Wayne County Gem and Mineral Club News

August, 2017

Always Looking for Places to Dig!

Ontario 2017 and a special day in the field (see page 3)

http://www.wcgmc.org/

FACEBOOK link

Haley Quarry, Douglas, Ontario Favosites or Foerstephyllum? (pg. 5)

Annual WCGMC Picnic
Saturday August 5th 10:00 AM til ??

Club Workshop/Weiler Home
6676 E. Port Bay Road, Wolcott

Link to map on club webpage

Club will provide:
chicken, salt potatoes, and drinks
Members should bring:
a dish to pass, lawn chairs

Bring your rocks as the workshop will be open. There will be prizes for all, barrel rides and games.

There will be a metal detector demonstration involving multiple types of detectors led by Ed Smith. Bring your detector if you want to compare your tool's capabilities with others.

The club picnic is one of the year's highlight events. You do not want to miss it.

If you did not sign up for the picnic at our June meeting or since, then please send your name and a head count to Eva Jane Weiler at (gwexterior@gmail.com).

See page 7 for a full list of upcoming activities

Upcoming Field Trip
Sunday August 6th: Green's Landing, Canandaigua, NY

For the third consecutive year we will visit this site with the Rochester Academy of Science Fossil Group. This is a great opportunity to collect a diverse set of Middle Devonian Hamilton Group fossils. Multiple species of brachiopods and corals (both rugous and tabulate are abundant), gastropods and bivalves are reasonably common, and you have a chance of finding that elusive full trilobite. At the same time you can make new fossil collecting friends with members of the RAS.

We will meet at 9:00 AM at the Deep Run Beach Parking Lot (4280 E. Lake Rd., ~ 3 miles south of Route 20 on east side of Canandaigua Lake). We may need to carpool to the site which is less than a quarter of a mile away, but which has limited parking. We will walk 1000-1200' upstream to the outcrop of the Jaycox Member of the Ludlowville Formation where excellent exposure is afforded in the creek bed. Be prepared to get your feet wet. Bring drinking water.

NOTE: Our entire walk up Green's Landing is on private property and the owner has graciously allowed us access one day each year. It is absolutely forbidden to enter his property at any other time.

Mineral Musings

Unakite

by Fred Haynes

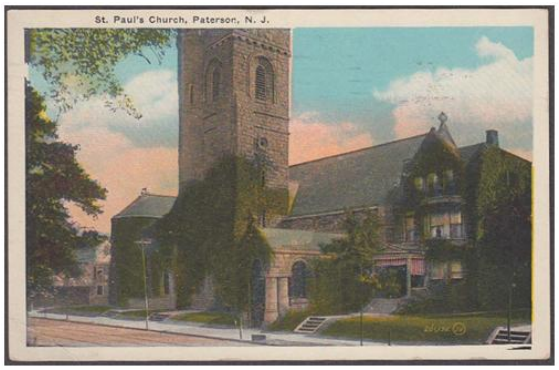
In late June, our St. Lawrence County field trip took us to the Valentine Mine in Harrisvlle where the quarry/mine operators, Gouverneur Talc Co., graciously permitted us our annual visit. Naturally all were drawn to the bright blue calcite and the brilliantly white wollastonite (the site's economic resource), but there is another interesting rock to be collected there. Bright orange and green unakite can also be found.

Unakite is actually a metamorphic rock. It is metamorphosed granite where plagioclase feldspars have been altered to pistachio green epidote by the intrusion of calcium and iron bearing hydrothermal fluids. This occurred after the primary Adirondack metamorphic event during the uplift of the region that brought the rocks to the surface.

UNAKITE: On the left is a pile of unakite at the quarry location. On the right are four pieces I rescued from the site. They currently reside in my yard patiently awaiting lapidary disposition. They are inherently patient fellows.

The pink or orange color is potassium feldspar (orthoclase) which was present in the granite, but has been re-crystallized into larger and probably more colorful patches. There is locally also a small amount of clear quartz,, but it is the combination of the orange/pink orthoclase and the green epidote that brings unakite its appeal as a lapidary stone.

