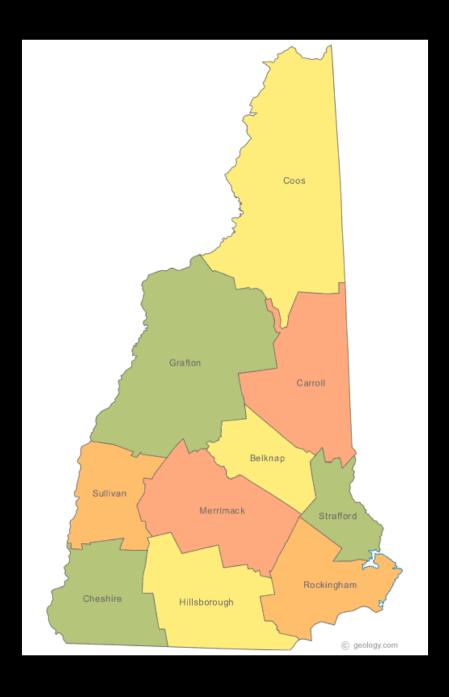
# **New Hampshire Type Locality Minerals by Joe Mulvey**

In response to the January-February 2012 edition of Rocks and Minerals with a super article on the namesake of the type minerals of Arizona, we gather here a listing of the type minerals of New Hampshire with details on the namesake of minerals. While Arizona's type minerals are a bit gaudy with bright colors due to high metal content, New Hampshire's type species are more often than not only identifiable under a microscope. As always, I await your corrections, observations, laughter and ridicule.

Locality Breakdown		Naming Convention	
Palermo #1, N. Groton, NH	11	For a mineralogist	11
Fletcher Mine, Groton, Grafton Co	1	For a Location	2
Melvin Mountain, Grafton, Grafton County	1	For an Attribute of the Mineral	1
G.E. Smith Mine, Newport, Sullivan County	1		

## **List of Type Minerals**

- 1. Bjarebyite
- 2. Falsterite
- 3. Foggite
- 4. Goedkenite
- 5. Graftonite
- 6. Hurlbutite
- 7. Jahnsite
- 8. Palermoite
- 9. Samuelsonite
- 10.Schoonerite
- 11.Whitlockite
- 12. Whittemoreite
- 13. Wolfeite
- 14.Xanthoxenite



Palermo No. 1 Mine (Palermo #1 pegmatite), Groton, Grafton Co., New Hampshire, USA Named in honor Alfred Gunnar Bjareby (1899-1967), Swedish-American student of New England pegmatite minerals. Bjareby was a well known member of the Boston Mineral Club and wrote a series of articles for Rocks & Minerals magazine.

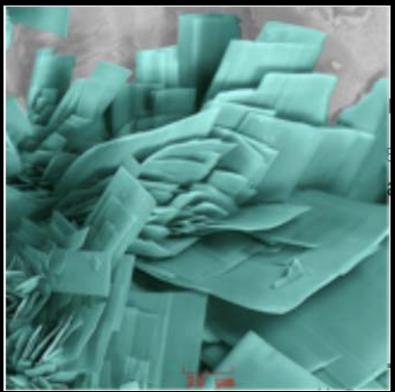


Bjarebyite © 2012 Tom Mortimer MindatNH.org



Alfred Gunnar Bjareby © www.minrec.org

**Falsterite**  $Ca_2MgMn^{2+}2Fe^{2+}_2Fe^{3+}2ZI_{14}(P0_4)s(OH)_4(H_20)_{14}$  Palermo No. 1 Mine (Palermo #1 pegmatite), Groton, Grafton Co., New Hampshire, USA Alexander Falster is a Research Technologist at the Department of Earth and Environmental Sciences, University of New Orleans.



Falsterite Palermo No.1 pegmatite, North Groton, Grafton County, New Hampshire



Alexander Falster © http://pegmatology.uno.edu

CaAl(PO<sub>4</sub>)(OH)<sub>2</sub>·H<sub>2</sub>O **Foggite** 

Palermo No. 1 Mine (Palermo #1 pegmatite), Groton, Grafton Co., New Hampshire, USA Named in honour of former MMNE member Forrest F. Fogg), mineral collector of Penacook, New Hampshire, USA, who provided the first material.



Foggite Well formed ball of rectangular foggite xls with balls of carbonate fluorapatite JBS specimen and photo.

