

Saturday
Feb. 28th Field trip - 8:00 P.M.
Academy of Natural Sciences, Philadelphia, Pa.

Sunday
March 1st Field trip - 8:00 A.M. to Noon
Buckner's Drug, Franklin, N. J.

Meeting - 8:00 P.M. American Legion Hall
Chairman
THE PICKING TABLE
Committee Society of Philadelphia.

FRANKLIN OGDENSBURG MINERALOGICAL SOCIETY, INC.

Meeting - 8:00 P.M. American Legion Hall
Speaker - Dr. James L. Brown, Chairman
Department of Geology, Lafayette College.

Saturday
May 16th Field trip and meeting
To be announced.

Saturday
May 23rd Field trip and meeting with
Franklin Ogdensburg Mineralogical Society.

FRANKLIN, NEW JERSEY

Saturday
June 20th Field trip and meeting
To be announced.

Thursday-Sunday
June 22-25th Eastern Federation Show
Hotel Robert Treat, Newark, N. J.

Saturday-Sunday
October 10-11th Annual Mineral Show
Sponsored by Franklin Township Club
Franklin Armory.

Field trips and meetings are scheduled for
Saturday September 19th
October 17th
November 22nd

VOLUME V

FEBRUARY 1964

NUMBER 1

Details in the next issue of The Picking Table.

All meetings are held at
The American Legion Hall,
Route 42, Franklin, N. J.

The Picking Table is issued twice per year, a February number
to reach members about March and the Club Edition
program, and an August number to reach members about September
at with news and the Club Fall program.

CALENDAR OF EVENTS - 1964

Saturday Field trip - 2:00 P.M.
Feb. 29th Academy of Natural Sciences, Philadelphia, Pa.

Sunday Field trip - 9:00 A.M. to Noon,
March 15th Buckwheat Dump, Franklin, N. J.

Meeting - 2:00 P.M. American Legion Hall
Speaker - Mr. Mark Robinson,
Comstock Society of Philadelphia.

Saturday Field trip - 9:00 A.M. to Noon,
April 18th Buckwheat Dump, Franklin, N.J.

Meeting - 2:00 P.M. American Legion Hall
Speaker - Dr. James L. Dyson, Chairman
Department of Geology, Lafayette College.

Saturday Field trip and meeting
May 16th. To be announced

Saturday Third Annual Swap Session with
May 23rd. North Jersey Mineralogical Society
9:00 A.M. to 9:00 P.M.
Munson Field, Franklin, N. J.

Saturday, Field trip and meeting
June 20th. To be announced.

Thursday-Sunday Eastern Federation Show,
June 25-28th. Hotel Robert Treat, Newark, N. J.

Saturday-Sunday Annual Mineral Show
October 10-11th sponsored by Franklin Kiwanis Club
Franklin Armory.

Field trips and meetings are scheduled for
Saturday September 19th
Saturday October 17th
Sunday November 22nd
Details in the next issue of The Picking Table.

All meetings are held at
The American Legion Hall,
Route 23, Franklin, N.J.

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The Picking Table is issued twice per year; a February number to reach members about March 1st with news and the Club Spring program; and an August number to reach members about September 1st with news and the Club Fall program.

F.O.M.S. OFFICERS FOR THE YEAR 1964

President	Frederick A. Kraissl
Vice President	Dr. Harry E. Montero
Secretary	Henry M. Althoen
Treasurer	John M. Butler

Trustees

John L. Baum	Ferd DeP. HasBrouck
Paul Chorney	Alexander F. Knoll
Frank Z. Edwards	William D. Spencer
Richard Hauck (alternate)	

Committee Chairmen

Program	Frederick A. Kraissl
Field Trip	Henry M. Althoen
Membership	Dr. Harry E. Montero
Display	Ewald Gerstmann
Identification	Alexander F. Knoll
Nominating	Richard Hauck
Historical	Perry Armagnac and Mrs. E. Packard Cook
Safety	Julian M. Butler
Museum	William D. Spencer
Publicity	John L. Baum

