



The Rockblast

The Kitchener-Waterloo Gem and Mineral Club Newsletter

November 2008

President's Message



What a glorious fall! The colours are beautiful and we have had warm, sunny weather to enjoy the Thanksgiving turkey. Hopefully, some of you are taking advantage of this to continue collecting specimens. The last club field trip for 2008 will be a return to the Flamborough quarry on November 15th. Meet at the gates at 8 AM. We need the early start because we must be out of the quarry by noon. Members have had good luck at this site collecting honey-coloured fluorite crystals. Please confirm your interest with field trip leader **Ray Lehoux** (519-822-8523).

Our next meeting will feature Jim Reimer, a geologist currently working in Calgary, and a former member of our club. His talk will be on his favourite mineral, Dolomite. For more details, see Page 2 of this newsletter. We are hosting Jim for supper at Angie's Kitchen, 47 Erb St, Waterloo (just a block from our meeting place, near the Waterloo Square plaza). You are invited to meet Jim over supper. Come and share a meal and stimulating conversation, Friday, November 7th at 5:30 PM.

It's time to start assembling specimens for the club live auction in December. If you have items to donate, please bring them to the November meeting. You will get 70% of the auction proceeds and the club keeps 30%. Oh - and this year, the pizza will be on time!

Finally, a reminder of the Annual Gem and Mineral Show at the University of Waterloo Earth Sciences museum on October 25 and 26. It is one of the best shows in the area, with lots of kids' activities, and a chance to enjoy the many beautiful specimens in the university's collection.

Looking forward to seeing you at one of these events.

--Gary Partlow

A Brief Tour through the World of Hydrothermal Dolomite: Fabulous Mineral Specimens Shrouded in Scientific Controversy



IYPE Canada Public Outreach Lecture to be presented to the KW Gem & Mineral Club

November 07, 2008

Jim Reimer M.Sc., P.Geol.

Summary

Hydrothermal dolomite (HTD) mineral specimens have captured the imagination and desire of rockhounds for many decades. As collectors, we have enjoyed these specimens for their unparalleled variety of mineral combinations and crystal habits. Classic collecting localities include the Tri-State District and the Ohio Valley of the United States, southwestern Ontario and upstate New York, Pine Point and Nanisivik in western Canada, plus numerous international sites such as western Australia, Spain and Ireland. Minerals from these deposits share several unique attributes including (i) large individual crystals, (ii) distorted crystals, (iii) a highly variable mineral assemblage, and (iv) numerous fluid inclusions, commonly hydrocarbons. HTD minerals and textures have been studied because of their frequent economic value as ore deposits for lead, zinc and fluorspar. But despite extensive research, their specific mechanisms of formation remain highly controversial. Recent theories incorporate several new and exotic ideas. Amateur collectors continue to contribute to our knowledge base and stand to benefit from it by focusing their collecting efforts in areas where the dolomites are most likely to occur.

Brief Biography of Author

Jim Reimer is a professional geologist and an avid mineral collector. He graduated from the University of Waterloo with an Honors B.Sc. in geology (1978) and a Master's degree in Geology (1980). For the past 28 years, Jim has worked as an exploration geologist in the upstream oil and gas industry. One of his special interests concerns the occurrence and origin of hydrothermal dolomite (HTD) reservoirs. Jim is currently Executive Vice-President of Result Energy, a junior oil and gas company headquartered in Calgary. In 2007, he was named a Science 'Alumnus of Honor' by the University of Waterloo.

Upcoming Meetings

All meetings start at 7:00 PM for trading specimens at the Waterloo Community Arts Centre, 25 Regina St. South, Waterloo. Typical schedule:

7:00 - 7:30 PM: trading and socializing

7:30 - 7:45 PM: a “mini-talk” about some aspect of the hobby

7:45 - 8:00 PM: announcements

8:00 - 8:15 PM: monthly raffle

8:15 - 9:00 PM: featured talk

Friday, November 7 2008: Jim Reimer will speak on "A Brief Tour through the World of Hydrothermal Dolomite: Fabulous Mineral Specimens Shrouded in Scientific Controversy". **Bo Renneckendorf** will give a mini-talk about mass extinctions.

Friday, December 5 2008: The Fourth Annual Club Live Auction! Plus pizza, pop, and holiday goodies.

