THE PICKING TABLE

JOURNAL OF THE FRANKLIN-OGDENSBURG MINERALOGICAL SOCIETY

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Wilfred R. Welsh
1915–2002

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Membership Information

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

Membership Rates for One Year:

☐ **$15 Individual**

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About the Cover: Bill Welsh; Army Air Corps photo, 1945.
Courtesy of Franklin Mineral Museum archives.

The Picking Table
Vol. 44, No. 1 - Spring 2003

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

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

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FRANKLIN-OGDENSBURG MINERALOGICAL SOCIETY, INC.

SPRING 2003 ACTIVITY SCHEDULE

Activities marked with an asterisk (*) are not sponsored by FOMS but may be of interest to its members; such functions may incur fees and/or require membership in other organizations.

Activities marked with a dagger (†) are tentative as this issue goes to press. To confirm event, please contact Ed Wilk at (201) 438-8471 or the Franklin Mineral Museum at (973) 827-3481.

Saturday, March 15, 2003

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

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

Richard Volkert:

"Graphite of the New Jersey Highlands."

Saturday, April 19, 2003

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

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

Derek Yoost:

"The Amber Deposits of New Jersey"

6:30 to 9:00 P.M.—*Night Collecting on the Mine Run Dump and Passaic and Noble Pits, 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 26 and 27, 2003

SPRING SHOW WEEKEND

The Eighth Annual FOMS Spring Swap and Sell, held in conjunction with the ***31st Annual New Jersey Earth Science Association (NJESA) Gem & Mineral Show.** These events run concurrently at the Robert E. Littell Community Center and the Hardyston School in Franklin, the FOMS Swap and Sell outside and the NJESA 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.

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

NJESA Show hours: Saturday, 9:00 A.M. to 5:30 P.M.; Sunday, 10:00 A.M. to 5:00 P.M.

For NJESA show information, call the Sterling Hill Mining Museum at (973) 209-7212.

*The Franklin Mineral Museum and Sterling Hill Mining Museum will be open during the show.

BANQUET AND AUCTION

*SHMM/FOMS/NJESA banquet and auction starts Saturday at 6:30 P.M. at the GeoTech Center, Sterling Hill Mining Museum. This is an all-you-can-eat, BYOB event. Tickets cost $15.00 and seating is limited; for ticket reservations and further information, call the Sterling Hill Mining Museum at (973) 209-7212.

FIELD COLLECTING

*Trotter Dump Field Trip, organized by the Delaware Valley Earth Science Society (DVESS) and the North East Field Trip Alliance (NEFTA).

Schedule: Saturday, 9:00 A.M. to 7:00 P.M., then after dark from 7:30 P.M. to 11:00 P.M.

$20.00 for all day, plus $1.00/lb. for material collected before 7:00 P.M. and $2.00/lb. for material collected after dark. For reservations, contact Jeff Winkler, 55 White Way, Pompton Lakes, NJ 07442, (973) 835-2582.

E-mail information at: TripMaster@UVworld.org.

*Collecting Sunday from 9:00 A.M. to 3:00 P.M. at the Mine Run Dump, Sterling Hill Mining Museum. Admission $10.00 (good for 10 lbs.), plus $1.00/lb. for additional material collected.

*Collecting throughout the show at the Buckwheat Dump, Franklin Mineral Museum; fee charged.

STERLING HILL GARAGE SALE

The Third Annual Sterling Hill Garage Sale will take place at the Christiansen Pavilion, Sterling Hill Mining Museum, from 1:00 to 3:00 P.M. on Saturday and Sunday.

Sunday, May 4, 2003

1:30 P.M.—*Annual Volunteer Appreciation and Miners Tribute Day at the Franklin Mineral Museum, including special events and a concert by the famous Franklin Band.

Saturday, May 17, 2003

8:00 A.M. to Noon—FOMS Field Trip—Buckwheat Dump, Franklin Mineral Museum.

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

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

Lee McIlvane:

"Greenland: A Fluorescent Mineral Field of Dreams."

Sunday, May 18, 2003

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

Saturday, June 7, 2003

7:30 to 10:30 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. Doors open at 7:00 P.M. for registration and mineral sale.

Eye protection, flashlight, and UV lamp advised.

Saturday, June 21, 2003

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

Warren Cummings:

"A Historical Review of Mineral Collecting at Lime Crest Quarry."

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

FOMS field trips are generally held on the mornings before regular FOMS meetings. These field trips are open only to FOMS members aged 13 or older. An exception to the membership requirement is the Lime Crest Quarry field trip,† sponsored twice a year by the FOMS; this is open to members of clubs which have EFMLS 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. ⚒

Potential Spindle Stage Class with Dr. F. D. Bloss!

Don Halterman
morningstar@att.net

For students of optical mineralogy, we are pleased to announce a once-in-a-lifetime opportunity to study spindle stage techniques with Dr. F. Donald Bloss, author of "An Introduction to the Methods of Optical Crystallography," "The Spindle Stage: Principles and Practice," and others. In addition to the legendary Dr. Bloss, two of his noted protegés, Dr. Mickey Gunter and Dr. Su Chun Su, along with Dr. Robert Weaver of the prestigious McCrone Research Institute, will co-teach the seminar.

The class schedule is still being formed, but will be taught in Chicago, Illinois, from July 11–13, with a possible refresher session on Thursday the 10th. Not only will this be a fantastic class, you will also experience the finest selection of restaurants any city can offer and the warm summer days of lakeside life.

This is not a beginner's class. The student would be expected to have some facility with the polarizing microscope, fundamental crystallography, refractive index, the determination of isotropic and uniaxial minerals, and the recognition of biaxial minerals via interference figures; plus the establishment of Köhler illumination and the use of the accessories of a polarizing microscope. For those who intend to take the upcoming class with Dr. André Lalonde at the University of Ottawa, this would be an excellent follow-up: the equivalent of taking Optics 102 with Dr. Bloss right after taking Optics 101 with Dr. Lalonde.

For complete information, including the final dates and session prices, please contact the McCrone Research Institute directly: by phone (312) 842-7100 or ndaerr@mcri.org. Their home page is http://www.mcri.org. ⚒

Franklin Mineral Museum News

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

Sadly, we report the passing of our beloved Wilfred R. Welsh on November 15, 2002, after a short illness. Known as Will by family and Bill by fellow mineral collectors, he remained active in education and community to the end. At 87 Bill was still an active member of the Franklin Mineral Museum board of trustees as past president. He was also a past president of the Franklin-Ogdensburg Mineralogical Society and maintained active memberships in mineral and paleontological societies throughout northern New Jersey. He also took on new challenges as treasurer of the Bristol Glen Tenant Association for Bristol Glen retirement village in Newton, New Jersey, where he lived.

Bill had a well-rounded interest in natural sciences and shared these interests with his wife Mary until her passing in 1998. As science teachers in the Ridgewood and Ramsey, New Jersey, school systems, respectively, they both had a dramatic positive impact on science education that is evident today. Dr. Paulus B. Moore, Dr. Steven Kuitems, and George Elling, to name a few, were students of either Bill or Mary Welsh and attribute their continued interest in minerals to them.

Over the years Bill and Mary Welsh assembled spectacular collections of worldwide minerals, fossils, Native American artifacts, books, and seashells. The Welshes donated these collections and many of their books to the Franklin Mineral Museum. The collections comprise 7,000 specimens and artifacts and are on display in the David B. Jensen Annex in the Franklin Mineral Museum. The Welsh collections comprise one of our most popular exhibits.

The mineral welshite from Långban, Sweden, was named in his honor. We will miss Bill's wisdom, his leadership, and his wonderful stories about his life adventures. "Did I ever tell you this one?" echoes on in Welsh Hall! Memorial donations for Bill Welsh may be mailed to the Franklin Mineral Museum, Inc.

The museum will feature two new exhibits this spring. The Leidy Microscopical Society has loaned to the Franklin Mineral Museum, Inc., for long-term exhibit, a collection of antique microscopes dating back to the 1850s. This exhibit is on display in Welsh Hall. A second exhibit by Al Grazevich features New Jersey Zinc Company memorabilia in the "Dunn cabinets" in the passageway to the mine replica.

Research is going well as witnessed by the recent Sterling Hill genthelvite find. A study of amphiboles from the Franklin Marble is showing promise. Results from this study will be announced in the near future.

The color book project is moving forward. About 300 photo images have been added to our pool of mineral photos thanks to Robert Boymistruk (photography), George Elling, Mark Boyer, Steve Chuka, Claude Poli, Lee Lowell, Fred Young, and Gary Gartenberg. Unfortunately, our fund drive for this project has stalled at $3,000. Assembly, printing, and binding costs will be $50,000.

The museum now has the green light to construct the Mildred Harden Memorial Pavilion. All necessary permits have been approved. We appreciate the help and support of the Franklin Borough Mayor Ed Allen, the borough council, and the attorneys involved in the approval process. We will also install a long-overdue carved sign in front of the museum to welcome visitors and give us a touch of pride.

Although the museum was officially closed for the winter, the work still goes on and volunteer help is always appreciated. I would like to thank the following people for their assistance: Gregg Jacobus, Roman Gaufman, Mark Boyer, Claude Poli, Lee Lowell, Fred Young, Steve Phillips, Neil Phillips, Scott Phillips, Dick Hauck, and special thanks to John Kolic, Bob Hauck, and Chet and Mary Bridget Lemanski for sharing a portion of their collections with us. ⚒

News From Sterling Hill

Joseph Kaiser
40 Castlewood Trail
Sparta, NJ 07871

Work on the footwall of the East Limb of the orebody near the passage between the Fill Quarry and the Passaic Pit has found a new species for Sterling Hill. The mineral genthelvite, which fluoresces green, is in a mineralogically complex host rock containing rhodonite, bustamite, albite, quartz, gahnite, galena, willemite, amphibole, and several other phases. The mineralogy is currently being worked on by Peter Leavens of the University of Delaware. This is the same area that recently added several other species to the list of Sterling Hill minerals.

The Thomas S. Warren Museum of Fluorescence at Sterling Hill recently received a "Ten Cool Sites Award for Educational Excellence" from the Exploratorium, an educational institution based in San Francisco and world-renowned for both in-house and off-site learning programs. The Exploratorium was founded in 1969 by the physicist Dr. Frank Oppenheimer and currently maintains a web site of more than 12,000 pages. That the Exploratorium deemed the Warren Museum web site worthy of an education award is a high honor indeed.

The Thomas S. Warren Museum of Fluorescence is working on getting restrooms in the facility. This will allow for better and more full-time use of the building. Special meetings and other activities can be held at the Warren Museum when this project is completed.

The web site www.sterlinghill.org is being redone. It will provide opportunity for educators to enhance their own science background. People will also be able to purchase material from the online gift shop.

Field Trip Reports

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

Fall 2002 FOMS Field Trip Notes

Buckwheat Dump, Franklin, NJ; 9-15-02

The FOMS troops scoured the recently turned-over areas of the dump and found several Franklin favorites to bring home. Almost everyone who looked was able to find samples of massive gneissic ore composed of green willemite and franklinite grains. Several collectors found ore boulders that were predominantly calcite, franklinite, and zincite. Notable in this latter assemblage were specimens in which the zincite grains were bright ruby-red, which contrasted sharply with the white calcite. One young collector dismantled an altered ore boulder, which contained alternating pyrite and sphalerite bands.

Several small hand specimens of hardystonite in calcite and franklinite turned up in the center of the dump. The hardystonite masses were up to 4 cm across. For the micromounters in our group, the dolomite boulders yielded several small quartz crystals, up to 1.5 cm, and brown sphalerite crystals up to 4 mm. One piece of dark brown oxidized fluorite-willemite ore was split open and contained numerous 1-cm cavities lined with 1- to 2-mm transparent, tabular calcite crystals.

The Sterling Hill Passaic Pit and Mine Run Dump, Ogdensburg, NJ; 10-19-02

Recent workings by John Kolic in the Passaic Pit produced an infusion of fresh material for collectors of mineral species and fluorescents alike. This newly encountered material is a skarn type of rock containing a diverse assortment of minerals. The majority of the skarn consists of dark green amphibole minerals, white calcite, light gray quartz, pink rhodonite, dark green gahnite, and white to light green feldspars. The calcite fluoresces a bright orange-red color in shortwave (SW) ultraviolet light. The quartz fluoresces dull blue and sometimes contains grains of bright green-fluorescing willemite under the SW ultraviolet light. The calcite, willemite, and quartz often fluoresce in bright polka-dot patterns. Along with the more common minerals were masses of galena up to 8 cm; sometimes in and around the galena were tiny transparent willemite prisms up to 3 mm. Also found were small, poorly formed prisms of fluorapatite randomly dispersed; these fluoresce dull orange-brown under SW ultraviolet light. Sphalerite, fluorescing orange, pink, and blue under longwave (LW) ultraviolet light, was occasionally encountered in spots and small patches up to 1 cm. A bright orange-fluorescing mineral, under SW ultraviolet light, occurred in 1- to 2-cm masses and plates. John Cianciulli, curator at the Franklin Mineral Museum, later optically determined this to be barite. White-fluorescing barite, in masses up to 2 cm, was collected as well. A few rarely occurring fluorescent species were also found in this skarn: grains of powellite up to 1.5 cm and brown zircon crystals up to 1 cm in cross-section. If one looked closely there were many yellow-brown titanite crystals up to 1.5 cm and micro crystals of azurite and malachite. These latter species were near the oxidized surface zones.

The most notable discovery in this assemblage at first eluded quick identification. It is a pale green mineral in masses up to 5 cm and tetrahedral crystals up to 2.5 cm. This material fluoresces dull blue-green under SW ultraviolet light, but it fluoresces bright green when placed under LW ultraviolet light. John Cianciulli and other researchers solved the mystery—genthelvite is their conclusion. This mineral was previously known to occur locally only in micron-sized grains from the petedunnite assemblage at Franklin.

