



Voice of the Dinosaur

Newsletter of the
Kawartha Rock and Fossil Club

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**LAST REGULAR MEETING**

April 9, 2013

The meeting was called to order by the President, Robert Montgomery. Minutes were approved as given. Committee reports were read and approved.

Don Doell Jr. is setting up our Website for a Club only section where members may make comments and the Executive may discuss some business before bringing it to regular meetings. It was suggested that all minutes, field trips and Newsletters be posted on this section.

An excellent presentation was given by Don Doell Jr. on radioactivity and ways of detecting it. He illustrated his talk with a visual presentation and with hands on samples passed around.

Tom Jenkins' silent auction consisted of samples from the Cobalt district generously donated by Phil Jones.

NEXT MEETING

Date - May 14, 2013

Place - Orientation Centre, Peterborough Zoo

Time - 7:00 pm

Agenda - Regular business meeting

Program - An introduction to the science of hydrogeology which deals with water below the surface of the ground.

The speaker will be Bob Betcher who writes, "We'll discuss the occurrence of groundwater in the pore spaces of the subsurface, aquifers and aquitards with specific reference to the types of aquifers which occur in the area from Peterborough south to Lake Ontario, concepts of groundwater flow systems, which describe how water moves from recharge areas to discharge areas, groundwater quality and contamination, and surface water/groundwater interaction. Although the topic may sound dry (a poor pun!), the talk will include lots of interesting pictures and stories, most from my time in Manitoba."

Bob is a Manitoba native who has recently moved to southern Ontario to take up a position as the hydro- geologist with the Ganaraska Region Conservation Authority, fulfilling a promise he made to his wife 37 years ago that they would eventually settle in south-eastern Ontario near their cottage on Mississippi Lake.

He has been a practicing hydrogeologist since 1974, working first with the province of PEI followed by three years in Pinawa, Manitoba working in the high level nuclear waste disposal program with AECL before spending the last 30 years working for the province of Manitoba where he headed up the Groundwater Management Section.

Bob is enjoying his time here working with well owners to help solve their problems, although he is still adjusting to our "unusual" landscape with all its hills and valleys!

Robert Montgomery



THE FOSSIL CORNER
2013 Fossil Collecting - Trip 1
By Kevin Kidd

Saturday, March 16

Fossil of the month type articles are fun for me, but hunting trip reports are better. Despite the cold, -8° C. or so, the rest of the week had been warm, so hopefully the snow at the quarry was minimal. I got all layered up and headed out to be there for sun up. As I made my way into the pit, my eyes were tearing up. While the collector in me might feel this was from FINALLY being back doing what I love, it was more likely the frigid wind blowing in my face. I wiped my eyes and climbed up the first talus pile I came to. It took me all of maybe 15 minutes before I had not one, but two complete trilobites; an *Isotelus* and a *Flexicalymene*, both enrolled. Figures 1 and 2 show the trilobites as found. Figures 3 and 4 show them after preparation. What a way to start off the year!



Figure 1.



Figure 2.



Figure 3.



Figure 4.

Same two trilobites after preparation. The *Isotelus* wasn't as good as I'd hoped, but the *Flexicalymene* is a gem!

Progressing my way around, I picked up a few common pieces –bivalves, brachiopods and a gastropod or two, but no more trilobites. I did find a hypostome (mouth part) of the rare trilobite *Hypodicranotus striatulus*. These hypostomes are uncommon enough that I keep the few I do find. Interestingly, to me anyway, the hypostome of

this species (Figure 5) is nearly the full length of the complete trilobite. I've never seen any other part of these "bugs" from this site, but obviously they are here.



Figure 5.
Hypostome of rare trilobite
Hypodicranotus striatulus.

I made my way around to a spot I'd had plenty of luck with in the past, but this time I was stymied. What I did see though was that the quarry has been busy. They had blasted in the bottom pit again, this time blasting a portion of the wall back even with the level above (Figure 6).

There was a pile of rock in the bottom from this blast, so down I went. The only thing I found down there worth mentioning was a prone *Flexicalymene* in the middle of a car door sized rock. If the head was there, it was buried and I could see damage to a couple of the exposed segments. I weighed these factors against the time and energy it would take to walk all the way up to the front gate, get my saw, walk back down and cut and chisel it out. Add prep time on top of that and I decided to just leave it where it was. I then went back to the first level to continue where I'd left off.



Figure 6.