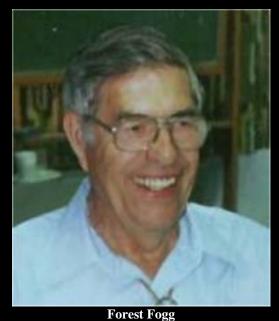
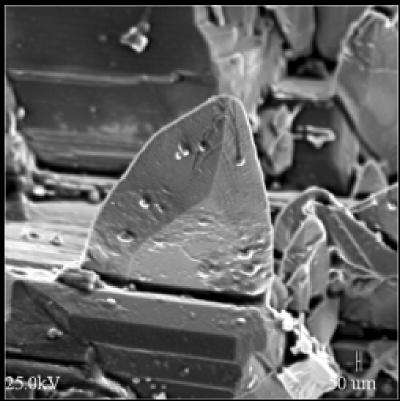


Photo taken at the MMNE Annual Meeting 4-H Center, Ashland, Massachusetts May 11, 1991, © 2012 Roy Kristiansen courtesy of John Ebner jr.

Goedkenite  $(Sr,Ca)_2Al(PO_4)_2(OH)$ 

Palermo No. 1 Mine (Palermo #1 pegmatite), Groton, Grafton Co., New Hampshire, USA Named in honor of Dr. Virgil L. Goedken of the University of Chicago Department of Chemistry.



Goedkenite SEM © 2012 Jim Nizamof



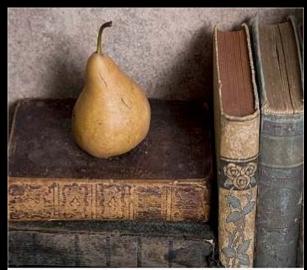
No picture available of Virgil Goedken. This is the Chemistry Library at the University of Chicago. © 2012 http://www.istl.org/05-fall/article1.html

**Graftonite**  $(Fe^{2+}Mn^{2+},Ca)_3(PO_4)_2$ 

Melvin Mountain, Grafton, Grafton Co., New Hampshire, USA Named by Samuel L. Penfield in 1900 the type locality on Melvin Mountain, Grafton, Grafton County, New Hampshire, USA.



Light brown graftonite bands intergrown with darker triphylite which has been altered to ferrisicklerite and/or heterosite. Specimen is approximately 10 cm long. On display at Harvard Mineralogical Museum. Penfield may be best recognized as the author of "Manual of Determinative Mineralogy. with an Introduction on Blowpipe Analysis".



Manual of determinative mineralogy. With an introduction on blowpipe analysis. By Samuel L. Penfield

G. E. Smith Quarry (Chandler Mills Quarry), Newport, Sullivan Co., New Hampshire, USA Named in honour of Prof. Cornelius Searle Hurlbut, Jr. (1906–2005), American mineralogist, Harvard University, Cambridge, Massachusetts, USA.



**Hurlbutite © 2006 Peter Cristofono** 



Dr. Cornelius Hurlbut, Jr.

Jahnsite (CaMnFe) CaMn<sup>2+</sup>Fe<sup>2+</sup><sub>2</sub>Fe<sup>3+</sup><sub>2</sub>(PO<sub>4</sub>)<sub>4</sub>(OH)<sub>2</sub> • 8 H<sub>2</sub>O Fletcher Mine, Groton, Grafton Co., New Hampshire, USA Named for Richard H. Jahns (1915-1983), mineralogist and pegmatite expert, Stanford University, Palo Alto, California, USA



Jahnsite © 2012 Jim Nizamoff.



Richard H. Jahns © 2012 edmedley.com

Palermoite SrLi₂Al₄(PO₄)₄(OH)₄
Palermo No. 1 Mine (Palermo #1 pegmatite), Groton, Grafton Co., New Hampshire, USA
Named for its occurrence at the Palermo #1 Mine, North Groton, New Hampshire, USA.



Palermoite © 2012 Jim Nizamoff



Palermo #1 Mine © 2012 Joe Mulvev

Samuelsonite  $(Ca,Ba)Ca_8Fe^{2+}_2Mn^{2+}_2Al_2[(OH)_2|(PO_4)_{10}]$  Palermo No. 1 Mine (Palermo #1 pegmatite), Groton, Grafton Co., New Hampshire, USA Named after Peter B. Samuelson, prospector of Rumney, USA

As stated on page 167 of The Pegmatite Mines Known as Palermo by Whitmore & Lawrence, "Samuelsonsite was found ... in an alteration of massive augelite with cavities of childrenite, foggite, hydroxylapatite and whitlockite." Much childrenite is visible on this specimen. The backside of this samuelsonite crystal is covered with clusters of foggite, (or perhaps type 4 goyazite).



Above A superb specimen and a fantastic photo! 2.5 mm clear prismatic samuelsonite crystal with mitridatite-coated childrenite. Field collected by Clayton Ford.

