MICROMOUNTERS OF NEW ENGLAND

The MMNE was organized on November 5, 1966 for the purpose of promoting the study of minerals that require a microscope.

October 1990 Newsletter #144

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Dues are $5.00 per year and are due on January 1st, payable to the Treasurer

Contributions of news items for the Bulletin are welcome and should be sent to the Editor.

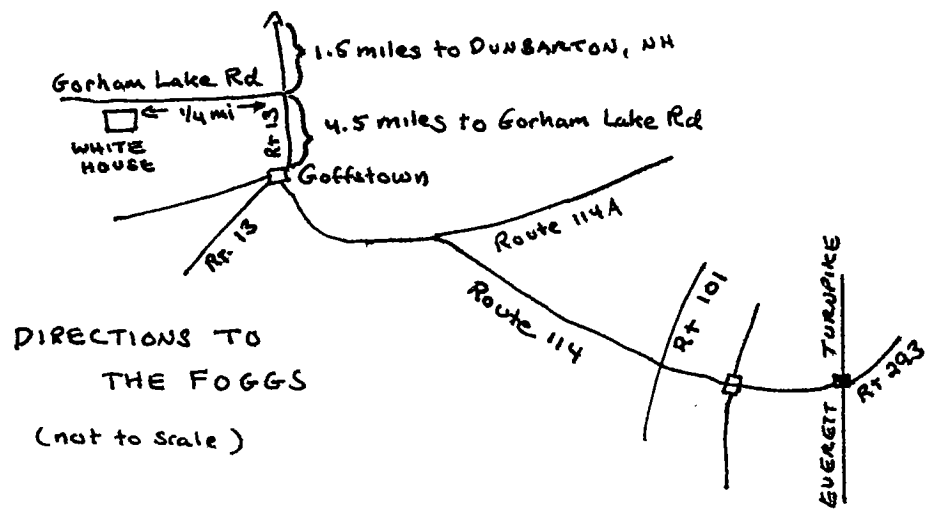
NEXT MONTH

The next meeting of the MMNE will be Saturday, November 17, 1990, at the Auburn Public Library, Auburn Mass.

The next regular meeting of the Micromounters of New England will be Saturday, **October 20, 1990** at the home of Forrest and Vera Fogg in Goffstown, NH. Remember to bring chairs and folding tables along with your usual equipment.

President Bob Janules has sent word that our Mini-talks will resume with the November meeting. Treasurer Janet Cares reminds members that dues will be due shortly, but she hopes to bring up some discussion at the October meeting regarding whether dues should be increased this year. Janet will have a report regarding club expenses.

The club is not planning an informal meeting at the Rhode Island Mineral Hunters' show this year (Oct. 27-28, Community College, Warwick, RI) because several speakers are featured at the show on Saturday and Sunday, and many members may choose to see our members Bob Whitmore and Marcelle Weber when they present their talks on Sunday. Bob is talking about recent finds at Palermo (at 1:30 pm), and Marcelle is talking about mineral collecting at Mont Saint-Hilaire (at 3:00 pm). Others may wish to attend on Saturday to hear Dr John Medici talk about the characteristics of a good mineral specimen (at 1:30 pm) or Dr. Woodrow Thompson talk about recent Maine finds (3:00 pm). Regardless of what day you choose to attend, you are bound to have a great time! The show is open on Saturday from 10 to 6 and on Sunday from 10 to 5. Admission is $2.50.



Minerals of the Old Slags from Lavrion, Greece
(*continued from last month*)

Annabergite very rare, usually as pale-green crusts with nealite. Recently found as green micro-tablets with copper and gypsum.

Beudanite as tabular, dark honey to brown-black crystals to 0.7 mm. Very rare, with cerussite in Fe-rich slags.

Olivenite as olive-green balls with greasy luster in Cu-rich slags, with schulenbergite, paratacamite, cuprite, copper parasimplesite, as thin tabular pale blue to pale green crystals in group. With paralaurionite, beudanite, goethite.

Simplesite as tabular, olive-green radiating crystals to 0.3 mm.

Mimetite (*) as cream to pale yellow micro balls, identified in 1987. Found recently again as cream to brownish yellow radiating crystals with massicot and laurionite; also as small brush-like groups of white crystals to 5 mm, containing P. With laurionite, ekdemite, paralaurionite.

Paulmooreite found only once as a single flat tabular, colorless 1 mm crystal, destroyed for identification.

Pharmacosiderite very rare, as yellowish micro cubes with goethite, phosgenite, parasimplesite, in Fe-rich slags.

Ludlockite as yellow-brown to brown needles, mainly grouped in sprays or globular aggregates with opaque surface due to goethite coating. Greasy luster and soft cleavage. Frequently goethite is found pseudo after ludlockite.

Veszelyte as grey to green-blue coatings to 0.1 mm with calcite, aragonite, hydrocerussite. It is the only P-mineral found in the slags to date.

Volborthite found only once as pseudotetragonal dark olive-green micro tablets, with laurionite, boleite, matlockite. Color fades at exposure to light. It is the only V-mineral found in the slags to date.

