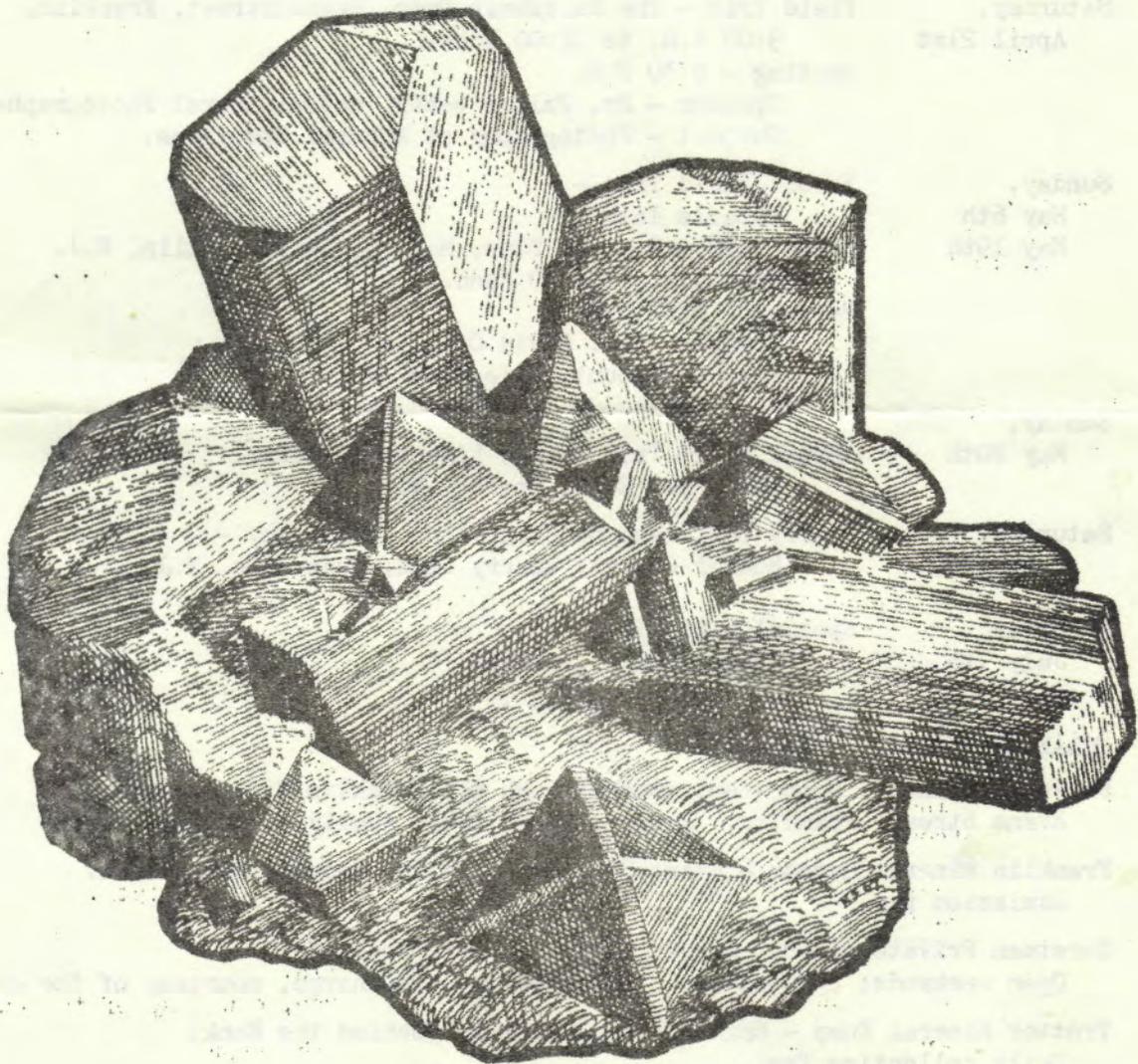


# THE PICKING TABLE

JOURNAL OF THE FRANKLIN-OGDENSBURG MINERALOGICAL SOCIETY



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CLUB PROGRAM - SPRING 1973

All meetings except where otherwise noted, will be held at the Hardyston School, intersection of Routes #23 and #517, Franklin, N. J. Pre meeting activities start at 1:30 P.M. Speaker will be introduced at 2:30 P.M.

- Sunday,  
March 18th           Field trip - to the Franklin Mineral Museum and/or  
                          the Gerstmann Private Mineral Museum -  
                          9 A.M. to 12:00 noon.
- Meeting - 2:30 P.M.  
                          Speaker - Mr. Eugene Clynes - regarding Current  
                          Mining Activities at Sterling Hill.
- Saturday,  
April 21st           Field Trip - The Buckwheat Dump, Evans Street, Franklin,  
                          9:00 A.M. to 12:00 Noon.
- Meeting - 2:30 P.M.  
                          Speaker - Mr. Julius Weber, noted Mineral Photographer,  
                          Subject - Photography of Mineral Specimens.
- Sunday,  
May 6th              Fossil Field Trip -  
                          Details later.
- May 19th           Field Trip - Trotter Dump, Main Street, Franklin, N.J.  
                          9:00 A.M. - 12:00 Noon.
- Meeting - 2:30 P.M.  
                          Speaker - Mr. David Cook re  
                          his Micromount Collection.
- Sunday,  
May 20th            Annual Field Trip to the Limecrest Quarry,  
                          Limecrest Road, Sparta, N. J.
- Saturday,  
June 16th           Family Day, Swap Session, etc. - All day -  
                          Bodner Quarry, Quarry Road, Rudeville, N.J.
- Saturday,  
July 7th             Special Field Trip to  
                          Pennsylvania Location

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Daily Franklin Attractions

Buckwheat Mineral Dump - entrance through the Franklin Mineral Museum,  
Evans Street, Franklin. Reopens March 15th. Daily collecting fee.