Editor of The Picking Table -

Frank Z. Edwards

Mimeo and Typing

Louise W. Borgstrom

F.O.M.S. Administration

Our new president is Frederick A. Kraissl, who has been an active member for several years. With his training, background and ability, Fred will provide the leadership in an administration that is eager to expand club activities and services. Supporting him in this program are Dr. Harry E. Montero (M.D. retired), Vice President; Henry Althoen, Secretary; Jack Butler, Treasurer; and the entire Board of Trustees.

At an Executive Board meeting on December 14th, 1963, President Kraissl named his Committee Chairmen, which are listed above.

Jack Butler, Treasurer, reports that the F.O.M.S. had 440 paid up members as of December 31st, 1963; and that our cash balance as of that date was approximately \$1300.00.

Henry Althoen, Secretary, advises that he receives a steady flow of letters inquiring about the Society and its activities. Recent letters have come from California, Texas, Illinois and Canada, as well as from our Eastern states. This would indicate that interest in Franklin minerals continues to increase. Some of the recent mail was prompted by the publicity given F.O.M.S. activities in the Nov-Dec 1963 issue of Rocks and Minerals, through an article submitted by Henry Althoen. The thanks of our organization has been extended to Mr. Peter Zodac, Editor of Rocks and Minerals.

The Executive Board decided to leave dues at the old rate of \$2.00 per year. Dues for the current year, 1964, are now payable; please use the form provided at the back of The Picking Table for easy remittance. Usual deadline - June 30th.

To enroll new members, initial costs are incurred by the Society. To meet such costs, it was decided that after January 1st, 1964, applicants for membership would be charged a \$1.00 registration fee. Please note this change in our application form.

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Spring Program

As usual, Club activities this Spring will be varied and interesting. The year will begin with a Field Trip on Saturday, February 29th, to the Philadelphia Academy of Sciences, 19th Street and Benjamin Franklin Parkway (Logan Circle). Members and friends will meet in the large lecture room at 2:00 P.M. Dr. Horace G. Richards, Chairman of the Department of Geology and Paleontology, will give a brief talk and then staff members will act as guides to the various exhibits in the Museum.

On March 15th, a field trip to the Buckwheat Dump, Franklin, has been scheduled for 9:00 A.M. There will be no admission charge to the Dump for our members. Volunteers are needed for two special duties on this date. One group is required for a Spring cleanup of the Dump; other members are needed for identification help. On this field trip, the F.O.M.S. will act as hosts to the Comstock Society of Philadelphia. This is a natural history group, which is anxious to introduce members to mineral collecting. About fifty visitors are expected and they will need assistance and encouragement.

That afternoon, Mr. Mark Robinson, who is a well known mineralogist and entomologist, will be our speaker. Dr. Montero, our Vice President, will open the meeting with a ten minute talk on willemite. Then, after Mr. Robinson's talk, we will show a twenty minute film, "Galaxy of Elements," which has received much praise from science teachers and organizations.

On Saturday, April 18th, the F.O.M.S. will again assist the New Jersey Audubon Society on their third Mineral Field Trip to Franklin. For our members, a field trip from 9:00 A.M. on is scheduled for the Buckwheat Dump, Franklin. Again, there will be no charge to our members for collecting at the Dump. Any assistance our members can give to the New Jersey Audubon visitors will be greatly appreciated.

Our speaker for the regular meeting that afternoon, at the American Legion Hall, will be Dr. James L. Dyson, Chairman of the Department of Geology and Geography, Lafayette College, Easton, Pa. Dr. Dyson is the author of "The World of Ice" and an authority on glacial geology.

