

THE CAPITAL ROCKHOUNDER



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P.O. Box 12814, Albany, New York 12212-2814

January 2008

Next Meeting

The next meeting of the Capital District Mineral Club will be on January 3rd. We will be watching a video presentation called - The Rock Cycle. - "understanding the processes and products of an ever changing earth.; rocks evolve and transform from one type to another in a never ending cycle."

Review of Banquet/Auction

Our last meeting was held at the Rexford Firehouse and was a banquet. There was food for all, a gift exchange, and an auction led by our own Mark Kilmer. Fun was had by all. The members auctioned off 300 dollars worth of items and specimens donated to the club totalled 108 dollars.

Nominating Committee

Due to the efficiency of the auction, the normal business meeting did not happen. Therefore, the Nominating Committee did not announce the slate of candidates for the election. Hence we decided to announce it here. Nomination for President: Anne Woods, Vice-President: Dick Wright; Treasurer: Robert Stitham; Secretary: Helen Eckler. Floor nominations will be accepted at the January meeting prior to the vote.

Dues Are Due

If you forgot to renew your newsletter, then you didn't get one this month.

Upcoming Mineral Shows

January 23-27--Quartzsite, AZ: 42nd annual show, "QIA Pow Wow"; Quartzsite Improvement Association; 235 E. Ironwood Dr.; Wed. 9-5, Thu. 9-5, Fri. 9-5, Sat. 9-5, Sun. 9-5; free admission; more than 400 vendors, Contact Diane Abbott, P.O. Box 881, Quartzsite, AZ 85346-0881, (928) 927-6325; e-mail: powwow@qiaaz.org; Web site: www.qiaaz.org.

February 2-16--Tucson, AZ: Annual show, "Arizona Mineral & Fossil Show"; Martin Zinn Expositions; Quality Inn, 1025 E. Benson Hwy.; Ramada Ltd, 665

N. Freeway; The InnSuites Hotel, 475 N. Granada; The Mineral & Fossil Marketplace, 1333 N. Oracle Rd.; 10-6 daily, 10-5 last day; free admission; more than 400 dealers from all over the world; free shuttle to other Zinn shows; contact Regina Aumente, P.O. Box 665, Bernalillo, NM 87004, (505) 867-0425; e-mail: mz0955@aol.com; Web site: www.mzexpos.com.

February 23-24--Albany, NY: 15th annual show, "James Campbell Memorial Gem, Mineral & Fossil Show and Sale"; New York State Academy of Mineralogy, Capital District Mineral Club; New York State Museum, 4th floor, Empire State Plaza, Madison Ave.; Sat. 10-5, Sun. 10-5; admission \$6; contact Mike Hawkins, (518) 486-2011; e-mail: mhawkins@mail.nysed.gov.

Osbornite, Mineral from Wild Comet

By Don Kauffman

Last year NASA's Project STARDUST became the first ever space probe to return cometary particles to Earth for analysis. Results of preliminary findings have already turned foregone beliefs into myths.

Initial study of first samples appears to indicate comets were not formed out of cold and inert material such as ice and interstellar dust particles. Instead new information suggests mixed material of inner solar origins somehow reached the outer limits of our solar system and coagulated there almost 4.5 billion years ago. Then it was returned to our system by a taxiing comet. This theory revision was greatly aided by an other than worldly mineral found on earth, osbornite.

Osbornite is a non-radioactive mineral that may accompany two other minerals formed at very high temperatures, olivine and pyroxene. Exo-geologists are not quite certain as to how this material forms but regardless belief is that this mineral may be key to unlocking mysteries of interstellar origins

According to a spokesman from Livermore National

Laboratory, osbornite was found with meteorite debris only in Russia.² This claim is disputed by another source indicating the type locality occurrence in remote India. George Osborn sent pieces of the Bustee meteorite from India to London and eventually the new mineral was named after him.