The Franklin Quarry, Franklin, NJ; 11-16-02

Under very poor weather conditions, ten brave members ventured forth to collect. Unfortunately, no new work had taken place in the quarry in the previous six months. What came out were the classic diopside-norbergite-fluorite mixes, often in bull's-eye patterns of fluorescence under the SW ultraviolet light. Also found were massive pods of dark purple fluorite in calcite up to 10 cm across, small pargasite crystals up to 3 cm long, and stout crystals of tremolite up to 4 cm long. ⚒

Wilfred R. Welsh, 1915-2002

Paulus B. Moore
101 Big Island Road
Warwick, NY 10990

Wilfred Reinhardt Welsh was born on January 29, 1915, in West Orange, N.J. His parents encouraged young Bill's interest and curiosity in the natural sciences through visits to the American Museum of Natural History. During his high school years, he created a basement natural history museum and had a growing desire to teach. I knew Bill (some call him Will) and Mary Welsh for nearly 50 years. When I was a 6th-grader at Ramsey Grammar School, Mary would bring in mineral and fossil specimens to her classroom. Although I never had her for a class, my curiosity over the minerals was so stimulated that she gave me a specimen. It was a hand specimen which showed black franklinite, green willemite, and red zincite grains distributed in white calcite. To this day, I consider this event the spark which led to my pursuit of the earth sciences, particularly mineralogy. I infected a couple of my friends with minerals and soon we haunted the Welsh museum. The Welshes had a pile of minerals in their back yard, rejects from the upgrading of their collection. My prize find was a fist-sized thaumasite, whose etymology I eventually understood to mean "wonder" or "marvel," with the formula ratio $H_{30}Ca_3SiCSO_{25}$. Bill even took a couple of us to some small mineral shows in New York and Washington, D.C., where we could purchase specimens.

Bill's interests extended far beyond minerals. Relatively recently, he went with me to hear the renowned Bach Choir of Bethlehem, Pa. Bill's educational pursuits were truly remarkable and served him well in his illustrious teaching career. They also left an imprint on his equally remarkable collection of natural history specimens, each and every item selected in good taste and with sagacity. Bill matriculated from New Jersey State Teachers College (Upper Montclair), garnering A.B. and M.A. degrees in 1936 and 1938, respectively. After that, he studied mineralogy at Upsala College, astronomy and meteorology at Cornell University, and field geology at Princeton University. These studies were conducted mostly during summertime. Other courses included oceanography at the University of Washington, atomic physics and radiation biology at the University of New Mexico, ecology of coral reefs at the West Indies Laboratory in St. Croix, field geology at the Yellowstone-Bighorn Research Association, and marine biology at Woods Hole, Massachusetts.

After his matriculation and during the aforementioned array of summer studies, Bill's career was as science teacher and department coordinator at Ben Franklin Junior High School in Ridgewood, N.J., from which he retired in 1976. Bill was married to Mary Theresa Bohm, also a teacher. They had no children and were an almost inseparable couple. They settled in Ramsey, N.J., later moved nearby to Saddle River, N.J., and finally retired to Newton, N.J., to be near their collections which have been housed in their original cases since 1991 at the Franklin Mineral Museum. These collections include over 10,000 natural history specimens, though by a considerable margin the minerals take a commanding position. A Dana-arrayed collection, the minerals are mostly fist-sized choice specimens that Bill obtained through purchase, trade, or collecting. To effect trade, Bill and Mary collected abundant and fine samples of zeolites from Nova Scotia. Their collections were open to countless students of all ages. Among the 10,000 specimens, the majority are minerals in 25 cases and 55 drawers; the rest is made up of a crystal model and pseudomorph collection, 3 cases and 2 drawers of rocks, 8 cases and 27 drawers of fossils, 16 cases of biological specimens, and 11 cases of artifacts. Coupled with the Welshes' encouragement of students, this abundance of mineralogical, geological, biological, and archaeological specimens stimulated the development of more than a few outstanding scientists in their own right.

Bill was long active as a special patrolman and police dispatcher. He was also a volunteer in the Police Reserve in Civil Defense. Though it was not expected of a school science teacher, Bill in midlife purchased a Harley-Davidson motorcycle and participated in many rallies. In his retirement Bill suffered angina pectoris and regularly took nitroglycerin. As Mary predeceased him, his final abode was a fine retirement village in Newton, N.J. After triple bypass surgery, he never fully recovered and died shortly thereafter, aged 87 years.

The mineral species welshite, $Ca_2Mg_4FeSbO_2[Si_4Be_2O_{18}]$, from Långban, Sweden, was named in Bill's honor in 1978 by one of his former students. It was a fitting recognition for both these modest, gentle, unpretentious persons who gave so much without stint. Ave atque vale! Hail and farewell! ⚒

Miners Day and Volunteer Appreciation Day

May 4, 2002

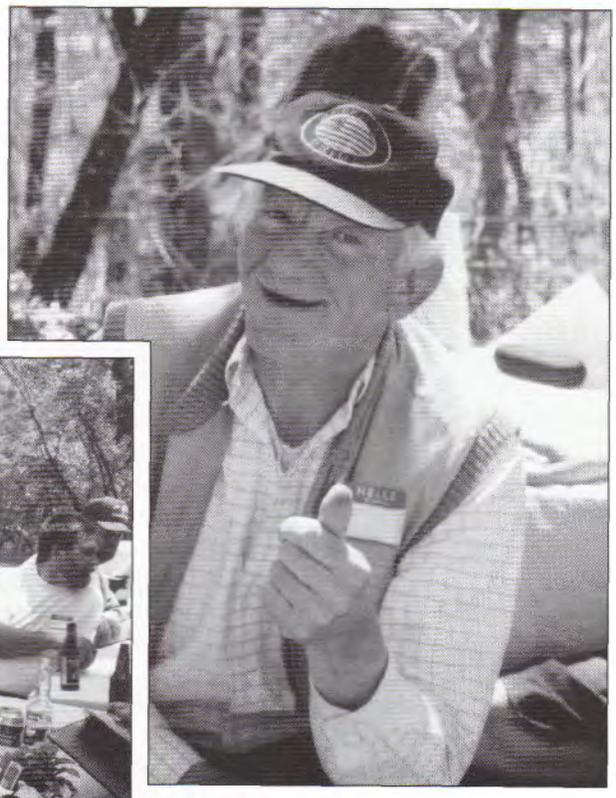
Tema Hecht
600 West 111th Street
New York, NY 10025

Once again, the Franklin Mineral Museum, its staff, and the museum's board of trustees can be extremely proud of hosting Miners Day and Volunteer Appreciation Day on a sunny, glorious Sunday, May 4, 2002. There were delicious varieties of food and desserts for all to stuff themselves with, and plenty of liquid refreshment for the thirsty. We also had the pleasure of once again hearing and seeing Dick Bostwick, Master of Ceremonies for the afternoon. And a big thank-you must go to Al Grazevich for finding and inviting many illustrious miners who worked at Sterling Hill but had not previously attended this grand event. The Franklin Band, which began its concertizing in 1870, was present to grace the occasion. After the "Star-Spangled Banner," Dick Bostwick reminded the Sterling Hill miners, with many of whom he had worked, that there was more liquid refreshment inside.

Steve Phillips, the Franklin Mineral Museum's president, thanked the volunteers and the museum staff for their hard work.

Dick announced that the Buckwheat Dump is now owned by the museum, and thanked Steve Phillips who has plans to donate the Trotter Dump to the museum.

John Cianciulli, the museum's curator, stated that there were some subtle changes in the museum, but also some major ones that included the new trail leading to the Buckwheat Dump. John thanked all the volunteers who helped make the new trail possible, and thanked the faithful volunteers that make the Franklin-Sterling Gem &



Left: Superminer Doug Francisco (on left) with Al Restrepo and the inimitable Paul Rizzo. **Above:** Ron Riley, Sterling Hill's top trammer. Tema Hecht photos.

Left: Dominic Lorenzo, North Ore Body veteran. **Right:** Chuck James, who ran 11 Pillar in the last days of the North Ore Body. Tema Hecht photos.

Mineral Show possible every year. These volunteers include Nick Armenti, Greg Anderson, Mark Boyer, Richard Bieling, Richard Bostwick, Larry Berger, Lou Cherepy, Jr., Megan Durham, Daniel Durham, Roman Gaufman, Bob Hauck, Kurt Hennig, Tema Hecht, John Kolic, Nina Kulsar, Dr. Steven Kuitems, Joe Klitsch, Fred Lubbers, Steve Misiur, Dr. Paulus Moore, Judy Phillips, Neil Phillips, Scott Phillips, Casey Phillips, Claude Poli, Phillip Persson, John Reiser, Louise Reiser, Paul Shizume, Alana Shizume, Edwin Sapp, Ralph Thomas, Earl Verbeek, Maureen Verbeek, and Anne Wronka.

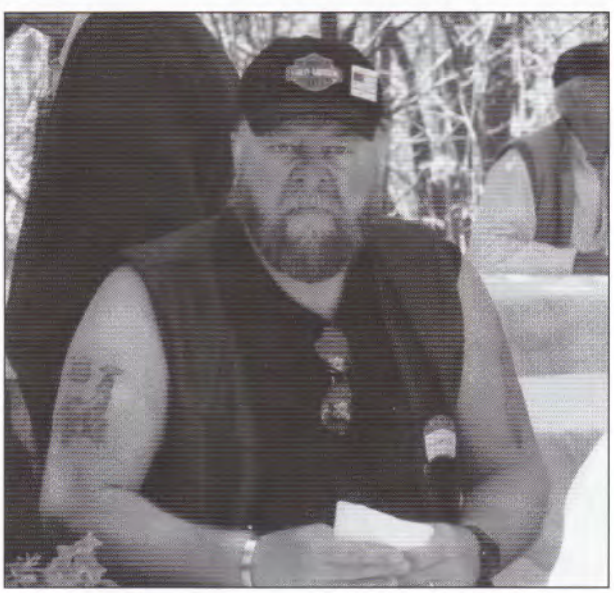
Dick mentioned that there were 3 new minerals to be added to the species list, and when that occurs, Franklin will have 358 mineral species. Dick strongly suggested to everyone that "if you have a local mineral and you're not sure what it is, show it to John." Specimens can also be sent to the museum for analysis. Dick stressed that it is important to attract younger people to the mineral hobby.

Dick introduced Tom Turner and Phil Laporta, who announced the winners of the Science Awards and the Franklin Mineral Museum's Scholarship Award. At the time only 3 of the 6 winners could be announced but I have since received the names of all of them:

- Josh Hoff, Franklin, "Maxwell's Demons, or How a Little Guy Opening and Closing a Trap Door Leads to the Concept of Life and Death."
- Lindley Thacker, Hamburg, "What Is an Umbilical Cord?"
- Alexandra Molner, Hardyston, "Reactions of Various Solutions on Nails." Ms. Molner was one of the Science Fair winners selected by Hardyston School for hard work and interest in science.
- Kaitlin Lynch, Immaculate Conception Regional School, "Psychology of the Brain."
- Michael Vandenberg, Ogdensburg, "Hydro-Electric Power."

Each of the above students received a $100.00 U.S. Savings Bond.

The winner of the Franklin Mineral Museum's $300.00 scholarship was Christa Lombardi of the Wallkill Valley Regional High School. Ms. Lombardi will be attending Ithaca College in the fall as a communications major.

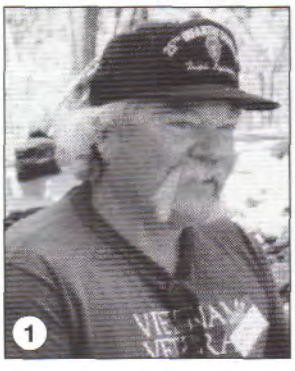


Classic zinc miner attitude from Andy Gangarcik. Tema Hecht photo.

Dick Bostwick then began explaining about the Franklin Mineral Museum's Hall of Fame. Dick stated that the Hall of Fame "has to do with memorializing people." Dick continued and asked, "What goes into making a museum? A museum is a building; it houses collections and has a staff. A museum educates people about its material." Dick stated that "Franklin becomes more famous the farther away you get," and went on to explain that the Hall of Fame recognizes people who had to do with the museum's current success. Dick announced the 2002 Hall of Fame results. Of two inductees on the academic side, one was Charles Palache, professor of mineralogy at Harvard. He wrote *The Minerals of Franklin and Sterling Hill, Sussex County, New Jersey*, which became a "bible" for collectors. Dick went on to say that Palache understood minerals from the outside in. The other person to be elected to the Hall of Fame is our own John Leach Baum. Jack was also a Harvard man who gave a tremendous amount of himself to the community of which he is so proud. Jack served as the Franklin Mineral Museum's curator for over 30 years and gave funds toward the building of Baum Hall, the museum's new lobby. He also received the Lawson Bauer Award from Dr. Pete Dunn in 1981. On the civic side, the Kiwanis Club of Franklin and its president Ed Selems were also inducted into the museum's Hall of Fame. Ed Selems and his Kiwanians sponsored the Franklin Mineral Museum as an idea, brought it physically into being, raised funds, held the mortgage, provided volunteers, sponsored the Franklin mineral show, and in many ways encouraged the growth and institutionalization of the local "mineralculture."

When the Hall of Fame presentations were completed Dick reminded us, speaking of the Franklin Mineral Museum, that "Institutions like this will help *you* be remembered. It has a community position, and community archives, and people will always be able to come here and see it."

Now it was time for us to eat some more, drink some more, listen to the Franklin Band, and talk with old and new friends alike. ⚒



1. Bill Bihn, Sterling Hill cageman extraordinaire. **2.** Franklin Mineral Museum benefactor Bill Welsh (1915–2002) at Miners Day 2002. **3.** Superminer Chris Auer, sitting, with "labor organizer" Al Grazevich. (Al's the Sterling Hill miner who keeps track of the rest.) Tema Hecht photos.

Observations of a Worker Bee: An Inside View of 2002's Million Dollar Show

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As a regular show contributor working behind the scenes, my first impression of the Million Dollar Show was one of controlled chaos. We were habitually shorthanded, and to make matters worse, a number of regular show workers were thrust into doing double-duty beyond their normal assignments. In spite of those circumstances, the show was an overall success.

One of the most notable aspects of the weekend was that this show was the host show for the Eastern Federation of Mineralogical and Lapidary Societies (EFMLS). We invited the EFMLS on the assumption that their presence would lend the show needed publicity and visibility beyond the local mineral community. It also allowed our three sponsoring organizations (SHMM, NJESA, FOMS) to prove that we have the ability to share and are not a bunch of snobs, and that what we do is quite legitimate and worthy of consideration. I think we were able to favorably impress upon the EFMLS that we are a presence to reckon with.

Our three organizations were generally supportive of each other. There were the inevitable snafus and glitches, though none of them stopped the show. One notable glitcher was the security guard who locked himself outside one of the buildings an hour before the janitor arrived. As usual there were vendors who overstressed the available electrical power. While we have always emphasized limiting the use of lights, every year there are vendors who "push the envelope." It seems we were able to minimize the outages this go-round. One solution was to open the clerestory windows, which cooled the overheated wires on and near the ceiling. In consequence, certain dealers complained it was too cool. The choice presented to them was either to keep the power off or put on a jacket. All elected to put on a jacket.