I'd wanted to check this particular stretch since last fall, but every time I went, there was always somewhere else that took my focus. To say that I was happy I walked this area today would be a huge understatement. I only walked along the North wall, but I still managed to find another five trilobites (Figure 7), a slightly compressed *Carabocrinus* crinoid calyx (Figure 8), and finally, at my turnaround point, sitting there on a larger rock waiting for me, a pair of *Isorophusella incondita* edrioasteroids on a palm sized piece of hardground (Figure 9). While I have found rarer pieces than these, I would have to say that this ranks as one of my best ever trips to this site.



Figure 7.

Two more enrolled *Isotelus*, a small enrolled loose Flexi, another enrolled Flexi in matrix, which is uncommon, and a prone Flexi as seen from the underside (ventral position) The three loose ones are "looking" at the ventral.



Figure 8.
Carabocrinus crinoid calyx.



Figure 9.
A pair of *Isorophusella incondita* edrioasteroids.

Sunday, March 24

After last weeks success, I went back to check a couple of spots that I didn't get to the first time out. Walking around the very top (ground level), I saw that the quarry had dug a couple of trenches exposing some new rock. While this area has great potential, I didn't find anything there. I continued around to a spot they had exposed last year and found where another collector had done some cutting. Thinking this was a good sign, I spent some time here and was rewarded with more edrioasteroids. I originally thought I had a pair, but a closer look showed that there were four on this one small piece of hardground, with one of them being the largest *Isorophusella* I've ever seen (Figure 10).



Figure 10.

There are three edrios in a line, and a 4th below the small one on the left. The center one measures an impressive one inch in diameter.



Figure 11.

If only it had rained Saturday. There are two people on the pile to give a sense of scale.

From my vantage point here, I could see another huge blast pile in the bottom pit, new since the previous weekend (Figure 11). Since the other area I wanted to check was still snow covered, I made the trek down to the bottom. This was one of the largest piles I can remember seeing at this quarry, which was notorious for blasting then scooping it up right away. With no rain over the past week, the pile was very dusty. Still, I managed to find another trilobite, a prone *Calyptaulax callicephalus* (Figure 12). Even though it's flattened, this is still a rare find. There are lots of pieces of them around and maybe three or four complete enrolled ones are found each year (overall, not just by me), but one has to be pretty lucky to find a prone specimen. Nothing else really to report from this trip. The crush pile is, depending where you are, too dirty, muddy, snow covered or frozen to walk on, so whatever treasures it has to reveal will have to wait.

Until next month – Happy Hunting!

Photos by Kevin Kidd



Figure 12.

A prone trilobite, *Calyptaulax callicephalus*.

THE MINERAL CORNER

Barite (Baryte)

Compiled by Sue Kehoe

Nomenclature

The name is derived from the Greek word “barys” meaning heavy. This mineral is also known as heavy spar. Barite is the most common barium mineral. “Barite” is the correct European spelling; “baryte” is the correct American spelling.



Figure 1.
Creamy barite crystals.

Chemical Composition

Barite is barium sulphate (an anhydrous sulphate) BaSO_4 .

It forms a series with strontium barite - celestite (SrSO_4) and plumbian barite - anglesite (PbSO_4).

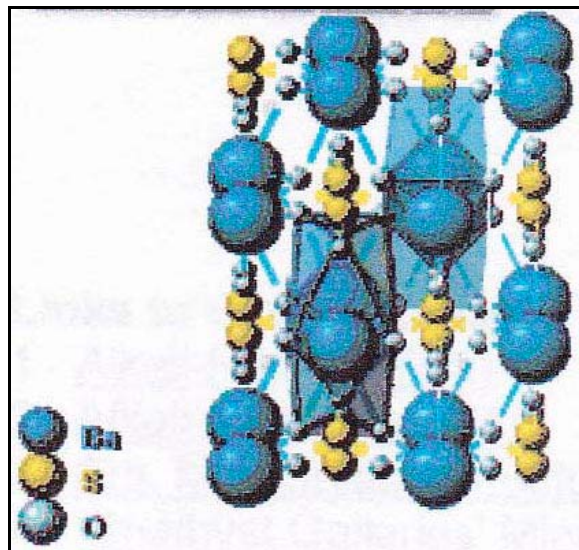


Figure 2.
Atomic structure

Crystal Structure

Barite is orthorhombic in crystal structure and comes in a variety of forms such as tabular, cockscomb, prismatic, fibrous, concretionary, stalactitic, aggregate rosettes, laminated and massive. It may be compressed along the C-axis with {001} being the

largest. It can form clear sharp squares, and “ bevelled edged tablets with chisel tipped prisms.”

