



The Rockblast

The Kitchener-Waterloo Gem and Mineral Club Newsletter

April 2010

President's Message

It is good to be flexible and not take yourself too seriously. Despite our best efforts, our meetings do not always go as planned!

In case you missed it, Mike Lothrop, the Flint Knapper, was our main speaker in March. He gave an overview of this ancient art, showing us the tools of the trade, past and present. Mike brought a wide variety of raw flint and obsidian from across North America, displaying many different colours and hardness. Obsidian forms the sharpest cutting edge known, and is actually used today as a knife edge in some forms of eye surgery. While discussing the many types of tools and uses of this material, Mike gave a practical demonstration of the art. Despite abundant ongoing questions, there was no need for any bandages by the end of the evening as he produced an excellent arrowhead without injury from the sharp fragments that piled up at his feet. The specimen was sent home with **Chris Van Donkelaar** for his young son, **Michael**, who was too sick to come that evening. A large crowd gathered around Mike at the end of the meeting with more questions. If you would like to get in touch, his email address is mlothrop@jrhall.ca.



Photo by André Mongeon

With short notice, **Kathy La Hay** stepped to give a mini-talk on gypsum and its use in our food. Ubiquitous gypsum is used in many ways in our homes, but importantly for some, in the production of beer. Thanks for that enlightenment!

This month **Aimee Partlow** will give a talk on "Iceland, a land of ice and fire". It will be based on her visit to the island in the summer of 2008. There are surprising similarities to New Zealand. Yours truly will give the mini-talk on the Marmora Quarry. This should whet your appetite for a club field trip to this site in May.

Don't forget our **annual club show**, planned for May 1st. We will need your help with set up, placing signs in the neighbourhood, covering the till and club table during the day, and putting it all away at 4 PM. Please consider offering 1-2 hours during the day to share the work. No experience is necessary.

Note: April's club meeting is the **second Friday, April 9th** since the first Friday is Good Friday.

See you at the meeting and shows. . . --- *Gary Partlow*

Pictures from the March Meeting



Clockwise from upper left: Don Oliver, former president of the Burlington Club, turns over the club's remaining assets to Peter Russell; Mike Lothrop discusses the fine points of flint knapping; some of Mike's tools; Mike's display; Kathy La Hay talks about gypsum. All photos by André Mongeon.



The Flint Knapper's Story

by Mike Lothrop

Here is how I got into flintknapping, or the making of stone tools. I grew up in the country and always had a great deal of interest in the outdoors, camping, canoeing, hiking etc. I also was very interested in outdoor skills, survival skills and primitive skills. As luck would have it, when I was 17 I was going camping and was hunched over carrying a heavy backpack I spotted a stone arrowhead in the field I was walking across. I was amazed and thrilled! From there I actively started looking for artifacts and found quite a few over the next few years. I was (and still am!) incredibly fascinated with these tools and how someone could make all that they need to live in the woods. That's when I had to figure out how they were made. I have been addicted to knapping ever since. I figure I have been knapping for around 11 years now.

For those unfamiliar with knapping, it is the oldest recordable skill known to humankind, dating back roughly 2 million years. It is basically the skill of breaking a rock to get a sharp edge or useful tool. Often when people think of knapping they think of the stone arrowheads, but it is a much broader skill than that. You can make scrapers, knives, burins, blades, axes, adzes, spoke shaves, drills, awls, jewellery, eccentrics etc., etc. The materials generally used are those with a very high silica content: flints/cherts, obsidians, jaspers, agates, silicified corals, quartzite and Novaculite, to name a few. Most materials are fine-grained rocks that generally lack any crystalline structure, thus allowing fractures to transfer through the rock in any direction without anything to impede it. These rocks all fracture conchoidally. Some rocks are heat treated or water treated to improve flakeability as well.

The favoured and most abundant stone in Southwestern Ontario was Onondaga chert. It is a blue/grey/black mottled stone, often exhibiting some gloss on fresh surfaces. It forms in bedded layers and lenses within its limestone parent. It is found all along the North shore of Lake Erie, and I believe is Devonian in age. It forms (and all other cherts/flints) from billions of micro-organisms dying and falling to a sea floor and eventually decaying leaving the silica and other trace elements behind. This forms the limestone and where the silica is very rich it turns to flint/chert. I am sure others have a more in depth knowledge of this process, but hey, I just want to break it all up anyway!

Upcoming Club 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, April 9 2010: Note the meeting **has been moved** from April 2 because of the Good Friday holiday. **Gary Partlow** will give a mini-talk on the "Marmor quarry". The main talk will be by **Aimee Partlow** on "Iceland, the land of fire and ice". Bring your specimens from Marmor to show off!