Scorodite (*) as leek green crusts with fibrous structure, sometimes reniform, usually filling cavities completely.

Legrandite (*) very rare, as white sprays to 0.3 mm, needle-like crystals, rarely distinguishable. With phosgenite, anglesite, ekdemite, sometimes heliophyllite.

Lavendulan (*) found abundant in a big slag in 1987, as spherules and sprays of sky-blue to turquoise needles to 0.5 mm; rarely as felty coatings on paralaurionite crystals. With phosgenite, paralaurionite, lanarkite, ekdemite, heliophyllite, once with paratacamite.

SILICATES

Hemimorphite as micro colorless crystals, always grouped in fan, pillow or globular aggregates. Probably frequent; easily mistaken for other minerals. With aragonite and cerussite, rarely phosgenite and anglesite.

Chlorite as greenish to brown crusts.

Amesite (*) as pseudohexagonal, micro scaly crystals. For unknown reasons, amesite color is red at Lavrion, while its typical color elsewhere is green. Resembling lepidocrocite, but brittle. Probably often mistaken for other minerals.

Collecting possibilities

Still rather good, even if the great majority of the slags has been smelted again, especially during the past century. Useful slags can mainly be found today on the sea bed at Pachi, Limani and Fanari. Also at Thorikon bay, on beaches after storms. Vrisakia and Tourkolimanon, often mentioned in literature, are completely depleted. It is highly advisable not to leave splinters of broken slags on the beaches; they are sharp and can be very dangerous.

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Summary given by Rewitzer, et al, (1989) for the article "I Minerali della Antiche Scorie di Lavrium, Grecia", Revista Mineralogica Italiana, 12:21-38, 83-100. The article (in Italian) is profusely illustrated with color and black & white photos, the captions for which are understandable with a little effort. There is also a table of species, line drawings of crystals, and a map. (Reprinted by the kind permission of the Editor, Eberto Tealdi).

On the 8th of October 1989, I found some microscopic (up to 1 mm) gypsum crystals under a small overhang in a roadcut north of The Forks in the township of West Forks, Somerset County, Maine. The gypsum is thin and bladed, showing very typical gypsum morphology, grouped in radiating masses on thin crusts. The crusts are greenish when viewed casually, but the crystals viewed microscopically are nearly colorless. I pried some crusts off with a knife (a layer of probable iron oxide beneath helped in some cases; some material tests for iron, but the crystals don't). The crystals yield water when heated in the closed tube, give an alkaline reaction on moist litmus paper after roasting, and yield a strong hepar reaction for sulfur.

The roadcut rock is slatey with (very probably) microscopic pyrites and a few calcite veins. Within three miles is a slate quarry with calcite veins and a few pyrites. Within two miles is a roadcut which shows good slate and calcite veins within it. The calcite is easily scratched by a knife, has rhombohedral cleavage, and effervesces very briskly in cold hydrochloric acid. The gypsum does not effervesce in acid. Unlike melanterite and alunogen (other efflorescences), gypsum is not very soluble in water (a bit of powder left in a glass of warm water for a few minutes did not dissolve, whereas the other substances mentioned would have readily dissolved).

The paragenesis of the gypsum is obvious: the old road skirted the hill, whereas the present highway passes through a cutaway side of it. The blasting not only helped to further fracture the slatey rock, but also lowered the water table in the immediate vicinity of the roadcut. Percolating groundwater brought in atmospheric oxygen, decomposing the pyrite grains which doubtlessly occur microscopically within the rock, releasing iron oxides, possibly iron sulfates, and sulfuric acid. The oxides may account for the staining under the discovery location, and possibly the loose layer that enabled me to pry a knife to lift off some crusts. The dilute sulfuric acid leached through the fractures, reacting with the calcite in the rock, producing the calcium sulfate in solution (very slightly soluble in water). This leached out of the nearly vertical face of the rock, ordinarily getting washed off by meteoric waters (rain), but the overhang allowed crystallization of material partly protected from rain, whereas the wind evaporated the solvent (water); thus the crusts grew.

Thus, a whole story of paragenetic sequence from a few crystals can be found in a roadcut. This is only one of the factors which makes mineralogy so fascinating. --- Dana Morong.

SAINT-HILAIRE SPECIES GROUPED BY HABIT

White Powders
Brockite
Cerussite
Dorfmanite
Gibbsite
Griceite
Kaolinite
Magadiite
Montmorillonite
Nahpoite
Natrolite
Natrophosphate
Szomolnokite
Thermonatrite
Trona

Colored Powders
Goethite (yellow-brown)
Jarosite (yellow)
Lepidocrocite (dark red to red-brown)

White Crusts
Hydrocerussite
Hydrozincite

White Fibrous
Burbankite
Franconite
Halotrichite
Hochelagaite
Sepiolite
Thaumasite
Thermonatrite
Thomsonite
Wollastonite
Zeophyllite

Colored Fibrous
Yofortierite (pink to violet

Octahedrons and Pseudo-octahedrons
Anatase
Apophyllite
Cryolite
Fluorite
Galena
Gismondine
Griceite
Hibschite
Lueshite
Magnetite
Neighborite
Pyrite
Pyrochlore
Sphalerite
Villiaumite
Zircon