Most dealers were happy and satisfied with the weekend. The most exciting moment that some dealers had was that they were victims of shoplifting. But not all was lost as a sharp-eyed show contributor saw suspicious activity. The thieves were apprehended and the purloined specimens returned to the grateful dealers.

Taking part in a show in the way I do is a paradox of sorts, as I was too busy to actually see the show in spite of being in the midst of it. Hence I can't assess the various displays, though what I saw at a glance was of good quality overall. I glanced at what the dealers had, and most were making good presentations of their wares. Unfortunately, those specimens I saw that would be attractive in my collection had quite unattractive price tags. I was able to compensate for this shortcoming by observing certain attractive show visitors, a tradeoff with which I was satisfied.

The Saturday night banquet was shared this year by our regulars and the EFMLS. This event is usually favorably anticipated as the social highlight of the show weekend. While a few key FOMS and NJESA officers were absent, those who were there gave some credibility to the evening event, even though one show official slept through most of the proceedings. The evening's high point was the silent auction. Those in the bidding process saw some spirited demonstrations of the power of the pen, mightier than the sword when applied to a checkbook.

Our luck with weather ran out on Sunday. It had been raining since the night before. This gave a soggy start to the day and put a damper on attendance for the show. The biggest effect was to wash out the popular Outdoor Swap & Sell, though there were three hardy dealers there who had erected tents the day before. Alas, they could not compensate for the rain and the absence of the other outside dealers. Yet the effect was to bolster the indoor activity with its various displays and dealers. It even encouraged a more intimate atmosphere. Overall attendance was good, given the circumstances. We of course hope next year to have more favorable weather.

The EFMLS members enriched their show experience by taking a tour at the Sterling Hill Mining Museum on Sunday. I was one of the two tour guides (the other being a hobbling Ron Mishkin) who tried to add another dimension to the members' lives. This was not an ordinary crowd of visitors, but folk versed in the mysteries of the Earth and the lore of rocks. Compared to the questions of ordinary visitors, those of EFMLS members were for the most part thoughtful and intelligent, and demanded thoughtful answers. These spawned more questions, and

thus the tour ran over a half hour longer than usual. All in all our visitors were quite satisfied with the presentation and I received several favorable compliments. Most left with a good impression of the scale and scope of the project.

Last came the show breakdown. Show setup is a slow and methodical process, whereas "breakdown" very much tests the boundaries of the word. "Controlled crash" may be more an apt description. One can imagine the slow but inexorable rise in tension amongst those who operate the show. When the last minute comes there is a frenzied scurry of movement and activity. We rush to and fro, dodging and dashing, with the twin purposes of shutting the show down and packing its gear away for next year. One would never imagine such a thing could be accomplished so quickly, yet it is done without permanent injury to body or soul. This breakdown was tougher than usual as the rains pelted harder than they had all day. This show definitely had a soggy finish.

This was not to be the end of the show for me. The temporary electrical wiring was to have been removed Monday afternoon, but this operation dragged on into that night. And the last of the show signs was removed Tuesday afternoon. Only when that was done did I feel something akin to cathartic relief.

After all this, one could ask, "Was it worth it?" Since I am an eternal optimist and romantic, the answer is yes. Driving alone to the show early Sunday morning, thinking of what the day promised, I thought of this question: from what do I get the most fun? I answered: life itself. Having worked as a miner, I learned from a late friend that the best part of a miner's life was being able to experience each day as it came. From then on I have sought to keep things simple. With that outlook, it wasn't too hard to conclude that living life itself is its own reward. From that time forward I have had the satisfaction of seeing others derive their own sense of accomplishment from their lives, and I am glad that I have been able to help others achieve that.

P.S. As I write this, a week after the show, I am standing outside the Sovereign Bank Arena in Trenton. I'm here to represent the Sterling Hill Mining Museum at the Mercer County Earth Day Celebration. The building was evacuated because of a bomb threat just as the event started. As it turns out, nothing was found, but the momentum was lost and we participants were told the organizers will try to reschedule the event for another day. It was sad to see the faces of the disappointed kids who had been looking forward to enjoying themselves. I too was disappointed for the kids, but it certainly hasn't been a dull week for me. ⚒

Scenes from the 46th Annual Franklin-Sterling Gem & Mineral Show, Sept. 28–29, 2002

Above: FOMS auctioneer Vandall King hugging a slab of petrified wood. **Right:** John Bauer shows Dick Bostwick a mind-boggling franklinite crystal specimen from the Lawson Bauer collection. Tema Hecht photos.

Above: Franklin Mineral Museum curator John Cianciulli relaxes at the FOMS banquet. **Right:** Prominent collectors Dave Wellbrock (on left) and Bob Boymistruk at the Sterling Hill garage sale. Tema Hecht photos.

Ewald Gerstmann the legend (on left) chats with Earl Verbeek the curator. Tema Hecht photo.

Left: Serious collectors admiring Dick Hauck's auctioneering style at Sterling Hill. From left: Chet Lemanski, Dan McHugh, Jr., Steve Kuitems, George Elling, and (standing) Joe Orosz. **Above:** Electrician and Sterling Hill volunteer Bob Leatham, at the banquet. Tema Hecht photos.

Arsenate Photo Essay Part III

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The arsenates and arsenic-bearing silicates occurring in the Franklin Mine are presented in this third part of a photographic essay, the first two parts of which appeared in *The Picking Table*, vol. 43, nos. 1 and 2. The list of arsenic minerals occurring at Franklin includes some 19 species and is smaller than the corresponding Sterling Hill list. However, there are a few notable species from the area that occur only in the Franklin Mine. The following lists provide some clarity about what is found at Franklin.

There are over 60 species from the Franklin-Sterling Hill area that fall into the categories of arsenate and arsenic-bearing silicate, according to Dr. Pete J. Dunn, *Franklin and Sterling Hill, New Jersey: the world's most magnificent mineral deposits* (1995), Part Five, pages 647-648.

The arsenates and arsenic-bearing silicates that have been found at Franklin are shown in Table 1. From that list you will notice that there are eight species that are found at Franklin and not Sterling Hill, three of which are very rare while the other four are more plentiful. The Sterling Hill arsenates and arsenic-bearing silicates far outnumbered Franklin in diversity of species and were generally more plentiful. In the following pictorial presentation both rare and fairly commonplace arsenic mineral species are included. Due to space limitations, only those in Table 2 are presented here.

The purpose of this pictorial essay is to assist you in recognizing these arsenic-bearing species from the Sterling Hill and Franklin mines. As mentioned in Part I of this series, the reasons for the differences in the distribution of these species between the two mines are not well understood. Perhaps with more study of the specimens now in collections we will discover more such species and close the gaps in our understanding of these fascinating minerals from the Franklin-Sterling Hill area.

Table 1

Adamite	Holdenite
Adelite	Jarosewichite*
Allactite	Johnbaumite
Annabergite*	Kolicite
Cahnite*	Magnesium-chlorophoenicite*
Chlorophoenicite	Manganberzeliite*
Erythrite	Mimetite
Flinkite*	Sarkinite
Fluorapatite	Turneaureite*
Hedyphane*	

*Franklin only

Table 2

Allactite	Hedyphane
Annabergite	Magnesium-chlorophoenicite
Cahnite	Manganberzeliite
Chlorophoenicite	Sarkinite
Fluorapatite	Turneaureite

Figure 1: Chlorophoenicite—$(Mn,Mg)_3Zn_2(AsO_4)(OH,O)_6$—in clear tan terminated acicular crystals associated with leucophoenicite, willemite and franklinite from Franklin. The transparent crystals are as long as 8 mm and the specimen measures 1.5 × 2.5 cm. David Wellbrock collection. Photo by Gary Grenier.

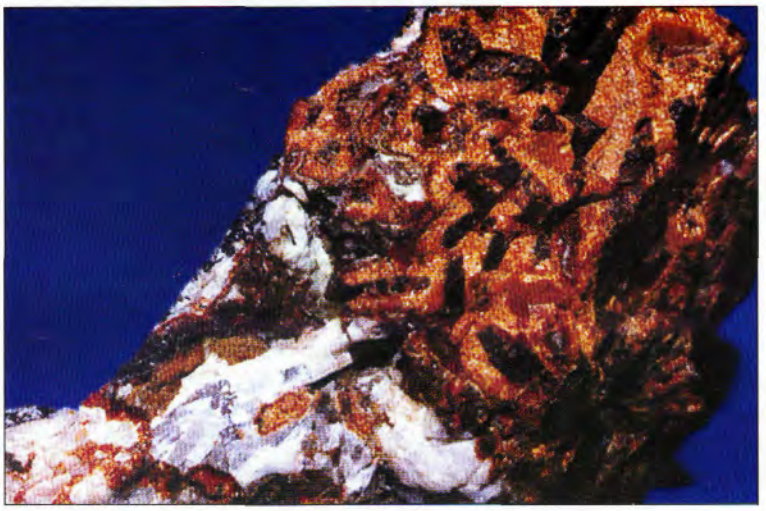

Figure 2: Allactite—$Mn_7(AsO_4)_2(OH)_8$—dark red-brown elongated crystals appearing to float in orange fine-grained caryopilite from Franklin. The massive caryopilite is in calcite with minor franklinite and willemite, and the specimen measures 12 × 13 cm. James Chenard collection. Photo by Gary Grenier.

Figure 3: Allactite—$Mn_7(AsO_4)_2(OH)_8$—in well-formed chisel-shaped reddish brown crystals as large as 2.5 cm long. These are considered by many to be the largest allactite crystals from Franklin. The specimen is on display in the Sterling Hill Mining Museum and measures 15 × 18 cm. Photo by Gary Grenier.

Figure 4: Annabergite—$Ni_3(AsO_4)_2.8H_2O$—green aggregates and mounded masses with nickeline from Franklin. Bronzy nickeline grains can be seen in the photograph, associated with purple fluorite and in direct contact with annabergite. Specimens of annabergite are rare. Field of view is 1.5 cm wide. Grenier collection. Photo by Gary Grenier.

Figure 5: Fluorapatite—$Ca_5(PO_4,AsO_4)_3F$—bluish prismatic elongated crystals of fluorapatite as much as 4 cm long, in calcite, associated with franklinite and arsenopyrite from Franklin. Bluish fluorapatite was formerly called svabite when associated with the zinc ore; however, svabite has yet to be conclusively identified from Franklin. The specimen measures 10 × 15 cm. Formerly in the Grenier collection. Photo by Gary Grenier.

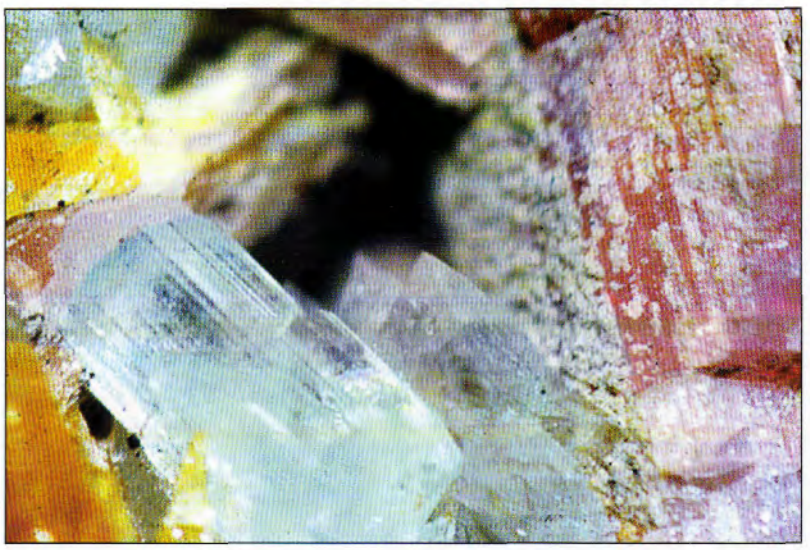

Figure 6: Cahnite—$Ca_2B(AsO_4)(OH)_4$—in gray to white translucent prismatic crystals associated with prismatic translucent green willemite, pinkish red bladed rhodonite, and tabular orange manganaxinite: a classic Franklin assemblage. The specimen measures 1.5 × 2 cm. Field of view is 4 × 6 mm. Grenier collection. Photo by Gary Grenier.

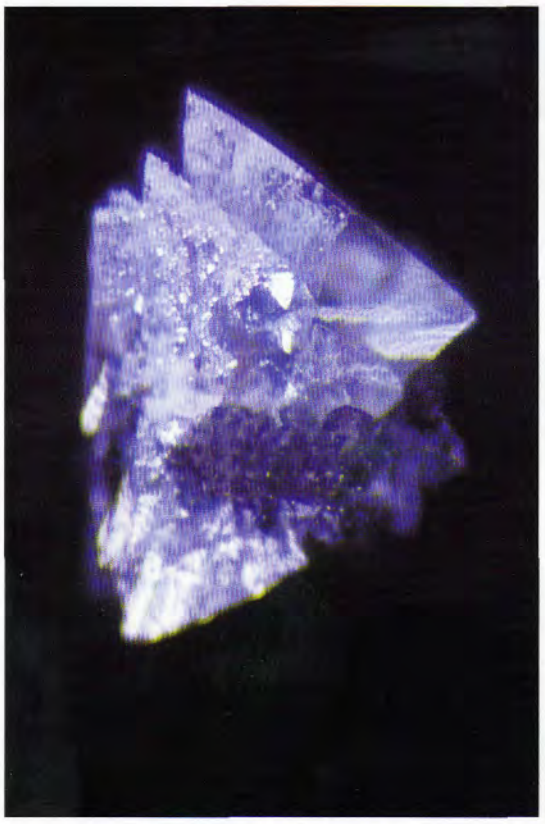

Figure 7: Cahnite—$Ca_2B(AsO_4)(OH)_4$—uncommon twinned crystal form. Orientation of the view is top down along the *c* axis. Magnification and specimen dimensions were not recorded. Photomicrograph by Alfred Standfast, M.D.