Friday, May 7 2010: Alan Morgan of the University of Waterloo will speak on “Global Warming: Fact or Fantasy?”.

Friday, June 4 2010: The club’s annual potluck picnic, plus a visit to Stonebridge Imports’ warehouse of mineral treasures.

Friday, September 3 2010: The annual Show-and-Tell event. Bring your specimens from your summer collecting trips.

Friday, October 1 2010: TBA.

Friday, November 5 2010: Our own **Rob Maric** will speak on "All you ever need to know about ground water: do we have enough?".

Friday, December 3 2010: The annual holiday auction of minerals, gems, fossils, and other items.

Upcoming Events

This listing is provided as a service to club members. Events subject to cancellation. As always, double-check dates and times with the sponsors before leaving home!

April 9 2010: The Willowdale Gem and Mineral Club invites club members and friends to its annual Auction Night to be held at the Armour Heights Community Centre, Avenue Rd. at Wilson Ave., on Friday April 9th commencing at 7:45 P.M. Some 50 items will be auctioned including gems, minerals, related craft materials and books. Please bring your competitive spirit, a little cash, and be prepared for an enjoyable evening.

April 10 – 11, 2010: Brantford Lapidary and Mineral Society’s 38th Annual Gem and Mineral Show at the Paris Fairgrounds, 139 Silver Street, Paris, Ontario: Saturday and Sunday 10 AM to 5 PM, Adult \$3.00, 12 years & under – Free. More info: contact robert@roberthalloriginals.com or visit <http://www.brantfordlapidarymineral.ca> .

April 15-18, 2010: The 37th Rochester Mineralogical Symposium, April 15-18, 2010. Visit <http://www.rasny.org/MineralSymp.htm> for more info, or write P.O. Box 85, Manlius, NY 13104-0085. Steve Chamberlain - Chairman, sccham2@yahoo.com ; Helen Chamberlain - Registrar (315) 682-0387, or e-mail contactrms@hotmail.com .

April 16-18 2010: The 25th Annual Gem, Mineral, and Fossil Show of the Club de Mineralogie de Montreal. Friday 3PM - 10PM; Saturday 10 AM - 7 PM; Sunday 10 AM - 5 PM. Centre Pierre Charbonneau, 3000 Viau Street, Montreal. Admission: \$8, children \$4. For more info: call (514) 353-0101 or visit <http://www.salonminerauxmtl.com> .

April 23-25 2010: The Toronto Gem and Mineral Show. Friday, 4 PM - 9 PM; Saturday, 10 AM - 7 PM; Sunday 10 AM - 5 PM. Don Mills Civitan Arena, 1030 Don Mills Road, North York, ON. Adults \$8, Seniors \$7, Children 12-18 \$6, Under 12 free admission with adult. For more info, contact Ohannes Bedrossian, (514) 989-9800 or e-mail tontogemshow@canada.com .

April 30 - May 2 2010: Open house at Robert Hall Originals, 138 Sugar Maple Road, St. George, Ontario. Fri-Sun, 10 AM - 5 PM. Free. For more info, phone (519) 448-1236 or (800) 360-2813, or e-mail inquiry@roberthalloriginals.com , or visit <http://www.roberthalloriginals.com> .

April 30 - May 2 2010: Canadian Micro Mineral Association's 47th Annual Symposium, Brock University, St. Catharines, Ontario. Speakers: Dr. Michael Wise, Smithsonian Institution; Kim Tait, Royal Ontario Museum. For more info and registration: contact Bill Lechner, (416) 438-8908, or e-mail bill.lechner@rogers.com .

May 1 2010: Our own Kitchener-Waterloo Gem and Mineral Club Show, 10 AM - 4 PM, Waterloo Community Arts Centre, 25 Regina St. S., Waterloo, Ontario. Free admission.

June 19 2010: Niagara Peninsula Geological Society presents Geo-Venture 2010, 10 AM - 5 PM, Beamsville Fairgrounds, Beamsville, ON. Held with the Strawberry Festival. For more information, call (905) 994-0477 or (905) 935-6791.

July 23-25 2010: The Toronto Gem and Mineral Show. Friday, 4 PM - 9 PM; Saturday, 10 AM - 7 PM; Sunday 10 AM - 5 PM. Leaside Gardens, 1073 Millwood Road, East York, Ontario. Adults \$8, Seniors \$7, Children 12-18 \$6, Under 12 free admission with adult. For more info, contact Ohannes Bedrossian, (514) 989-9800 or e-mail torontogemshow@canada.com .