Franklin Mineral Museum - Evans Street, Franklin, Reopens March 15th.  
Admission fee.

Gerstman Private Mineral Museum, Walsh Street, Franklin.

Open weekends; on weekdays by arrangement. No charge, courtesy of the owner.

Trotter Mineral Dump - Main Street, Franklin (behind the Bank)  
Daily collecting fee.

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THE PICKING TABLE is issued twice a year; a February issue to reach members about  
March 1st with news and the Club Spring program; and an August issue to reach  
members about September 1st with news and the Fall program. THE PICKING TABLE  
is written and prepared by Frank Z. Edwards; the mimeo and typing by Louise  
Borgstrom; the cover by Kenneth Sproson.

F.O.M.S. OFFICERS FOR THE YEAR 1973

President	Henry M. Althoen	319 Third Street, Dunellen, N.J.
1st Vice President	John L. Baum	70 Hamburg Tpke, Hamburg, N.J.
2nd Vice President	Bernard Kozykowski	DeKay Lane, Livingston Manor, N.Y.
Secretary	Wilfred Welsh	67 Lilline Lane, Upper Saddle River, N.J.
Treasurer	Robert Thomas	802 Lindsley Drive, Morristown, N.J.
Asst. Treasurer	Pat Thomas	802 Lindsley Drive, Morristown, N.J.

TRUSTEES

Lee Areson '74	Frank Z. Edwards '74
Bruce Barr '74	Alexander Knoll '73
Louis Benedict, Jr. '74	Frederick Kraissl, Jr. '73
William Clinton '73	John E. Sebastian '73
Alice L. Kraissl '73	

COMMITTEE CHAIRMEN

Auditing	Bernard Kozykowski
Field Trip	John E. Sebastian, 36 Roxbury Drive, Kenvil, N.J. and Bernard Kozykowski
Field Trip Registration	Trudy Benedict, 412 So. 21st St., Irvington, N.J. and Betty Sebastian
Historical	Frederick Kraissl, Box 155, No. Hackensack, N.J.
Identification	John L. Baum, 70 Hamburg Tpke, Hamburg, N.J.
Membership	Robert Thomas, 802 Lindsley Drive, Morristown, N.J.
Mineral Sales	Lee Areson, 21 Irwin St., Middletown, N.Y.
Museum Coordinating	John L. Baum,
Nominating	Alice L. Kraissl, Box 155, No. Hackensack, N.J.
Publicity	P.E. Scovern, N.J. Herald, Hamburg, N.J.
Program	Frank Z. Edwards, 100 West Shore Trail, Sparta, N.J. and Frederick Kraissl
Publications	Frank Z. Edwards
Safety	John Sebastian and Bernard Kozykowski
Social	Betsy Althoen and Alice Kraissl
Welcoming	Jenny Areson, 21 Irwin Street, Middletown, N.Y.

F.O.M.S. Notes

We welcome two new officers to our 1973 Executive Board - Bill Welsh, Secretary and Pat Thomas, Assistant Treasurer. Lou Benedict and Bill Clinton remain on the Board as Trustees. Several changes have been made in the list of Committee Chairmen. This revised list of administrative personnel will continue to provide our Society with top grade leadership. As usual, additional members are required on our club committees. If you can devote some time to club activities by serving on a specific committee, please communicate with the committee chairman. We particularly require additional members for our Safety Committee.

Our Spring program of field trips and meetings has been completed. As usual, our field trips will provide access to good collecting areas and our meetings will feature excellent speakers on subjects of interest to all. Your attendance at these events will be well rewarded. Plan to attend as many as possible.

Payment of 1973 dues is also requested. Please use the form on the last page for your remittance. At the same time, treat yourself to some good reading. Order some of the literature available from our Treasurer.

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The 1972 winner of the Eastern Federation of Mineralogical and Lapidary Societies Scholarship award was our own David K. Cook. Dave is working on his Ph.D. at Harvard and the award is very welcome. I am sure that all of our members will join me in extending congratulations to Dave for attaining this honor.

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Lee Areson and Frank Edwards wish to thank all of our members who patronized the Franklin Mineral booth at the 1972 Kiwanis Show. Many favorable comments were made concerning the availability of a good variety of Franklin specimens at the Show. Look for the same booth at the 1973 Show.

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The Franklin Mineral Museum and the Buckwheat Dump will reopen for the 1973 season on March 15th. Attendance at both of these attractions increases every year since they offer a great deal for a nominal fee. Every Franklin collector should visit both of these areas at least once a year.

The Trotter Dump closes only for bad weather and even then a phone call to custodian Nick Zipco may open the gates.

The Gerstmann Museum is also open year round through the courtesy of Ewald Gerstmann. However, a prior phone call is always appreciated.

A Franklin collector will always find something of interest in the Borough of Franklin, regardless of the weather or time of year.

