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.

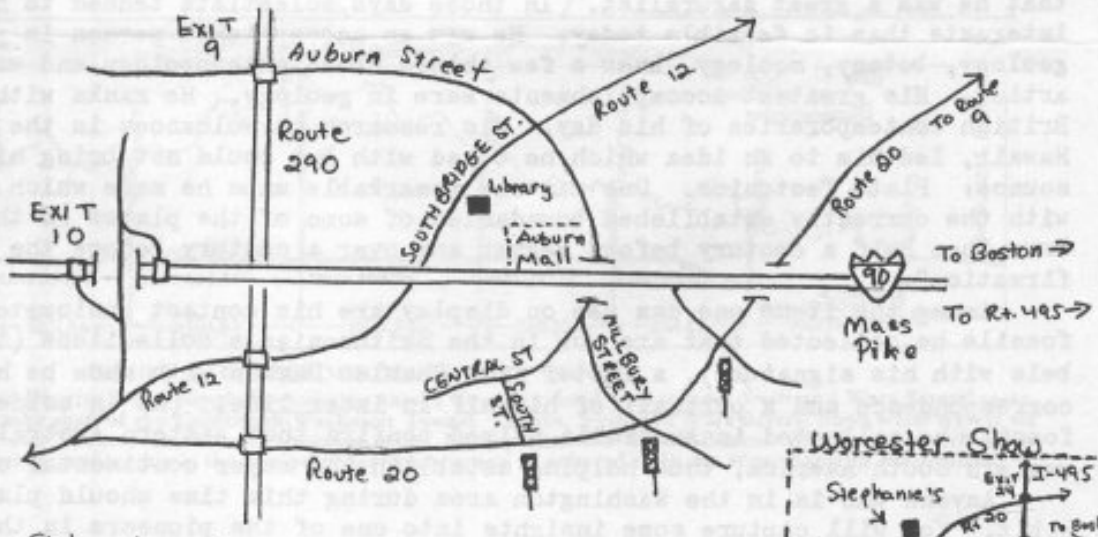
NOVEMBER 1986 NUMBER 110

The next regular meeting of the Micromounters of New England will take place at the Auburn Public Library on Saturday, November 15, 1986 (see map below). This is the same date as the first of two days for the Worcester Club's mineral show which will be held at Stephanie's (formerly the Driftwood Motor Lodge) on Route 9 in Shrewsbury. As the show's hours for Saturday are 10 a.m. to 6 p.m., you might want to take advantage of our meeting's proximity and visit the mineral show. (Admission is $2, senior citizens are $1.)

The club enjoyed two very good meetings last month. Both were very well-attended. A lot of interest was generated at our area at the Federation show. The displays were very good, and there were a few competing micromount exhibits. We had our own displays at our tables, and these were well-received.

As this is the last meeting of our club for 1986(there is no December meeting), it is time to remind all members that dues will be due very shortly. I am sure our treasurer would not object to taking dues at the November meeting; however, I believe that our President,Frank Leighton,wishes to hold a business meeting at this time to discuss whether or not dues should be increased, as part of a general discussion about the treasury.

We have received our copy of this year's insurance policy from the insurance agent. I have it on file, and anyone with questions pertaining to our policy can direct them to me.--Ed.



Club will meet in the Merriam Room

PRESIDENT

Frank Leighton
Templeton Rd. 1
Phillipston, MA 01331

VICE-PRESIDENT

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

SECRETARY

Betty Sevrens
94 Pearl Street
Woburn, MA 01801

TREASURER

Janet Cares
18 Singletary Lane
Sudbury, MA 01776

EDITOR

Shelley N. Monaghan
12 Conant Drive
Brockton, MA 02401

Dues are $3.50 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

There will be no December meeting of the MMNE. The next meeting will be on Sunday, January 11, 1987, at Boston Univ.

MICROTIP -- A METHOD OF CHECKING CRYSTALS ANGLES, By Dana Morong

Occasionally when trying to identify some in-matrix mineral crystal, one wants to measure an interfacial angle but is prevented by the matrix geeting in the way, when one tries the contact goniometer (or perhaps the crystal is in a cavity).