Upcoming Events

On **October 25-26 2008** the University of Waterloo Earth Sciences Department hosts the Annual Gem and Mineral Show, University of Waterloo Earth Sciences Museum, Waterloo, Ontario. Sat. 10-5, Sun. 10-5. This year's theme is “International Year of Planet Earth”. Carvings, minerals, gemstones, rocks, fossils, lapidary, jewellery, etc. Sunday afternoon lectures and activities for kids. Website: <http://www.openhouse.uwaterloo.ca> . For more information contact Peter Russell at (519) 888-4567, extension 32469.

On **November 14-16 2008**, the 49th Montreal Gem & Mineral Club Annual Show takes place, Fri. 4 PM-10PM, Sat. 10 AM-7PM, Sun. 10 AM-5PM. Hippodrome de Montréal / Blue Bonnets. Admission: Adults \$7, Seniors \$6, Students \$5, under 12 free with adult. More than 80 dealers offering: precious gems, minerals, fossils, carvings, tools, books, beads and beading supplies, jewellery and jewellery supplies. Website: <http://www.montrealgemmineralclub.ca/pages/AnnualShow.html>

On **November 15 2008**, our club will have a field trip to the Dufferin Aggregates Quarry in Flamborough from 8:00 AM to Noon. The trip is led by Ray Lehoux, (519) 822-8523; confirm date and attendance with him. The quarry is at 685 Brock Road (just north of Highway 5), Flamborough, Ontario. Directions: if you are coming from Kitchener you go down Highway 6 towards Hamilton, look for the water tower, then turn right on Frelton Road (#551). Continue through Frelton and bear right. At this point the road becomes Brock Road (#504). You will cross highway 97, concession 8W, Safari Road

(#501), concession 6W, concession 5W (#521). Keep going; the quarry will be on your right. If you hit Highway 5, you have gone too far.

On **November 22-23 2008**, the London Gem & Mineral Show takes place Sat. 9AM-6PM, Sun 10AM-5PM at the Western Fairgrounds (Western Fair Entertainment Centre - Special Events Building). Highway #401 to Highbury exit North, west on Florence, North on Rectory - Main entrance immediately on right hand side. Over 35 dealers, demonstrators and educational talks. Admission: Adults \$5, Children \$2 Contact: Ken Dardano 519-846-5836 or ken.dardano@sympatico.ca . Website: <http://www.gemandmineral.ca/>

On **February 28- March 1 2009**, the Kawartha Rock & Fossil Club presents the 16th Annual Peterborough Gem, Mineral, and Fossil Show at the Evinrude Centre, 911 Monaghan Road, Peterborough, Ontario. Saturday, Sunday, 10-5. \$3 admission for adults, children free. For more information, contact [Mark Stanley](mailto:Mark.Stanley@krcfc.com), (705) 639-2406.



More About Fakes

Your newsletter editor recently spotted two interesting fakes.

At the Detroit show, a dealer was selling Herkimer diamonds on matrix for a very low price. Close inspection revealed, however, that the quartz crystals had been glued onto the matrix with white glue (with nothing revealed about this on the label). The dealer at first suggested that no glue had been used, and when the glue was pointed out, denied knowledge.

Herkimer diamonds are loosely held in the matrix and are often glued back on, so buyers should decide if such a repaired specimen is right for their collection. Dealers have an ethical obligation to indicate such repairs on their labels.

Another fake was bought inadvertently at the Springfield show. Your newsletter editor purchased a kit of diamond simulants from a well-known company specializing in synthetic gems. One of the gems in the kit was claimed to be lithium niobate (LiNbO_3), a rare material with high dispersion and refractive index. Close inspection of the sample, however, showed little or no dispersion and a refractive index of approximately 1.76, suggesting the sample was actually synthetic corundum, a much cheaper diamond simulant. The sample was returned to the dealer who conducted an investigation and agreed that the sample was not what it claimed to be. A replacement was sent.

So, even fake diamonds can themselves be fake! Buyer beware.



John Elliott Wins Trophy

Club member **John Elliott** proudly holds a trophy awarded by the Michigan Mineralogical Club for his display at the recent Detroit show.