\* \* \* \* \*

The book by Dr. Clifford Frondel, so anxiously awaited by Franklin collectors, has now been published by the Wiley Interscience division of John Wiley & Sons. It has been retitled "The Minerals of Franklin and Sterling Hill - a Check List". While only a small volume, it is chock full of useful information for the Franklin collector and I, personally, consider it a must for my library. It is the first authoritative volume on Franklin minerals to be published since Palache's Professional Paper #180 and is a much needed supplement to that paper. Unfortunately, because of soaring publishing costs, the price(.9.95) is much higher than anticipated. Nevertheless, for the serious collector, the data provided is well worth the 10¢ per page it costs.

This volume is available from our Treasurer, either by mail or at the Treasurer's table at our monthly meetings.

We also regret to advise that efforts by the Society to have the Palache paper reprinted have so far been unsuccessful. We will continue our efforts.

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### Something Old

Many of our members, through our annual field trips, have visited the Bethlehem Steel mine at Cornwall, Penn. These members should particularly enjoy the following article, which appeared in *The Mineral Collector*, October, 1896.

"Tit For Tat" by G. G.

"Several years ago, in vacation, I undertook a collecting trip, visiting some of the important mineral localities of the State. One afternoon I arrived at Cornwall, Lebanon County, where there are extensive iron mines. Going first to the superintendent's office to ask permission to collect specimens in the mines, the permission was readily granted with the warning to look out for the blastings.

Cornwall mine is a surface mine; the ore is found right at the top of the low hill, and is blasted and worked out in various directions of the hill, the mine thus reaching deeper and deeper levels. The part I entered first had been cut down to about fifteen feet below the surface of the hill, and the miners were working away the side of the wall; they drilled holes in the wall and inserted blasting cartridges all along; these were connected with an electric fuse. A bell signal was given, warning all to run for shelter in some wooden sheds provided for that purpose. A number of detonations were heard in quick successions, and a hail of rock fragments, large and small, were hurled high in the air, while large masses of rock tumbled down the side of the hill. Then the men rushed back to their work, and with sledges, hammers, picks and chisels broke up the large detached masses into smaller fragments, while others shoveled the ore into trains of cars which stood right close on the narrow gauge tracks laid into every part of the mine.

I soon found plenty of interesting specimens, magnetic iron and copper pyrites, serpentine, magnesite and other minerals. Suddenly the bell rang and I made a run for safety. Boom! boom! boom! The earth shook, a hail of stones alighted upon the roof of the shed and still they were heard falling. Allowing sufficient time for the highest flown missiles to reach the ground I went out to see the effect of the blast; in one place a deep hole was torn into the side of the wall, and a large mass of ore and gangue rock lay below; part of the latter was of a light green appearance, and on closer inspection proved to be serpentine, ranging in color from grass-green to a perfect yellow. I chiseled out a dozen fine specimens, trimmed them nicely, and as my collecting bag and my pockets were already full to overflowing, I gathered them into a little heap to get them later. The miners had been watching me and now and then one stopped near me, picked up a specimen, looked at it curiously and laid it down again. They asked no questions, they were used to "stone cranks".

I carried by mag to the nearby village, obtained from a grocer an empty soap box, packed away all the specimens I had about me and hurried back to get my last find, which I considered a special treasure; but my little heap of specimens was gone; I looked around, crestfallen; the miners seemed to enjoy my disappointment, at least some of them watched me with a grin on their faces. I asked the nearest one whether he knew anything of the stones I had put aside. "No, sir - s'pose somebody shovelled them into the car." I climbed up the cars, nothing was to be seen of my serpentines. I went to see other parts of the mine, knowing that malachites and azurites were occasionally found at Cornwall. I was anxious to get some of those beautiful green and blue carbonates of copper. The miners declared they had not seen any for a long time. I found some fine specimens of iridescent pyrites and some other interesting minerals; at 6 o'clock the miners quit work. Soon I was alone in the mine. I walked back, leisurely, to the place where I had seen the yellow serpentine; there was some fragments still scattered about, but no good specimens; there was some more of the mineral in the wall from which the other had been blasted, but it was hard to get out, also it was getting dark and I had to make the train for Lancaster. "Have to give it up," I thought to myself, and turned to start for the village. Presently, I noticed something blue on a ledge of rock which I was passing; it was a small but beautiful fragment of azurite. It lay in front of a large slab of stone which stood perpendicular upon the ledge. I removed the slab and found a large cache (hiding place) in the wall of rock - there were my serpentines; and not only these, but about twenty specimens, large and small, of azurites and malachites! No doubt some miner had hidden them away to sell them to the next "crank" that would come along.

It did not take long until I had all of them wrapped in paper and snugly stored in my bag; then a run to the grocer, the soap box was filled and nailed up; a boy and a dime sufficed to bring it to the depot near by, and soon my booty and I bade farewell to Cornwall and its miners."

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J. Kenneth Fisher and Franklin

The speaker at our September 1972 meeting was Mr. J. Kenneth Fisher, the first Vice President of the F.O.M.S. and long time Franklin collector. His reminiscences of Franklin in the 1930's and 40's aroused such interest that we requested permission to repeat some of his remarks in The Picking Table.

