to you for the museum. Please accept my thanks for your kindness in making the analysis. I hope it turns out to be a new specie.

Sincerely yours

Roy W. Epting
Supervising Principal

RWE:dw

Minehillite from Page 11

The following is a list of minerals present in specimen Spex/ Gerstmann #1657:

ASSEMBLAGE (Spex/Gerstmann #1657)

Calcite *	**$CaCO_3$**
Fluorapatite	**$Ca_5(PO_4)_3F$**
Wollastonite*	**$CaSiO_3$ (no identification as to polytype)**
Margarosanite*	**$Pb(Ca,Mn^{+2})_2Si_3O_9$**
Microcline*	**$KAlSi_3O_8$**
Grossular*	**$Ca_3Al_2(SiO_4)_3$**
Vesuvianite*	**$Ca_{10}Mg_2Al_4(SiO_4)_5(Si_2O_7)_2(OH)_4$**
Augite	**$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$**
Minehillite*	**$(K,Na)_{2-3}Ca_{28}Zn_4Al_4Si_{40}O_{112}(OH)_{16}$**
Lead*	**Pb ***

The following is a list of additional associated minerals based on visual examination of specimens RCB 120, RCB 121, RCB 124, RCB 126, and RCB 129, provided for study by Richard C. Bostwick.

Allanite*	**$(Ce,Ca,Y)_2(Al,Fe^{2+}Fe^{3+})_3(SiO_4)_3(OH)$**
Andradite	**$Ca_3Fe_2^{3+}(SiO_4)_3$**
Barite	**$BaSO_4$**
Chalcocite	**Cu_2S**
Copper (weathered)	**Cu**
Cuprite	**$Cu_2^{1+}O$**
Fluorapophyllite	**$KCa_4Si_8O_{20}(F,OH).8H_2O$**
Willemite	**Zn_2SiO_4**
Quartz	**SiO_2**

The asterisk* indicates an accessory mineral described by Dunn et al. (1984) and Dunn (1995, 502).

References:

Dunn, P. J., Peacor, D. R., Leavens, P. B., and Wicks, F. J. (1984) Minehillite, a new layer silicate from Franklin, N. J., related to reyerite and truscottite. *American Mineralogist,* **69**, 1150-1155.

Dunn, P.J. (1995) *Franklin and Sterling Hill, New Jersey: the world's most magnificent mineral deposits.* Privately published. 755pp.

Mandarino, J. A. (1999) *Fleischer's Glossary of Mineral Species.* Mineralogical Record Inc., Tucson. 225pp.

Fleischer, M., Wilcox, R. E., Matzko, J. J. (1984) *Microscopic Determination of Nonopaque Minerals,* U.S. Geological Survey Bulletin 1627. U.S. Government Printing Office, Washington, D.C.

Underground Journal

What Glitters isn't Gold, but it might be Sterling.

Steven Sanford
3425 Eastern SE, #1
Albuquerque NM 87106

I began driving to Franklin during the spring of 1968 and have been fascinated ever since by the mineralogy and the geology and the sociology.

I've seen many incredible rocks and know many very fine human beings. And the anecdotes are legion. However, being limited by time and space, I decided to write about a lesser-known aspect of Franklin-Sterling Hill that may interest some: collecting underground at Sterling Hill.

The official New Jersey Zinc Co. policy on "casual" collecting in the mine permitted specimens that fit into a lunch bucket, took no company time to collect, were found in your work area, and were taken for the miner's personal collection. Theoretically, the workers were not supposed to sell the pieces.

My first underground collecting experience I can still recall was in the winter of 1970-71 and took place on the 1500' level.

The miner I was helping finished the task he was assigned and told me to go look for rocks, for there remained about 30 minutes before we needed to catch the man cage up out of the mine. I walked to a block of ore in the mine's cross member. I'd never seen or heard any activity in the place, which was right on 1500' level. I searched through some raise muck for a few minutes and by sheer happenstance, I glanced up. Yow! The back of the stope was all neatly wired up and ready to fire. I didn't know it was being worked. I clapped one hand on my hard hat and the other on the battery and **ran**. I tore out into the drift and found a miner putting the second wire to the firing box terminal. He hadn't posted the mandatory guard at the entrance. Another 20 seconds... KABAM!