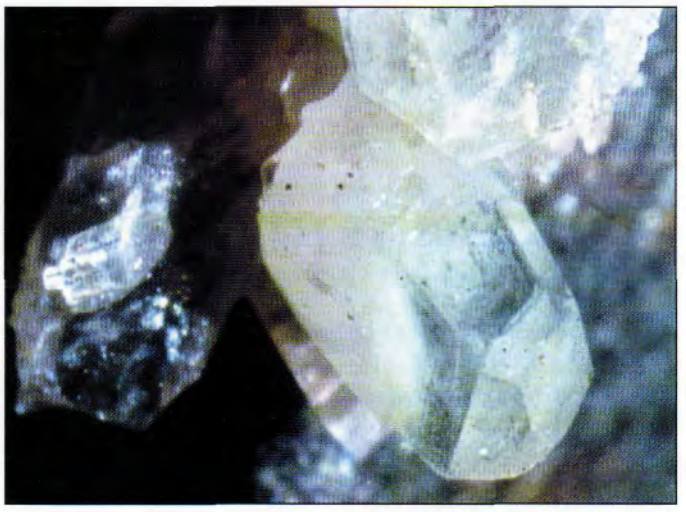

Figure 8: Hedyphane—$Pb_3Ca_2(AsO_4)_3Cl$—equant transparent to translucent white terminated crystal from Franklin. Hedyphane crystals are uncommon and considered rare. Magnification and specimen dimensions were not recorded. Photomicrograph by Alfred Standfast, M.D.

Figure 9: Hedyphane—$Pb_3Ca_2(AsO_4)_3Cl$—white glassy to resinous crystals and masses that form the matrix for gemmy green willemite, red bladed rhodonite, and rare copper crystals (tarnished by exposure to atmosphere). The specimen measures 3 × 6.5 cm. George Elling collection. Photo by Gary Grenier.

Figure 10: Magnesium-chlorophoenicite—$(Mg,Mn)_3Zn_2(AsO_4)(OH,O)_6$—brownish-white radiating bundle of acicular crystals on reddish hodgkinsonite from Franklin. The field of view is 3 × 4 mm. The bundle of crystals rests in a cavity of a larger specimen that measures 5 × 6 cm. Peter Chin collection. Photo by Gary Grenier.

Figure 12: Sarkinite—$Mn_2(AsO_4)(OH)$—as an orange vein-filling with willemite and calcite cutting willemite, franklinite, and zincite ore from Franklin. Sarkinite in this form is often mistaken for other species from Franklin. This specimen measures 5 × 7 cm and the vein is 1.5 cm wide. Collection of Steven Kuitems, D.D.S. Photo by Gary Grenier.

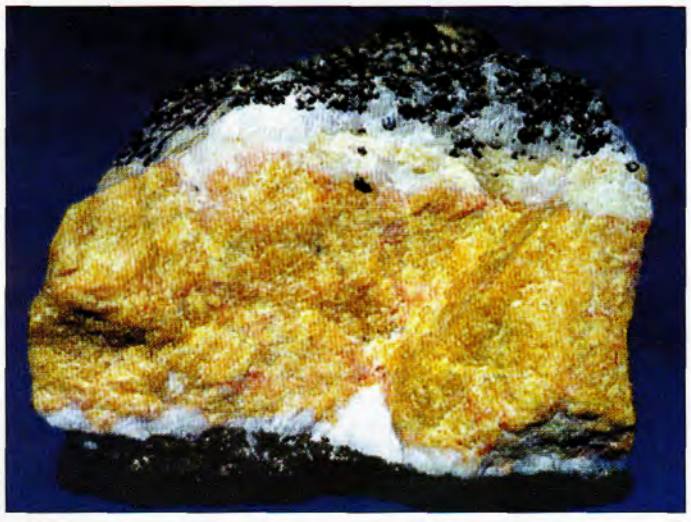

Figure 11: Manganberzeliite—$(Ca,Na)_3(Mn,Mg)_2AsO_4)_3$—a rich yellow glassy vein over 3 cm wide. Manganberzeliite is rare and not known in crystals from Franklin. This specimen measures 5 × 6 cm. George Elling collection. Photo by Gary Grenier.

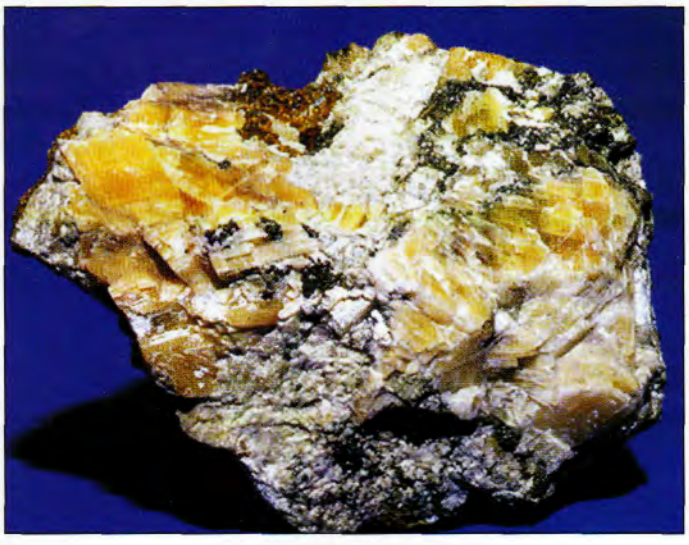

Figure 13: Turneaureite—$Ca_5[(As,P)O_4]_3Cl$—in gray masses. It is seldom found in crystals and is noted for its bright orange fluorescence under shortwave ultraviolet light. A typical specimen of turneaureite with orange-brown andradite and orange calcite. Specimen measures 9 × 12 cm. Formerly in the Grenier collection. Photo by Gary Grenier.

Jersey Troglodyte Trails

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The following tales are selected from a larger body of stories of experiences at several North Jersey mining localities, but the majority are, of course, from the Franklin and Sterling Hill mines.

In a sense, they are typical anecdotes from nearly any hard-rock mining district on earth, for many of the problems in underground mines are similar and the men able to solve them have some characteristics in common. But when you get down to the nitty gritty, Franklin and Sterling Hill mines, minerals and men are unique.

Several stories herein are from other North Jersey mines, because every mine has a cache of tales that deserves preservation, but the mines of the Franklin, New Jersey, district are fraught with the interaction of unique rocks and the unique characters working them. For example, when the big gray willemite crystals were encountered for several cuts in 800 stope (at the west limb terminus), I noticed different Jumbo drilling styles, depending on whether a section had been worked by a gent named Kino, or by another driller, Charlie Fitzpatrick. When I looked at sections drilled by Kino, the rows of holes would diverge from parallel to miss the big crystals in the back, 30 feet above the fill. By way of contrast, I clearly remember entering the stope after Charlie had drilled and seeing a twenty-four-inch-plus willemite crystal with a drill hole exactly in its middle. It was the biggest willemite crystal I ever saw.

The tales I am going to relate are as accurate as I can make them after 25 years of later experiences. Hopefully, they will still be interesting.

I've traded and bought and sold many Franklin minerals, but one incident stands as my first rock wheeling-and-dealing experience. On a spring day after classes at Union Hill School (K–4th grade), I picked through a heap of 3/4" stone destined for work on Denville, New Jersey, roads. I selected white quartz gravel and the next day at Union Hill, I induced several of the kids to trade their lunches for the white stone. This continued for several days, each bringing in more sandwiches and drinks.

In a school of 88 kids and 3 teachers word travels quickly, and after about 4 days of gorging myself, I was called in by the principal of the school, Mrs. Gill, who wanted to find out why there were so many hungry young stomachs with nothing but a handful of white stones to show for it. This interview was the death knell for my fledgling business.

*****

Years later in the Sterling Hill mine, I and a seasoned veteran, Bob Morris, were sent to 960 stope above 340 level. This place and the adjacent 1015 stope were black ore stopes in the eastern part of the cross-member, and the source of the great koettigite-pharmacosiderite-legrandite find. 960 had a bad name with the miners, for the ground was very loose there.

The cross-shift had just fired and the place needed to be scaled free from loose and roof-bolted. Upon arrival we stood under the unfired ore and looked at the fifteen-foot-deep muck pile. Bob picked up a medium scaling bar and bounded up the pile. I was astounded, as this act ran counter to safety regs: "Don't get under ground that hasn't been secured." I stayed under the low, bolted ground. Bob began scaling the face right over my head. Suddenly the entire front of the unfired brow fell. I ran like crazy and came back slowly, knowing I'd see Bob's legs protruding from the fallen ore. I got back and instead of being a dead man, Bob was laughing: "Steve, I didn't know you could run that fast!" A sigh and a shrug.

*****

For a few nights, Bill Ellison and I were sent to a stope in the cross-member black ore. Sorry to say, I can't remember the stope's designation or level, other than that it was in the middle section (1200 level to 1850 level). What I really recall is that it was the last shrinkage stope in the Sterling Hill mine. In this type of operation, a level-to-level section of ore is broken from the bottom up, but left in place until the stope reaches the next level above. This equals 100 vertical feet of broken ore, and a big hole. As a matter of some note, in that stope there were many slips in the black ore that were usually coated with a quarter inch of enamel-like, blue-to-green serpentine, or an equal thickness of graphite.

I was on the upper level running a slusher bucket back and forth over the muck pile, scraping it to the crib below from which it was to be trammed off to the ore pass. One

Mineral collector, writer, and miner Steve Sanford, running a Gardner-Denver 53.
Photo by Fred Jones, a.k.a. "Jonesy."

of the blocks (slusher pulleys) was 15 feet above the level and 45 feet above the muck where Bill stood, signalling with his cap lamp when I should reverse the bucket's motion (I couldn't see the top of the muck). This continued for several hours until I was pulling the bucket when a clang and a shower of sparks marked where the block pulled out its anchor in the top of the stope. Simultaneously Bill Ellison's light disappeared. I shut down the slusher and climbed down the ladder to the muck pile. That block was really heavy—it had flown down and hit him in the head. Thank Heaven for hard hats and strong necks.

*****

There was, during the seventies, a miner at Sterling Hill whose name was Leonard Talmadge. His family had been in Sussex County for centuries. He was tall and solid.

One shift I saw Leonard handle a rock drill. The mine's standard issue at the time was the Gardner-Denver 53. Most everybody could wrestle a 53 around competently, but the 100-pound G-D was like a toy when Leonard worked it. He had done a tour in Vietnam and could spin many tales of derring-do. Among several that I remember, one took place in civilian life.

In those days of cheap fuel, America was the land of the muscle car and, naturally, Leonard drove the behemoth Ford 428 with its seven-liter motor. He was out cruising after work and although dusk had fallen, Leonard saw a couple of indistinct figures hitch-hiking. He pulled over and they jumped in. Leonard's loquaciousness was abruptly interrupted when one said to him quietly, "I've got a gun." Leonard responded by screaming at them, "Yeah, m---- f----, and I've got a 428!" He floored the huge V-motor. Very shortly, squealing and bucking, the car was past the century mark on the speedometer and still accelerating. Soon enough the

pistol was in Leonard's hand and the two highwaymen were standing again on the dark road.

*****

One day at Sterling Hill, my helper Jonesy and I finished lunch on 1100 level and decided to explore some of 1100 before lunch break was over. There was no one else working on the level and, in fact, not for several hundred vertical feet. We walked down the drift that follows the east limb there. All of the east limb had been mined out and we walked through sets built of steel plates and I-beams, erected just before the stopes were filled after mining passed through. Even the raises in the footwall up to the ore were concreted shut.

Because we were on lunch break, there were no drills running—they produce a scratching clatter through solid rock, sometimes carrying for surprising distances. In short, we walked in silence. After some time as we traveled northward, I became aware of a low, irregular sound. It seemed for all the world like old men conversing steadily in undertones. I couldn't quite make out what was said. Then I thought, "I won't say anything to Jonesy, it would sound like I'd gone crackers."

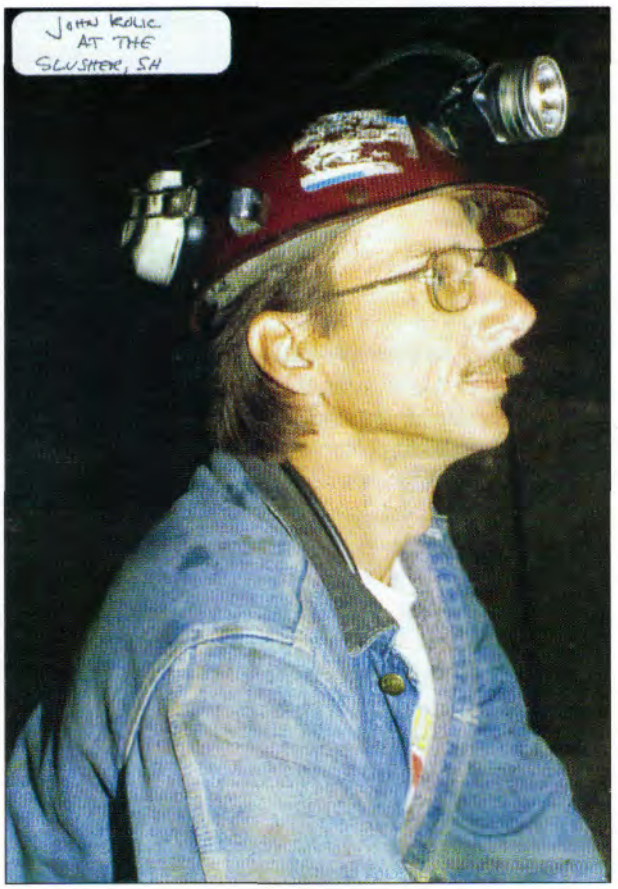
We reached the end and began returning. Then Jonesy piped up, "Steve, do you hear those voices?" There was no egress in or out of that dead-end drift besides our route, and Jonesy and I left hurriedly.

*****

In the Sterling Hill mine the management needed a new drift man to drive passages for the movement of men and ore. They gave the job to a fellow, Bruce, to put in a footwall drift beneath the east limb on 700 level. It didn't take Bruce long to discover that his mission in life didn't include drift-driving. Therefore he began a long work slowdown. The passage inched southward, but the bosses wouldn't take him from the drift. He tried many different tactics but to no avail. Finally in desperation he took a long swing with a 12-pound hammer and hit himself in the foot. He broke a bone but was free of the accursed drift. However, an unlooked-for side effect was the loss of the upper section's "safety ham," a result that did not endear him to the rest of the crew.

*****

Every winter at Sterling Hill the cageman, John Remiyas, took his five-week vacation, and as often as not, I worked in his place for the duration. One winter, John Kolic located white acicular, spherical aggregates of picropharmacolite. On the lunch break, I told the hoist engineer I would take lunch on 1300, the level for this mineral location. I went off into the back, as cagemen referred to the rest of the level past the station, found the spot without much difficulty and took several good pieces. I was just turning back from the spot when several lights appeared suddenly from behind. Oy vey! Caught by the bosses! However, this time it proved to be Happy Harry the trackman-welder-etc. returning from a fruitless search for the serpierite find on that level. A huge sigh!



