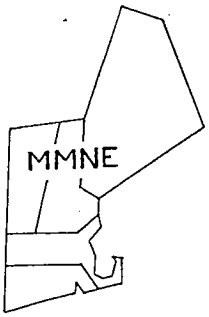

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Dues are $6.00/year and due on January 1st, payable to the treasurer.

News items for the Bulletin are welcome and should be submitted to the Editor.
The Bulletin may quoted if credit is given.
The Club address is c/o Editor

Upcoming Meetings
May 11, 1996 - Ashland, MA 4-H Conference Center

July 13, 1996 - Fielding's camp on Lake Winnesquam

MICROMOUNTERS OF NEW ENGLAND NEWSLETTER

May 1996 #191

The MMNE was organized on November 8, 1966, for the purpose of promoting the study of minerals that require a microscope.

MMNE MEETING ANNOUNCEMENTS

The **MAY** meeting is at the Ashland, MA 4-H Center. Our guest speaker, Dan Behnke, nationally known photomacrographer and micromounter, will be giving two lectures. The morning talk will be on phosphate minerals from several well known localities including the Tip Top Mine (Custer, SD) and the Palermo Mine (North Groton, NH). The second talk, on photomacrography, will begin at about 4pm. Here are a couple of references for your reading prior to the meeting:

Behnke, D. (1991) Photomacrography of Microminerals. *Min Record* 22:471-476 (Nov/Dec).

Leighton, F. (1987) Micromount Photography. *MMNE Program Book*. pp. 3-5.

We can ***still*** use sales items and give-aways for the May meeting. Please bring items to the May meeting with prices on them. Items valued at $5.00 or more will not be reduced to half price after lunch as has been done in the past. These items may be reclaimed by the donor at the end of the meeting if not sold. We can use specimen material, books, photographs and any other mineralogically related items for sale or for the silent auction.

The **JULY** meeting will be held on Saturday, July 13 at the summer home of Herb and Julia Fielding on Lake Winnesquam. A map and directions are included.

An informal meeting will be held on Saturday, **AUGUST** 24 at Sunapee, NH, State Park base lodge in conjunction with the Capitol Mineral Club Show which runs on both Saturday and Sunday..

1996 dates for Mont Saint-Hilaire: May 25 & 26 (Saturday/Sunday), and June 29, July 27, August 24, September 14, and October 12 (all Saturdays).

The next newsletter will be just prior to the September meeting. Keep track of interesting collecting trips, sites, and finds - then write them up and send them to your editor so that all of us can share your experiences. If anyone has any specific topics which they would like to see in the bulletin, please contact your editor.

MEMBERSHIP NEWS

Welcome back to an old member:
Jim Warner, 61 Washington Street,Waltham, MA 02154-3634

Welcome to a new member:
Carl Schroeder, 17 R Endicott Avenue #1, Somerville, MA 02144 (617) 623-5687

The following slate of officers was elected at the March meeting for fiscal year 1996-97.. They will take office at the May meeting:

President: Jim Clark
Vice President: Mike Kieron
Secretary: Pat Barker
Treasurer: Janet Cares
Editor: Mike Swanson.

Please contribute to this newsletter. Anything relavent to micromounting is fair game, including comments about a collecting site, book or journal reviews, testing techniques, etc.

UPCOMING MEETINGS AND SHOWS

North Shore Rock and Mineral Club Micromounters meet the 2nd Wednesday of each month at the home of John and Margaret Stewart, 244 Mill St., Burlington, MA. For more information call John or Margaret at (617) 272-0854.

May 3-5: CMMA 33rd Annual M/M Workshop/Conference. Brock University, St. Catharines, Ontario.

May 3-5: 7th Annual Maine Mineral Symposium. The Senator Inn & Conference Center. Western Ave. & Rte. 95, Augusta, ME. Contact Robert Hinckley, Yarmouth Road, Gray, ME 04039. (207) 657-3732.

June 29-30: Gilsum swap and sale. Gilsum, NH.

August 24-25, Capitol Mineral Club Show, Sunapee, NH State Park base lodge. Includes informal MMNE meeting on Saturday

CLASSIFIED ANNOUNCEMENTS

This space is avaliable to active members of the MMNE at no cost. Contact your editor with any sale items (no minerals), trades, want items, etc. The announcement will run for 2 issues of the Newsletter.

- Jewelry display cases with 1/4" plate glass tops: 72" x 22" x 40" @ $350. 63 1/4" x 22" x 40" @ $325; 56 1/4" x 22" x 40" @ $250 (glass needs replacing). Adjustable 6" legs. Electrical connections. For further information contact Don or Fran Morrison at (401) 726-2931.