A couple of years later I was helping a Czech miner known as Kino at the task of roof-bolting in 800 stope about 50' above 430' level. This was at the time the giant gray willemites were coming out of that working place. We were on the muck pile bolting and a fellow named Bob Binh was running the Eimco, a mine-sized front-end loader transferring broken ore from the muck pile and dumping it down the crib to 500' level where it was transported to the ore pass. His light began to wag back and forth, so we stopped working to see what his problem was. We slid down the muck pile to his stationary machine. Bob pointed to a 3' boulder and said, "What the *expletive deleted* can I do with this?" Protruding from the top of the rock was a pair of 7"x3" gray willemite crystals arranged like a peace sign (remember that term?): they were flawless. "Bob," I replied, "the calcite is so damn hard, I don't see how you can get them." Muttering an epithet, he climbed aboard the Eimco, ran it forward and picked the boulder up, and threw it with the bucket to smash into a Corvair-sized block of ore. There was a cloud of dust and flying fragments to duck, and I thought: "that's the end of one superb specimen." We all ran up to the heap of shards to discover the two crystals, totally unharmed, on a grapefruit-sized matrix. I couldn't believe it! Bob Binh adamantly refused for many years to sell it. I often wonder what happened to that astounding willemite.

Another gray willemite story: the huge crystals persisted for several cuts in 800 stope and some time after Bob's peace-sign specimen, I was loading and firing one of the last rounds we broke before the stope was fully fired down. 800 had been broken from both north and south ends and the two faces were converging near the center of the huge stope. Just before I left the working place to fire the round, I looked at the 10' thick slab of ore hanging from the back and realized that after this shot that slab (or belly) had very, very little support. Tomorrow would be working under a Damocles' sword. Next day I stopped to drink a soda in Rockaway, arrived at work 15 minutes late, and received the traditional punishment: shoveling in a mud ditch. After work I was passing the front gate and saw Kino, who filled in for me that day, loading a 24" boulder into his trunk. It was a group of big gray willemite crystals! I asked him if he wanted to sell it and received a definite affirmative—the price was $300 and not negotiable. That was way out of my price range in 1973, so I told Ewald Gerstmann and we hustled up to Sussex borough where Kino lived in an upstairs apartment. I introduced Ewald to Kino, who then produced the piece: it was incredible. When Kino told him how much he wanted, Ewald sprang up, exclaimed, "You're out of your mind," and stomped down the rickety staircase. He hadn't gotten half-way to the lower doorway before Kino ran out: "Okay, okay, $100." So Ewald took the piece back to Gerstmann's Franklin Mineral Museum and that weekend, with the help of friends, cleaned and trimmed it. It's still an incredible specimen in the Franklin Mineral Museum, where it now resides, along with the rest of Ewald's collection. During one of the last seasons of my stint at the FMM I pointed it out to a European collector, who peered at it through the glass from several angles and stated firmly, "Collectors in my country would pay $25,000 for such a piece."

The miner I've often referred to here, Kino, was a Jumbo operator and a very good one. He ran large machines which often moved on treads and usually had 2 or 3 heavy-duty drills that could be operated simultaneously. I helped him drill in 1520 stope just below 1680' level. He was running a medium-sized Jumbo with three drills. About 50' away Bill Ellison and his helper, a grizzled fellow named Sarge, were on a small muck pile, roof bolting while we drilled. When all three of our drills were running, the sound was immense, even when we wore "mouse-ears" to protect our hearing. The stope was filled with a thick fog of oil vapor blasting from the drills. After we worked for several hours, Bill's and Sarge's cap lamps suddenly flew apart, landed, and remained stationary. Kino shut down the Jumbo and we ran to the motionless lights. Sarge climbed to his feet half-way down the muck pile and Bill was lying flat on his back on the fill below, in a small lake of cold, oily water. Bill had been running the drill when Sarge saw a big piece coming out of the back. He screamed at Bill, "Jump!" Bill Ellison had (and still has) excellent reflexes and leaped backwards off the muck pile to land in the water below. About a week later, Bill be-

See Underground , Page 24

Underground from Page 24

gan bringing out from 1520 stope large, nearly pure masses of platy, almost black zincite, often with coarse orange willemite. When I went to his home to look at the material, he took me down to the basement and opened a refrigerator; it was full of dark zincite. The piece I bought for $6 was about 8" across, was very heavy, and was virtually pure, black ZnO.

