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.

Dues are $6.00 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

Our October meeting will be Saturday, the 5th at the Fogg's. Don't forget about the RI show, however, Oct. 26-27.

September 1991 Newsletter #152

Our first regular meeting of this MMNE season will be **Saturday, September 7, 1991**, at the Northborough Public Library.

Please note the following address change:

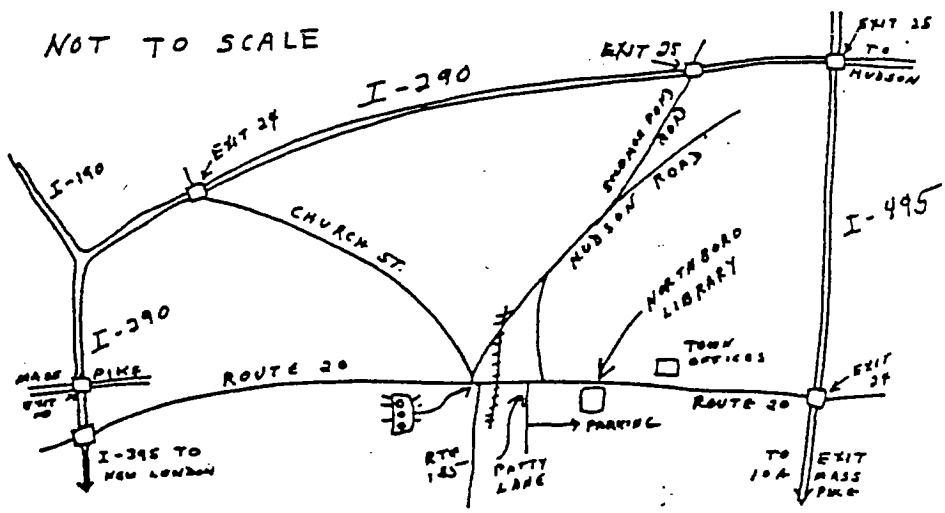
Scott Whittemore
8 Goldfinch Lane
Nashua, NH 03062

Coming Events:

Saturday September 14, 1991
The 29th Annual Swap, Talk and Brag Day
Runnels Hall (off Route 113)
Chocorua, New Hampshire

September 14, 1991
Mont Saint-Hilaire Field Trip

Editor's Note: I have included a listing of all of this year's meetings (September-May) on the last page of this bulletin. Please take this last page and post it where it will be handy, or copy the dates onto your calendar.



A New Chemical Cleaning Process
(By Peter Partsch, Wolfsburg, Germany, as translated by Horst Windisch (Editor) in "MICRO NEWS AND VIEWS" Volume 17, #3, April 1991.

Treatment of a mineral specimen with chemicals always entails an intervention in the paragenesis of the specimen. The question can be posed whether one, in order to obtain a shiny and pleasing-looking mineral, should in any way remove the foreign matter typical of the locality at all, and thereby obtain an atypical specimen?

A method not well-known at this point in time to remove iron oxides and hydroxides which can encrust specimens to a greater or lesser degree, will be described here. This method was developed in the U.S.A. and Canada and amongst others, was published in the MINERALOGICAL RECORD of March/April 1980.

As many collectors use acids and other "wonder solutions" rather indiscriminately, the results are also not so perfect. Based upon my own experience, the method described below, when used properly, is the most efficient and harmless cleaning method used up till now.

Three chemicals are required for this method -- sodium citrate, bicarbonate of soda and sodium dithionite. It is advisable to use a plastic container, suited to the size of the mineral, to make up the required solution. Then one is at least sure of the fact that the mineral is always harder than the container and damage to the crystals can be avoided.