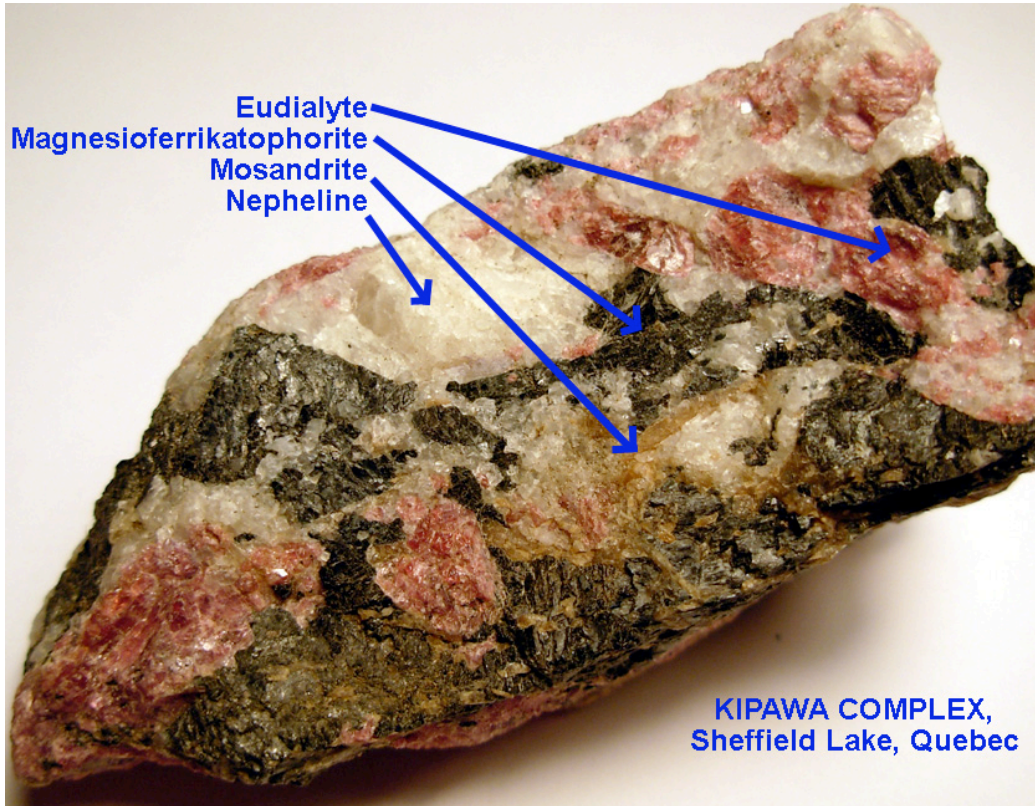
John's display, pictured below, was entitled "Self Collected Minerals of Ontario, Canada" and won the award

for best display by a member. Most of the minerals were from the quarries at Dundas and Flamborough. Our congratulations go out to John for his well-deserved award.

Photos by Peter Russell (above) and Jeffrey Shallit (at right).



Kipawa!

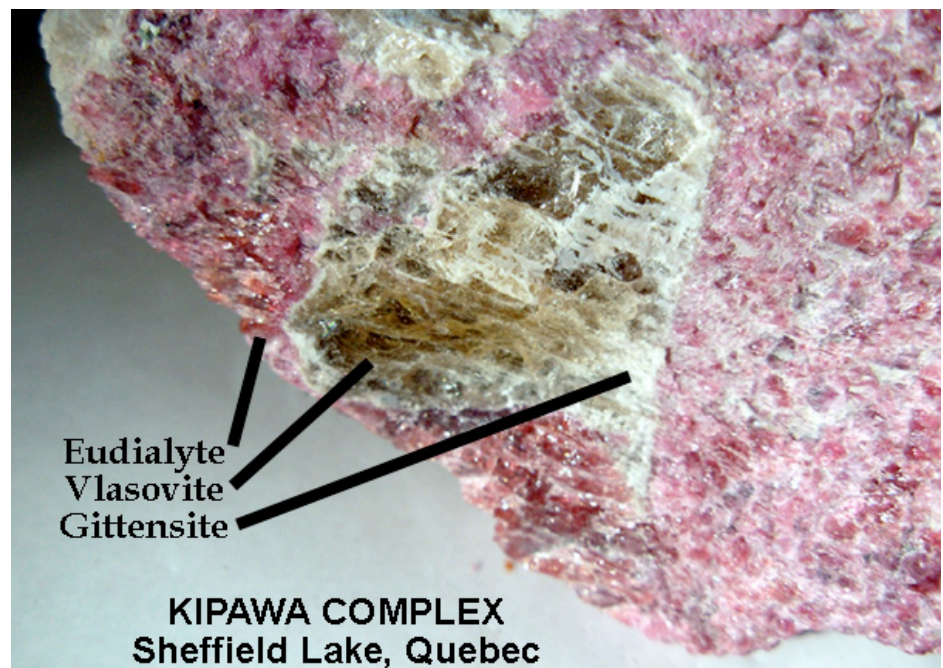


By **André Mongeon**

The Kipawa rare earth complex is one Canada's most interesting locations for collectors. An important feature of this location is a nepheline syenite pegmatite that provides many rare, and in some cases, unique minerals. The formation of rare minerals occurred here because of a combination of a relatively low level of quartz and an above average concentration of rarer elements.