Unakite (pronounced *you-na-kite*) is not unique to the Adirondacks. In fact, it owes its name to an occurrence in the Unaka Mountains, north of Asheville, NC near the Tennessee border. The region is now part of the Cherokee National Forest where the colorful stone can be found today. The Pompton Pink Granite of north central New Jersey is also unakite, the coarseness and color of which led to it being prized as a building stone. The south entrance to the Smithsonian Natural Museum in Washington D.C. was constructed using unakite from the Pompton Pink Granite as well as many New York and New Jersey early 19th century buildings.



A 1927 postcard of St. Paul's Episcopal Church in Paterson, N.J. The building, completed in 1895, is made solely of unakite, specifically Pompton Pink Granite from the Riverdale Quarry.

Epidote and potassium feldspar both have a hardness of 6 on the Moh's scale. Given a similar hardness, the two primary minerals in unakite polish evenly. Although not as hard as quartz in all its wonderful forms, the wondrous color and the friendly properties have won unakite a favorable position as a lapidary stone. Abundant and inexpensive, it is also a popular material for a rock tumbler and for cabbing. I'm sure you can find some on Glenn's rock pile during the picnic if you would like to give this stone a try: maybe a sphere like the one in the title box or perhaps a cabochon like one of these?

References:

Geology.com, Unakite: The Pink and Pistachio-green granitic gem material

Voikert, R., 2007, The History of the Pompton Pink Granite, New Jersey Geological Information Circular

ONTARIO 2017: CALCITE VEIN-DIKES

by Fred Haynes

The annual test of aging bones and muscles that we call the WCGMC quest for really old Ontario rocks is over: five days for several, eight days for four of us who continued on to Cobalt. I am happy to report that all of us survived, and we have the pictures, stones, bruises, and mosquito bites to prove we were there. The whirlwind trip included collecting beryl and rose quartz in two pegmatites, a day in Eganville for apatite and biotite, a quarry stop for fossils (see page 5), Princess Mine for sodalite, Schickler Mine for fluorite, Desmont Mine for mosquitoes, and Essonville Line roadcut for fluoro-richterite. Four of us carried on to Cobalt, grabbing some garnets along the way and finding one very nice silver-laced boulder at a mine dump in Cobalt.

You will see pictures and specimens from all these stops on Facebook, in future newsletters and at club events, but the highlight of the trip had to be the day we spent with Canadian collector George Thompson on his mineral claims off Gibson Road in Tory Hill. We all thank him for sharing his calcite vein-dikes with us and allowing us to carry home memories of a fine day in the field. Oh, we took home some minerals also. And thus this note focuses on George's property and the fifth day of our adventure.

Friday – July 21st: The day started like all others. The alarm clock rang at 6:30; we stumbled for coffee and breakfast and woke up while driving. At location, we piled out of the vehicles, strapped on our boots, collected up the requisite tools, and applied a few ounces of Deep Woods Off, while discussing what percentage of DEET we prefer. Mine was 25%. Then, on this fateful day, we struggled to follow George Thompson (whom we had met in Tory Hill), as he blazed a trail (well, sort of a trail) through the underbrush and over the small ridge to a multitude of pits and trenches on his claim.

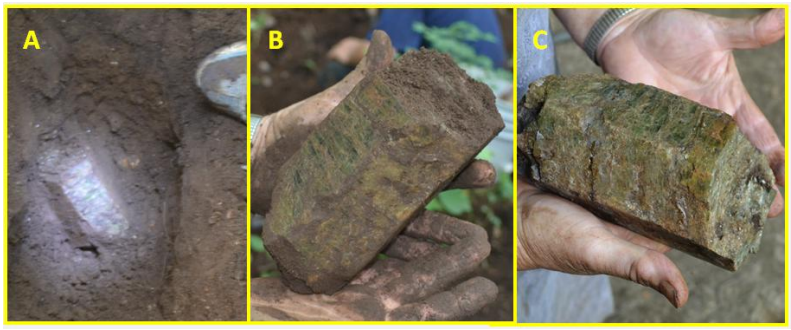
George showed us each of his trenches as proudly as one introduces folks to their kids. He showed us a 10' deep natural trench lined with huge feldspars and amphiboles. A couple of us even dared to venture in (not me). Getting in was not difficult, getting out was, well, not so easy.

George Thompson, 10 feet down in a naturally opened calcite vein-dike. I handed him my camera. The picture on the right is the wall next to his right shoulder. The feldspar crystal is the size of a baseball. Can you just imagine what is resting in the bottom of this trench!