Mr. Fisher, now retired, was an English teacher by profession. In 1930 he was transferred to a new Junior High School. The head of the English Department was a Miss Elizabeth Morley, an ardent mineral collector, who aroused his interest in minerals. Then, while attending classes at the University of Pennsylvania, he met Dr. Frederick Oldach of the Geology Department. Dr. Oldach was very much interested in Franklin minerals and was a good friend of Mr. Lawson Bauer, the Chief Chemist of the New Jersey Zinc Company. Soon after, Mr. Fisher accompanied Dr. Oldach on a trip to Franklin and was introduced to Mr. Bauer, the Franklin area and to Franklin minerals. From then on, he was hooked and visited Franklin regularly. With Mr. Fisher's kind permission, we give you some of his remarks:

"The speaker visited Franklin at least once a year, 1933 to 1952, barring some of the war years when gas was not obtainable.

Those were the days when children approached one on the streets (or dumps) and offered "Willy mike, twenny fife cents." It was also the time when a collector spent considerable time digging. One afternoon, on the Parker, I had assembled quite a pile of good specimens. On arriving home, 125 miles away, when I went to the trunk to enjoy the results of my hard work, I found that everything I had dug up was safe - safe, back on the Parker Dump in distant Franklin. I often felt that whoever found that neat pile must have thought "I wonder what he took back with him, when he left specimens like this behind?"

Good specimens were secured periodically. One trip would yield an abundance of material; the next would bring practically nothing. Cars weren't heated too well in those days and I remember one trip, during the Christmas holidays, when I was returning home and had to get out of the car at Princeton. My legs were so cold, I had to hold onto the open front door of the car for several minutes until I was able to walk about. What people will do for a hobby!

In 1935 I suffered a particular fiasco. For use during my Christmas vacation period, I received my first and only permit to visit the picking table at the mine. These permits were highly sought after and obtaining one was regarded as a triumph of the highest order. At any rate, I had finally obtained a permit and visited the picking table. Alas and alack, while I was in the theater, there was no show today. The picking table was down for repairs over the Christmas holidays; so I picked up a few pieces from boxes and cans around the table and left. Upon my return, I wrote to the Company and advised them of what had happened. In reply, I received a stony hearted letter, advising that individual permits were being discontinued and that only group permits would be issued to visit the picking table in the future. I felt as if I had almost won a big pot at the poker game.

One of the people I met at Ogdensburg was a miner named "Packy". With him, I had a 14 for 10 deal - 14 mineral specimens for \$10.00. Still he wasn't very happy and one time remarked that "the only thing you can sell around here is booze and women".

On one of my first trips I met Billy Ball, a very gracious person, easy to get along with. When I met him he worked on the picking table and had an excellent Franklin collection as well as some good Paterson zeolites. No doubt he accumulated his collection as a result of his picking table job. At any rate, visits to Franklin were regularly made, centered around visits to Mr. Bauer, Mr. Ball and the Romero family in Ogdensburg. Then came a series of events centered around the death of Billy Ball and the sale of his collection to Schortmann's.

Early in the 40's there was an occurrence of zincite crystals and your speaker visited Franklin during the time the "zincite crystals" excitement was in the air. While I could not get any of the crystals, upon my return I attended a meeting of the Philadelphia Mineral Club and told the members about the zincite crystals at Franklin. Totally unknown to me, some of these members put their heads together and sent a letter to Billy Ball, asking him if he had any of the zincite crystals.

Mr. Charles Toothaker, a close friend of mine and a well known collector, was, I found later, the active agent in the letter writing. I don't know just how it happened but the letter was apparently incorrectly addressed and somehow found its way to the main office of the Zinc Company. Billy Ball was called on the carpet, questioned and reprimanded. He was removed from the picking table and assigned to another job. But I have no facts to support any assertion that Billy was unfairly treated or that the Company, in essence, made a mountain out of a mole hill. Fate may have shuffled the cards, but there was no winner on that hand.

When I heard of these events, I was literally sick at heart. Billy was a person for whom I held the highest regard, whom I had known over a span of years; and yet I, in the most indirect way, was a link in the chain and could have hurt him seriously. The war was on and trips to Franklin became impossible. I did not know it then, but I had seen and talked to Billy for the last time. World War II ended not long after Billy's passing and things returned to a semi normalcy, but to me Franklin was never the same.

In the Spring of '45, Mrs. Fisher and I went to Maine. We stopped by Schortmann's at East Hampton, Mass. on the way home. To my surprise, they were interested in Billy Ball's collection and I acted as the middleman in the sale of that collection to them. For my help, they permitted me to select 20 specimens from the collection including a good algerite, larsenite, ganophyllite, a blue willemite, etc. From Mrs. Ball, I secured Billy's iron arc light and his "sunlight" ultra violet box. These were duplicates of the equipment in the Zinc Company laboratory and were used by Billy to display fluorescence to visitors.

The best break I had was my introduction to Mr. Lawson Bauer. Lawson Bauer was a most unusual person, in that he was a strong mix of what people call "good characteristics", without allowing any of these characteristics to get out of hand. Few people irritated him; and he rarely had harsh words about anyone. He always saw the better parts of people's personalities: he rarely mentioned their unfavorable points. Once, a man with a permit to visit the picking table filled 15 to 20 powder boxes with mineral specimens. Mr. Bauer mildly said "Believe me, he will never get to the picking table again".