The following item appeared in the April issue of the AFMS Newsletter (Excerpted)

AFMS Scores Big!

First Legislation By Rockhounds Now In Congress

Fossil Act [HR 2943]

by George Loud, Chair, AFMS Conservation & Legislation

On February 2, 1996 representatives Tim Johnson (D-SD) and Joe Skeen (R-NM) introduced *The Fossil Preservation Act of 1996* which thereby became bill HR 2943. Introduction of the bill is a historic event in that it represents the first legislation ever drafted by rockhound hobbyists and introduced into the US Congress. Now that the bill has been actually introduced and assigned a number, we are all able, for the first time, to specifically identify the legislation in correspondence with our federal representatives. Letters to your representatives in support of HR 2943 can be addressed simply:

The Honorable
US House of Representatives
Washington, DC 20515

Letters to your senators can be addressed:
The Honorable
US Senate
Washington, DC 20510

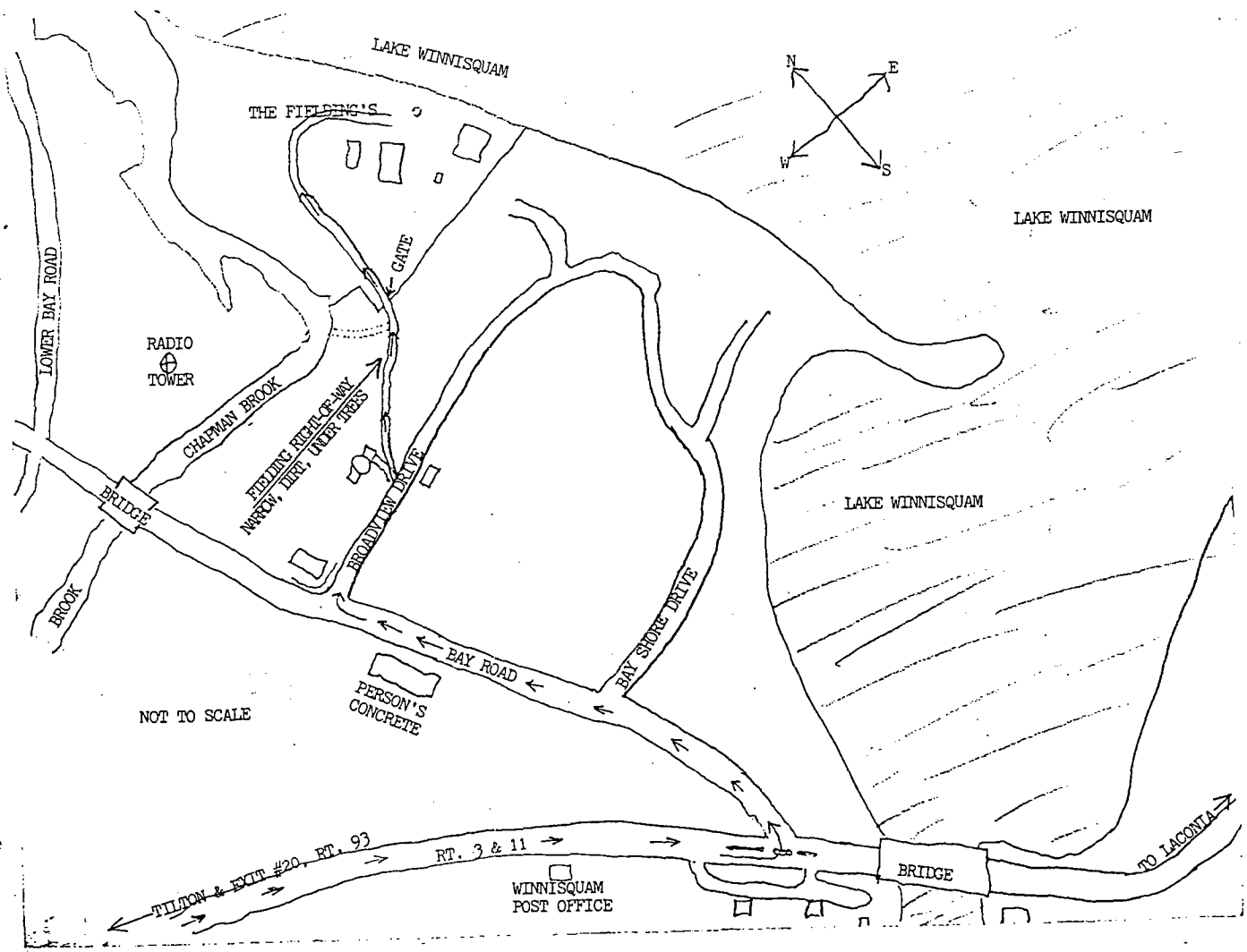
Recently, at the invitation of staff of the House Natural Resources Committee, I had the privilege of visiting Capitol Hill to brief staff members on the merits of the proposed legislation. I learned that the Speaker of the House is very interested in this legislation as he himself is a fossil aficionado.