Most of the trenches/pits run parallel to each other. Some extend for tens of meters. It is likely that their direction records the dominant stress direction at the time of emplacement of the vein material. But as George explores his claims, he is learning that there is a second direction of mineralized veins, the dominant one that most of the digging has been done on and a second narrower system that intersects the main veins at an acute angle. He theorizes that some of the more exotic and perhaps interesting mineralogy may occur at these intersections. More digging will help him figure some of that out. We obliged and dug all day, ostensibly contributing to his assessment of the property!

Actually, the veins themselves are not any different from features that occur throughout the Grenville Geological Province of the Bancroft, Ontario region (Joyce, 2006). We had collected in similar features near Eganville and at the Schickler Mine earlier on the trip. The linear mineralized features have been called "calcite vein-dikes" because their origin remains unclear. Are they typical calcite vein deposits from hydrothermal fluids or are they some sort of carbonate-rich melt that would be better classified as having an igneous origin, almost a sort of carbonate pegmatite? For the time being we will leave that discussion for others to ponder. We went to collect them!

Calcite vein-dikes: On the left George describes the mineralogy and collecting techniques for a calcite vein-dike. On the right the collecting begins. Eva Jane is busy extracting her prize apatite.



Eva Jane's apatite: A. Still in the bottom of the hole, lit by a flashlight. B. Out, but dirty, both the crystal and the collector. C. All cleaned up and ready for display, both crystal and collector.

Given their mineralogical variation across the province it seems likely that whatever the origin they did leach elements from their host rock, itself a potpourri of rocks including marbles, gneisses of variable composition and granitic rocks. This variation in host rock likely influenced the variety of minerals encountered. In addition to calcite, the dominant minerals in George's vein-dikes are feldspar and amphiboles. But sprinkled between the large crystals are many apatites, an occasional titanite, and probably some other goodies.

Amphiboles are darn near impossible to identify from each other in the field, but given that Joyce (2006) reported Bear Lake amphiboles with similar habit to be fluoro-katophorite, I may label mine accordingly until proven otherwise. Most of the amphiboles encountered were somewhat or completely etched, although Glenn dug into an area where there were lustrous and terminated crystals.

Amphiboles: On the left, Figure 7 from Joyce (2006): lustrous fluoro-katophorite from Bear Lake diggings. On the right: My little amphibole from George's claims. Note the small red apatites in the lower left.

For those with an inquisitive mind, fluoro-katophorite is a sodium-calcium amphibole:

$$Na(CaNa)(Mg_4Fe^{3+})(AlSi_7O_{22})F_2$$

The Bear Lake Diggings is the type locality for the species.

Our host for the day, George Thompson, works to extract a particularly attractive feldspar/ amphibole pair.

References:

Adamowicz, M., 2013, Searching for crystals in the Calcite Trenches at Bear Lake Diggings, Ontario, Mindat article – LINK

Joyce, D. K., 2006, Calcite Vein-Dikes of the Grenville Geologic Province, Ontario, Canada, Rocks and Minerals, v. 81, p. 34-42.

SITE OF THE MONTH: HALEY QUARRY, DOUGLAS, ONTARIO

By Fred Haynes

Generally, when WCGMC packs up the buckets, hammers, passports and bug repellent to head north of the border we are after minerals in the Precambrian rocks of the Grenville Geological Province. But recently we have been able to make an annual stop in younger rocks to collect fossils in Ordovician limestones in the Eganville area of eastern Ontario. Specifically we visit the Haley Quarry in Douglas, Ontario and search the Upper Ordovician Verulam and Lindsey Formations of the Ottawa Group. We did so again this year on Wednesday July 19th.

Collecting at Haley Quarry can be quite relaxing: no bugs, close to the car, the same stones that contain the fossils also provide comfortable seating.

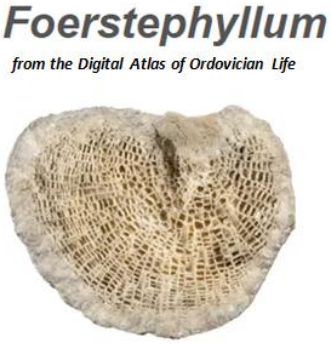
Haley quarry provides landscape blocks and construction stone to the greater Eganville and Renfrew area. But we seek other treasures. The prize we seek are large cephalopods and *Isotelus* trilobites. Neither is particularly abundant, but we have found both (see next page). There are also aesthetically challenged basketball-sized sponges hidden amongst and within the blocks of rock awaiting landscape use. And worms, yes worms.