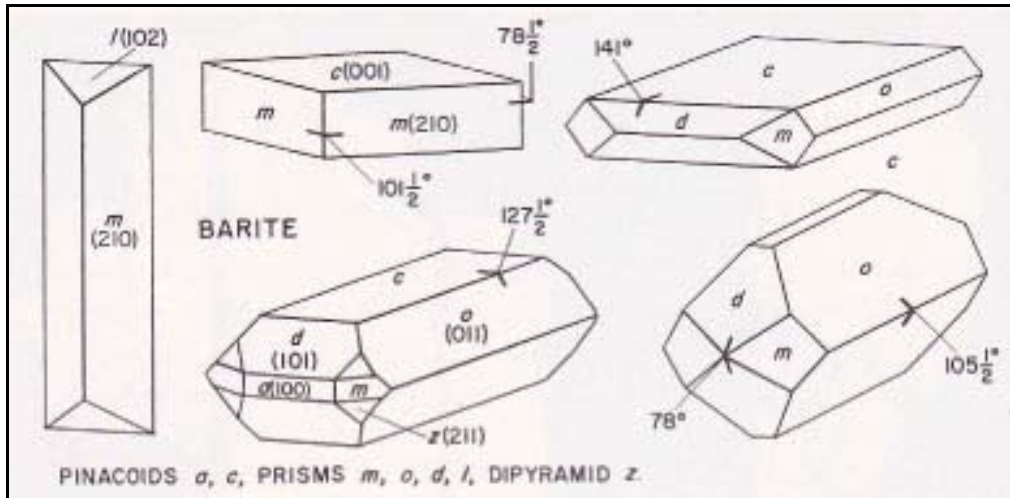


Figure 3.
Crystal structure

Physical Characteristics

Colour: Barite may be colourless, yellow, blue, brown, beige, and gray. Colour zoning is fairly common. Rarely is it red or green.

Hardness: 2.5-3.5

Cleavage: perfect on {001}; imperfect {210} imperfect on {010}

Fracture: uneven

Lustre: vitreous, resinous, pearly

Streak: white

Specific Gravity: 4.5

Diaphaneity: transparent to translucent

Optical properties: Biaxial (+)

Birifringence: 0.012

Pleochroism: weak

Fluorescent: some under ultraviolet; can also be thermoluminescent and phosphorescent

Insoluble in acids.

Flies apart in flame; Fusible at 3.

Occurrence

Barite is found in weathered sedimentary rocks such as limestone, and in zinc veins with associations to galena, sphalerite, fluorite, and calcite. It also occurs in clay and marine deposits and in cavities in igneous rocks. It rarely occurs in basalts.

It is often found in hydrothermal veins such as hot springs, in carbonatites and in volcanic massive sulphide deposits along with anglesite and celestine and hematite. It has been found in meteorites.

Uses

Barite is used primarily as a drilling mud in the oil and gas well drilling industry. As a weighting agent with its high specific gravity, it is able to help prevent blowouts of

gas and/or oil. Since it is not magnetic it does not interfere with magnetic readings and is soft enough not to damage the drilling bits and bearings. It is also relatively chemically inert.

It is used as a filler in both the paper and cloth making process.

It is used as a white pigment and as a contrast media in medical x-rays for bowel investigations where “barium meal” is given as a drink. Due to the fact that it is highly insoluble it is not considered toxic even though barium in itself is considered a heavy metal.

It has a use in the pyrotechnic industry.

It can be of use as protection from x-rays and radiation.

It has been used for healing purposes as a lotion to soothe irritated skin, acne and pimples, and for treatment of fungal infections in nails and teeth.

In energy work it is said to be calming to the psyche and for obsessive-compulsive disorders.

References:

Smithsonian Rock and Gem; DK Publishing; Ronald Louis Bonewitz; New York, 2005, p.210.
Gems & Minerals, Earth Treasures from the ROM; Dr. Kimberley Tait; Firefly Books, Buffalo, New York, 2011, p.158.

Mineralogy for Amateurs; John Sinkankas; D. Van Nostrand Co; Princeton, New Jersey, 1964; pp. 388-392.

www.en.wikipedia.org/wiki/Baryte

www.webmineral.com/data/Barite

www.minerals.net/mineral/barite

www.geology.com/minerals/barite

Figure 1: personal collection

Figure 2: www.webminerals.com/data/Barite

Figure 3: Sinkankas, as above, p.390.

Handbook of Rocks, Minerals & Gemstones; Walter Schumann; Houghton Mifflin Co; New York, 1993; pp. 74-75.