Mr. Bauer was Pennsylvania Dutch, and his speech was more or less affected by that. He was often asked to speak before many learned societies as he was very well known in his profession. To my surprise, he said one day that he did not like to make these addresses and tried to avoid them. I asked him why. He replied, "Kenneth, you know I spik wiz a Cherman eccent. This makes me feel very uncomfortable sometimes when speaking before vell educated people." I replied that he, most certainly, need have no worry. The very fact that he was repeatedly asked to speak was a sure sign that his talks were both pleasant and useful. And with that we dropped the subject. I never met Lawson Bauer and his family without feeling that I was benefiting; that I was visiting a most unusual family with a host of characteristics on the positive side of the ledger.

Things went on without any particularly big events. In 1953, Mrs. Fisher and I decided to take a western trip during my summer vacation. This took some six weeks and for the first time since 1933 (barring the war years) I had missed making a trip to Franklin. I could scarcely wait till the Spring of '54 to go to Franklin. You can

imagine the terrible shock I received on learning that both Mr. and Mrs. Bauer were dead and buried, Mrs. Bauer in November and Lawson in the Spring. A neighbor gave me a fill in of some of the details but this only added to the turmoil of emotion. That day, essentially, ended my connections with Franklin. I went over occasionally but my heart wasn't in it anymore. One can take just so much. I don't remember if it was the same day or a later one, but I was received in the Bauer home by daughter Elizabeth and we chatted. She said that Dr. Switzer of the Smithsonian and Dr. Frondel of Harvard were downstairs dividing Mr. Bauer's minerals as provided in his will. As I was ready to go, the two came up the cellar stairs. I had met Dr. Frondel previously and he introduced me to Dr. Switzer. The two of them looked like two soft coal miners just coming off shift. I don't know if they were conscious of their appearance, but at any rate we all maintained our composure and went our ways.

As stated previously, that day essentially ended my great interest in Franklin. I did "go over" on occasion but things were never quite the same.

There was evidently quite a bit of "private mining" as the Franklin mine approached exhaustion (1954). I was in the cellar of one such miner up Main Street. He had 20 or so orange crates of material and wanted a good price for it. But I wasn't in the mood for more Franklin minerals although I did get a small piece of the then new Johannsenite and a small manganberzelite.

So the years have drifted on and I have a feeling that the parade has gone by, leaving me standing on the curb, more or less alone. With our two children not particularly interested in minerals, I have disposed of most of my Franklin minerals and have only memories left."

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#### Geochemistry of Sterling Hill

A very important talk on the Geology and Geochemistry of Sterling Hill was given to our members at the October 1972 meeting by Robert W. Metsger, Geologist at the Sterling Mine, New Jersey Zinc Company, Ogdensburg, N.J. Mr. Metsger, Dr. Brian Skinner and several members of the U.S. Geological Survey have devoted several years to research on the title subjects. Mr. Metsger gave us some of their findings. A comprehensive paper is in the final stages of preparation and will appear in a future issue of Economic Geology. The development of the ore body is traced through the new geology of plate tectonics. After publication of the article, we hope to recap the important details for you.

Mr. Metsger did give us two datings for Sterling Hill minerals. They have confirmed potassium-argon mica datings of  $980 \pm$  m.y. And, a galena intrusion in ore has been dated  $1100 \pm$ , m.y.

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Another comprehensive paper on the Geology of the old Franklin mine by Dr. Clifford Frondel and our John L. Baum is almost complete and will soon be submitted for publication. This paper, too, will probably appear in an early issue of Economic Geology.

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Mineral Notes

Symplesite  $2\sqrt{\text{Fe}, (\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}}$  Dana 40.2.15.5 Hey 20.9.1

Symplesite, a hydrated ferrous arsenate, has been verified on material from Sterling Hill. The specimens were found in July 1972 in an area about 20 ft. below the 340 ft. level where arsenopyrite had previously been found. At least three pieces are in the Gerstmann collection. The largest of these measures roughly 24" x 18" x 8" and weighs almost 80 lbs. The matrix is franlinite in calcite with some willemite and bustamite. Two faces are coated with an earthy coating, ranging in color from a light tan to a dark brown. This has tentatively been identified as pitticite (another new mineral for the area). On this coating are radiating fibrous crystal aggregates, up to 2' long, of a light bluish grey Symplesite with a dull luster. The mineral has been verified by Paul Desautels, who also pointed out that they are the finest specimens of the species, which normally occurs in minute rosettes.

\* \* \* \* \*

Pharmacosiderite  $\sqrt{\text{Fe}_3 (\text{AsO}_4)_2 (\text{OH})_3 \cdot 5\text{H}_2\text{O}}$  Dana 42.9.1 Hey 20.9.4

On the same specimen on which the symplesite was discovered, John White of the Smithsonian has now verified an occurrence of pharmacosiderite. These were also found on the crust as micro yellow green cubic crystals. Pharmacosiderite normally is found as an alteration product of arsenopyrite - the probable cause of this occurrence.

Still on the same piece are very small yellow balls of what has been tentatively identified as pharmacolite by chemical and optical means. And, reddish brown grains and small masses similarly identified as arseniosiderite. Confirmation of these findings by x ray analyses is now being sought.

Since the original find of the symplesite/pharmacosiderite several more pieces have come up from the same area - the 340 ft. level - 960 stope.

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Kottigite  $2\sqrt{\text{Zn}_3 (\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}}$  Dana 40.2.15.4 Hey 20.3.1

Another new mineral for Sterling Hill, kottigite, has been verified by John White at the Smithsonian. This piece also came from the arsenate area, 340 ft. level, 960 stope. The matrix is calcite with black willemite/franklinite ore with minor bustamite. The specimen is about 4 x 2 x 2"; the surface is covered by a lustrous colorless mineral in small to large radiating crystals and crystalline areas, overlaying a faintly blue crust, which is probably symplesite. This colorless mineral has been identified as kottigite, a member of the vivianite family.