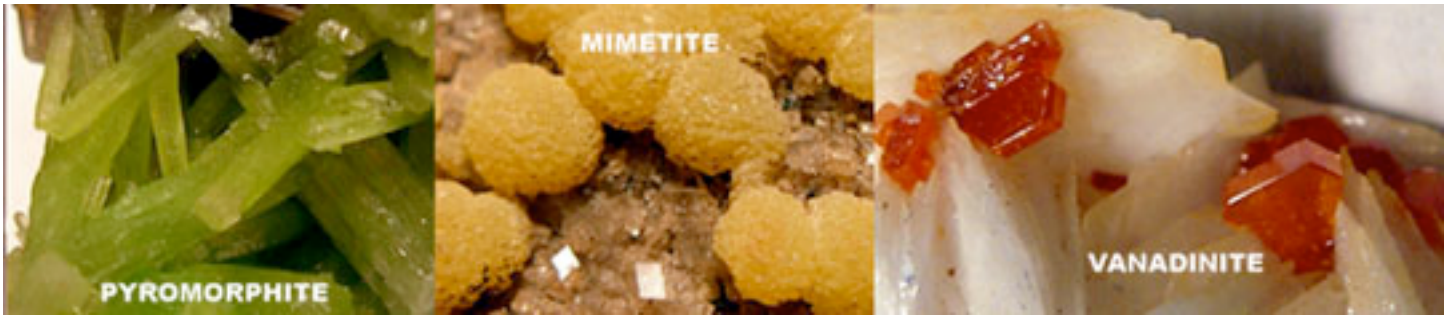
July 25 2010: The Bancroft Mineral Club presents their 15th Annual Gem & Mineral Show, Sunday 10 AM - 4 PM, Bancroft Legion Hall, Station Street, Bancroft, ON. Admission \$2, under 18 free. For more info, e-mail alrocks16@yahoo.ca .

July 29 - August 1 2010: The 47th Annual Rockhound Gemboree, Canada's largest gem and mineral show. Thu-Sat, 10 AM - 7 PM; Sun, 10 AM - 5 PM. Over 110 dealers. For more info, call (877) 410-1513 or (613) 332-1513.

September 11 2010: Open House and Rock Swap at Robert Hall Originals, Saturday, 10 AM - 5 PM. 138 Sugar Maple Road, St. George, Ontario. Fri-Sun, 10 AM - 5 PM. Free. For more info, phone (519) 448-1236 or (800) 360-2813, or e-mail inquiry@roberthalloriginals.com , or visit <http://www.roberthalloriginals.com> .

September 18-19 2010: 42nd Annual Scarborough Gem and Mineral Show, Saturday 10 AM - 6 PM; Sunday 11 AM - 5 PM. Don Montgomery Community Centre, 2467 Eglinton Avenue E., Scarborough, ON. Adults \$5, Children \$1. For more info: e-mail scarbgemclub@lycos.com or visit <http://www.scarbgemclub.ca> .

October 1-3 2010: Ancaster Gem, Mineral, Bead & Jewellery Show. Try on the latest in fashionable jewellery. See crystals, fossils & magnificent rocks from all over the world! Shop at over 30 dealers. Take a free seminar on rocks, fossils or crystals. Hours: Friday: 9:30 AM to 4:30 PM; Saturday: 10:00 AM to 6:00 PM; Sunday: 10:00 AM to 5:00 PM. Admission: \$6.00 per person, under 12 free. Location: Ancaster Fairgrounds, 630 Trinity Road, Ancaster, Ontario (corner of Hwy. 52 & Hwy. 53). For more info, phone: 519-448-1236 or 1-800-360-2813 or visit www.roberthalloriginals.com or e-mail rockshow@roberthalloriginals.com .

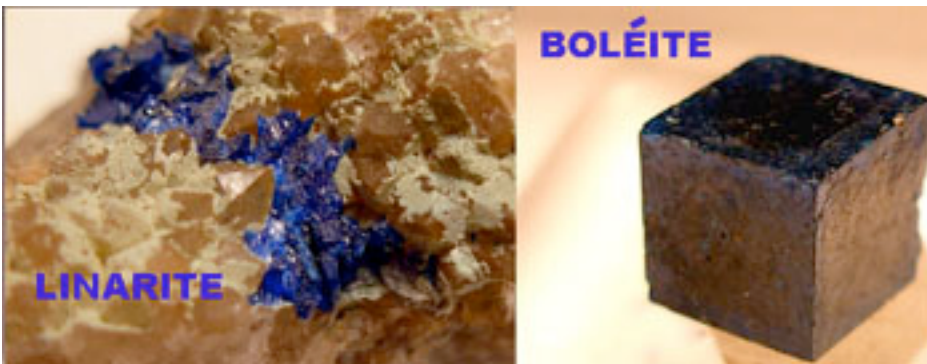


Get the Lead Out!

by André Mongeon

Once widely used in many products, lead has now fallen out of favour. It remains in use where necessary or where cost is a concern. From paint tint to water pipe to batteries, lead has been used for thousands of years. But lead does not have to always be that dull, toxic metal. Some lead minerals are quite colourful.