But that is not all. The rocks in the upper section of the quarry are riddled with tabulate coral ranging in size from baseballs to colonies the size of watermelon. Some of the individual corallites contain recrystallized calcite, but many are hollow. Whether viewing the colony from the top or the side the morphology makes for an appealing piece. Even when broken (or perhaps best when broken) the thousands upon thousands of individual chambers are displayed. A variable amount of iron staining only enhances the appearance.

Above: My five favorite tabulate corals displaying the variable corallite morphology.
Below: The rest of the hundreds collected will be used in grab bags and kids' rock kits. We likely have enough for a few years!

The tabulate corals from Haley Quarry certainly resemble the *Favosites* corals of the Devonian of New York. However, they predate the massive Ordovician-Silurian extinction event that eliminated over 60% of all invertebrate species and was particularly hard on corals (Paselk, 1998), so I sought confirmation.

Unfortunately I have not yet found any reference identifying the genus of the Ottawa Group corals, but I did find three references to similar appearing Ordovician tabulate corals, each assigned to the genus *Foerstephyllum*. Paselk (1998) depicts a specimen remarkably similar to the Haley Quarry specimens and the Digital Atlas of Ordovican Life describes the species from sites in Kentucky and Ohio (see below). Cameron et. al. (1972) list *Foerstephyllum halle* as part of the faunal assemblage in the Upper Devonian Trenton Group of New York. Maybe someone reading this can provide an assist? And maybe we should seek a location to collect in the Trenton Group in New York?



Two literature records depciting Upper Ordovician *Foerstephyllu* coral. On the left, a specimen from Kentucky and published in the Digital Atlas of Ordovician Life.. On the right, from an unknown location on display at the Humboldt State University Natural History Museum.

So, should we label our corals Foerstephyllum or Favosites? Or just stick with honeycomb coral!

Cephalopods were large in the Ordovician. Mine on the right is not as large the pair on the back of Glenn's truck from this 2015 visit to Haley Quarry, but it looks just fine in my fossil collection.

Apparently, the worms and the sponges were also large in the Ordovician. The worm burrows on the left are called trace fossils because they do not preserve the animal itself, but just evidence of its activity. The over-sized basketball sponge on the right is the real thing!

References:

Cameron, B., Mangion, S., and Titus, R., 1972, Sedimentary Environments and Biostratigraphy of the Transgressive Early Trentonian Sea in Central and Northwestern New York, NYSGA Guidebook, H1-H39

Paselk, R., 1998, Life Through Time Exhibit: Ordovician, Humboldt State University Natural History Museum webpage

The Digital Atlas of Ordovician Life

Some scenes from the June thee day trip to St. Lawrence County.

Blue shirt, blue helmet, blue calcite: Teresa wanted this one at the Valentine Mine. But when she carried it to my Honda Accord, it did not fit into the trunk. She is, however, showing proper technique: lifting with her knees!

Hunting for tourmalines at Powers Farm in Pierrepont.

Wayne County Gem and Mineral Club Upcoming Schedule - last update July 30, 2017

When the calendar turns to August, we know it is picnic time. And also that the summer is winding down. It is time to plan our fall schedule. You will notice some plans below that lack dates. It is our intention to discuss this at the picnic and hopefully assign dates, leaders and itineraries at that time. We hope we'll see all of you at the picnic, but do not worry if you cannot attend. We will get this schedule updated online as quickly as possible. **Items listed in bold are firm**. And, of course you can e-mail or call any of us listed on page 8 for additional information..

August 5 – CLUB PICNIC (*at Weiler's in Wolcott, workshop will be open, see page 1 for details)*

August 6 (Sunday) - Green's Landing fossil site (with RAS) - *Leader – Stephen Mayer (585-943-5058)*
As in past years, this is a joint trip with the Rochester Academy of Science Fossil Group. We will meet at the Deep Run Beach Parking Lot at 9:00 AM. The site is nearby and we may carpool there as parking is limited adjacent to Green's Landing. Site is approximately 1000' upstream and we will walk the creek. Expect your feet to get wet. Expect to find the full suite of Middle Devonian Fossils.