The program of the New Jersey Audubon Society will be held at the Hardyston School, Route #23, Franklin. This is just south of the Shopping Center and diagonally opposite the Franklin Armory. Activities will start at 10:30 A.M. Scheduled are talks, movies, exhibits, field trips, bird and nature walks. Full details will be given our members at a later date. There will be an admission charge for this program.

Field trips and meetings are scheduled for Saturday, May 16th and Saturday, June 20th. As yet, complete arrangements have not been made; please note these dates on your calendar and look for our monthly announcements.

On Saturday, May 23rd, the F.O.M.S. and the North Jersey Mineralogical Society will again act as hosts for the Third Annual Swap Session. This will be held at Munson Field, Franklin, from 9:00 A.M. to 9:00 P.M. Munson Field is on Cork Hill Road, on the far side of Franklin Pond, opposite the Buckwheat Dump. Everyone is welcome, family groups particularly. Invitations are being issued to members of other Mineral Clubs in North Jersey. There will be free use of all facilities; refreshments will be available; swapping and selling by all permitted. In return, we ask only that all visitors park in an orderly manner and leave Munson Field in the same clean condition they found it.

This year the Eastern Federation Show will be held at the Hotel Robert Treat, Newark, N.J., from June 25th to 28th inclusive. For many of our members this location is very convenient. Since this Show promises to be the best yet, we strongly recommend attendance on at least one of these dates.

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The Buckwheat Dump

Our Secretary regularly receives requests for information on collecting minerals at Franklin. The only sanctioned area in Franklin available to anyone at all times is the Buckwheat Dump, entrance on Church Avenue, just opposite the Franklin Pond. This is about a quarter of a mile in from Route #23; turn at the Franklin Diner, which is opposite the A & P Shopping Center.

The Buckwheat Dump may be entered at any time. Fee for collecting is \$1.00 per person per day, payable to the special policeman on duty at the Dump. Season tickets for \$5.00 per person may also be obtained from Mr. Ray Rude, the officer in attendance at the Dump. Groups of ten or more may obtain a special rate by applying in advance for a group permit from Mr. Rude or by writing to Mr. James Fitzsimmons, Borough Clerk, Borough Hall, Franklin, N. J.

Children are permitted but must be supervised and controlled by adults. Usual courtesy and safety rules to protect the individual and other collectors must be followed.

At the Dump there is a dark room, with electrical outlets, for fluorescent specimens. Bring your own lights. There are bathroom facilities and later this year, the F.O.M.S. is planning to install a water fountain and benches. Within a week or two, courtesy of Ewald Gerstmann, the F.O.M.S. will place litter containers around the Dump, in an effort to keep the collecting area clean and neat.

The Buckwheat Dump is usually bulldozed twice a year. The Franklin Borough Council expects to next doze the area sometime in April.

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An Unusual Project

On November 14th, 1963, the front page of the New Jersey Herald, Sussex County's only newspaper and a good one, featured a picture of Albert Smith holding a cross he had just presented to the First Presbyterian Church of Ogdensburg. This cross, the only one of its kind, was designed and built by Mr. Smith as a labor of love in a unique combination of interests and abilities.

All of the material in the cross is a local origin. The wood members are Black Cherry, with a quadrant of Black Walnut, the whole inlaid with twenty-four polished zinc ore cabochons from Sterling Hill and Franklin. The lumber, from native trees felled years ago, had been carefully seasoned and preserved by Mr. Smith. Nineteen of the cabochons, 3/4 x 1-1/2" each, were cut from common Sterling Hill ore of red zincite, brown willemite, black franklinite and white calcite. These are relieved by four cabochons set in the quadrant from Sterling Hill pink kutnahorite and a center gem of green willemite from Franklin. It took several years to collect and prepare the materials; then about fifty hours of dedicated effort to actually construct the cross itself.

Mr. Smith has worked for the New Jersey Zinc Company for 37 years; he has been a shift boss since 1947. His off hour interests are woodworking, Sterling Hill minerals, and the Presbyterian Church, in which he has held various offices. The cross was a project he planned for five years to satisfy his desire to give his church a gift that was unique and individual. In this he has succeeded admirably; the cross is beautiful.

