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.

PRESIDENT

Neil Briggs
RFD #1, Box 94
Brattleboro, VT 05301

VICE-PRESIDENT

Robert Clements
51 Main Street
Brattleboro, VT 05301

SECRETARY

Patricia Barker
P. O. Box 810
Campton, NH 03223

TREASURER

Janet Cares
18 Singletary Lane
Sudbury, MA 01776

EDITOR

Shelley N. Monaghan
12 Conant Drive
Brockton, MA 02401

Dues are $4.00 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.

This bulletin may be quoted if credit is given. --- Club Address is c/o Editor.

→ NEXT MONTH

There will be no meeting of the MMNE for the month of June.

MAY 1988 NEWSLETTER #124

The next meeting of the Micromounters of New England will be our annual Northeast Meeting, on Saturday, May 14th. Remember, this is a pre-registered event, and DEADLINE FOR RESERVATIONS IS MAY 1ST.

PLEASE HELP!

We still need donations for the sales table and give-away areas. You can bring items for the sales area to the meeting, but please have your items pre-priced. With everyone trying to register, set up their equipment, etc., there is little time in all this bustle for those people (especially Edna) to have time to start pricing items the day of the meeting.

If you are bringing in give-aways (and we hope you do!), make sure they are labeled with the species, locality, and name of donor. This helps solve any questions someone might have regarding the material.

ALSO, We need those of you with culinary abilities to bring in baked goods and items which we can serve as part of the light refreshment before and after lunch. Here is your chance to show off those delicacies you've been wanting to bake!

1988 ELECTIONS

Elections were held at the April meeting. Our new slate of officers, scheduled to begin their term of office at the end of the May meeting will be: Robert Clements, President; Margaret Stewart, Vice-President; Patricia Barker, Secretary; Janet Cares, Treasurer; and Shelley Monaghan, Editor and Corresponding Secretary;

Directions to the Conference Center at Ashland

The Conference Center in Ashland is easily accessible from Route 9, the Massachusetts Turnpike, I-495, and Route 128.

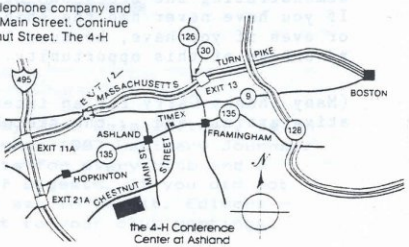
Via Route 9: Follow Route 9 to Route 126 and continue to downtown Framingham. Take Route 135 to Ashland.

Via the Massachusetts Turnpike (eastbound): Take Exit 11A (I-495 South). See Via I-495 below.

Via I-495: Take Exit 21A (Hopkinton) and follow Route 135 into Ashland.

Via Massachusetts Turnpike (westbound): Take Exit 13 (Route 30, Framingham). Follow Route 30 one mile to Route 126 and continue to downtown Framingham. Take Route 135 to Ashland.

In Ashland: From Route 135 at traffic light (telephone company and funeral home on opposite corners), go south on Main Street. Continue about one mile up the hill. Turn right onto Chestnut Street. The 4-H Center is about one mile on the left.



ED. NOTE: The following article comes from the April 1988 issue of the Canadian Micro Mineral Association MICRONEWS.

THE SCANNING ELECTRON MICROSCOPE (SEM)

by Garry Glenn
(Niagara Falls, Ontario)

The power of the scanning electron microscope to resolve images at very high magnifications is well known to us all. What is not so well known is the principle behind the image.

The scanning electron microscope consists of vertical column in which a vacuum is maintained. In the place of light it emits a steady stream of electrons from a filament located at the top of the tube. This beam passes through a series of diaphragms and lenses consisting of electromagnetic coils. By changing the electro-static field of these coils the beam may be aimed and focused in the way that the beam of a television picture tube is directed. The mineral sample (first vapour plated with gold to act as a drain for excess electrons - thuspreventing static build-up) is placed on a movable stage at the bottom of the focusing column.

The focused beam then sweeps back and forth over the sample area (a raster scan as in a television) and the reflected electrons are collected by a detector. A synchronized beam on a small television traces out the same raster scan and the intensity of the detected electrons is translated directly as brightness onto the television screen, thus producing a visual picture.

Various other devices such as polaroid cameras and spectrum analyses may be attached to the microscope in place of the television if their use is required.

The amazing resolution, magnification and depth of field of the SEM is a result of the very tight angle of dispersion of the electron beam relative to that of the light microscope. The human eye can distinguish features down to about 0.1 mm, the light microscope to about 0.0002mm- and the best electron microscopes are revealing dimensions as small as 0.0000001mm (1 angstrom).

Howard Melville of Brock University will be demonstrating the Brock SEM at the spring symposium. If you have never had the chance to see such a machine, or even if you have, be sure to stop by and take advantage of this opportunity.

(Many thanks Garry for an interesting and informative article and....the sketch at the right.)