For whatever reason, the Society of Vertebrate Paleontologists (SVP) with approximately 1,200 members is engaged in an all-out effort to defeat this legislation. The voices of our membership, (AFMS) about 70,000 strong, should be louder. Whether or not we are louder, and therefore ultimately the fate of this bill, will depend on you. Please write.

Editor's Note: A call to Rep. Tim Johnson's office on Tuesday, April 16th revealed that "Hearings have not yet been held on the bill, so there is still time to write, call or fax your representative and/or senator" Fred Schaefermeyer has worked so hard on this, so let's WRITE, CALL OR FAX!!

Directions to Herb and Julia Fielding's Summer Camp, Lake Winnesquam, NH

1. Rte 93 to Exit 20, then Rtes 3 & 11 toward Laconia.
2. Go about 4.8 miles, jusst before the bridge over Lake Winnesquam, and at lights (left arrow) turn left on Bay Road.
3. Go about 0.25 miles and just past Person's Concrete building on the left, turn right onto Broadview Drive, a dirt road.
4. Go about 260 feet and in front of garage of new home on the left, turn left onto a one lane dirt road under the trees. You will see our red arrow with "16" on it at the turning spot. Follow the road through the gate to the Fielding's camp.
5. Lost? Call 524-0936.
6. NOTE: Bring card tables, chairs and extention cords if convenient. Some will be available. Bring bathing suits and footwear for wading and swimming.



WEATHERING OF METALLIFEROUS DEPOSITS

Dr. Wallace D. Kleck
Orange Coast College
May 20, 1985

The weathering of metalliferous deposits produces results which may be of interest to both the mine operator and the mineral collector. Of prime importance to this process is the interaction of pyrite (which is perhaps the most abundant sulfide in metalliferous deposits) with water and oxygen.

pyrite + water + oxygen = sulfuric acid + limonite
(all chemical reactions shown here are simplified)

The pyrite turns to rust and the acid attacks the other minerals and takes some of the metallic elements into solution. Above the water table both the acid and the oxygen from the atmosphere interact with the sulfide minerals. This part (see Figure 1.) of the deposit is called the oxidized zone and has, at the surface a typical rusty-rock appearance (gossan). The "rust" is limonite, which is always present in the oxidized zone.

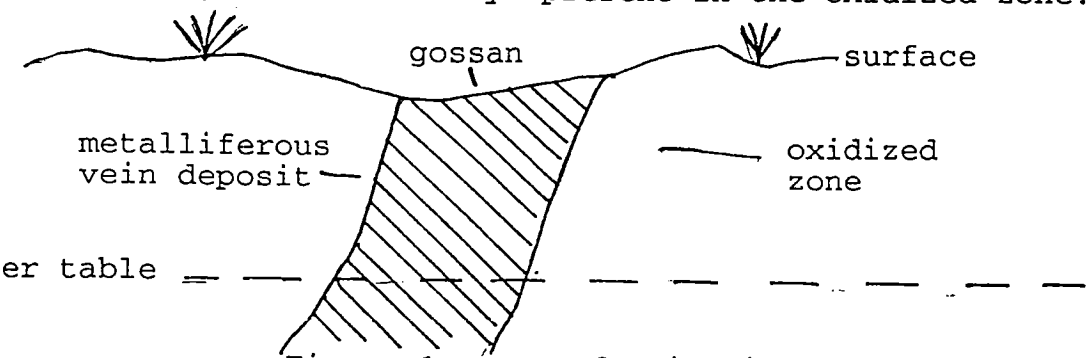


Figure 1. Zone of oxidation

Copper, silver and zinc are usually taken into solution.

Chalcopyrite, argentite, sphalerite + acidic oxidizing solution =
Cu, Ag, Zn in solution

The copper and silver are typically transported to the area near the water table and deposited as the transporting solution is diluted by mixing with ground water. This results in a zone of secondary enrichment which may be enriched by several times in secondary copper and silver minerals (Figure 2.).