John Kolic, the last zinc miner. Stephen Sanford photo.

*****

Incidentally, I used to anticipate the holiday stint on the cage with mixed feelings. On one hand, the change of pace was welcome. On the other hand was the basic nature of the job; the cageman had to remember all of the bell signal rings from all the levels that needed attention, and signal the hoistman where to take the man-cage. It's truly astounding how venomous some boss's gazes are when the cageman forgets a signal and sweeps by without stopping. Eight hours of up and down, up and down

again and again, bing-bing-bong and running all shift like a whirling dervish. The first week I got this assignment, I looked forward to peaceful nights of sleep, without listening to bells. However, repose did not equal relief; in my dreams, all night long, bing-bing-bing—bong-bong, up and down, up and down, for 8 hours of "rest." Arrgh!

*****

One morning at Sterling Hill the bosses sent Hughie Lawrence and his helper to load and fire in 800 stope below 340 level. He and his buddy carried the 50-pound bags of anfo (the mine's main explosive) and the bundled caps into the working place: anfo was placed on the footwall side of the stope, and caps by the hanging wall. The two men stepped back about 30 feet to enjoy a smoke before commencing the loading. Hughie was about halfway through the nicotine-stoking when there came a sharp snap. Their mouths hung open when a 20-foot-long, stope-wide block fell, smashing their equipment. The slab was thoroughly roof-bolted, but the 6-foot bolts didn't go all the way through it.

On a morning in 1120 stope at 1100 level my helper and I were to roof-bolt the last part of the stope's south end to be mined. The hanging wall there was really bad ground and as we drilled the 7-foot-deep holes for the bolts, we held the hose from 10 feet away, while medium-sized pieces fell constantly around the machine. We finished the south end and had a little time to relax before catching the man cage up. We were walking out to the makeshift bench when a report made us stop. Then all the roof-bolts we'd installed took weight and hummed. The air vibrated with a note which sounded for all the world like the diapason of a great cathedral organ.

*****

There was in Franklin a mineral collector and dealer we shall call Waldo. He enlarged his holdings regularly for over 30 years and during most of this time, Waldo had the fever bad. During this span of years he started and encouraged many initiates to delve into the intricacies of Franklin-Sterling Hill collecting. Many now-erudite collectors began under his tutelage.

In general the New Jersey Zinc Co. was irritated with mineral collectors. In the old days, precious few were invited to the picking table at Franklin, but thereafter little access was available to nonprofessionals. In a surprise move, the company invited several major collectors on a Sterling Hill mine tour, accompanied by an NJZ geologist to oversee the operation. Waldo was one of those bidden. The cage dropped them off in the upper section and they descended level to level on ladders. Waldo in his later years had a rotund shape and was often seen hitching up his trousers. As the group proceeded lower and lower Waldo's chronically droopy drawers slipped off their precarious perch, so his left hand was switched from ladder-grasping to pants-holding. Then the guy above stepped on his right hand. Some people lose their shirts in a mineral deal; Waldo lost his pants.

*****

At the 'Burg, there was a drill runner and his helper, both of whom had spent the earlier part of their careers on the hydraulic fill crew. These gents migrated sideways to stope mining. They proved to be good as miners, but one shift both suffered a lapse that nearly finished them. Told to fire big blocks of rock and ore in their stope, they drilled short holes into each of the many chunks. Breaking sticks of dynamite in two, they needed a burning fuse per hole to detonate them. However, the fuses were damp and the men had no knife to cut them back to fresh dry powder, or a sparkler-like fuse lighter to start them burning. Instead they pounded the ends of the fuses with rocks to expose fresh powder—wrong! Then they tried to ignite them with a cigarette lighter—wrong! As a grand finale, they continued the process long after prudence should have told them to vacate. Eventually they quit the time-consuming task and made it to a manway to exit, but were just leaving when the blasts began. Due to some highly unlikely circumstance both lived, suffering only broken eardrums and several patches of skin and muscle converted into fresh hamburger. Gott sei dank.

*****

I worked at the Mt. Hope mine in several capacities, the first during the dewatering of the old iron mine. For the greater part of the 13 or 14 months they operated, I was in the warehouse. Finally I worked as the ore analyst, examining samples chemically to determine iron, phosphorus and (occasionally) silica.

The property pursued two separate lines of endeavor: the underground magnetite mine and a sizeable quarry operation, resulting in a large open cut at the top of Mt. Hope. The Mt. Hope mine itself worked five separate "veins" of ore, one of which was named the Jugular Vein. Mining began here in the early 1700s and it produced nearly continuously until the 1960s. As with most New Jersey iron ore bodies, no one ever found a termination to the productive "veins."

I was sitting between tasks in the warehouse when Bob Trineer, the afternoon shift's plant boss, walked in. After some coffee he asked me if I'd like to drive up to the quarry to look around. "You bet!" We rattled up the hill

in a company pickup to a clear overlook of the entire facility. At our feet the open cut was large and perfectly rectangular—at first glance. Upon further inspection there was a large dark arcuate bow of rock reaching from the wall of the cut well out into the opening; it disturbed the symmetry of the otherwise rectangular excavation. I said to Bob, "What's that thing in the cut?" I was told they had uncovered a band of iron ore during development of the quarry and were saving it for the concentrator. We drove to the lenticular mass. Examination revealed the bulk of it to be composed of a vitreous black mineral with diamond-shaped cleavage. It was a lens of amphibolite. "That's not iron ore," I told him. "Ah, whadda you know?" Bob replied.

Some months later the mill foreman came running into the lab, distraught. "I ran 100 tons of this stuff and it only has a few pounds of iron in it! What's wrong?" Instead of the normal 67–69% Fe concentrate, his sample assayed less than 6%. As you already know, it was from the "ore" lens in the quarry.

*****

One feature at Sterling Hill which often left a marked impression on visitors' minds was the sanitary facilities, referred to as "honey buckets." When not in polite company there were other designations. There was one bucket per level, whether anyone worked there or not. They were galvanized steel buckets with lids, about 20-24" high. To use the darn thing, a mine worker would remove the lid and place a wooden seat on the rim. The latter was a 2" × 4" board about 18" long with a notch cut out for "comfort," and a groove routed on the underside to fit the rim of the can. This device was invariably wet, freezing cold, and slimy.

One mine worker with whom I passed the time one day was perched on the 1400 level's can, which at the time had no sheltering enclosure. Without warning the air control doors clanged open and the mine geologist strode through 15 feet away, shepherding 20 ladies from Vassar College.

*****

Gene Clyne was shift boss at Sterling Hill of the "A" crew. He was the rare type of supervisor whose enthusiasm influenced his men to go the extra mile and really produce. One day in the adit he said to me, "Steve, go down to the 800 stope and roof-bolt." This was the first time I'd been the runner, or drill operator. Down in the stope (it was about 400 feet long and reached, in places, 20 feet wide) there was already a considerable muck pile that was being taken by an Eimco loader and dumped down the crib to the 500 level where it would be trammed to the ore pass. It may have been Charlie Fitzpatrick on the Eimco. After a few hours, Gene appeared, looked up at our 11 bolts and said, "Hey, that's enough bolts, go ahead and look for rocks!" I was astonished but was soon rewarded with a 7-inch specimen of stubby gray willemite crystals with flat terminations (specimen SS107), a piece that I kept until selling my whole collection.

Several years later I was enlightened about this scenario. Gene let me roof-bolt enough to give his loader adequate safe ground. By stopping me when he did, he

Eimco LHD loading an ore car. Sterling Hill, circa 1976. F. Bernard Kozykowski archives photo.

Above: A trammer dumping ore from a rocker-dump car down the ore pass. Sterling Hill, circa 1976. F. Bernard Kozykowski archives photo. **Below:** Chris Auer and helper, running a "Jumbo" drill in a large Sterling Hill stope, circa 1976. F. Bernard Kozykowski archives photo.

ensured the next shift needed to roof-bolt before resuming mucking, i.e., he had better production for that day.

Some time later I was on 500 level with the mine's top trammer, Ron Riley. We'd been getting terrific tonnage hauled that night, but now the chute was hung up bad. The muck wasn't getting to the ore pass and Gene came to investigate. Ron and I had been putting 10-stick bombs on long wooden loading poles and firing them to loosen the hung chute—to no avail. Gene climbed up the platform and peered into the maw. Then he got into the chute and disappeared. "Hey, commeer." So Riley and I climbed inside too. The three of us were looking 30 feet up to see one of the steel segments of the crib nearly ripped out and hanging it up. It was so high we had to wire loading sticks together to hold up the bombs. As we worked, every now and then a pebble from above would wash loose and fall—tick...tick...tick. Whenever this happened the three of us looked at each other—if it had let loose, there was no way in hell any of us could have gotten out. So as the evening passed, we wired up bomb after bomb. They never got that crib free and it was, after that night, abandoned.

Gene Clyne was a friend after hours, and we exchanged many good specimens. It was he who brought the huge pieces of koettigite and pharmacosiderite to Ewald Gerstmann, the ones that can now be seen in the Franklin Mineral Museum. It was Gene who opened our eyes to the wealth of rare micros at Sterling Hill. He traded many new finds to Ewald who helped Gene build a collection of Franklin classics. You might say that he pointed the way for John Kolic's remarkable discoveries later on.

As a miner Gene was a consummate pro. The normal hazards of mining couldn't catch him. One day a crew of his was tramming from 960 stope, way above 340 level. Among a number of unusual features of this working place was a steel-lined vertical crib which went straight down from the stope to the back of the drift on 340 level. All the raises and cribs in the mine were inclined, as was the orebody, about 55° from the horizontal—except this vertical crib in 960, called a "Chinaman's chute." The trammers were having a tough shift—big muck kept the crib hung. Both trammers were at the chute with bars, trying to keep it running. Gene helped by operating the motor and as he was pulling the cars ahead he passed under the vertical chute at the exact time Uli Scholtz was running an air-driven beast of a mucking machine, an Atlas Copco Cavo, in the stope above. Uli inadvertently knocked a 4" × 6" × 8' timber down into the crib, where it dropped 90 feet, scraped Gene's face, and smashed his femur as he sat in the moving motor.

To cut a long, dreary, saddening tale short, Gene, after several years, lost the leg, barring him from underground work. Another pro lost to a freak accident.

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Old steel sets in a mined out and abandoned part of the Sterling Hill mine, circa 1976. F. Bernard Kozykowski archives photo.

Long before I started working at the Franklin Mineral Museum in 1986, I was familiar with some of the staff. One of the mine guides was Joe Kistle, a Cornish mining man who worked Franklin during its last decades. Joe ran a pillar and one day, found nice gem willemite. As per his usual practice, he kept some and put the rest in a powder box for others stopping by. During the course of that day several pieces made their way into visitors' lunch buckets. Later on a miner came around and said, "I hear you found some good willemite." "Yeah," said Joe, "over there in the powder box." The miner went over, picked up the box, and walked away with it. Joe: "Hey! Just one piece." Visitor: "No." Joe: "You put that box down or I'll turn on the scraper and scrape you right down the crib, Nick!" The reply: "You would, wouldn't you?" Joe: "You're damn right I would, Nick." The visitor put the box down and exited with his sole piece.

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Typically heard around Sterling Hill: "Look at the head on that thing!" or, "Hey, if I want any s--- from you, I'll squeeze your head," etc., etc.

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While the practice was not universal, many of the mine workers at Sterling Hill had nicknames. I still remember a few: Ding-a-Ling, Batman, Bow-Wow, Dancing Bear, Tricky Dick, The Pink Pig, Tee-Hee, and so forth. The gentleman known as Deadman was my runner once on 10 hundred. Deadman was quite tall and slim, and wore a long, shapeless, straggly goatee that every lunchtime filled up with morsels which had evaded his mouth during feeding time. I don't recall our prime directive that day, but we were just below the level in a short dead-end passage known as the scram drift. For some unknown reason, Deadman decided to roof-bolt this drift. All day long we toiled at the job and none of the bolts would tighten down. By some unlikely misrouting of neurons he never realized the bolts we put in were in holes drilled through the floor of the stope above, where the bolts now protruded.

Another worker of similar caliber was known as Fat George. Gene sent him and me down to 935 stope, 30 feet below 700 level in very rich, thick east limb ore to load and fire. George loaded four 50-pound bags of anfo that shift with a half bag of this explosive left over. (Other miners loaded 10 bags of anfo per shift.) As Fat George began wiring up the round, I said, "I'll take this half bag to the powder box on 700." "The hell with that," George retorted. "Put the bag down and stick a number 13 cap in it and lay a big rock on top." Soon, I climbed up to 700 while the rotund runner descended to 800 level to fire the round. I waited about 5 minutes and it began to go off. Wham! Wham! Wham! Then there was silence...and...WA-VOOM! The unconfined anfo went off. A hurricane blast blew along 700 level, sandblasting my face and neck and knocking the cap from my head. This anfo was the same explosive used in the bombing of the Federal Building in Oklahoma City many years later. When anfo doesn't have rock to break and is unconfined, look out!

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Another of the mine's characters was a Czech, invariably referred to as Blaha. I imagine that was his name, but equally it could have been a Slovak imprecation. It was rumored that back in Europe he'd been an acrobat in a circus, but for the Zinc Company Blaha drilled raises. He fired a raise round nearly every day, making the bosses happy with his progress. He was rumored to drive his raises in very erratic headings which somehow managed to finish where they were needed. Later on, while exploring old workings, I saw the difference: the old-timers' raises were rectangular, arrow-straight passages upward.

After Federal mine inspectors commenced operations, trains of these fellows were seen underground frequently. One day, while one of them was inspecting a powder box, a light came bounding down the drift. It was Blaha, a lit cigarette implanted firmly in his mouth. Arriving at the powder box he opened it, put his cigarette on the inside lip of the box and began pulling out boxes of dynamite. The inspectors were flabbergasted into silence. Blaha was summarily fired and shambled out in disgrace. A few weeks later, the Zinc Company wanted him back, but while in the office he acted somewhat oddly and the bosses said, "Oh s---" and sent him home for the final time. (Reputedly his pleas for re-employment included "New Blaha! Safety Blaha!") Thus exited another unique soul from the NJZ mining operation.