Syenite is much like granite in composition, except it contains little or no free silica (quartz). It contains feldspars, micas, hornblende, feldspathoids and perhaps a minor amount of other minerals.

Nepheline syenite contains even less silica and even more feldspathoids. This relative lack of silica forces the formation of minerals using the elements that are available. When additional rare elements are added to this situation, many very unusual minerals can form. Such is the case at Kipawa, where a volcanic intrusion into alkaline rock cooled to form a nepheline syenite pegmatite, with contact metamorphic zones around it. This occurrence is the source of some of the most amazing



and unusual Canadian minerals for collectors.

Zircon is one of the many zirconium bearing minerals that are found there. Another is Eudialyte, $(\text{Na}_{15}\text{Ca}_6(\text{Fe}^{2+}, \text{Mn}^{2+})_3\text{Zr}_3[\text{Si}_{25}\text{O}_{73}](\text{O}, \text{OH}, \text{H}_2\text{O})_3(\text{OH}, \text{Cl})_2)$, a mineral with an unmistakable raspberry colour. Although silicon is present in this mineral, there is a “relative” deficiency of it. This deficiency upset the natural tendency for the silicon to combine with other elements to form common silicates. Fortunately for mineral collectors, the elements eventually joined up somehow, resulting in minerals that are very unique. Other zirconium minerals from Kipawa include Vlasovite ($\text{Na}_2\text{ZrSi}_4\text{O}_{11}$), fluorescent Gittinsite ($\text{CaZr}[\text{Si}_2\text{O}_7]$), Gaidonnayite, Hiorthdahlite and Hiorthdahlite II (yttrium).

Vlasovite is a very rare mineral always found in Eudialyte, often with thin layer of Gittinsite surrounding it. Despite its rarity, Vlasovite has been faceted by at least one Canadian gem cutter, as has gemmy Eudialyte. Eudialyte and Vlasovite have been found at other locations, including Russia (Kola peninsula), but Canadian collectors will encounter Kipawa specimens far more readily on the market. Kipawa material is world class anyway, so buy Canadian!



Also of note at Kipawa are rare earth minerals such as Ekanite and Thorite (thorium, uranium), Britholite-(Ce), Miserite and Mosandrite (cerium). Their presence makes Kipawa of interest to collectors

of rare earth and radioactive minerals. Kipawa is the type locality of the fluorescent mineral Agrellite $\text{NaCa}_2[\text{F}|\text{Si}_4\text{O}_{10}]$, which fluoresces an unmistakable soft pink (best under midwave). Often mixed in with the minerals named above are a pair of black minerals: Magnesioferrikatophorite ($[\text{Na}][\text{Ca}-\text{Na}][\text{Mg}_4(\text{Fe}^{3+}, \text{Al})][(\text{OH})_2|\text{AlSi}_7\text{O}_{22}]$) and Magnesiokatophorite ($\text{Na}[\text{CaNa}][\text{Mg}_4(\text{Al}, \text{Fe}^{3+})][(\text{OH})_2|\text{AlSi}_7\text{O}_{22}]$). Their complex formulas are evidence of the unusual circumstances that led to their formation.

Leading Paleontologists Decry Collecting at BC Site

According to an [article](#) in the October 10 *Vancouver Sun*, fossil dealers may be irreparably damaging a site in British Columbia.

The McAbee site near Kamloops is an Eocene lake bed with plant, insect, fish, and bird fossils. Five leading paleontologists wrote to the government objecting to the use of heavy equipment to mine the site.

All Life on Earth Not Wiped Out by Asteroid Collision

For the first time in history, astronomers have tracked an asteroid in space that has then collided with the Earth. Asteroid 2008 TC3 was first spotted on Monday, October 13 of this year by the Mt. Lemmon Observatory near Tucson, Arizona. Its diameter was estimated to be only 5 meters, and it was forecast to enter the atmosphere somewhere over Northern Sudan. A [news report](#) indicated the asteroid had been seen by pilots aboard a KLM flight, and [later information](#) indicated it had also been seen by US government satellites. The asteroid was too small to cause any significant damage, and it was presumed to have burned up in the atmosphere.

Kitchener-Waterloo Gem and Mineral Club

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www.calaverite.com/kwgmcc

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