This occurrence may prove to be the definitive one for the species. Dana's 7th reports that the only previous occurrence was as a secondary mineral derived from the alteration of smaltite and sphalerite at the Daniel Mine, Schneeberg, Saxony, Germany, where it occurred as light carmine and peach blossom red massive or in crusts with a crystalline surface and fibrous structure.

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Ewald Gerstmann has still another piece from the same area but from the copper alteration zone. This material, however, is from the hanging wall. The matrix is epidote/serpentine; on the surface are small films of native copper, probably a redeposition; also areas of cuprite and malachite.

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Serpierite  $(\text{Cu, Zn, Ca})_5 (\text{SO}_4)_2 (\text{OH})_6 \cdot 3\text{H}_2\text{O}$  Dana 31.3.5 Hey 25.5.8

Another new mineral for Sterling Hill has been verified by David Cook at Harvard on specimens submitted by Jack Baum from Andy Sedlock. This is gangue material with the matrix a siliceous "black rock" containing small areas of gypsum and little aggregates of sky blue needles of serpierite, a hydrated basic sulphate of copper, zinc and calcium. The specimens were found on the 1400 ft. level in an area worked out some time ago. The gypsum and serpierite are obviously alteration products with chalcopyrite as the probable source of the serpierite.

\* \* \* \* \*

Homilite  $(\text{Ca, Fe})_3 \text{B}_2\text{Si}_2\text{O}_{10}$  Hey 17.5.23 Dana 402 (6th Ed.)

This mineral, new for the area, has been identified at Harvard. Chemical analyses and other data has just been compiled by Jun Ito and a paper describing the occurrence will be submitted shortly for publication in the American Mineralogist of Mineralogical Magazine.

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Pennine, Brunsvigite, Septedelessite

The paper describing these three zincian chlorites from Franklin has been completed and will be submitted for publication as soon as approval of the name Septedelessite is received from the International Mineralogical Association.

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Adamite/Fluorescent Zincite

In the last two issues of The Picking Table "adamite" was reported from Sterling Hill. The identification was made on the basis of chemical tests, optical measurements and fluorescent response. Final verification was sought by X ray pattern; and a good number of identified specimens were put to the test. Unfortunately, all of the material proved to be a mixture of willemite and zincite, and the so-called "adamite" from Sterling Hill should be relabeled.

Some of the same material has also been called "fluorescent zincite". Again, such specimens, if accuracy is desired, should be labeled as a mixture of zincite and willemite. We still have no valid record of any fluorescent zincite.

(more)

These findings do not affect the validation of adamite as a mineral found at both Franklin and Sterling Hill. Adamite (the variety cupro-adamite) has been identified on other specimen material from both mines.

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### Berthierite

In the last issue of The Picking Table, berthierite was listed as a newly identified mineral from Sterling Hill. The specimen was originally found in 1941 in an area on the 900 ft. level in calcite associated with realgar, graphite, native arsenic, arsenopyrite and stibnite. It occurs as minute needle like black crystals which can only be distinguished by X ray analysis.

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### Scheelite

A year ago an interesting find of scheelite was made on the Trotter Dump. The occurrence was described in The Picking Table of February 1972. There is evidently more of this material on the Trotter Dump. Recently Ewald Gerstmann acquired for his fluorescent collection a piece of the same material, about 10" x 12" x 16", with large areas of scheelite. Look for more on the Dump.

\* \* \* \* \*

### Chalcophanite

Recently, Jack Baum showed me two pieces of chalcophanite which had just come up from the 340 ft. level in the Mud Zone area from Sterling Hill. On one piece the chalcophanite crystals were tabular hexagonal plates, which at first sight appeared to be hematite. Verification proved them to be chalcophanite. The other piece showed not only the normal glistening blue black massive like chalcophanite but some black three dimensional wedge shaped crystals. Again, upon analysis, the crystals proved to be chalcophanite. Then a check was made of the description of chalcophanite in Palache's Professional Paper #180 and there was the description of both occurrences.

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### Barylite

An exceptional find of barylite crystals is described in The Mineralogical Record, May/June 1972, volume 3, number 3, page 125. A Mr. Clarence Coil of Colorado Springs, Col. found two blue gray crystals in an amazonite pocket in Park County, Col. The crystals were x rayed at the Smithsonian and were found to be barylite. A crystal, 1-3/4 x 7/8 x 5/8", was donated to the Smithsonian; the other crystal 2 x 1-1/2 x 1/2" is in Mr. Coil's collection. The occurrence was most unusual as barium is not usually found in pegmatites in any concentration. In the same pocket with the amazonites and the barylite were barite crystals, cassiterite crystals, fluorite crystals, calcite rhombs, quartz in colorless druses, smoky, amethyst and chalcedony, clay and limonite; a most unusual assemblage.

Barylite has now been reported from eight locations. Originally found at Langban (1876); it was verified from Franklin in 1930. Since 1960 it has been found at two U.S.S.R. locations in the Ural Mountains; Seal Lake, Labrador, Canada, two locations in Norway, Bratthagen and Upper Aro Island, and now Park County, Col. The Langban and Franklin barylite fluoresces; the barylite from other locations does not.

