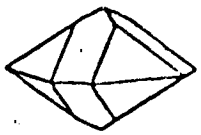
CASSITERITE SnO_2



Stoneham, Me.

MICROMOUNTERS OF NEW ENGLAND

NEWSLETTER #58 AUGUST 20, 1980

The Saco Valley Gem and Mineral Club will host our regular meeting on Saturday, September 13, 1980 as part of their swap at the Lower Bartlett Town Hall in Intervale, New Hampshire.

The Boston Mineral Club will sponsor a trip to St. Hilaire, Francon, and Asbestos over the Labor Day weekend. Anyone wishing to attend should contact Janet Cares in advance.

It is with sorrow that we note the recent passing of Dr. C. Wroe Wolfe and Mrs. Grace Dearborn.

A number of copies of the new "Glossary" have been ordered from the Mineralogical Record at a group cost of $5.20 each. If you are interested in obtaining a copy contact Janet Cares.

CALL FOR AUTHORS:

Each issue of this Bulletin hopefully will have some information to us micromounters, without just copying some other articles that have appeared in many other places. I have usually had articles to include in the past but my supply is limited. Please, if you have something to convey to the rest of us - send it to me. We have a small but very active and interested group and should be able to put together an informative Bulletin.

John Anderson

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RHODE ISLAND ANATASE LOCATION

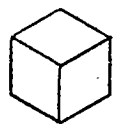
#58

On the recommendation of our bulletin editor, the anatase location in Cumberland, Rhode Island, was visited on 24 May, 1980. The trip was very worthwhile and is recommended to those who have not collected at this location.

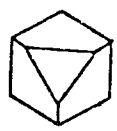
The site is located on RI route 122 just south of I-295. A Burger Chef restaurant is located on the left of Rt. 122 south a few hundred yards from I-295. The site is exactly across the highway from this restaurant. The site is not marked with no-trespassing signs. There is ample parking space just off the highway.

Looking north from he parking area, an outcrop of brownish-colored rock rising about 40 feet above the highway level may be seen. This is a quartzite formation striking 30° magnetic with a dip of about 60°. Intruding this formation are two quartz veins, probably of hydrothermal origin, which are readily visible from the west side of the formation. The mineralization of interest is at the contact zone between the quartz vein and the quartzite. The brownish quartizite is titanium-rich, while the quartz vein is titanium free.

Minerals found include crystalline quartz in vugs, anatase in quartz and in quartzite, a white alteration product of ilmenite known as leucoxene, goethite, and a mineral of cubic habit not yet identified. Typical crystals are shown in the inset. They range from o.5 to 2mm on an edge, are weakly magnetic, are not striated, contain no titanium, and have a specific gravity of 3.7. They are not soluble in aqua rigia, hence are not hematitie pseudomorph of some cubic mineral.



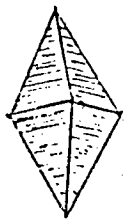
The anatase is in the form of perfect dark blue bipyramide similar to those of Alpine origin. The largest crystal found on this trip was 1.3mm long with a pyramid base edge of 0.6 mm. The crystals are typically deeply striated parallel to the pyramid bases. Some crystals in quartz vugs were observed to be heavily etched, as was the accompanying crystalline quartz, suggestive of flourine-containing solutions. This etching appeared with some frequency, but was highly localized.



The specimens from this site clean up very well in the dithionite-citrate solution process described in the March/April 1980 Mineralogical Record. The anatase crystals are generally small and may easily be overlooked. A high-power lens or a 20X pocket microscope is of value at this location. The quartz crystals in vugs are well formed, transparent, and terminated.

ANATASE (TiO_2)

submitted by Larry Pitman



Cumberland, RI

SABINAITE: A NEW MINERAL FROM THE FRANCON QUARRY (By J. W. Cares)

Formula: $Na_9Zr_{4+x}Ti_2O_9(CO_3)_8$ where x=0.25 (Alternate formula possible)
Crystal System: Monoclinic
Optical Data: $\alpha = 1.74$, $\beta = 1.80$, $\gamma = 1.85$. Biaxial negative, $2V = 85^\circ$
Hardness: Not determined
Specific Gravity: 3.35 (measured), 3.41 (Calculated)
Cleavage: Perfect basal; good normal to base.
Solubility: Insoluble cold, soluble with effervescence in warm 1:1 HCl.

The mineral previously referred to as unknown number 5 has been approved by the IMA as sabinaite, in honor of Ann P. Sabina (Stenson) of the Geological Survey of Canada, who has done much work on the minerals of Francon, and is also well-known as the author of a number of guides to collecting in Canada.

It occurs in the upper level of the quarry, apparently found mainly in one area of the east wall (Sabina, 1979). It is usually present as fine-grained, white, powdery coatings on calcite, dawsonite, and quartz lining cavities; or as compact, chalky aggregates in small amygdule-like pockets. The compact aggregates have vitreous luster, but individual flakes may be aligned to impart a silky luster to thin coatings. Sabinaite may also coat weloganite and cryolite, and is commonly with unknown number 3. Pyrite, galena, pink barite, plates of ilmenorutile, and yellowish ankerite and siderite have been noted as inclusions. It is not fluorescent.