As sodium dithionite combines with oxygen in the solution, the solution is only capable of dissolving iron oxide for about 12 hours. Thus the procedure for making up the solution is as follows. Using one liter of water, add 71 gm of the sodium citrate and 8.5 gm of bicarbonate of soda, a stock solution is made. The mineral specimen is immersed in this solution, ensuring that it is fully covered. Now sodium dithionite is added in a prescribed quantity, i.e., for every 50 ml solution, use 1 gm of sodium dithionite. In other words, if one is using 1 liter stock solution, add 20 gm of sodium dithionite. If in the case of cleaning mineral specimens, a stock solution of only 50 ml is being used, add 1 gm of sodium dithionite. In most cases, a treatment of eight hours is sufficient. Should the cleaning process take longer than 12 hours, a new stock solution has to be used. The whole cleaning process takes place at room temperature.

After the chemical cleaning, the specimen must be rinsed well in distilled water. It is recommended to wash the specimen with water for 15 minutes before chemical cleaning, for preliminary cleaning, and thus to shorten the time required for the chemical solution to get into the pores and micro cracks and thus reduce the treatment time.

As with all chemical treatment of minerals, it is advisable to experiment with a less valuable piece, prior to the main operation. Care should be exercised with minerals containing calcium. Here the preliminary test is absolutely essential. When using sodium thionite, skin contact should preferably be avoided.

The above chemicals are freely available from any chemical dealer or chemist.

References: Waller, R. "A rust removal method for mineral specimens", MINERALOGICAL RECORD, Volume 11, Number 2 (March-April 1980, page 109).

MINERAL UPDATE: ERYTHRITE
Lance E. Kearns, James Madison University
June 1991 MINERAL MITE, Kathy Studenski, Editor

The relatively rare mineral erythrite (hydrated cobalt arsenate) has been identified from the Luck Stone (New Goose Creek) Quarry in Loudon County, Virginia. The specimens were discovered in a hydrothermal vein on the north wall of the quarry by Mr. Robert Duncan and submitted for identification by Mr. Mark Duncan of Richardsville, Virginia. Identification was made by x-ray diffraction analysis and chemical (EDAX) analysis. The EDS spectrum indicates a relatively pure erythrite with no observed Ni (annabergite) or Zn (koettigite) substitution.

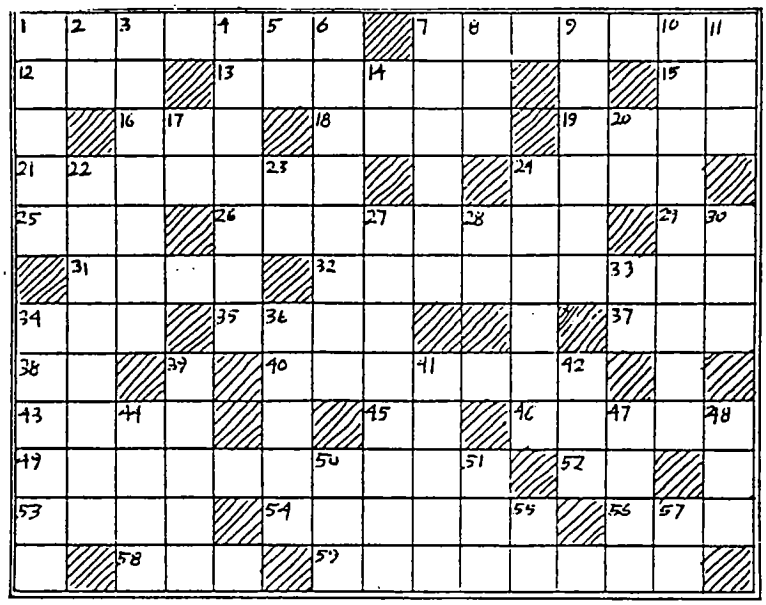
The erythrite occurs as numerous, tiny (less than 1mm), pink spheres composed of radiating crystals. It is associated with a white fibrous amphiboleite, milky quartz, chlorite, and chalcopyrite. The origin of the erythrite is most likely due to the oxidation of cobaltite contained within the Triassic diabase which is mined at the Goose Creek Quarry.