One last reminiscence, and I promise I'll shut up. One afternoon I was working in 1010 stope above 800 level as John Kolic's helper while he ran a small Jumbo called a Simba. After the day's work was done I took off my rubber gloves, stowed them in my jacket, and thankfully started out. John said, "Wait a minute," picked up a scaling bar, and with it neatly popped off a nice red willemite crystal about 9" above where I had stood for the last hour. Oh, well, as you all know, he has this sort of knack.

I could go on and on, till you scream for relief, but this is enough. When you put *The Picking Table* down, go over to your cabinet of fine Franklin-Sterling Hill specimens and reflect on the stories behind each and every one of them. They all have one: not only those of association, crystallography and aesthetics, but also those of the human histories behind their appearance on the surface and their coming into your collection. This history is almost always overlooked just as most of the men involved are forgotten. The tales, the tales, the tales...

A Short History of the Mineral Collecting Dump at the Sterling Hill Mining Museum or, "Where Did All This Stuff Come From and How Did It Get Here?"

Robert Hauck

Sterling Hill Mining Museum

30 Plant Street

Ogdensburg NJ 07439

Most local collectors are very familiar with the collecting dump at the Sterling Hill Mining Museum but few of them have any idea about its origins.

To begin with, there were no rock dumps at Sterling Hill where anyone could collect, either when the property was purchased for the museum or in the past. The Passaic-Noble-fill quarry complex offered outcrops but no dumps. This was because at Sterling Hill the mining methods and ground conditions were different from those at Franklin. At Sterling Hill, fill was brought to the mine because there was not enough waste rock produced to meet the need for fill. The reason the fill quarry exists was to produce rock for backfill in the mine.

When the mine was purchased and opened up in 1989 one of the first things we did was to go through all the levels still above water, looking for equipment to salvage and minerals to bring to the surface. We found that the water level was about 50 feet below the 1300 level and was rising, on average, about a foot per day. When we started, the water was a minor (no pun intended) inconvenience, but as time went on it proved to be a real monster. In the end it won, and claimed all levels below the adit.

At first, every time we went down the ladders we would go down to the lowest levels and collect minerals there, as we figured we would lose these areas first. On the 1300 level you would load up a knapsack with, say, 50 lbs. of rocks, and climb up to 1200. At 1200 you would decide you really didn't need or want all 50 lbs. and would select 40 lbs. At 1100 it would be 30 lbs., and so on, until you got to the surface with less than half of what you started with. Remember, the Empire State Building is approximately 1200 feet tall. How would you like to climb up its side on a stepladder while carrying 50 lbs. of rocks? We figured out quickly that if we were going to salvage much, we had better find a different method of raising things out of the mine.

In the summer of 1989 we purchased and brought down from Canada an old Ingersoll-Rand mine hoist from the Langis Silver Mine in New Liskeard, Ontario. This hoist, which dates from about 1915, runs on compressed air and has a drum 5 feet in diameter. It was installed in the adit station and saw much use from 1989 until January, 1993, when we lost 180 level to the water and stopped all hoisting. It is now a static display.

John Kolic used a pressure hose to wash off the walls on the levels to locate interesting minerals. The minerals would then be removed using 55-gallon drums or old 275-gallon oil tanks cut in half. These "tubs" would be taken out to each level station from the collecting areas, using one of the Eimco loaders that had been abandoned in the mine. The tubs would then be hoisted to the surface and emptied into the mineral-collecting area. This method was also used to salvage any equipment or tools that we found to be of interest.