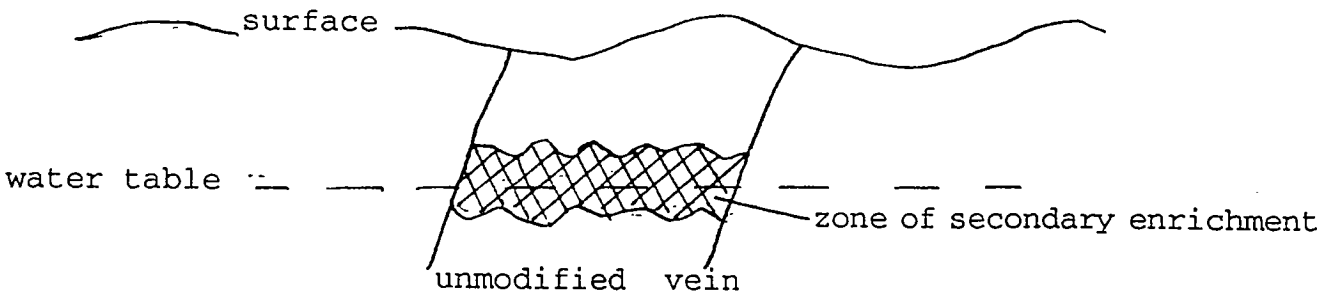


Figure 2. Zone of Enrichment.

The minerals tenorite, cuprite, chalcocite, covellite, native copper, argentite, and native silver are commonly found here. (Note: argentite can be both a primary and secondary mineral.) The zinc typically remains in solution, is transported away from the deposit, and is dispersed. This zone

(The following article appeared in the March 1975 issue of Micronews.)

Liquid Inclusions

by Garry Glenn

Included matter in clear crystals is always interesting, but takes on a special fascination when it occurs in the form of liquid inclusions with movable bubbles. Inclusions of this sort are by no means rare but it is certainly an uncommon find when you are lucky enough to get one in which the gas bubble will float freely. In many samples it is obvious that there is a liquid gas phase but no amount of effort will cause the bubble to move. It may be trapped in a flattened cavity which constricts it, or it may simply be too big to move freely.

I have, over the years, been fortunate enough to obtain several of these specimens, from different localities and in different species. The earliest was a halite from Death Valley, California. It had a squarish cavity and a movable bubble. The specimen also included a minor amount of trapped seaweed material. More recently I have found selenite sections at Walkers Quarry, Thorold, Ontario, which when cleaved occasionally reveal long slender negative crystals. Some of these openings do contain a gas phase but I have not had a lot of luck in obtaining movement. In trimming the cleavage sections to fit micro boxes the gas phase is often lost through the cleavage parting of the crystal.

By far the greatest success that I have had has been with the quartz crystals from Herkimer, NY. With a good handful of these pieces, a microscope, and a few hours of eye-busting effort you should be able to obtain two or three samples showing obvious movement.

A piece of quartz which I found at the Tammanin property, Greenwood, Maine in 1971 showed a peculiar and interesting characteristic. Having discovered the movement I spent some minutes amusing myself, tilting the specimen back and forth under the scope, when suddenly I realized that the bubble had disappeared. I was disappointed, thinking the gas had escaped as sometimes happens through a fissure in the crystal. But the stone seemed flawless (it is the only movable piece I have with no other flaws marring the crystal). On some unexplainable impulse I picked up the crystal, carried it to the refrigerator and placed it in the freezer compartment. After a few minutes I again placed it under the scope and the bubble had returned, this time occupying a very large portion of the cavity. As I watched, the bubble slowly shrank (with the heat from the light) until eventually it blinked out again. This feature is quite repeatable. It seems likely that the cavity may be filled with carbon dioxide or a high concentration of this gas in water, as this would account for the relatively large expansion coefficient in these temperature ranges.

In conclusion I can only say that these phenomena seem more abundant than I would at first have credited and I would encourage all of you to search them out as they form a fascinating addition to any collection.

Micromineralogists of the
National Capital Area

The mineral mite

Volume 29, Number 3 March, 1996

Another Mounting Pedestal - Porcupine Quill.

By Jack Nelson

Although there are many common procedures used in micromounting, we all have our own favorite special techniques and paraphernalia for doing what we all like to do best. Though our goal is to achieve having a specimen mounted in a way that is esthetic and pleasing to look at, there are as many ways to arrive at that end as there are micromounters.

My first introduction to the fascinating "whole other world" we see under our microscopes came while visiting friends in Rockville, Maryland in 1988 who were avid rockhounds and who had several microscopes. After viewing some of their specimens under their scopes, I realized this is what I wanted to do and learn more about. I promptly bought my first microscope for $295.00 from Edmunds Scientific - inexpensive to be sure, but enough to get me started. After a few years of saving specimens (for later study& possible mounting), I joined MNCA and attended most meetings for about two years before attempting my first mountings in 1994. For those first efforts I used plastic hair brush bristles on the usual cork pedestals. Does that sound familiar?