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News on Gem Stones

The demands of modern industry continue to spur efforts to produce better quality synthetic gem stones.

The Battelle Memorial Institute of Columbus, Ohio has announced the production of synthetic rubies for laser applications are now being grown from crystallized aluminum oxide and chromium oxide dissolved in a molten oxide or fluoride flux. The advantage of this new method over the old is that crystallization temperature is 1350^oF. instead of 3500^oF. The lower temperature and attendant precise control is expected to make possible crystals with improved optical properties. Hopefully, these higher quality rubies will improve laser welding and communication devices.

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John Riley, head of the Very High Pressure Research Laboratory of Melpar, Inc., Falls Church, Va. has reported that Melpar is the first firm to synthesize emeralds through use of high pressures. Previously, all synthetic emeralds have been produced through slow "fusion melt" process. So far the emeralds produced by Melpar are only about the size of grains of sand. Surprisingly, they take two hours to produce as compared to five minutes to produce artificial diamonds. Melpar's goal is to learn more about how these crystals are formed in order to create new materials for the space age.

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And, commercial jewelers have entered the atomic age. They have now learned that splitting the atom can do sparkling things for some diamonds. Before the discovery that science can change the color of diamonds, jewelers had difficulty selling medium quality stones which were bigger, but considerably cheaper than a perfect blue-white stone.

But today, stores like Wiss Jewelers in Newark send the cloudy gem stones to the University of California in Berkeley for color induction, and they come back in sparkling colors of blue, green and yellow.

The secret is that the diamonds are spun in the cyclotron which changes their molecular structure. However, the scientists still play a guessing game as to what colors the diamonds will come out. A cloudy diamond may turn out a radiant yellow or a green or a blue; no one knows which color it will be.

Wiss's president, Richard Paul, says that color induced diamonds have become a hit with milady even though most still prefer conventional stones.

The reason, however, for increased popularity of color-induced stones is the setting change, Paul says. For instance, Wiss's designers have created a diamond ring with a twist and made up a ring in the shape of a Cadillac emblem. "We get all sorts of requests," Paul said; "this customer said she had bought her first Cadillac and liked it so much she wanted a ring to match. The design proved so popular we even had owners of other cars buying similar rings," he said.

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Before you can submit poor stones for glamor treatment, you must obtain the diamonds first. A new concern proposes to supply such needs.

On January 12th an announcement from Washington, D.C. stated that "Diamonds are the goal of the first ship ever designed and built for underwater prospecting.

The extraordinary ship, the "Rockeater", which can twist, turn and even move sideways, is under way for the Diamond Coast off southwest Africa. It is scheduled to start sampling the ocean depths in February. Designed by Ocean Science Engineering, Inc., the specialized ship will determine the value and extent of diamond deposits under the sea along a 200 mile strip of African coast extending from the Orange River to Walvis Bay. The ship is designed to take mineral samples under water as deep as 400 feet, said Willard Bascom, president of Ocean Science. It could screen and sort these samples at rates as fast as 20 tons an hour, he said, although geologists do not intend to pick up samples that fast.

In a record time of 60 days, the Rockeater was converted from a freighter to a full fledged prospecting ship by Craig Shipbuilding Co. of Long Beach, California. The ship is 180 feet long and 32 feet wide, with twin screws propelled by two 400 horsepower Diesel engines. A 200 horsepower propeller in a tunnel in the bow and a 200 horsepower outboard motor on the stern makes it possible to move the ship in any direction, said Bascomb. All four propellers are controlled from a central steering equipment controlled by a "joy stick". Four hydraulically driven mooring winches can hold it in precise position in shallow water.