The original collecting "dump" was located in the fill quarry in the southeast section of the property, but due to ground subsidence in this area we were forced to move it to its present location along the access road between the exhibit hall and the parking lot.

Three locations in the mine produced most of the material that was put on the dump. The rest of the Sterling Hill material found there came (and still comes) from surface operations in the open-pit areas.

The location that produced the largest amount of dump material was the 935 stope, located between the 180 and the 340 levels. When you are collecting on the dump you are not all that far from the place where this material originated; 935 stope was located just south of the old shaft about 300 feet below the surface, while the dump is on the surface just north of the old shaft. 935 stope had just been started when the mine closed so it had not progressed very far. The Nason Fault was prominent in this stope and when you entered it you got the impression that a concrete wall had been poured on the east side or hanging wall-side; this was the fault.

All of the tools and equipment including the drills and a slusher were in place just as the workers left them on the day the mine closed. This was not unusual; most of the mine was like that. The photo you see on the cover of "The Odyssey of Ogdensburg and the Sterling Zinc Mine," showing a miner behind a safety screen looking into a stope, is of John Kolic using the slusher in this stope. The muck pile

you see is now on the dump. John and I decided to muck out this stope but it was easier said than done. It contained several hundred tons of ore. John got the slusher working and I positioned the cut-open oil tanks under the timber chute located on 340 level just under the stope. This is where NJZ would have loaded ore cars. It took us several months to empty the stope.

Another big producer was an area on the east vein on 430 level just north of the safety exit. This area produced the famous "dead zone" banded willemite specimens that are so striking under UV. Also found here were the best brown willemite crystals to come out during our salvage operations. The best piece I found here is now on display in the museum: a 3" doubly terminated willemite crystal in matrix. I was breaking up boulders with a 15-lb. sledgehammer when the rock spit up this piece. It just fell at my feet, perfect "as is." I let out such a yell that everyone there thought I had hit myself with the sledgehammer.

The last major mineral-producing location underground was what we called the "Franklinite Room." This east vein working place, 1250 stope, was located between 700 and 800 levels. This stope produced many wonderful franklinite crystals as well as all the mylonitized ore that came from the Nason Fault, which ran through the south end of this stope.

1250 stope had its own peculiar problems. It had been worked for a long time and was almost halfway between the levels. In it were all the usual tools and a complete Eimco. The Eimco is a big diesel-powered front-end loader, 4 feet wide and 10 feet long, that weighs about 4 tons. There were three of these left in the mine and each one had its own salvaging story. This Eimco was the most difficult to save. First we had to rig up some sort of hoisting system at the top of the raise on 700 to pull things up out of the stope. Then we had to take the Eimco apart so its pieces would fit up the raise. Finally then the whole loader was reassembled for use on 700 level. We also used this hoisting system to remove large amounts of mineral specimens and bulk tonnage from the stope.

We are still using one of the Eimcos on the surface today, and I can honestly say that if we had not been able to save at least one, there would be no collecting dump. Neither would there have been any tunneling projects. Of the three Eimcos salvaged, two are on the surface today. One runs, another is an exhibit, and the third was lost on 600 level due to the same cave-in that killed the pumping system we had worked so hard to install.

There is, of course, a foreign section on the dump. "Foreign" in this case means "not from Sterling Hill." This section includes rock from all over the world, including Franklin NJ. Although some would prefer this area did not exist, due to the contamination of the Sterling Hill sections of the dump, it has been very popular with collectors, and a lot of material is removed from it whenever we are open. The contents of this section of the dump come from donations and purchased collections.

A lot of effort has been expended to create a good collecting experience at Sterling Hill. I am always very happy when someone makes a really good find, and there have been many. We are still adding material from our work on the surface outcrops, and from collections.

If you haven't seen the dump under UV you should come to one of our night-collecting field trips. I have been a mineral collector for over 40 years and the sight of the dump all lit up still gets to me. No matter how often I see it, the effect is overpowering.

I would like to thank Joe Kaiser, who manages to run the collecting dump for the museum on most of the days that it is open. He is a dedicated volunteer. Joe and many others like him have given of themselves so that others can enjoy their hobby and the museum.