At that stage in early 1994 I had accumulated a lot of interesting material from my gold panning here in Montgomery County. So my first mounts tended to be lovely crystals of garnet, magnetite, rutile, zircon and diopside among others which I mounted on these black brush bristles and even a few cactus needles club members gave me.

About a year and a half ago, I found a patch of porcupine fur from my long-ago fly tying days. While examining a few of the quills under my scope, I noticed they had an extremely fine point -at both ends, surprisingly - white at the attachment end and dark brown at the barbed end. When cut, I noticed they were filled with a spongey substance resembling styrofoam which gave them a good stiffness and body. Sincemost of the micros I wished to mount were about 1 millimeter or less (down to even less than ¼ millimeter) these quills offered an ideal mounting medium. Either the white (attachment) end or the brown (barbed) end can be cut to give just the right diameter flat surface for attaching your specimen. These quills do not take a good black coating from a black magic marker, so I'm still experimenting with ways to dye them black.

To provide a safe and sturdy working platform to position and hold your specimen under your microscope, you can use a common plastic 35 millimeter film cannister. Most have a small concave casting depression at the center of the exterior of the bottom. With the lid firmly in place, place the cannister upside down on a marble-sized chunk of mineral tack centered on the microscope base and in the center of the field of view and press into place. Focus your scope onto the casting depression and you can now place your specimen in the little depression. You may use fine-pointed forceps or a pin or needle to place the specimen so that the area selected for attachment is facing up. Next, having prepared the cork and quill pedestal in advance, place a small droplet of Elmer's glue (or whatever your favorite mounting adhesive is) on a flat piece of glass or

(Continued on page 5)

Another Mounting Pedestal - Porcupine Quill. (continued from front page.)

plastic surface. Take the flat end of the push button of a ball pen (or similar tool) and flatten the drop of glue to make it a very thin layer. Flattening the glue droplet prevents an excessive amount of the glue from being picked up by the pedestal and being drawn along the pedestal sides by capillary action which thereby diminishes the amount of glue left available on the end of the pedestal for contact with the specimen. Dip the quill tip in the flattened glue droplet and then, while looking through your scope at the specimen, touch the fresh glue to the right spot on the specimen and hold in place a moment while blowing very lightly across the working area to hasten setting of the glue. As soon as the glue has partially set, the specimen can be picked up by the quill then quickly remove the cannister from the base with your free hand and set aside. Now, under the scope, the specimen can gently be nudged to the desired position by manipulation of the pedestal and specimen against a fingertip. After a few more seconds of blowing gently the pedestal can be glued into a prepared and lined micromount box. Sometimes it may be desirable to reinforce the glue contact between the specimen and the quill before placing in the box. This can easily be done under the scope with a fine tipped needle or pin dipped in a fresh droplet of glue.

This particular method has worked nicely for me and I recommend it for smaller specimens of a few millimeters or less and especially for the very small ones of ½ millimeter or less. I welcome comments from anyone who reads this and can only hope that everyone who tries this method has half the fun of learning and doing that I have had. By the way, I believe that porcupine quills might be obtained from any fly tying shop or a supplier of fly tying supplies.

Micromineralogists of the
National Capital Area

The mineral mite

Volume 29, Number 4 April, 1996

A Method for Mounting a Small Single Crystal

By Harvey Cantor

This is an attempt to document a method for mounting small single crystals that was taught to me by Len Morgan.

Size the pedestal to the correct height for placement into the micro box. Don't forget to take into consideration the width of the crystal specimen. The pedestal should be a cork base with either a hair brush bristle, toothpick or animal whisker as the crystal support. The easy method for constructing the pedestal is to use remnants of corks previously in excess from previous pedestals as the base. Sand or trim cut surface to make flat (bottom of pedestal). Stick a pin up through bottom of cork and push support through hole.

Place the small crystal specimen in a small container of sugar. The crystal should be oriented with the desired crystal face for observation under the scope facing down in the container. Attach three or four pins to the pedestal in a manner that they support the pedestal weight with the pedestal just touching the crystal.

Using a small amount of glue (that is NOT water soluble) on the pedestal's tip, attach the pedestal to the crystal. Be careful in the choice of placement of the pedestal. Then allow the mount to dry. When the glue has dried, remove any sugar remaining on the specimen by dipping the mount in luke-warm water and the sugar will dissolve off the crystal.