August 12-17: A few of us are joining the Niagara Peninsula Geological Society on their trip to Sudbury and Cobalt, Ontario locations. Trip is still open to anyone interested. (WCGMC Leader – Fred Haynes)

August xx – There is room in August for another one-day/local trip. Who wants to go where? Who can lead?

August 26-27 - St. Lawrence County Show (Field Trip Opportunities to Powers and Bush Farm)

September 8 (Friday evening): Our first fall meeting in Newark (7:00-9:00 PM)

September 9 (Saturday workshop) -- 10:00 AM til mid-afternoon. Time to cut and polish summer finds.

September xx – Pending interest: another long weekend in September in St. Lawrence County (Benson Mines maybe?, Jayville?, in addition to Rose Road and other favorites). Come to the picnic prepared to tell us if you are interested and we'll pick a weekend and plan another collecting trip.

October 13 (Friday evening) – Monthly Meeting in Newark - October workshop not yet scheduled.

October xx – We have not been to Penn-Dixie in 2017. Maybe a weekday trip? (Monday or Tuesday?)

October xx (Sat. – Sun.) – Walworth Quarry has yet to schedule its annual Open House.

October 21 (Saturday) - Ace of Diamonds for Herkimers, a final trip before they close for the season

November 10 (Friday evening) – Monthly Meeting in Newark - November workshop not yet scheduled.

November 11-19 – We are looking for interest in a 9 day trip to Arkansas and other southern locations. Arkansas for quartz, maybe wavellite, NC for pegmatites and more, perhaps for geodes? Logistics and sites will be determined by those who have interest. *Talk to Linda or Fred*.

We continue to try to plan a day trip to Seneca Stone Quarry and will also work in a trip to Deep Run in the fall.. If you know of a site you would like to visit or would like us to schedule a second visit contact any of us. **WCGMC is always looking for a place to dig.**

UPCOMING SHOW OPPORTUNITIES

August 25-27 – **St. Lawrence County Rock & Mineral Club Annual Show**, Canton Pavilion (90 Lincoln St.), Visit http://stlawrencecountymineralclub.org/show_1.html for details

September 16-17 – **Mid-Hudson Valley Gem and Mineral Society Annual Show** – Gold's Gym and Family Sports Center – 258 Titusville Rd., Poughkeepsie, NY Show Theme is GARNET
Visit http://mhvgms.org/ for details including map

October 28-29 – **Rochester Gem, Mineral, Jewelry, and Fossil Show and Sale** (Rochester Lapidary Society), NEW LOCATION: Total Sports Experience, 435 West Commercial Street, East Rochester, NY
Visit http://www.rochesterlapidary.org/show/index.htm for details

Visit our Facebook page for many more photos of our trip to Canada: Just use this link!

Wayne County Gem & Mineral Contacts

ELECTED OFFICERS

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Bill Lesniak – Treasurer/Webmaster Dirtman300@aol.com 315-483-8061

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Linda Schmidtgall lees@tds.net 315-365-2448
Gary Thomas gfthomas956@gmail.com 585-489-2162
Fred Haynes fredmhaynes55@gmail.com 585-203-1733

Visit us on Facebook:
https://www.facebook.com/groups/1675855046010058/

APPOINTED POSITIONS

Bill Chapman – Field Trip Chair batnpill@empacc.net 607-868-4649
Fred Haynes – Newsletter Editor fredmhaynes55@gmail.com 585-203-1733
Bill Lesniak – Website Coordinator
Glenn Weiler – Workshop Coordinator
Linda Schmidtgall – Collection Curator
Eric Elias: GEMFEST Show Chair thecrystalnetwork@hotmail.com
Fred Haynes – Facebook Administrator

Club meets 2nd Friday of each month starting in Sept.
Social meeting at 6:30 PM.
Regular meeting at 7:00 PM
Park Presbyterian Church, Maple Court, Newark, NY
Website – http://www.wcgmc.org/

Dues are only $15 individual or $20 family for a full season of fun. Renewal is in October. Send to:
WCGMC, P. O. Box 4, Newark, NY 14513