Announcements

CONGRATULATIONS! Dr. Doris Gnauck White, a fellow FOMS member, is the recipient of the New Jersey Earth Science Teachers Association President's Award for her outstanding contributions in instructing teachers on methods of teaching geology and earth sciences.

FRANKLIN MINERAL MUSEUM MEMBERSHIP

The Museum is a private, non-profit organization created for educational and scientific purposes in mineralogy, geology, archeology, and paleontology. The Museum's primary emphasis is the history and mineralogy of the Franklin-Sterling Mineral district. We would like to welcome all our members new and old and appreciate your continued support.

All Memberships include the following:

Museum identification card

10% discount in the museum shop, excludes consignment materials or materials used for educational purposes.

Member may consign mineral and mining related items and artifacts in the museum shop at the discretion of the manager or curator.

Museum Newsletter

Invitation to planned Museum functions and events

MEMBERSHIP CATEGORIES:

1. STUDENT: $10.00 per year (college students require valid ID)

2.INDIVIDUAL: $15.00 per year

$10.00 per year if also a current member of the Franklin-Ogdensburg Mineralogical Society (FOMS)

Benefits for categories 1 & 2: 3 free admissions to either the museum or collecting dump*

3.FAMILY: $25.00 per year

Benefits include: 5 free admissions to either the museum or the collecting dump*

4. PATRON: $50.00 per year

Benefits include: 10 free admissions to either the museum or collecting dump*

5.LIFE: $500.00 one time fee

Benefits include:

a.Unlimited Museum Exhibit Visits

b.10 Collecting Dump*admission, per year

c.20 Guest passes for either the Museum Exhibits or Collecting Dump*

6.CORPORATE: $1,000.00 one time fee

Benefits include: Name and corporate logo (if desired) on plaque

7. SUSTAINING: $5000.00 one time fee (May include value of Material and/or Services as determined by Museum Curator.)

Benefits include: All entitlements of Life membership, plus recognition as deemed appropriate by the Museums Board of Trustees.

*Collecting includes up to 10 pounds of rock/mineral material; additional poundage charged at standard rate.

Send Membership Applications and payments to:

Franklin Mineral Museum, Memberships P.O. Box 54, Franklin, NJ 07416

Your membership card(s) will be mailed to you upon receipt of application.

The Franklin Mineral Museum

Evans Road/P.O. Box 54, Franklin, NJ 07416
(between Main Street and Buckwheat Road)
Phone: (973) 827-3481
www.geocities.com/capecanaveral/lab/6347/index.html

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, gem stones, 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 ofssils, Native American relics, and world-wide 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, micromounts, mineral sets, amethsyt crystal groups, agate slabs, onyx carvings, UV lamps, hammers, lenses, mineral books, 35mm slides of fluorescent minerals by Henry Van Lenten, T-shirts, patches, postcards, dinosaur models, crystal growing kits, and refreshments.

Operating Schedule:
Open to the Public
March 1 to December 1
Monday through Saturday: 10 AM - 4 PM
Sunday: 12:30 PM - 4:30 PM
Closed: Easter, July 4th, and Thanksgiving
Groups by reservation, please

Admission Fees:

Adults:	*$4.00*
Grammar & High School Students:	*$2.00*

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

Franklin, New Jersey
"The Fluorescent Captial of the World"

The Sterling Hill Mining Museum, Inc.

30 Plant Street Ogdensburg, NJ 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
Historical buildings
Underground guided tours
Gift Shop - stocked with minerals books, T-shirts, caps, etc.
Food concession and picnic area
and much more!

One 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 A.M. to 5 P.M.
Open March and December on weekends or by appointment, weather permitting.
In April, May, June, Sept., Oct., Nov., tours at 1:00 p.m. and 3:00 p.m.
In July and August, tours at 11:00 A.M., 1:00 P.M., and 3:00 P.M.
The temperature in the mine is 55 degrees F year round; tours last 1 1/2 to 2 hours.
Admission prices:
Adult: $9.00
Children Under 17: $6.00
Senior Citizens: $8.00
Call for group rates

Learn about the importance of the mining industry in northwestern New Jersey
See historic mine workings!