Osbornite was recognized as a valid mineral species by the IMA in 1959 when it was "grand fathered" due to the fact that it was actually discovered and described 111 years earlier.³ This mineral falls into a class category of metallic/pre-metallic mineral mixes occupied by carbides, nitrides, phosphides and silicides. Included in the Osbornite-Sinoinite Series of compounds is quite a list of other associate minerals of extra-terrestrial origin. Osbornite is a rarity on Earth because it is not a native component of terrestrial rocks. Essentially only stony meteorites contain this compound.⁴ At least seven other earth-bound minerals arrived by meteorites.

Troilite, first noted by Italian Domenico Troili, was found at a meteorite fall in Albarete, Italy in 1766. Cohenite was noted in the Magura iron meteorite find in Sianica, Slovak Republic in 1844 followed by schreibersite at the same locality in 1847. The year 1862 brought recognition of oldhamite in Pradesh, India where the Bustee meteorite was discovered followed by osbornite in 1870 at the same location. A meteorite found in 1891 lead to discovery of Type Locality nierite within the Indarch meteorite of the Murtar Republic, Azerbaijan. Sinoinite was discovered in a grouping of meteoritic minerals in 1964. Carlsbergite was found in the Cape York iron meteorite Saviksoak, Greenland in 1971. So we may note that osbornite is not an unusual visitor from outer space but the first mineral actually captured and carried to earth by our research spacecraft.⁵

Should you discover a meteorite how do you know if osbornite is present? Keep in mind that any material would be very oxidized by its journey through our atmosphere. Look for material as a bronze to golden yellow color but don't expect to find massive amounts. Osbornite may be difficult to identify due to its opaque granular crystalline habit. Usually only use of a microscope can sort out this mineral from other associates and may appear as an inclusion of other materials.

Osbornite has a hardness of 7 to 8.5 depending upon your reference and is of above average density for similar metallic minerals with a specific gravity of 5.3 to 5.4.⁶ Both factors offer survivability of this rarity in making the journey to earth by meteoritic taxi.

Hundreds of scientists are just beginning to unlock secrets of materials and minerals returned to earth by Project STARDUST and Comet Wild. Discovery of osbornite and excitement generated by that mineral presence offers a challenge to be bested by continuing analysis of other project extraterrestrial particle treasures

1 Chang, Alicia "Study: samples of comet dust show a mix" AP story, San Francisco www.smconnect.com 12/14/06

2 Stark, Anne M. "Comet particles tell a new story about the birth of the solar system" Livermore national laboratory News Release December 14, 2005, www.llnl.gov 12/17/06

3 www.mindat.org 12/17/06

4 The mineral osbornite, www.galleries.com Minerals Galleries 12/17/06

5 *ibid.* www.mindat.org 12/17/06

6 *ibid.* www.galleries.com 12/17/06

Meckley Quarry, Past Prime?

By Don Kauffman

Recently our Central Pennsylvania club enjoyed our wonderful annual picnic. The picnic was followed by a fieldtrip into Meckley's Quarry just a few miles up the road.

We had best weather possible, considering that without the cloud cover, the quarry would have been like a Chinese wok. Unfortunately weather had no influence on quality or quantity of minerals collected that afternoon.

There was no indication of mineral-filled seams, layers or vugs that once made Meckley's an exciting place to dig, glean or hammer rock. Celestine, Strontianite, Fluorite, Dolomite, Selenite, Sphalerite and Siderite all appeared to be absent en masse.

Several of our most experienced collectors spent very little time at the site. A few didn't even bother to show up for micros. Those who expended time and labor digging in exploratory pockets failed to produce any mineralization of value.

My finds after two hours of gleaning dump piles along the south face failed to produce but one small piece of fibrous celestine and a fist-sized piece of dark limestone with clear dog-tooth celestine crystals lining a small vug.

To salvage the afternoon with some kind of saleable

materials for shows, I settled for some limestone layers injected with white and pink calcite-dolomite crystallization.