Erythrite has not previously been reported from Loudon County. The only other reported occurrences in Virginia are from the Old Dominion soapstone quarry (Mitchell and Bland, 1964) and the Alberene soapstone quarry (Giannini and Penick, 1983), both located in Albemarle County.

References Cited

Giannini, W. F., and Penick, D. A., 1983, Mineral Update: Virginia Division of Mineral Resources, Virginia Minerals, v.29, n.4, p.48.

Mitchell, R. S., and Bland, R. J., Jr., 1964, The minerals of Albemarle County, Virginia (Part III): Rocks and Minerals, v.39, pp. 127-132.



MINERAL COLLECTOR'S CROSSWORD PUZZLE -DMM

ACROSS:

1 Type of Miner's lamp.
7 Old spelling of element found in pollucite.
12 What collectors hate to see crystals used for.
13 A metal tested for with dimethyl-glyoxime.
15 Vanadium (old symbol).
16 —rite: $Pb(UO_2)_5O_6(OH)_2 \cdot 4H_2O$
18 Waste rock pile.
19 ——site: an osmium sulfide.
21 A contact metamorphic.
24 A very common mineral.
25 A rock class (abb.).
26 Iron-titanium oxide.
29 Pertaining to...
31 A lemonite has this.
32 Plutonic.
34 ——lestite: an arsenate.
35 Is, in Mexico.
37 Millerite formula.
38 A platinum group element.
40 Matrix of "Apache Tears"
43 ——nite: a useful sulfate.
45 Gallium (symbol).
46 Pegmatite portions.
49. A calcium aluminum phospho-silicate.
52 A volatile element (symbol).
53 Given name of a past and favorite micromounter.
54 Mineral that is also used as a flux in the laboratory.
56 ——ahedron: a crystal form.
58 ——ite: a mica-clay group.
59 A beryllium arsenate.

DOWN:

1 Rock cylinders.
2 An inert gas (symbol).
3 Stuff found on crystals after soaking to clean.
4 A calcium borate from Calif.
5 Didymium (symbol), an old "element" (mix of Pr & Nd).
6 A lead chloro-arsenate.
7 A conglomerate "gravel" used as a gold placer mine.
8 High mountain with smoky quartz crystals, usually.
9 Stepped excavations in mines.
10 Chromian garnet.
11. Don't do it to a crystal.
14 --tnohorite: a carbonate.
17 --amite: from Ojuela mine.
20 Productive continent (abb.).
22 Feldsparthic intergrowth.
23 Found in crookesite.
24 ——ite: silver telluride.
27 An arsenical copper sulfate.
28 A platinum group metal.
30 Formula of pyrrhotite.
33 Traces found in sphalerite.
34 ——ite: a manganese arsenic carbonate.
36 Useful to clean boreholes.
39 ——ite: a Bolivian tin ore.
41 ——ppite: similar to perovskite in content.
42 —phorite: micro-phosphate.
44 ——nerite = Heterogenite.
47 ——ocite: a mineral recently featured in MR.
48 ——ellite: a very useful birds'-eye viewer!
50 Useful place for testing.
51 12-A when jumbled.
55 Tin (symbol, backwards).
57 Element found in monazite.

Micromounters of New England
1991 Calendar

Saturday September 7, 1991
Northborough Public Library

Saturday, October 5, 1991
Home of Forrest & Vera Fogg,
Goffstown, NH

Saturday-Sunday, October 26-27, 1991
Rhode Island Mineral Hunters Show
Community College, Warwick, RI

Saturday, November 16, 1991
Auburn Public Library

Sunday, January 12, 1992
Boston University Dept. of Geology

Saturday, February 15, 1992
Auburn Public Library

Saturday, March 14, 1992
Sudbury Public Library

Saturday, April 11, 1992
Northborough Public Library

Saturday, May 9, 1992
4-H Conference Center, Ashland, MA