The Franklin-Ogdensburg Mineralogical Society, Inc.

President
Steven Kuitems, D.M.D
14 Fox Hollow Trail
Bernardsville, NJ07924

First Vice President
William Kroth
240 Union Avenue
Wood-Ridge, NJ 07075

Second Vice President
C. Richard Bieling
315 Oak Street
Palmerton, PA

Secretary
Tema J. Hecht
600 West 111th Street
New York, NY 10025

Treasurer
John Cianculli
60 Alpine Road
Sussex, NJ 07461

Assistant Treasurer
Steven C. Misiur
309 Fernwood Terrace
Linden, NJ 07036

Slide Collection Custodian
Edward H. Wilk
202 Boiling Springs Avenue
East Rutherford, NJ 07073

Trustees
John L. Baum (2000)
Philip P. Betancourt (2000)
Richard C. Bostwick (2001)
John C. Ebner (2001)
George Elling (2000)
Chester S. Lemanski, Jr. (2000)
Lee Lowell (2000)
Edward H. Wilk (2000)

Laison with the Eastern Federation of Mineral and Lapidary Societies (EFMLS)

Delegate	Philip P. Betancourt
Alternate	Richard C. Bostwick

Committee Chairpersons

Auditing	William J. Trost
Field Trip	Edward H. Wilk
	Warren Cummings (assistant)
Historical	John L. Baum
Identification	John Cianciulli
Mineral Exchange	Richard C. Bostwick
Nominating	Philip P. Betancourt
Program	George Elling
Spring Swap & Sell	Chester S. Lemanski, Jr.

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:

☐ **$15** **Individual**

☐ **$20** **Family**

Name: _____

Address: _____

City: _____

State: _____ **Zip:** _____

E-Mail Address: _____
(Optional)

Please make check or money order payable to the **FOMS,** and send to:

John Cianciulli, Treasurer FOMS
60 Alpine Road
Sussex, New Jersey 07461

THE 44TH ANNUAL

Franklin-Sterling Hill

Mineral and Gem Show

Proudly Presented By

THE FRANKLIN MINERAL MUSEUM

September 23 & 24, 2000

Saturday: 9:00 AM - 6:00 PM

Sunday: 10:00 AM - 5:00 PM

** FREE PARKING **

FRANKLIN SCHOOL - WASHINGTON AVE.

off Buckwheat Rd by way of Franklin Ave.
FRANKLIN, NEW JERSEY

* DEALERS * GEMS * JEWELRY * MINERALS * FOSSILS *
*WIRE WRAPPING * JEWELRY REPAIR * RING SIZING *
* STONE CARVINGS * STONE MOUNTING *
* LECTURES * LITERATURE * FLUORESCENT MINERAL EXHIBITS*
* PRIVATE AND INSTITUTIONAL EXHIBITORS *
* MINERAL COLLECTING AT THE BUCKWHEAT DUMP * MUSEUM TOURS *
* NEARBY RESTAURANTS*

..... ** DOOR PRIZES ** .....

THE TRADITIONAL "POND" OUTDOOR SWAP/SELL
HOURS: SEPT 23, SAT 6:30 AM - 6 PM
SEPT 24, SUN. 8 AM- 5PM

!!! A FUN DAY FOR THE ENTIRE FAMILY !!!

For information: The Franklin Mineral Museum
Evans Street, Box 54
Franklin, NJ 07416
(973)827-3481

COME VISIT US!

Daily Admission: Adults: $4.00 Two Days: $7.00
Children: $2.00 $3.00

Admission covers the show,outdoor swap,and admission to the Franklin Mineral Museum.

The Franklin Mineral Museum is a non-profit, educational institution.

The Franklin-
Ogdensburg
Mineralogical
Society, Inc.
Box 146 - Franklin, New Jersey 07416

OGDENSBURG NJ 07439
Non-Profit Org.
U.S. POSTAGE
PAID
Permit No. 22

FRANKLIN - OGDENSBURG MINERALOGICAL SOCIETY, INC.
1959

Address Correction Requested