Diamonds will be drilled and dredged through a center well surmounted by a 52 foot derrick. Other equipment includes a hydraulic power plant, a heavy sample processing plant, circulating pumps, air compressors, radar and echo sounders.

Contracts for determining the diamond deposits extend over several years, said Bascomb."

Mr. Bascomb was formerly director of the Mohole project and is the author of "A Hole in the Bottom of the Sea."

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Now I am happy to report that modern industry can help the mineral collector. If, like me, you have trouble identifying crystal specimens, relief is at hand - all you need is a little money. I.B.M. has announced new equipment on which "diffraction measurements used to determine the atomic configuration of a crystal can now be made automatically. The automated system comprises a computer, x-ray equipment and crystal study apparatus. Each of several thousand atomic planes in the crystal is bombarded by x-rays and the intensity of the reflected beam is measured by a radiation detector. The data processing system then punches out on cards all the necessary information on each reflection measurement such as angle settings of the spectrometer, the intensity of the reflected beam and the Miller indexes. From this data a map of interatomic distances (Patterson function) is prepared. Although basically the same process that a crystallographer uses, the automated system is capable of constant checking and correction of error."

Oh happy day! that's for me.

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Mineral Notes

In addition to Franklin minerals, many of our members collect specimens at other locations in New Jersey and New England. The next two items should interest such collectors.

Wodginite - A new tin - manganese tantalate from Australia and Manitoba, Canada is described in the American Mineralogist, November-December 1963, pages 1417-18. In many of its physical properties and powder pattern Wodginite shows a very strong similarity to columbite and tantalite. It is believed that specimens of these two species may actually be wodginite. Pegmatite collectors please note.

Zeolites - The fourth general meeting of the International Mineralogical Association will be held in New Delhi, India, December 14th to 22nd, 1964. Two symposia and an open session for other topics of interest to mineralogists will be held. The symposia subjects are

- 1) Zeolites, natural and synthetic.
- 2) Carbonatites, kimberlites and their minerals.

While I doubt that any of our members will go to New Delhi, I am sure that advanced zeolite collectors will be interested in the proceedings when published.

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HYDROHAUSMANNITE and HYDROHAETEROLITE

Feitknecht, Brunner and Oswald have restudied the oxidation of $\text{Mn}(\text{OH})_2$ and find by x-ray and electron microscope that hydrohausmannite is a mixture of hausmannite with beta $\text{MnO}(\text{OH})$ which on further treatment changes to gamma $\text{MnO}(\text{OH})$.

As a result hydrohaeterolite is also suspect and it is recommended that this species be reexamined.

(Amer. Min. Nov-Dec 1963 page 1420)

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HODGKINSONITE

W.M.B. Roberts and F.M. Quodling report, in the Mineralogist Magazine, Vol 33, 1962, pages 343-346, on x-ray, optical and morphological observations on hodgkinsonite from Franklin. Their re-examination has led to a different setting to that previously selected. The b and c axis are interchanged and the original negative end of the b axis becomes positive. X-ray powder data are tabulated; the new setting has a 11.71; b 5.30; c 8.12 Å, β $95^\circ 15'$; space group $P2_1/c$; (100) cleavage; specific gravity 3.99; $Z=4$. Optical properties are α 1.720 (pink amethyst), β 1.741 (colorless to faint blue green), γ 1.746 (pale amethyst), $2W=52^\circ$, dispersion $r>v$ distinct; β_{11} (010), α ; (001) 44° in acute β . Common forms are $r(111)$, $m(011)$, $s(210)$, and $o(110)$.

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FRIEDELITE

Friedelite has been reported from the iron manganese deposits of Dzhumart and Kamyra in central Kazakhstan, U.S.S.R. There it occurs in three forms; reddish brown coarsely crystalline, reddish brown finely cryptocrystalline and light brown with greenish shade finely cryptocrystalline. The coarsely crystalline form is prismatic with perfect (0001) cleavage or forms basal plates. This occurrence is reported in Doklady Academy Science, U.S.S.R., Earth Science Section, volume 135, 1961, pages 1290-1292. Indexed x-ray data, a heating curve, chemical analyses and physical data are given.