I had this problem with a specimen found in a give-away box (a noted collector was moving). Labelled "TN 2334 - Limonite pseudomorph after pyrite - Warner, NH", I was more interested in the translucent pale yellowish associated crystals forming the matrix; it didn't quite look like calcite (indeed, a bit does nothing in acid), nor other commcn gangue, but I'd seen the crystal forms before (there was more than one habit). I checked the books under barite, and Sinkankas' said that it had an angle of $78\frac{1}{2}^{\circ}$, but how to measure this?

I took paper, a very sharp pencil, protractor and straight-edge, and scribed an angle of $78\frac{1}{2}^{\circ}$ (let the lines cross); next I took sharp scissors and carefully cut the angle out and kept the rest (the $281\frac{1}{2}^{\circ}$), then sized it down (for accuracy, you must cut the angle before sizing down). You could use a paper punch for this, ending up with a "pie" with one slice eaten. Using tweezers, hold this over the crystal you want to check to see if it fits. Mine fit like a glove. If you are careful, it will be accurate to the nearest 2°.

To be sure, I tried some chemical tests. By the hepar reaction test, also by the closed tube test (use charcoal bits and moist blue litmus in its end) I found it contained sulfur. Along with other tests, I found it to be an insoluble sulfate of an alkaline earth, either of barium or of strontium. The morphology (and color) seems to suggest barite (crystal angles are closer, also). It is interesting that barite does occasionally form gangue. Now what I'd like to know is, where in Warner did this come from and from what type of deposit?

****

JAMES D. DANA AT THE SMITHSONIAN

Rare is the collector who does not know of or have in their collection a copy of Dana's System of Mineralogy. Few however, are familiar with the man who originally wrote it. From now until the middle of November an exhibit entitled "Magnificent Voyagers; U.S. Exploring Expedition 1838-1842" is on view at the U.S. Museum of Natural History in Washington D.C. In it one can see items from James Dana's life.

He was the geologist who was part of the group of "scientifics" that accompanied this expedition to the Pacific Ocean and other parts of the globe. At the time he joined the group he was only in his mid twenties, but had already published his first edition of the System of Mineralogy.

From the exhibit one learns many things about the man. Foremost is the fact that he was a great naruralist. In those days scientists tended to have broader interests than is feasible today. He was an accomplished person in paleontology, geology, botany, zoology, knew a few things about anthropology and was a very fine artist. His greatest accomplishments were in geology. He ranks with the great British contemporaries of his day. His research on volcanoes in the Pacific, especially Hawaii, led him to an idea which he toyed with but could not bring himself to pronounce: Plate Tectonics. One can see remarkable maps he made which coincide exactly with the currently established boundaries of some of the plates in the Pacific. This m more than half a century before Wegner and over a century before the theory's "confirmation".

Among the items one can see on display are his contact goniometer, minerals and fossils he collected that are now in the Smithsonian's collections (including the labels with his signature), a letter from Charles Darwin with whom he had a considerable correspondence and a portrait of himself in later life. (As an aside--one of the fossils he collected in Australia halped confirm that eastern Australia one joined western South America, thus helping establish the super continental concept.)

Anyone who is in the Washington area during this time should plan to see the exhibit. You will capture some insights into one of the pioneers in the history of geology and mineralogy. --by Erich Grundel of Arlington, VA from MICRONEWS, 10/86
(Ed.note--the Smithsonian features a catalog on this exhibit, available by mail, $19.95, paper; $39.95, clothbound.)

A SHAFT 10 HISTORICAL NOTE

The information reproduced below was published by the Hercules Powder Company in 1931 in a publication entitled "Rock Tunnel Methods". What is now referred to as the Quabbin Aqueduct was then called the Coldbrook-Wachusett Tunnel. The Quabbin Reservoir was not then in existence, but its outline may be seen in the Swift River drainage area. Note Shaft 10 near the western end of the tunnel. It would be interesting to know if any other shaft dumps have yeilded worthwhile minerals.

GENERAL

Name: Coldbrook-Wachusett Tunnel.

Classification: Municipal water supply; this tunnel will receive water from Swift River and Ware River drainage areas and divert it to Wachusett Reservoir for distribution for City of Boston water supply purposes. These data refer only to Ware River—Wachusett Reservoir section.

Location: Between Ware River and Wachusett Reservoir passing near towns of Coldbrook, Rutland, and Oakdale. See Figure 1.

Owned by: City of Boston; Metropolitan District Water Supply Commission has jurisdiction.