Microscopically it is colorless, transparent, and flaky, in roughly hexagonal plates with maximum dimensions of 0.01 x 0.001 mm (undiscernible with the usual micromounter's binocular microscope).

Jambor, J.L., B.D. Sturman, & G.C. Weatherly, "Sabinaite, a New Anhydrous Zirconium-bearing Carbonate Mineral from Montreal Island, Quebec", Can. Mineral., 18: 25-29, 1980.

Sabina, A.P., "Minerals of the Francon Quarry (Montreal Island): A Progress Report", Geol. Surv. Can. Pap. 79-1A, 115-120, 1979.

#56

TABLE I

The Minerals of Mont St. Hilaire

ARSENIDES
- Loellingite

CARBONATES
- Ancylite
- Ankerite
- Aragonite
- Bastnaesite
- Burbankite
- Calcite
- Cordylite
- Dawsonite
- Dolomite
- Donnayite
- Ewaldite
- Hydrotalcite
- Malachite
- Mckelveyite
- Parisite
- Rhodochrosite
- Siderite
- Strontianite
- Synchysite

HALIDES
- Fluorite
- Villiaumite

MOLYBDATES
- Wulfenites

OXIDES
- Anatase
- Behoite
- Birnessite
- Brookite
- Gibbsite
- Goethite
- Hematite
- Ilmenite
- Magnetite
- Nordstrandite
- Pyrochlore
- Pyrolusite
- Pyrophanite
- Rutile

PHOSPHATES
- Apatite
- Britholite
- Rhabdophane (Ningyoite)

SILICATES
- Acmite (Aegirine)
- Actinolite
- Albite
- Almandine
- Analcime
- Andradite
- Antigorite
- Apophyllite
- Arfvedsonite
- Ashcroftine
- Astrophyllite
- Augite
- Barylite
- Biotite
- Cancrinite
- Carletonite
- Catapleiite
- Chabazite
- Chlorite
- Clinochlore
- Datolite
- Delhavelite
- Diopside
- Ekanite
- Elpidite
- Epididymite
- Eudialyte (Eucolite)
- Gaidonnayite
- Genthelvite
- Gmelinite
- Gotzenite
- Grossularite
- Grunerite
- Hackmanite
- Harmotome
- Hedenbergite
- Helvite
- Hilairite
- Hiortdahlite
- Hornblende
- Hydrogrossular (Hibschite)
- Joaquinite
- Kainosite
- Kaolinite
- Labuntsovite
- Lavenite
- Leifite
- Leucophanite
- Leucosphenite
- Lorenzenite (Ramsayite)
- Microcline
- Minnesotaite
- Mn-Neptunite
- Monteregianite
- Mosandrite (Rinkite)
- Murmanite
- Muscovite
- Narasarsukite
- Natrolite
- Nenadkevichite
- Nepheline
- Neptunite
- Orthoclase
- Palygorskite (Yofortierite)
- Pectolite
- Phillipsite
- Phlogopite
- Polylithionite
- Quartz
- Raite
- Rhodesite
- Richterite
- Riebeckite
- Sepiolite (Meerschaum)
- Serandite
- Serpentine
- Sodalite
- Spessartine
- Steenstrupine
- Stillwellite
- Swinefordite
- Taeniolite
- Talc
- Thaumasite
- Thompsonite
- Thorite
- Titanite (Sphene)
- Tobermorite
- Tundrite
- Vesuvianite (Idocrase)
- Vinogradovite
- Willemite
- Wohlerite
- Wollastonite
- Zircon

SULFATES
- Anglesite
- Barite
- Gypsum
- Melanterite

SULFIDES
- Arsenopyrite
- Chalcopyrite
- Galena
- Marcasite
- Molybdenite
- Pyrite
- Pyrrhotite
- Sphalerite
- Wurtzite

TUNGSTATES
- Scheelite

OTHERS
- Numbered UK's

UNCONFIRMED POSSIBILITIES
- Aenigmatite
- Batisite
- Belovite
- Bertrandite
- Beryllite
- Chkalovite
- Guarinite
- Johnstrupite
- Karnasurtite
- Komarovite
- Labuntsovite
- Lamprophyllite
- Lepidomelane
- Loparite
- Mananodonite
- Naujakasite
- Niobophyllite
- Rontgenite
- Rosenbuschite
- Schizolite
- Schorlomite
- Seidozerite
- Semenovite
- Serdozerite
- Shcherbakovite
- Siderophyllite
- Spodiophyllite
- Ussingite
- Zircophyllite
- Zirfesite

The list of minerals from Mont St. Hilaire now stands at more than 150; and each year articles appear in *The Canadian Mineralogist* and *The Mineralogical Record* announcing new finds. No one knows what the final number will be, but as it now stands, the list is spectacular just by its very size. (Compiled from material listed in the Bibliography.)

This table is taken from the June 1980 issue of the Lapidary Journal. The author is Sande H. Zirlin of Hagaman, New York 12086.