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There was, among the North Ore Body crew, a quiet, usually slow-talking fellow known as Joe. I believe he was a trammer, transporting trains loaded with North Ore Body ore to the ore pass by the main shaft on 1850 level. The ore pass was a broad, rectangular raise from adit level to the 1120 and 1925 sub-levels, where the two crushers were located. One day the boss told Joe to go to each level from 1200 down, and open successively the huge steel fingers that controlled the ore's movement to the crusher. After about 45 minutes Joe was down to the 1850 level fingers. They were, in miner's parlance, hung up. Joe took a long wooden pole, using it to reach inside the ore pass in a vain effort to start the muck flowing again. His boss, Jim Martin, came by and chewed him

out for being unsafe: working around a hole without a safety chain, and trusting a skinny piece of wood with his weight. To emphasize the point, Jim took Joe's pole and broke it. As soon as the boss left, Joe spliced his pole together with firing wire and went to work again. Finally, the inevitable: he leaned a little too far out, the splice failed, and he lost his balance and fell in. Down in the 1850 pocket the crusherman, an older fellow named Steve Dekmar, was running the machine and picking out broken timbers and loose steel from the ore moving towards the metal maw. Suddenly a different sort of thump—there came Joe, cussing, down the pass and into the heavy control chains. Steve Dekmar's jaw dropped. As he told me later, "You don't expect anything with a mouth on it coming out there....it scared the s--- out of me!" Joe soon proved to be basically unscathed, and instead of being mourned as the victim of a tragic accident, became the butt of humorous remarks.

*****

For a while I helped John Kolic in 1010 stope above 800 level. When, in the mining cycle, we were firing the north end, I made the climb up to 700 to guard the entrance while firing. Finally the round began its regulated, channeled violence. Afterward, I walked back along the circum-west-limb drift to rendezvous with the cage. On this trek I passed by the safety exit, a raise from the bottom to the top of the mine, to be used if the shaft was inaccessible. It was downcast, referring to the flow of surface air into the bottom of the mine. Whenever I passed it at the end of the shift, numerous leaks of surface air entered the level; it had the most beautiful aroma, sweet and heady, the scent that suffuses the air in heaven. Surface air!

*****

I was talking one afternoon to Steve Dekmar, the nocturnal crusherman, and was enlightened on a nonconventional use for dynamite. When he was a boy, Steve's dad sometimes had tired old horses to sell. Shortly before a potential buyer was due, his father force-fed the nag a stick of powder. A few minutes later, after the nitro took effect, the horse was frisky and began jumping around, a condition that lasted, hopefully, until the transaction was consummated.

*****

In the Sterling Hill mine's 140 years of tale-telling there were several accounts that could be categorized as spook stories. During my time underground there were two well-known mine ghosts: Luke the Spook, who in a bygone year had lit one too many burning fuses, and the more recently deceased Bicycle Pete, who fell down a 450-foot-deep raise in the North Ore Body.

For many years one of the staff at the Franklin Mineral Museum was Anna Elekes (ell-a-kish). Her family moved to Franklin in the 1930s. Her step-dad and husband labored for decades for the Zinc Company. Her son had recently retired from teaching in Dover, N.J., and he had three sons, one of whom, Mike, worked for a while at Sterling Hill. One day Anna and Mike were talking and he said, "Grandma, something happened to me at the mine, but if I tell you, don't spread it around." He was in the middle of the shift and needed to kill some time before resuming work. Mike found a short dead-end drift, turned off his cap lamp and relaxed. After some time he awoke and instantly froze—a light was bobbing down the drift toward him. Damn, caught by the boss! As he waited tensely, the light approached but suddenly turned off left and disappeared down a crosscut. Once again in the dark, Mike eased forward to the place where the light vanished, but could see nothing, so he switched on his cap lamp again to see...a blank wall. There was no crosscut there. Bicycle Pete had crossed another miner's path!

Then there are stories from the mine that, sad to say, don't require a willing suspension of disbelief.

When some miner became especially proficient and had a good head on his shoulders, the NJZ Co. sometimes began training him to be a supervisor. Such helper bosses took on some of the duties of a shift boss. One of these fellows was named, I believe, Paul Carter. This guy knew what was needed when an unusual problem arose; he knew hard-rock mining. Once, in his capacity as helper boss, Paul got me out of a calamity I'd inherited from the cross-shift. In spite of the foul-ups, we fired and made the man-cage on time. To look at Paul, it was easy to imagine him in a business suit on Wall Street. And he was a nice guy.

One day they didn't need him elsewhere and he and his helper were back in his pillar in the North Ore Body. Each had a 4" x 8" x 8' timber over his shoulder and was walking towards the back from the station. Paul's helper, in the lead, heard a thump and the sound of a 4" x 8" landing on the planks of a fill raise they were traversing. Turning back, the helper saw no sign of his runner—just the 4" x 8" and a missing plank over the fill raise. Paul Carter fell hundreds of feet without making a sound. Even his battery was smashed. Almost every miner made similar transits every shift without a second thought: an inexplicable freak accident.

The two zinc mines in New Jersey killed someone every year until Paul died—he was the last fatality. From 1973 to 1986, no deaths, thank Heaven.

Years later, probably about 1995, I was working in the Franklin Mineral Museum and one of the guides there, Irv Betz, a retired government metallurgist, came up and asked me if I had known Paul Carter. A daughter who

had never met her father wanted to talk to someone who had known him....

*****

During 1975 I was assigned to work in 1120 stope and the boss, Bob Morris, told me to get the slusher in the short drift just below 10 hundred. It had been intended as a permanent installation and the half-ton motor was mounted in the middle of the 10-foot-long I-beams that served as skids when the machine was being moved. We disassembled the 4" x 8" props that restrained the slusher and I stretched a cable from one of its drums to a block (pulley) on the scram drift's western rib, and back to a clevis on the front of the left slusher skid. I stood behind the machine, its long skids behind me, and pushed the control lever gently. The machine edged out of its position easily and began turning right. She inched outward. Suddenly the left front skid snagged the lip of the metal crib used as an ore pass. Before I could react, the slusher pivoted around the immobilized left skid. It raised itself easily and the long left back skid caught me behind the legs and threw me into the west rib of the drift. I bounced off and was left in a heap on the ground. Instants later the two long skids slammed down on either side of me. Mike Lamese, who'd watched the entire incident, came over and said, "You O.K.? You sure scared the s--- out of me!"

*****

Another Sterling story. My time there was in the early- to mid-1970s and there was a lot of the "tune in, turn on, drop out" mentality of the '60s still in the attitude of young people—even underground.

Sometime during this period there was a mine worker named Steve (*not* me) whom I knew well enough to nod to in the street. I was aware of his presence at Sterling Hill for 4–5 months, after which he was seen no more. A year or so later, I ran into him in Franklin. "Hey, Steve, where you been?" "Got my ass fired by Bob Morris." "What happened?" "I was tramming from 935. It was a long trip and I was getting bored so I dropped a tab of acid. There I was on the motor rattling down the drift when about 20 feet in front of me the drift suddenly squeezed shut, so I stopped and waited for it to open up again. Two hours later Bob Morris came stomping down the drift, hollering, 'Where the hell is the ore, Steve?' I told him about the closed drift ahead and he squinched up his eyes and peered at me. Then he yelled, 'You're stoned! You're outta here!' That was my last day as a miner."

*****

Some time in the late 1960s, before my time at Sterling Hill, I had a summer job at a manufacturer of commercial check-weigh scales near Lake Hopatcong. I can't remember the gentleman's name, but he was foreman of the small plant. One day I mentioned in passing my interest in underground arcana. He responded by saying that he had, as a youth, worked in the centuries-old Peters iron mine in Ringwood, N.J., during the 1950s. He was there just before it finally closed. He worked with an old-timer whose family had been employed at the Peters for generations. One day his runner finished his work and asked the young man if he'd like to go fishing. Being, as they were, hundreds of feet underground, his curiosity was piqued—fishing? They picked up a burning fuse, a rock and a stick of powder.

The mine was a maze of old workings and they wound through the labyrinth for a long time until coming to a place that had been mined out long years before and was now the site of an underground lake. The older fellow then bound the powder, rock and fuse together, lit the fuse, and threw his contraption into the water. It sank immediately. A several-minute wait, then CRUMP and dozens of white blind catfish floated to the surface of the subterranean lake. Underground fishing with a DuPont #2 lure—ya gotta love it! ⚒

Sundays in the Mine

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I would first like to thank Richard and Robert Hauck for three years of great excitement. It was fun working underground and I would not have missed it for the world! Bob asked a lot from us, and we wanted to come through for him because he had a very good track record. During our time with him we were successful in saving a lot of equipment from the water that gradually flooded the mine.

A friend of mine, Bernie Kozykowski, introduced me to the underground. He said it was easy, taking the skip down to 1100 level. Me, nervous? Oh yes! Bernie got permission from the Haucks to let me go underground, and so we did.

The Haucks had a work crew saving some nicely fluorescent specimens of willemite and calcite (some as large as 3 × 3 ft) for the Sterling Hill Mining Museum. On that level we could push a handcart around in a loop. Bernie decided to go up to 1000 level by way of the safety ladder. That level was in rough shape, as it hadn't been worked in a long time.

In the main haulage tunnel were three old ore cars, filled with ore and water and resting in mud. They were not worth saving. Near these ore cars was a large stope in the west limb of the orebody. Bernie asked me to turn off my miner's light because he had a small portable ultraviolet light. The whole room glowed green and phosphoresced pretty well too! OK, I was hooked—I wanted to come back again for some more.

The Haucks were looking for more volunteers to help them underground and in the museum, so I asked if I could join their team. They said yes, and I was happy to serve them.

I started to help Bob on 900 level, where he wanted to save some of the water and air pipes. On that level it was pretty muddy, no place for leather shoes there. The only thing that the Haucks asked of us was to help them most of the day, and at the end we could collect a few samples for ourselves. They didn't want any highgrader in there, of course; they needed to sell the best specimens to save the mine. If any of us helpers found a choice specimen, we would save it for the Haucks. As Richard Hauck would say, "That's a money specimen."

Bob was in charge of the underground, and Richard was mainly on the surface. Bob liked the larger specimens. He didn't like microminerals; he would call them "scuz on a rock."

John Kolic was chief miner and knew the mine like the back of his hand. Steve Misiur was the go-between for scientists to help them find the rare minerals and geological samples that they needed for their studies.

I went there nearly every Sunday. I would like to say that I went underground every time I went there, but I did not, for they also needed help on the surface to uncover the foundations of the old mill and to work in the museum in the change house.

I spent only two Sundays on 900 level. The thing I remember best about it was a room-size area where the mcgovernite was found. This was the best place in the world for it, in veins and stars as much as an inch across.

For some reason the New Jersey Zinc Company had closed off the west limb on 700 level from the rest of that level, so the only way to that area was from 800 level, by climbing a 4 × 4 ft raise with ladders on a 45° incline. Why go there at all? Because John had found fluorescent wollastonite, fluorescent barite, and stilbite, which at the time had not been positively identified and was thought to possibly be a zeolite new to the locality. Near the wollastonite were small pink veins; we saved a pail of that. Later the pink veins turned out to have two pink minerals, rhodonite and piemontite. In the veins were small fluorescent masses of johnbaumite. The Haucks were mainly interested in the wollastonite, which was there in abundance.

OK, now is when the fun began! After John knocked some rock off the walls, we would wash it down, check it out with the UV light, put the good specimens in plastic pails and carry them 20 feet to the top of the raise. Then we would take them out of the pails and put them into plastic feed bags, each of which would weigh 25 to 35 lbs. There were six of us that day. John would tie rope to each bag and let it down. The bags would not fall on their own, so each of us would have to drag them along for two or three ladders (each ladder was about 6 ft long) to the next person.

In Steve Sanford's report on mining terms in *The Picking Table* (vol. 33, no. 2), he didn't mention that the New Jersey Zinc Company had used a machine that, like a giant diamond drill, could bore a hole three feet in diameter. John Kolic told us that he had once operated one. When the drill bit got hung up, what a fun time they had to get it out! Well anyway, between the 700 and 800 level they had one of these boreholes with ladders inside to serve as a man raise. That is how we got to the "Chalcopyrite Room" (*The Picking Table*, vol. 35, no. 2). When I was working in that area the water had already flooded 800 level, so we climbed down from 700. Here were small pockets of quartz crystals with copper sulfide. At the bottom of this raise, incidentally, was more mcgovernite, a little lean compared to the 900-level material, but the associated willemite was very fluorescent,

and only 20 feet away, in the marble, was a small zone of cream-fluorescent fluoborite.

I started to get my friend Richard Stagl interested in helping the Haucks and going underground. He and I would go down there every Sunday. Bob had a hell of a project for us to do in a crosscut on 700 level. On this level, as in most of the mine, the main drifts are in marble, not ore, and few roof bolts are necessary unless there is a fault nearby. But on this part of the crosscut, where the New Jersey Zinc Company had mined the ore out from 800 level to a little above 700, the tram rails had to be set in cement to reinforce them and keep them in place. So when we crossed over this mined-out area we hugged the wall. Straight ahead was the borehole raise from 800 level, and about 50 feet farther left was a raise coming up from the famous "Franklinite Room," 20 feet down another set of ladders, where a lot of nice franklinite crystals had been found.

This is where we encountered an Eimco, a heavy, 3-cylinder diesel, 4-wheel-drive bucket loader—the workhorse of the mine. Bob wanted to get the Eimco up to 700 level, so we put an air wrench a little to the right of the raise, used it to unbolt the Eimco into three pieces, hoisted the pieces up the raise, and then put the Eimco back together. Then we had to move the air wrench so the Eimco could get around it, and finally bring the wrench back again so we could continue to take out specimens.

So here is how we spent a few Sundays in the Franklinite Room: Richard Hauck would wrap the franklinite crystals and put them into plastic pails. We'd then carry the pails down the rock pile for 30 feet over to the raise, where Bob had rigged a 250-gallon fuel tank to serve as an impromptu ore skip. He cut the top and part of one side off the tank, put two holes in it for the cable, and we were set. We'd fill the tank with specimen pails, hoist them up the raise to 700 level, unload the pails, and then carry them to the other side of the air wrench and put them in the Eimco bucket. The Eimco would take them over to the main rail, where we'd load the pails into an ore car, push the car over the big hole to another Eimco, load the pails into the Eimco bucket, and drive to the shaft station. Then we'd unload the specimen pails yet again, put them into the skip for hoisting to the adit level, unload the pails from the skip and put them in an ore car, push the car to the outside where a van was waiting, load the van, and then drive the loaded van over to the main office, where the specimens would be checked over by the Haucks. From the Franklinite Room to the surface, then, we loaded and unloaded each pail nine times.