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### Barysilite

The structure of barysilite has been determined by W. Petter and A. B. Marnik. Abstract of their paper "Die Kristallstruktur von Blei-Barysilite,  $Pb_3Si_2O_7$ ", originally published in Zeits. Krist., volume 133, 1971, pages 445-458; Mineralogical Abstracts, June 1972, volume 23, no. 2, page 83, follows:

"The structure of synthetic lead barysilite,  $R\bar{3}c$ ,  $a_h 10.1264(3)$ ,  $c_h 38.678(2)$ ,  $Z = 18$ , density (calc)  $6.87 \text{ g/cm}^3$  has been refined to  $R = 5.9\%$ . The structure is comparable to that found for barysilite,  $Mn Pb_3.3Si_2O_7$  (Lajzerowics, Acta Cryst., 20, 357, 1965).  $Si_2O_7$  groups are linked by Pb into a framework with the composition  $(Pb_2Si_2O_7)_2$ . The remaining Pb atoms are in two symmetrically non-equivalent positions in channels parallel to c. The structure formula may be written  $XY_2Pb_6-(Si_2O_7)_3$ , where X and Y both represent Pb."

\* \* \* \* \*

### Cahnite

The Mineralogical Record of May/June 1972 also carries an article by Arthur Roe on the tombstone of Lazard Cahn, in whose honor the rare Franklin mineral, Cahnite, was named by Dr. Charles Palache. The tombstone, beautifully carved in the form of a cahnite twin, is a fitting memorial for the great mineralogist and crystallographer.

\* \* \* \* \*

### Devillite

For the student - "The Crystal Structure of Devillite" by C. Sabelli and P. F. Aznazzi; Act. Cryst. Volume B28, 1972, pages 1182-1189; Min. Abstracts., December 1972, volume 23, number 4, page 264. Abstract follows:

"The crystal structure of a sample of devillite,  $CaCu_4(OH)_6-(SO_4)2.3H_2O$ , from Herrengrund, Hungary, has been determined. The lattice parameters are  $a 20.870$ ,  $b 6.135$ ,  $c 22.191 \text{ \AA}$ ,  $B 102^\circ 44'$ , with space group  $P2_1/c$  (M.A.69-3336). The Cu coordination polyhedra are tetragonal bipyramids and are linked to one another by sharing edges to form  $(Cu_2(OH)_3O)$ - sheets  $\parallel (100)$ .  $\perp$  Adjacent sheets are connected by  $Ca_4^{2+}$  ions in sevenfold coordination,  $SO_4^{2-}$  tetrahedra, and a system of hydrogen bonds. An interpretation of the complex twinning of devillite is given and its structural relationship with serpierite is discussed."

\* \* \* \* \*

### Fluoborite

Another find of fluoborite has been reported from Kazakhstan, U.S.S.R. where it is associated with fluorite, sellaite, corundum, chrysoberyl, tourmaline, and zinnwaldite in apodolomitic Be-containing greisens or rare metal deposits. It forms radiating and sheaf like aggregates with a vitreous luster. The presence of fluoborite indicates intense F metasomatism and congruent greisenization. Paper by A.P. Gulyaev, Min. Abst., Sept. 1972, volume 23, no. 3 page 216.

\* \* \* \* \*

### Franklinite

Franklinite has now been verified from Langban, Sweden. In a paper by E.A. Burke and C. Kieft, "Franklinite From Langban, Sweden" Litos, volume 5, 1972, pages 69-72, Min. Abstracts, September 1972, vol. 23, page 211; abstract follows:

"Franklinite showing exsolution lamellae of magnetite occurs as inclusions in galena from Langban. Electron microprobe analyses indicate the composition  $(Zn_{0.88}Fe_{0.12})(Fe_{1.90}Al_{0.06}Mn_{0.02}Ti_{0.02})_{2.00}O_4$ ; a  $8.43 \pm 0.01 \text{ \AA}$ . Spectral curves of reflectance and quantitative colour values are given for franklinite and magnetite."

\* \* \* \* \*

### Zincite/Willemite/Franklinite Stability

Paper by C.A. Salottie "Monatomic Metal Vapor Pressures From Minerals"; American Mineralogist, 1972, volume 57, pages 130-136; Min. Abstracts, vol.23 December 1972 p.278. Abstract:

"Absorbance as measured by atomic absorption spectrophotometry is used as a measure of vapour pressure. Measurements of Zn absorbance have been carried out for zincite over the temperature interval  $311^{\circ}$ - $464^{\circ}$ C, for franklinite over the range  $176^{\circ}$ - $341^{\circ}$ , and for willemite  $319^{\circ}$ - $446^{\circ}$ . With the aid of some extrapolation it is shown that above  $445^{\circ}$  the stability sequence of the three minerals is willemite-franklinite-zincite, whereas below  $400^{\circ}$ C it is zincite-willemite-franklinite. These results are in agreement with the paragenetic scheme deduced by Ries and Bowen, (Econ.Geol., vol 17, 1922, page 517)."