During our drive back to Reading, I felt an unusual emptiness. An empty feeling does not usually complete a fieldtrip into Meckley's Quarry.

Several days after our picnic, I sat quietly grazing through the Kerry Matt book, "Pennsylvania's Rainbow Under Ground." After reading of the author's collecting experiences through many years I reminisced about our experiences at Meckley's.

First trip in was Berks Mineralogical Society in fall of 1994. There were subsequent trips, either club sanctioned or Open House events offered by the quarry owners through 2006. In past years we must have collected Meckley's more than a dozen times with Berks, Central PA Rock and Mineral, Meckley's September open house and special club fieldtrips made available as a post picnic event.

Naturally, first trip into any location, even with seasoned veteran collectors, is usually a frenzy of collecting everything of interest in sight. Return trips with previous experience and a little research later paid off with some nice selections.

The sum total of all finds at Meckley's may have peaked in 1998. It was the September company Open House that produced a huge celestine crystal find for a collector from Bergen County New Jersey.

The same trip, "thumbs" of deep purple fluorite in calcite was showing up. Layered pockets of limestone with exquisite druzy calcite pleased the hundreds of collectors who attended the Open House that day. There appeared to be howls of delight from collectors at every corner of the quarry.

I can personally remember working furrows of soil and rubble dredged up by Meckley's backhoe equipment. For better than an hour and a half (probably more) I pulled small, light to dark icy blue thumbnail crystals out of a dirt mound. Linda managed to collect some excellent massive boulders with celestine crystals poking out of Tonoloway calcite pockets.

A year or so later in September 2000, ROCK & GEM magazine ran an extensive article about "Pennsylvania's Icy Blue Celestine." Written by a Pittsburgh area lady who collected at Meckley's that day, the national mineralogical spotlight was certainly on that remote

Northumberland County quarry.

Two years ago one club member unearthed a vein of fibrous blue celestine in the quarry floor. Found on the edge of the very noticeable landmark anticline-syncline by the lower end of the ramp some excitement was generated. Hopes were raised more major offerings would soon follow.

The same fieldtrip produced some interesting micro-mineralization for another of our members. His beautiful and interesting micros can be seen on the Mindat database gallery.

Since about 2000 there has been a gradual but noticeable decline of material coming out of Meckley's. The eastern side of huge complex appeared to indicate a future of diminishing returns. With the exceptions of 2006, little material has regenerated the old excitement.

Face it, geologically and materially Meckley's has aged. Whether we like to admit it or not, quarries age like everything else. And they are much older than you or me.

Unless there is a fresh shot that produces an unexpected vein of material from the east side of the quarry, all signs point to not much of interest.

Normally, I would hesitate to write a location off as dead or "sterile". Usually I am upbeat and a true believer saying, "No site, no matter how much it has been worked, is ever sterile."

This time I may be the first to make printed comment and quoted, "Meckley's Quarry has given the best it can give." If there is anything of interest, it may take months or years to find it with the present quarry environment.

For better than twenty-five years Meckley's pleased collectors from many individuals and groups, states and countries. Now it may be time to let the formation rest.

With a little bit of Hope we may say, "Thanks for the memories". Time has come to say. "Adieu, Meckley."

Article by Don Kauffman, member from Reading PA.

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Collecting Tentaculites in July 2007.



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All submissions to the newsletter must be in my hand before the 18th of any given month, or they will be used in the next subsequent newsletter.

The purpose of our club is:

- To promote and encourage the study of mineralogy and other applied sciences.
- To cooperate with educational and scientific institutions in order to bring about a better and more general understanding of earth sciences.
- To provide a program with suitable speakers for scheduled meetings.
- To sponsor, direct, and assist in the planning of excursions to mineral localities and other places of geological interest.
- To cooperate with organizations whose purposes are similar to those stated in the foregoing items.

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