When the water was getting close to 700 level, Bob wanted to save the other Eimco, so again we unbolted the machine. Even then, in three pieces, it was too heavy to go across the hole. Bob then concocted a plan to bring the pieces across on a steel cable suspended from two 1-foot-square plates of steel, one on each side of the hole, that were attached to the ceiling with roof bolts. Bob put a pulley on the cable and used a come-along to keep it tight. When each part was safely over the hole, the other Eimco was used to carry it over to the shaft station. The bucket part wasn't bad, but the other parts were so heavy that when they were loaded onto the Eimco only the front two tires touched the ground. Bob had to drive the tilted Eimco with its back two to three feet from the ground and hitting the sides of the drift. It must have been quite a ride.

When all three pieces were over by the shaft station, we had to assemble the Eimco again, so it could be hoisted in one piece up the shaft. One Eimco went to 600 level and the other to 500 level.

During the entire time that I was there, and even before, no one was injured and all went well. Thanks, Bob and Dick, for all the fun! ⚒

Vignettes of a "Collecting" Experience

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What are the best mineral-collecting stories to be told in the Franklin-Sterling Hill District? Gads! There are so many of them: some told first-hand while still fresh, others heard for the tenth or hundredth time with details getting blurry and added or subtracted with every rendition. Still other stories are five, six, or more people removed from their source. To most of us, however, the best stories are those about one's own experiences. Where can I begin? There are many of them, but the richest ones of all are those that happened at Sterling Hill.

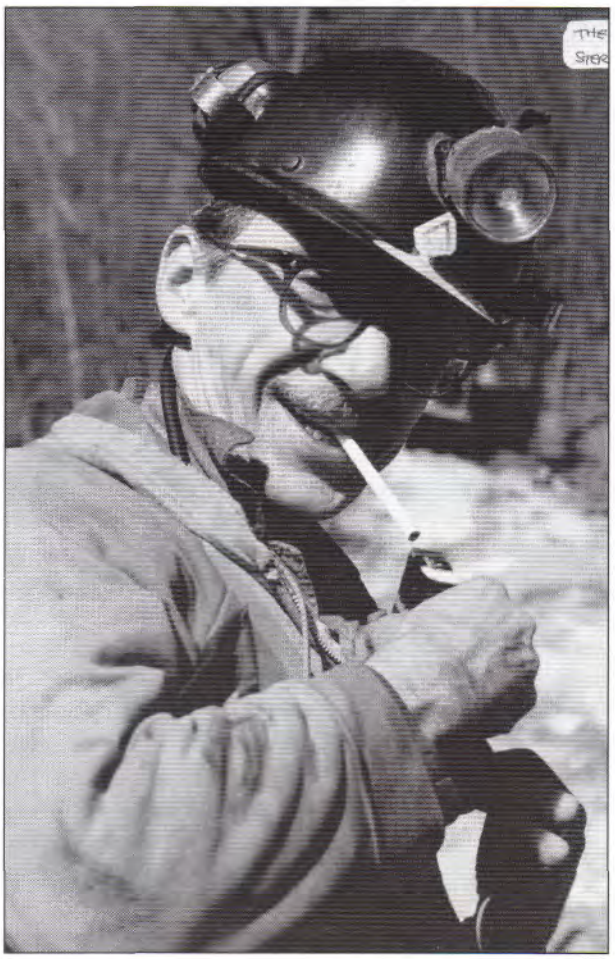
There is no single, definite event that marks my life as a collector, and not all stories actually involve acquiring a specimen. Many times one actually collects experiences rather than minerals. As with anything else in life, my collecting career has been punctuated by a number of rewarding, enriching and challenging experiences. Some have been more in the nature of coincidence, a matter of being in the right place at the right time. Oftentimes they can be amusing and elicit a chuckle in recognition of the commonality of human experience. The best I can offer is a series of vignettes that I hope will show, when one views them in a certain manner, that we are all greater than the sum of our parts.

Having started off as a volunteer in the Haucks' nascent efforts to salvage a mine and turn it into a museum, one of my first big efforts was to help salvage the 1100 level crusher. There were two identical crushers in the mine. One was on the 1925 level, which had long been underwater by the time I arrived in July of 1989. The Hauck brothers, needing extra funds for the museum effort, saw the remaining crusher on 1100 level as a small but quite usable pot of cash. They offered the salvage of this crusher to a Canadian company, P. R. Engineering of Toronto, which makes and refurbishes rock crushers. The company offered to pay for a helper to assist them in this daunting effort, and in this way I was suddenly promoted from paint scraper and ceiling staple-puller to mine roustabout. After preliminary introductions we all went down to the 1100 level to gaze upon the machine and deliberate the practicalities of disassembling and hoisting it to the surface—a huge task for just three men. This crusher had 21 major pieces, the heaviest of which weighed $6^1/_2$ tons. And there were two of these! After much discussion, the Canadians proclaimed they could do it, and that it would be done in seven days with little or no problem. Upon this pronouncement, I accepted their word in good faith as their measure of the task at hand.

At this point I interject an observation of one of life's rude lessons: there will come a time in everyone's life when one does not know what the hell one is getting into. This was one of those times. First, there was no electrical power in the mine. When the mine closed, the electrical service was severed—a tad inconvenient when trying to use power tools such as the overhead crane that would be necessary to lift the pieces of the crusher. Also there was no compressed air to operate the other tools in our arsenal for our assault against the metal beast. There was, for example, a compressed air wrench that took two men to lift, and which was necessary to loosen the 10-inch nuts that bound the 8-foot bolts holding the whole machine together. Somehow I wasn't too enthused about loosening huge nuts by hand. It took us days to install the power and air.

Air was supplied eventually to set up a tugger to pull the lumbering pieces of the machine to the shaft station. When all pieces were brought to the station, we found that the hoist we had installed in the adit couldn't lift the bigger and most critical pieces up! We then used a jury-rigged cable system with the hoist and managed to lift all but one piece; that piece is now lost, below the 1100 level. And just how did that occur? Well, during the disassembly process the boss of the Canadians paid us a visit to measure our progress. At one point the boss decided to "assist" in the disassembly. The boss chained and rigged a portion of the side frame in a manner that was less than perfect. After a slight nudge of a bar the two-ton side frame walked off, as if in seeming annoyance at the boss's prodding, and promptly sank deep into the pocket beneath the rock crusher, lost forever. We three gave the boss rather withering stares and very much felt like helping him on his way to fetch the now-lost piece. It was then that the boss vacated the premises, keeping in contact only by telephone thereafter.

What was to be a seven-day job with little or no problem came to be a job that spanned seventeen days, with every problem imaginable plus a few new ones invented along the way. All in all, a challenging experience.



John Kolic, in characteristic pose. Stephen Sanford photo.

One memorable moment came about halfway through the job. During our lunch break, the Canadians were offered a tour of 1100 level in the hopes of enlightening our bemused and laboring visitors about the enthralling appeal and mysteries of Sterling Hill. The curious Canadians accepted the offer. However, I dutifully remained at my post by the rock crusher—not that I thought that anyone would walk off with the metal behemoth; it was simply an opportunity to catch my breath, enjoy a simple lunch, and revel in the pure silence and darkness of earth's depths. There is no darkness as complete as that of a mine. And the silence, as the cliché goes, can be deafening. In this instance my light was on and I heard the distant hiss of a leaky airline some ways off. While placidly munching my sandwich I clearly felt a set of fingers and a thumb envelop my right shoulder. I wasn't startled, just surprised. "What, back already?" I thought. Strange that I hadn't heard any footsteps! Was I so lost in my reverie that I neglected to notice I had company again? When I looked around there was . . . air. Puzzled, I made a full turn and saw . . . air. At this point I was in half-munch, standing, and walking in a tight slow circle, looking for the owner of the proffered hand on shoulder. With an audible gulp of the sandwich, I called out into the empty air and received no reply. After walking a spiral around my workspace, I wondered about the sensation on my shoulder. It was distinct and unmistakable. Was it a practical joke? Was it my tired, work-enfeebled mind? Or was it merely a twitch in my shoulder muscle? That's the ticket! The work must have made my muscle twitch. What else could it be? How else could I have felt such a sensation in the middle of a wide-open, junk-cluttered place without someone . . . or something . . . touching me like that? Bah! I happily munched on the remains of my sandwich and awaited the return of my co-workers. After a bit of solitary time I was quite relieved—err, refreshed—when my fellow workers returned and resumed the day's job.

There was a huge cast of personalities and characters that paraded through Sterling Hill. Many come and go. One that stayed is John Kolic, legendary miner and collector. John is a gentleman, a reliable man who can be counted on to get a job done. He is methodical and conscientious with his tasks as a miner. John is a man of few words, but what he says is very much worth listening to. However, he doesn't lack a sense of humor, which is of a sly and somewhat mischievous type. One memorable quote from John came while I was doing some geological sampling on the 900 level. I heard John drilling in the distance, and when I heard the droning noise stop I reckoned he had taken a cigarette break. I was curious about what rocks he was working in, so I wandered over to the area and sure enough, he was placidly sitting, having a smoke. I stopped in and looked around and asked, "What are you drilling, John?" His nonchalant reply was simply, "Holes."

This no-nonsense and simple approach to almost every task and occasion endeared this man to everyone who has had the privilege to be associated with him. But he was not above pulling a practical joke or two. If he heard my footsteps he would sometimes back off and extinguish his cap lamp so that I would walk within inches of him without realizing it. After I passed he would turn the lamp back on. After a frustrating search I would turn back around, and there he was—right in the same spot I had walked by. Gads! The man has the ability to be one with the rocks around him! No wonder he can find the stuff we all drool over. The legend of John Kolic marches on.

One other personality happened by on one of my mine tours. He was an elderly gentleman who had been dragged along by his daughter upon one of his visits to her home in nearby Sparta. It was a cool, early summer day, and she had told her dad about this wonderful mine tour she had taken earlier. It was a small tour group that I took that day, like many groups I had taken before and since. For most groups, an experienced tour guide can "size up" the members of the group pretty

easily and gauge their levels of interest and taste. This gentleman I write about was atypical. I almost immediately noticed that he tended to wander off a bit to look at the various items on display and other aspects of the tour route. Normally I would feel annoyed at such inattention. However, this gentleman was not merely looking at, but closely examining, his surroundings. His was a practiced eye. I sensed that he knew something about mines or mining, so I gave him the courtesy of letting him do his thing. On every tour we pause in the East Drift, an adit-level drift that John Kolic and I had driven, in which a drift round—an arranged series of holes used for blasting the rock—is set up. Here is where I explain the nuances of how a miner drills the holes, why they are arranged thus, etc. On this occasion I mentioned, as I generally do, the type of explosive used, Tovex®. Out of the corner of my eye I saw that the mere mention of this word seized the man's attention. He listened intently to what I had to say about this explosive in regards to color, texture, setup, etc. After I completed my presentation I noticed that there was a slight nod of the man's head. Curiously, I felt like a 10-year-old who had just gotten a passing grade on a quiz. Piqued by his nod, I said, "Excuse me sir, you seem to know something about Tovex. How do you know so much about it?" He raised his chin up slightly, looked directly at me, and said, "You are looking at the inventor of Tovex." At the end of the tour he explained in detail the problems and challenges it took to develop a replacement for dynamite. One never knows whom one will meet in life.

Collecting minerals is always a hit-or-miss proposition. Any collector worth his or her salt should realize it is never easy to obtain a specimen worthy of consideration. One very good example of hit-or-miss is the Edison Tunnel Complex that John Kolic and I had completed. This project resulted in tunnels with a total length of 983.5 feet, and it consumed two years and 21 days of our lives. There were many rewarding moments, and many frustrating ones as well. There were days of bad shots, broken equipment and poor communication. There was a point of deep frustration when we named the whole enterprise "The Never-Ending Project." But it did end, and quite successfully. Many thousands of visitors have trooped through these tunnels, and the vast majority has appreciated our efforts. On occasion a mineral collector will ask me what John and I found that was worth taking home; in short, "Did we get any good stuff?" And for both of us the grand total of collectible specimens from this project comes to . . . zero. That's right. We found nothing, nada, nix, not a damn thing.

I close these vignettes with mention of one of our other personalities, this one of the four-legged kind. A visitor to our museum might have the fortunate privilege of meeting Princess. Princess is a gray, Persian-type cat. She adopted us during her wanderings a few short years ago, and so became the mine mascot. Princess is a lovable pest, always wanting attention at the most inopportune moment, and totally ignoring you when you give it. A typical cat. It is rare for Princess to enter the mine, and only once in my time there has she ever willingly accompanied me the whole distance through the mine. There were many escapades with this fluffy ball of fur. One stands out in particular. Often during the tunnel project, after a long, hard day of drilling and blasting, I was the last to leave the tunnels. This meant that I would lock up the mine at the adit entrance. On one such occasion the overhead motion-sensor light wasn't working, and thus it was nearly pitch black on an overcast, moonless night. However, just after I locked the doors and turned around, I saw a dark silhouette on the ground. It looked fuzzy in outline, and it moved: just the right size and shape to be, who else, Princess! So I began to walk back to the main office where a soothing shower and clean, dry clothes awaited. And, like most people who like animals, I talked to Princess. I thought of picking her up but decided not to, as I was so tired that the expenditure of energy to pick her up was beyond my present capacity. We both wandered around the concession building on our way to the office, and as we turned the corner the motion-sensor light suddenly turned on at the opposite corner of the building. But wait a minute! What had turned on the light was . . . Princess. I stopped and looked. She had walked up the steps FROM the direction of the office. If that's Princess over there then who is . . . ? Looking down to my right I saw a skunk. There, just a foot from me, *an adult skunk*! Not wanting to panic I slowly resumed my walk to the office, and darned if the critter didn't walk right along with me. It became obvious that Princess knew what was there, as I saw a gray blur depart the scene like greased lightning. I reached the top of the steps, and my newfound friend remained there, much to my relief. I looked back and it was gone, never to be seen again.