\* \* \* \* \*

### New List of Validated Minerals

Because of the great number of changes in the past three years of validated Franklin/Sterling Hill minerals, I have been requested to publish an up to date list. The list that follows incorporates all changes and additions given previously in this issue of the Picking Table. It has also been coordinated with Dr. Frondel's new book. You will note that some varieties have been omitted from the list although they have been reported (i.e. Barian anorthoclase, Zinc-manganese biotite) as not accepted as fully verified in the scientific literature. Two minerals still listed by Dr. Frondel; ferroschallerite and hydrohausmannite, have also been deleted since they have been discredited and are not accepted by the I.M.A. A separate list is given of minerals identified as new species but not yet approved by the I.M.A. nor papers published. Specific note is also made of the minerals which have been previously accepted as verified but which Dr. Frondel feels should be validated by present X-ray analyses. Members owning specimens of such species are requested to submit them for analysis and verification.

\* \* \* \* \*

MINERALS FOUND AT FRANKLIN/STERLING HILL

List prepared by Frank Z. Edwards - Feb. 1st, 1973

Actinolite	Celestite	Gageite
Adamite	Celsian	Gahnite
Aegerine-Augite	Cerussite	Galena
Albite	Chabazite	Ganophyllite
Allactite	Chalcocite	Gersdorffite
Allanite	Chalcofanite	Glaucocroite
Alleghanyite	Chalcopyrite	Goethite
Almandine	Chalcotrichite	Gold
Analcime	Chlorophoenicite	Gonyerite
Anatase	Chondrodite	Graphite
Andradite	Chrysocolla	Greenockite
Anglesite	Chrysotile	Grimaldite
Anhydrite	Clinohedrite	Grossular
Annabergite	Conichalcite	Groutite
Anorthoclase	Copper	Gypsum
Anthophyllite	Corundum	
Antigorite	Covellite	Halloysite
Apatite	Cryptomelane	Hancockite
Apophyllite	Cumingtonite	Hardystonite
Aragonite	Cuprite	Hastingsite
Argentite ?	Cuspidine	Hausmannite
Arsenic	Cyprine	Hedyphane
Arsenolite		Hematite
Arsenopyrite	Datolite	Hemimorphite
Augite	Descloizite	Hendricksite
Aurichalcite	Devillite	Hetaerolite
Axinite	Diopside	Heulandite
Azurite	Djurleite	Hexahydrite
	Dolomite	Hodgkinsonite
Bannisterite	Dravite	Holdenite
Barite		Homilite
Barkevikite	Edenite	Hopeite
Barylite	Enstatite	Hornblend ?
Barysilite	Epidote	Hortonolite
Bementite	Epsomite	Humite
Berthierite	Erythrite	Hyalophane
Bianchite	Esperite	Hydrohetaerolite
Biotite	Ettringite	Hydroxyapatite
Birnessite	Eveite	Hydrozincite
Bixbyite ?		
Bornite	Feitknechite	Idocrase
Botryolite	Ferroaxinite	Ilmenite
Brandtite	Flinkite	
Brochantite	Fluoborite	Jacobsite ?
Brookite	Fluoredenite	Johannsenite
Brucite	Fluorite	
Brunsvigite	Franklinite	Kaolinite
Bustamite	Friedelite	Kentrolite ?
	Fowlerite	Kottigite
Cahnite		Kutnahorite
Calcite		
Carminite		

Larsenite	Psilomelane ?	Uvarovite
Lead	Pyrite	Uranophane
Leucophoenicite	Pyroaurite	Urananite
Limonite	Pyrochroite	
Linarite	Pyrolusite ?	Voltzite
Loellingite	Pyromorphite	Vredenbergite
Loseyite	Pyrrhotite	
Magnesianiebecite	Quartz	Willemite
Mg. Chlorophoenicite		Wollastonite
Magnetite	Rammelsbergite	Woodruffite
Magnussonite	Realgar	Wurtzite
Malachite	Rhodochrosite	
Manganaxinite	Rhodonite	Xonotlite
Manganberzeliite	Roeblingite	
Manganbrucite	Roepperite	Yeatmanite
Manganhedenbergite	Rosasite	Yttrian garnet
Manganite	Roweite	
Manganosite	Rutile	Zinnsite
Marcasite		Zincite
Margarite	Sarkinite	Zn Mn Cumingtonite
Margarosanite	Sauconite	Zircon
McGovernite	Scapolite	Zoisite
Melanite	Schallerite	
Melanterite	Scheelite	<u>Note</u>
Microcline	Schefferite	? Previously accepted as
Millerite	Serpierite	verified but Dr. Frondel
Mimetite	Siderite	believes should be rechecked
Molybdenite	Sillimanite	by x ray.
Montmorillonite	Silver	
Mooreite	Skutterudite	<u>Special Note</u>
Muscovite	Smalite	Albanesite, Aresonite,
	Spessartite	Baumite, Gerstmannite
Nasonite	Sphalerite	Septedelessite
Natrolite	Spinel	
Niccolite	Stibnite	These minerals have been
Nontronite	Stilbite	identified by x ray.
Norbergite	Stilpnomelane	Additional data required
	Sussexite	by I.M.A. for name approval
Oellacherite ?	Svabite	still incomplete;
Oligoclase	Symplesite	no scientific publication
Orpiment		as yet.
Orthoclase	Talc	
	Tennantite	
Pararammelsbergite	Tephroite	
Pargasite	Thomsonite	
Pectolite	Thorite	
Pennine	Titanite	
Pharmacosiderite	Todorokite	
Phlogopite	Topazolite	
Pimelite	Torreyite	
Plagioclase	Tourmaline	
Powellite	Tremolite	
Prehnite	Troostite	

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