The first group of three illustrated are all members of the Phosphate/Arsenate/Vanadate group. Colour and composition can vary (P, As and V can substitute for each other). They are often found in association and can be hard to distinguish from each other on occasion. Pyromorphite ($\text{Pb}_5(\text{PO}_4)_3\text{Cl}$) is often a bright apple-green, but can also be yellow to brown. Mimetite ($\text{Pb}_5(\text{AsO}_4)_3\text{Cl}$) can be yellow, orange or brown. Vanadinite ($\text{Pb}_5(\text{VO}_4)_3\text{Cl}$) can be red, orange, brown or yellow.



Currently, excellent Pyromorphite is coming out of China, from the Daoping Mine, Yangshou, Guangxi Province. Wonderful specimens can be obtained for under \$100.

Some Pyromorphite is fluorescent, but oddly enough, the best response is under Midwave ultraviolet light (not Short or Long-

wave). The lighter the colour, the better the fluorescence - as a general rule.

When associated with copper, lead minerals can be very blue as well: Linarite ($\text{PbCu}(\text{SO}_4)(\text{OH})_2$) and Boléite, ($\text{KPb}_{26}\text{Ag}_9\text{Cu}_{24}\text{Cl}_{62}(\text{OH})_{48}$) for example. Boléite tends to be a very dark purple-blue and is difficult to photograph. The Linarite illustrated is from Arizona and the Boléite is from Mexico.

The next two minerals are closely chemically related to each other. The difference is that one has molybdenum and the other, chromium. Wulfenite (PbMoO_4) is also yellow, orange or brown. Crystals are often in clusters and can resemble square wafers. Crocoite (PbCrO_4) is orange-red. The name is de-



rived from the "crocus", alluding to the colour of the saffron obtained from that flower. The best specimens are from Tasmania.

Galena (PbS) looks metallic, much like pure lead. It is a major ore of lead due to its high lead content (86%). Recently some "reverse skeletal" galenas have been appearing at shows from the location of Madan in Bulgaria. They have a very unusual appearance, almost like piled-up nuts from a hardware store. While some may be genuine, the legendary Rock Currier was able to duplicate the appearance of these specimens by using glass beads with an air abrasive tool. Buyer beware!

Cerussite ($PbCO_3$) is often colourless to grey. When clean colourless material is cut, it can have more fire than a diamond. A rainbow play of colour can be seen in the photo. Too bad it is too soft for jewellery. Cerussite is sometimes fluorescent cream or yellow. Both Galena and Cerussite are widely distributed. Amazonite is a blue-green feldspar coloured by an impurity of lead.

The "holy grail" of lead minerals is definitely Phosgenite ($Pb_2(CO_3)Cl_2$). Because it contains carbon, oxygen, and chlorine, it was named after the deadly chemical weapon gas phosgene ($COCl_2$). However, Phosgenite is not toxic to possess, although I wouldn't eat any. It usually forms short prismatic crystals which are often brilliantly fluorescent yellow under ultraviolet light. It is quite rarely seen on the market these days, although occasionally a specimen from an old collection appears.

There are a number of other lead minerals that were not included here. Most of them have less striking colours than the ones mentioned here.

Mineral of the Month: **Cuprotungstite**



Cuprotungstite is a rare Tungsten mineral. It has a chemical formula of $\text{Cu}_3^{2+}(\text{WO}_4)_2(\text{OH})_2$. Usually found massive (as above), it occasionally forms yellow-green to bright green dipyramidal crystals. Not surprisingly for a Tungsten mineral, it is rather heavy, with a density of 5.40 to 6.98, similar to Scheelite, with which it is often associated. It is found in Chile (where the specimen above is from), Idaho, Arizona, Chihuahua Mexico, Germany, Italy, Kazakhstan, and Australia.

Cuprotungstite is one of the only (perhaps the only?) copper minerals that is fluorescent. Under shortwave ultraviolet light, it often glows a beautiful bright yellow-green.

Cuprotungstite is only very rarely seen at mineral shows. Large specimens are rare, but small miniatures can be found for as little as \$10.

Kitchener-Waterloo Gem and Mineral Club

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