In all of this, only one mention was made of an attempt to actually collect a mineral, and a failed one at that. If all you appreciate is the collecting of specimens, then you could be missing out on the rich tapestry of life and the colorful personalities around you. After all, what helps make the specimens so interesting is the collecting community that goes along for the ride. Have a happy, safe journey. ⚒

Mining Adventures at Sterling Hill

Gary Grenier
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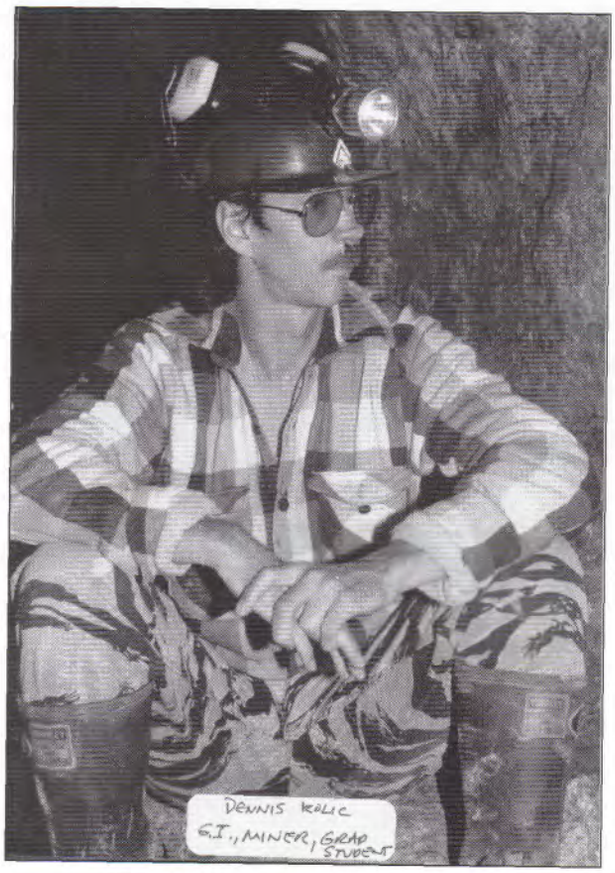
During the summers of 1971 and 1972, I worked underground at Sterling Hill for the New Jersey Zinc Company. Most of us had nicknames, and mine was "Frenchy" because no one could pronounce Grenier. There was great ethnic diversity in the mine, and most miners spoke two or three languages, with English their second or third language. Unfortunately, there were no French-speaking miners. I worked with Ukrainians, Poles, Czechs, and others, and all spoke admirably with body and hand language to make themselves understood.

The West Virginians were among the easiest to work with, but liked to take risks and play pranks. Besides being easy to work with they were always drunk. I could tell just how drunk by the gyrations they made with their hips when they called "Frenchy." Most were crude to outsiders, but harmless unless you bet with them. Since I would not bet with anyone, being convinced from birth that I would always lose, the pranks they played worsened.



Dennis Kolic, miner, taking a break.
Stephen Sanford photo.

One day before entering the mine I was in a hurry and did not check the charge on the cap lamp I had selected from the lamp room. Someone had placed a practically discharged lamp in the finished-charging rack and I got it. Well, about two hours into the shift my light started to dim, getting weaker and weaker. I did not notice it until I walked away from our drilling area to get more steel. I was practically bouncing off the walls, trying to find my way to the station to pick up the steel. Seeing my erratic progress the West Virginians naturally thought I had already been drinking and offered me some of their white lightning. It was a real mistake to turn them down . . . they took off without a word and I was left in the dark to fend for myself. I took a few deep breaths and called out in hopes that I was not alone . . . no luck there. So, with a dead light and about 150 yards of tunnel and stope to navigate, I set out reconstructing the route in my head and started out. Thankfully the station was lit up like a Christmas tree and I made it fine. After that I was never afraid of the darkness in the mine, and for lunch periods and breaks I would turn off the cap light just to stay comfortable with the dark and practice my ability to reconstruct the working area in my head.

Another time I was working on 1600 level with a West Virginian shift boss named Joe, who was breaking me in on the use of the train and ore car operations. I made a comical figure, being 6′ 2", trying to sit in the cramped space provided to operate the train, but I did it anyway. Joe operated the chute gate and filled the ore cars. He liked that part of the job, but he always overfilled the cars, and I had to shovel the fallen ore into the next car. Several times we had to pry the cars back onto the track because he had given the all-clear, but the car jumped the track when it hit ore as I drove off. Dumping the ore onto the grizzly in the ore-pass to the crusher was the fun part.

On one of these fill-ups Joe got the chute wedged open when tons of large ore pieces became stuck. I could barely move the train away from the chute. Once the train was clear, Joe said he had the answer and handed me a pry bar so that I could drop the stuck ore onto the tracks while he raised the chute gate. I thought about it a moment and tentatively poked at the stuck ore. It did not budge. Joe said to climb up there and try to push off a couple of the top pieces. I feigned ignorance, fearing the whole load would free up and fall right on top of me.

Well, Joe, being a good instructor, climbed up and did as he had instructed me to do, without incident. Unfortunately, it made no difference and the chute remained stuck. Not to be outdone by a load of ore, Joe went to his backup plan. He grabbed three sticks of dynamite and strapped them to a broom handle. Shoving a cap and a short length of slow-burning fuse in it, he lit the fuse and shoved the dynamite into the chute, saying "Run about 100 paces to the stope and yell *Fire in the Hole*." Joe went back to the station and the comfort of the blast doors. I ran and yelled *Fire in the Hole*, and the next thing I remember was that I was face down, yelling into the floor of the tunnel. The blast force had taken me down before I could turn into the stope. I was wet and muddy, but none the worse for wear. We spent the next four hours cleaning up the ore that had emptied from the chute. Sadly the chute had been blown off the wall as well, and Joe's comment to that was, "No problem, I'll get the carpenters down here to reset it and we'll be back in business tomorrow." He was right about the carpenters, but not about how long it took to fix . . .

While working in the fill stope with another West Virginian named Tommy I got a lesson on how *not* to slush. We entered the fill stope through a timbered entrance that was heavily supported and shored. The fill gate was to the right of the slusher. The fill level was low and only needed two 2" × 12" pieces of lumber to hold it back. To let more of the sandy fill into the stope I only had to raise the top 2" × 12" and the fill would flow in by gravity.

We were slushing away, dropping fill into the raise, when the slusher hung up. Tommy at that moment was raising his pocket flask and did not notice the hangup. As I was shouting at him to stop, he instead applied more power and managed to yank the slusher anchor right off the far wall. Rather than call it a day we proceeded to reset the anchor in a second hole, closer to the fill gate on the right. After resetting the slusher operation we resumed pulling fill into the raise. Tommy was behind schedule and very aggressive. He was slamming the slusher back and forth with all the power it had, and we were moving some fill. I lifted the fill gate by one board, but that was not enough for Tommy, and he raised a second board.

Unbeknownst to both of us, more fill was being dropped down the fill raise at that time from trucks on the surface. We heard a very faint rumbling, and then suddenly a wavelike mass of sand filled the stope. I had just stepped away from the cable on the far side of the slusher and was first to see the wall of sand heading for both of us. While Tommy headed for the safety of the timbered entrance, I had just enough time to reach the berm, dive into a depression cavity, and roll into a ball. The sand covered the entrance to my cavity, which was tucked right up against the rock wall. Tommy dug from one side and I dug from the other. I was freed in no time and had only one comment for Tommy: "Have you got enough fill yet?"

The timbered entrance had served as a breakfront stopping the flow of the fill sand. We climbed down and dug our way out though the 8-foot-high entrance, which was three-quarters full of sand. The slusher was buried and had to be excavated, and we had to dig out the fill gate to reset the timbers . . . what a mess. I worked with a renewed sense of vigor as I realized it could have been much worse. After this episode, working the slusher became a regular job for me, and I got a new nickname, "Sandy."

In later years, still other events always seemed to punctuate the weekends I spent with the Haucks, as together with many volunteers we built the Sterling Hill Mining Museum. Every weekend I spent at the mine was a mini-boot-camp and vacation combined! I particularly liked working with Bob Hauck underground. He was robust and careful . . . a lot like me when it came to being safe, but in a rush to get something done. I worked with Chet Lemanski on the sphalerite find on 500 level and the chalcocite/gold find on 430. I got a couple specimens of the loellingite/fayalite from 430 level, courtesy of John Kolic. I also managed to work a couple of hours with Bob Jenkins and Steve Misiur on 180 level at the duftite find, basically sorting fragments for them to take topside.

By the summer of 1990 the rising water had claimed the 1000 level. John Kolic was working the 900 level in the vicinity of Palache's zinkenite, realgar, arsenopyrite, and baumhauerite finds. It was a wonderful area in the mine because of the many species that were found in such a small area. Not fifty paces from the zinkenite and realgar find John had rediscovered a significant mcgovernite locality. I helped bag and move hundreds of pounds of specimen material to the hoist station. The real fun for me came when I was offered a chance to drill with John Kolic. Just going into the mine with John was a treat since he always took a circuitous route past his noted mineral specimen locations, and each had a remarkable story.

John did not really need a crew, but he welcomed the company and assistance with the steel. We were drilling a close set of holes into the ceiling and sidewall in an effort to surround a pocket of cream-yellow stilbite crystals on dark green hedenbergite crystals. It was a magnificent pocket, measuring over two feet across with some of the finest stilbite ever to come out of the mine. John and I worked the hours away, drilling until we could lever the pocket down. I could not stay to see the stilbite pocket cleaned and broken up, but I was fortunate enough to work with John and eventually buy a piece of the pocket I had helped recover. The largest section of the pocket is on display in the Sterling Hill Mining Museum.

The importance of the 900-level minerals was not lost on the collecting community. On another artifact recovery trip to the 900 level I noted some interesting minerals in the hanging wall and pried a few specimens off. Later, when I took them topside and showed my specimens to Dick Hauck, we marveled over the glassy, translucent,

gray-white, elongated parallel crystals of wollastonite that I had collected. Unfortunately, these crystals do not fluoresce very well, giving off only a light peach color under short-wave ultraviolet light. However, to the species collector it is really very pretty wollastonite. In addition to the wollastonite, large black pyramidal crystals of biotite mica in calcite, and pale blue prismatic crystals of fluorapatite were strewn on the floor waiting to be noticed, and chunks of steel-gray metallic zinkenite were piled and ready to be moved out. It was glorious to see so many hard-to-get species so plentiful and ready to be made available to the collecting community. It was reminiscent of the great wollastonite find on the 340 level that produced tons of very brightly yellow-orange fluorescent wollastonite in 1988–89 . . . too cool!

On another fine weekend I worked with Bob Hauck on the 700-level barite and stilbite finds. We hauled gunny sacks of barite, each of them 60 pounds or more, down a raise to the 800 level by standing on pins that John Kolic had set for us. I got to be the first man down, and consequently the last man in the chain of seven guys who passed the sacks down. At one point someone hollered "Look out below!" as one of the sacks got away from him. Unfortunately, no one managed to slow or grab the sack, and the man above me did not say a word but simply dodged away to avoid the falling sack. Being on the ladder, I could not hear anything that was said in the raise and had no idea what was coming.

I was on the top rung of a 16-foot ladder, one-handing the sacks down to the ground, when the free-falling sack took me off the ladder the way a peel-off label just comes off the paper backing. I was airborne for a moment with two 60-pound sacks, one in each hand. I pancaked on the rock-covered floor below, whacking the hell out of my knee and side of my head. When I regained my senses, Bob was climbing down the ladder, looking very concerned, and I could barely stand. Trying to be macho in front of the guys I stood up, picked up the sacks, and started off to the station, mumbling to Bob that I was fine. He knew I was not by the way I wobbled to the station. Later we had a drink and talked about how hard the rock floor is when you hit from 15 feet and how sore I would be when I woke up in the morning, heh, heh, heh.

The following weekend we saw some dramatic changes to the 800 level, and our access to the 700 level was routed a totally different way. This was because the section of floor that we used to access the raise to the 700 level was no longer there. The ladder was dangling over a collapsed section of filled floor that had just fallen away for no apparent reason. I continue to thank my lucky stars that I did not cause the floor to fail when I hit it, and that I was not on the 800 level when the floor let go. ⚒

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There are two auctions a year which benefit FOMS, and can benefit its members as well. The main FOMS auction is after dinner at the FOMS banquet during the Franklin-Sterling Gem & Mineral Show each September. There are also 30 slots for FOMS items at the banquet auction held at the "Million Dollar Show" each April. FOMS members who attend these banquets enjoy the auctions and look forward to finding mineral bargains and rare collectables. Many of the items at auction are donated by FOMS members, with all proceeds going to FOMS.

Auction donors and other FOMS members may not be aware of the option to consign, which gives members control over the price of an item, and a portion of the proceeds. The member can stipulate the minimum bid for an item, and what percentage of the price he or she wishes to retain. This way FOMS members can calculate in advance how much they actually want for the specimen, and set the minimum bid and the percentage retained to reflect that desire. There is no risk to the consignor. Either the item sells at or above the pre-selected price, or is returned to its owner.

In short, auction consignment is a risk-free way for FOMS members to put fine material up for public sale, to an audience of competitive colleagues. If a piece sells, everyone wins: the consignor gets the money he wanted, the new owner gets a fine specimen at a price he's willing to pay, and FOMS gets a commission. Please give auction consigment a try!

Traditionally members have donated items to both auctions: minerals, books, and memorabilia are dominant, but there have been some unusual items which proved popular. These have included personalized T-shirts, antique beer and whiskey bottles, and a set of Texas longhorns. This is proof that people who collect Franklin minerals will collect just about anything interesting, unusual, exotic, or just plain peculiar.

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Books and Other Publications

NEW!!!! Dunn, P. J. (2002) *Mine Hill in Franklin and Sterling Hill in Ogdensburg, Sussex County, New Jersey: Mining History, 1765-1900. Final Report: Part One, Volumes One, Two, & Three.* $20.00 each (+ $3.00 postage)

Cooper, Susan B., and Dunn, Pete J. (1997) *Magnificent Rocks: The Story of Mining, Men, and Minerals at Franklin and Sterling Hill, New Jersey.* Privately printed. $15.00 (+ $3.00 postage)

Dunn, Pete J. (1997) The Story of Franklin and Sterling Hill. Privately printed. $15.00 (+ $3.00 postage)

Dunn, Pete J. (1995) *Franklin and Sterling Hill, New Jersey: the world's most magnificent mineral deposits.* Privately printed. Part One, bibliography and chapters 1-3; Part Two, chapter 4-12; Part Three, chapters 13-17; Part Four, chapters 18-23; Part Five, chapters 24-26, appendices, and indices; First Supplement, chapters S1-S5; and Second Supplement, chapters S6-S10. $30 each (+ $5.00 postage) for Parts One through Five, $25.00 each (+ $5.00 postage) for First and Second Supplements, or $200.00 (+ $15.00 postage) for the complete set of seven.

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