Tetrahedrons
Analcime
Andradite
Chalcopyrite
Fluorite
Genthelvite
Grossular
Magnetite
Natrophosphate
Sodalite
Spessartine
Sphalerite
Terskite
Tetrahedrite
Zircon

Cubes
Fluorite
Galena
Griceite
Lueshite
Pyrite
Villaumite

(JWC)

MINERALS OF MONT ST-HILAIRE

Actinolite
Aegirine
Alabandite
Albite
Allanite-(Ce)
Analcime
Anatase
Ancylite-(Ce)
Andradite
Anglesite
Ankerite
Annite
Aragonite
Arfvedsonite
Arsenopyrite
Ashcroftine-(Y)
Astrophyllite
Augite

Barite
Barylite
Barytolamprophyllite
Bastnasite-(Ce)
Bavenite
Behoite
Berthierine
Beryl
Beryllonite
Beudantite
Biotite
Birnessite
Bismuth
Britholite-(Ce)
Brockite
Brookite
Burbankite

Calcioancylite-(Ce)
Calcite
Cancrinite
Carbocernaite
Carbonate-fluorapatite
Carletonite
Catapleiite
Celestine
Cerite-(Ce)
Cerussite
Chabazite
Chalcopyrite
Chamosite
Chkalovite
Clinochlore
Cordierite
Cordylite-(Ce)
Corundum
Cryolite

Daqingshanite-(Ce)
Datolite
Dawsonite
Diopside
Dolomite
Donnayite-(Y)
Dorfmanite
Doyleite
Dravite

Edingtonite
Elpidite
Epididymite
Epidote
Epistolite
Erdite
Erythrite
Eudialyte
Eudidymite
Ewaldite

Fluorapatite
Fluorapophyllite
Fluorite
Franconite

Gaidonnayite
Galena
Ganophyllite
Garronite
Genthelvite
Gersdorffite
Gibbsite
Gismondine
Gmelinite
Gobbinsite
Goethite
Gotzenite
Graphite
Greigite
Griceite
Grossular
Gypsum

Halite
Halotrichite
Harmotome
Hedenbergite
Helvite
Hematite
Hemimorphite
Hilairite
Hisingerite
Hochelagaite
Hornblende
Hydrocerussite
Hydrogrossular
Hydroxyapophyllite
Hydrozincite
Hypersthene

Ilmenite
Jarosite
Joaquinite-(Ce)

Kaersutite
Kainosite
Kaolinite
Kogarkoite
Kupletskite
Kutnohorite

Labuntsovite
Lamprophyllite
Lavenite
Leifite

Lemoynite
Lepidocrocite
Leucophanite
Leucosphenite
Lizardite
Lollingite
Lorenzenite
Lovozerite
Lueshite

Magadiite
Magnesio-arfvedsonite
Magnesite
Magnetite
Makatite
Manganneptunite
Marcasite
Mckelveyite-(Y)
Meionite
Microcline
Milarite
Millerite
Mimetite
Miserite
Molybdenite-2H, 3R
Monazite-(Ce)
Monteregianite-(Y)
Montmorillonite
Mosandrite
Muscovite

Nahpoite
Narsarsukite
Natrolite
Natron
Natrophosphate
Neighborite
Nenadkevichite
Neotocite
Nepheline
Nordstrandite

Parakeldyshite
Paranatrolite
Paraumbite
Parisite-(Ce)
Pectolite
Penkvilkskite
Perraultite
Petarasite
Phillipsite
Phlogopite
Polylithionite
Pousretteite
Prehnite
Pyrite
Pyrochlore
Pyrophanite
Pyrrhotite

Quartz

Raite
Rasvumite
Revdite
Rhabdophane-(Ce)
Rhodochrosite
Richterite
Riebeckite
Rosenbuschite
Rouvilleite
Rutile

Sabinaite
Sanidine
Sazhinite-(Ce)
Scheelite
Searlesite
Senaite
Sepiolite
Serandite
Shortite
Siderite
Siderophyllite
Sidorenkite
Sodalite
Spertiniite
Spessartine
Sphalerite
Steacyite
Steenstrupine-(Ce)
Stillwillite-(Ce)
Strontianite
Sugilite
Synchysite-(Ce)
Szomolnokite

Tadzhikite-(Ce)
Taeniolite
Terskite
Tetrahedrite
Tetranatrolite
Thalcusite
Thaumasite
Thermonatrite
Thomsonite
Thornasite
Thoroqummite
Titanite
Tremolite
Trona
Tugtupite
Tundrite-(Ce)

Ussingite
Vesuvianite
Villiaumite
Vinogradovite
Vitusite-(Ce)
Vuonnemite

Weloganite
Willemite
Wohlerite
Wollastonite
Wulfenite
Wurtzite

Xenotime-(Y)
Yofortierite

Zeophyllite
Zircon

Above list based on Horvath, L. and R. A. Gault, 1990. The Mineralogy of Mont St-Hilaire, Mineralogical Record 21:284-359 (July/August)

JWC
10/90