A gift from Gordon Jackson. Ex. Vince Valade specimen. © 2012 Tom Mortimer, MindatNH.org



Right: Peter Samuelson © 2012 mindat.org

Schoonerite  $ZnMn^{2+}Fe^{2+}_{2}Fe^{3+}(PO_{4})_{3}(OH)_{2}\cdot 9H_{2}O$  Palermo No. 1 Mine (Palermo #1 pegmatite), Groton, Grafton Co., New Hampshire, USA Named after Richard Schooner (1925-2007), mineral collector of Woodstock, Connecticut. Richard schooner worked as curate of minerals at Harvard University and his collection was on display at Wesleyan University. His proudest moment came when a former "student" of his, Professor Paul Moore of the University of Chicago, proposed and was later approved by The American Mineralogy Association, that a new mineral first found in Palermo #1 Mine in North Groton, New Hampshire and later found in Hagenenof, Germany, be named "Schoonerite" in his honor.



Schoonerite © 2012 Tom Mortimer MindatNH.org

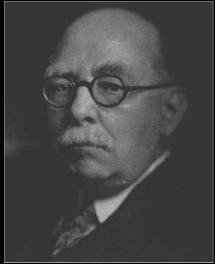


Richard Schooner © 2012 Raymond Meyers

# Whitlockite Ca<sub>9</sub>Mg[PO<sub>3</sub>OH][PO<sub>4</sub>]<sub>6</sub> Palermo No. 1 Mine (Palermo #1 pegmatite), Groton, Grafton Co., New Hampshire, USA Named after Herbert Percy Whitlock (1868-1948), Curator of Minerals, American Museum of Natural History, New York (USA).

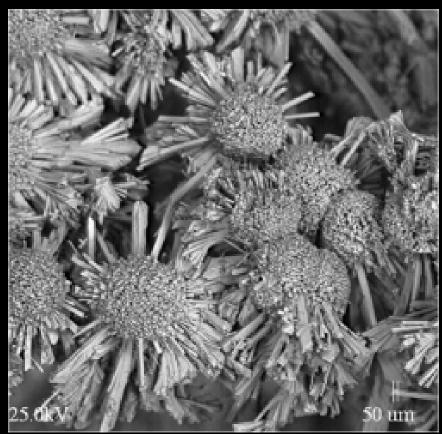


Whitlockite © 2012 MindatNH.org



Herbert Percy Whitlock © minoscam.org

Whitmoreite  $Fe^{2+}Fe^{3+}_{2}(PO_{4})_{2}(OH)_{2} \cdot 4 H_{2}O$  Palermo No. 1 Mine (Palermo #1 pegmatite), Groton, Grafton Co., New Hampshire, USA Named after Robert Whitmore (b. 1936), mineral collector of Weare, New Hampshire (USA).



Whitmoreite SEM © 2012 Jim Nizamof

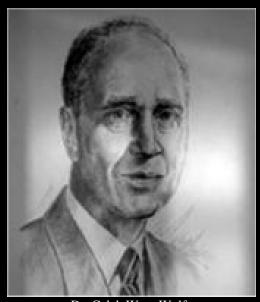


Bob Whitmore © 2012 Joe Mulvev

**Wolfeite**Fe<sup>2+</sup><sub>2</sub>(PO<sub>4</sub>)(OH)
Palermo No. 1 Mine (Palermo #1 pegmatite), Groton, Grafton Co., New Hampshire, USA
Named after Dr. Caleb Wroe Wolfe (1908-1980), American crystallographer and Professor of Geology,
Boston University, Boston, Massachusetts, USA. Wroewolfeite was also named for Dr. Wolfe.



Wolfeite © 2012 MindatNH.org



Dr. Caleb Wroe Wolfe

**Xanthoxenite**Ca<sub>4</sub>Fe<sup>3+</sup><sub>2</sub>[OH|(PO<sub>4</sub>)<sub>2</sub>]<sub>2</sub>· 3H<sub>2</sub>O

Co-type locality: Palermo No. 1 Mine (Palermo #1 pegmatite), Groton, Grafton Co., New Hampshire, USA, and Hühnerkobel Mt., Rabenstein, Zwiesel, Bavarian Forest, Lower Bavaria, Bavaria, Germany From Greek "xanthos", yellow, plus "oxenite", alluding to its resemblance to cacoxenite.



Xanthoxenite © 2012 Tom Mortimer MindatNH.org 6 mm fov, yellow-brown, waxy, amorphous, Xanthoxenite in center

### **Acknowledgements**

Nearly all of this research was done using the internet. Special thanks to MMNE member Ray Meyers for sharing hard copy photos of Richard Schooner, a rather reclusive former club member. Tom Mortimer's MindatNH was a particularly valuable resource.

### References

Nizamoff, James; 2007 Micromounters of New England Symposium

Presentation

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