Contractor: J. J. Coughlan & Sons, Dravo Contracting Company of Pittsburgh, and West Construction Company; the latter company now has charge of the work.

Information supplied through: A. C. Dennis, general manager, West Construction Company, of Rutland, Mass.

Method of tunneling: Full heading, and heading and bench.

Method of lining: Lining will be unreinforced concrete with a cross-sectional area equal to a circle 12 ft. 9 in. in diameter. A horseshoe type section will be used in solid ground, and a circular one in heavy ground where rocks have a tendency to slip.

Length: 13 miles; Ware River intake is down a shaft and outlet is up a shaft of lower collar elevation. See Figure 1.

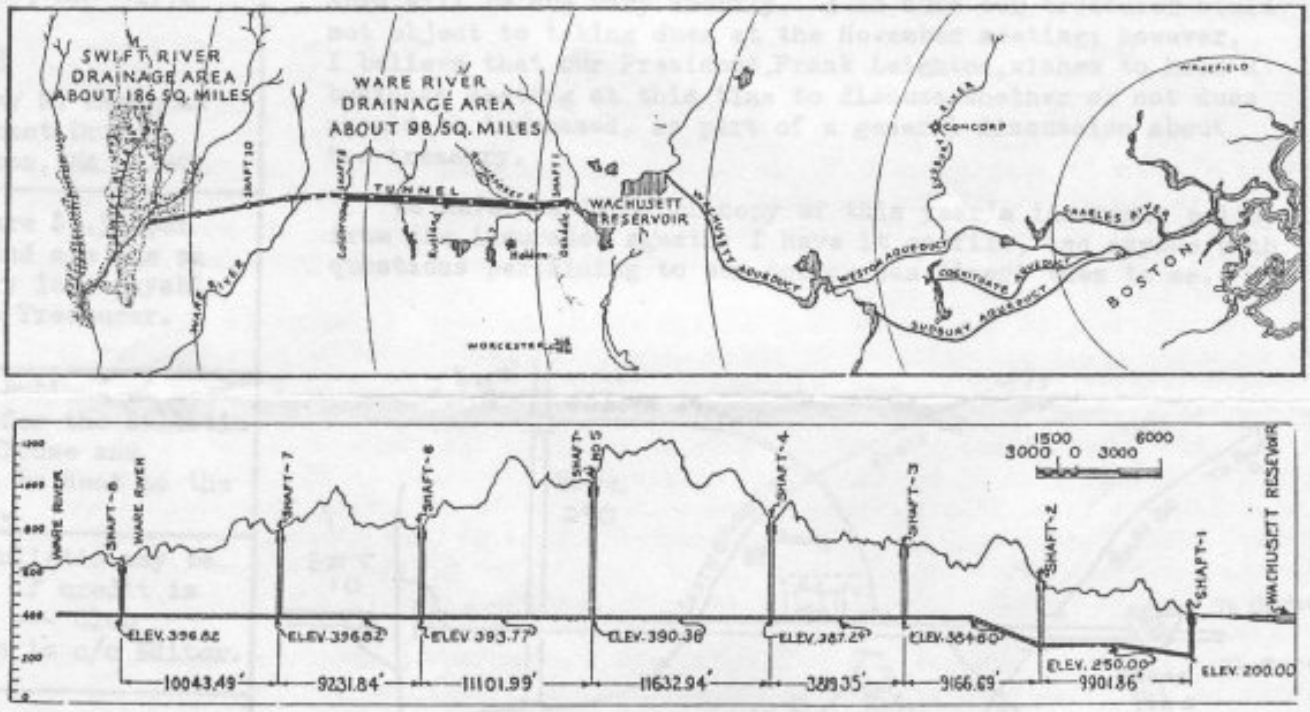


FIGURE 1, COLDBROOK-WACHUSETT TUNNEL

This project of the Metropolitan District Water Supply Commission entails diverting flood waters from Swift and Ware Rivers' reservoirs through a tunnel to the intake shaft of the Coldbrook-Wachusett Tunnel. Thence, Swift and Ware Rivers' flood water travels via tunnel to the Wachusett Reservoir. Thence, they flow by aqueduct to the Metropolitan District of Boston. The lower sketch is the Coldbrook-Wachusett Tunnel in profile; this is the section under construction as referred to in the accompanying information.

SUBMITTED BY JANET CARES