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SONOLITE

A new manganese silicate from Japan named Sonolite is shown as a new member of the Alleghanyite-Leucophoenicite group. (Amer. Min. Nov-Dec 1963, page 1413)

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ETTRINGITE

L.G. Berry, in the American Mineralogist, July-August 1963, page 939, reports that he found in a review of published x-ray powder data for ettringite, differences in the length of the a axis as calculated by several writers.

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ZINCITE

V. D. Frechette and C.F. Cline report in the American Mineralogist Nov-Dec 1963, pages 1381-3, that in the course of studies on the mechanical properties of minerals having the wurtzite structure, cleavages were encountered which were in disagreement with those described by Palache, and more recently by Wolff and Broder. A re-examination of the cleavage behavior was undertaken on single crystals of five wurtzite type compounds. The most striking result centers around the (11 $\bar{2}$ 0) cleavage, which appeared in all of the crystals examined. Such a cleavage has not previously been reported for zincite.

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ZINCITE, GAHNITE Genesis

R. J. Pickering reports in the American Mineralogist, Nov-Dec 1963, pages 1383-88, data on differential thermal analyses of sulphide minerals in a controlled atmosphere. His curves compare well with those obtained by other investigators for the same minerals, and the identified solid reaction products were mainly those expected to be found. Zincite was produced from sphalerite-alumina and sphalerite-quartz mixtures in atmospheres of air and steam. Gahnite was produced from a sphalerite-alumina mixture in an atmosphere of steam, which confirms its natural occurrence in high temperature mineral deposits. However, no peaks which could be identified with willemite were observed in the x-ray diffraction patterns of samples from a reaction well in which a quartz-sphalerite mixture had been heated in flowing steam.

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The Minerals of Langban

At our meeting of October 20th, 1962, Dr. Brian Mason discussed and compared the minerals and ore bodies at Langban, Sweden and Franklin, New Jersey. While working for his doctorate at the University of Stockholm, Brian Mason was a frequent visitor and observer at the Swedish mines. In recent years he has revisited Langban and his interest in its mines, minerals and people remains constant. After his appointment,

in 1953, as Curator of Physical Geology and Mineralogy at the American Museum of Natural History, New York City, Dr. Mason became interested in the Franklin minerals and deposits, and we are happy to note that that interest appears to be growing.

Franklin collectors are always curious about Langban and its minerals. Dr. Mason's talk whetted this interest and provoked many questions from the floor. It was disappointing to learn from him that all literature on the Langban deposits could be found only in Swedish publications. After the meeting, two of our good members, Mr. and Mrs. Will Shulman, determined to correct this situation. They finally persuaded Mr. Eben Johnson, Upsala College, East Orange, N. J. to translate an important paper by J. H. Weslien on the subject. With this issue of The Picking Table, we are enclosing a copy of the complete paper - "Information Concerning the Minerals of Langban, Sweden" for your permanent records.

The F.O.M.S. thanks Mr. and Mrs. Shulman and Mr. Johnson for their efforts in making this paper available. We also extend our thanks to Dr. Mason for his assistance and continuing interest in the F.O.M.S. and its individual members.

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MICRO-BALANCE

A new micro-balance has been developed at the Westinghouse Research Laboratories which, the makers claim, can measure the increase in weight caused by adding two words of print to a 30 volume encyclopedia. The balance works on the principle that pressure affects the resonant frequency of a quartz crystal. The crystal forms part of a tuned circuit, and the weight to be determined is placed on the crystal itself. The change in frequency of the system is measured and from this the weight of the specimen is determined. The balance - weighing a mere eight and one half pounds - is at present being used to weigh films only ten molecules thick.

(DISCOVERY, February 1964)

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