Healing Crystals and Gemstones, from Amethyst to Zircons; Dr. Flora Peschek-Bohmer & Gisela Schreiber;

Konecky and Konecky; Old Saybrook, Connecticut; 2002; pp. 94-95.



FIELD TRIPS CORNER
Upcoming Field Trips
Information from Ulrike Kullik

May the 4th

Silver Crater Mine.

Meeting Time 9:00am

At the intersection of Highway 28 and Highway 118 Paudash.

It is a long hike in and out.

Small parking fee.

Bring bug spray (just in case) and water.

Minerals: Mica, Apatite, Betafite, Zircon, Calcite, Fluorite and more.

May 11, Saturday

CCFMS - Beamsville Nelson Aggregates Field Trip

Contact: Jim Glen <beamsville.dundas.field.trips@gmail.com>

This is a working quarry and admittance is restricted to persons 16 years of age and over.

Safety Vest (fluorescent), Long Pants, Safety Boots, Safety Glasses and Hard Hat are required for admittance to the Quarry.

Plan to arrive opposite the gate of the quarry at about 8:30 am for sign in and vehicle tag in. We will enter the quarry about 9:00 am after our safety talk.

Beamsville map at following link:

<http://www.ccfms.ca/Events/Beamsville.html>

June the 15th and 16th

Arkona Hungry Hollow

Will discuss how we meet there at the next club meeting.

It is a 280-300 km drive from Peterborough.

If you want to stay overnight best reserve a place to stay soon.

Fossils.

Kid friendly!

LET ME KNOW IF YOU PLAN TO GO ON A TRIP.

The sooner the better.

Ulrike.kullik@gmail.com

705-778-3787

More Field Trips will be announced at a later date.

To make field trips more relevant, bring to the next meeting what you have found, even if you believe it was not so great. We cannot always judge adequately, what might be a good find. Or, if you have not been on a field trip lately, bring something that you would like identified or that other members might find interesting. Let's do this at every meeting.

Ulli



THE EDITOR'S CORNER

My thanks to Sue Kehoe and Kevin Kidd for, once again, providing us with a couple of excellent article. Thanks, also, to Ulli Kullik and Robert Montgomery for their input.

As you might possibly be aware, Don Doell, Jr. has installed a message board for Club business and member input on our Website. When members sign in, they will be able to post messages and have access to Club only business. I urge all members with Web access to sign in: www.kawartharockandfossilclub.com.

Field trips will be posted on the board. Sometimes a field trip will be planned on short notice between Club meetings or Newsletters. An email will be sent to all members with email, but those with snail mail will not get the notice so, if you do not

have email, it's a good idea to stay in touch with Ulli or contact me to stay up to date with field trips. Another option is to access our Club Website through your local library, sign in and you will be able to read the field trip list and messages posted on the board.

While we are on the subject of field trips, let's do as Ulli suggests and bring finds from our latest field trips or even finds from former field trips to our meetings to share with others.



COMING EVENTS

- May 3-5** Canadian Micro Mineral Association 50th Annual Symposium
Brock University, St. Catharines, Ontario.
Speakers: Dr. John A. Jaszczak and Dr. Steve Chamberlain
Contact: Bill Lechner at 416-438-8908 or bill.lechner@rogers.com
* Registration form available by request to the above. *
Website: <http://www.canadianmicrominerals.ca>
- May 3-5** Robert Hall Originals – Annual Spring Open House & Demonstration
138 Sugar Maple Road, St. George, Ontario N0E 1N0
Weekend 10:00 am to 5:00 pm each day
Rocks, minerals, gems, beads, lapidary demonstrations & more!
A Free Weekend of Fun...
"Mineral Madness"
Inland lapidary Equipment - Free
Demo Pewter Tour 1:00 each day - Free
Wire Art - Free Demo
Explore Outdoor Rock Piles
Free Coffee & Treats!
Phone: 519-488-1236, 1-800-360-2813
Website: <http://www.roberthalloriginals.com>
Email: robert@roberthalloriginals.com
- May 4** The Kitchener-Waterloo Gem and Mineral Show
Location: Waterloo Community Arts Centre (aka the "button factory")
25 Regina St. S., Waterloo, 10:00 am - 4:00 pm
Rocks, minerals, gemstones, jewelry, fossils, meteorites.
Free admission. Free rocks for kids.
Contact: kwgemandmineralclub@hotmail.com
Website: www.calaverite.com/kwgmcc
- Jun 15-16** Gneiss Guy Minerals and Fossils Warehouse Sale
Saturday and Sunday 10:00 am - 5:00 pm
Open to the Public
Come check out our many specials on opening day.
BBQ each day from 12:00 noon – 1:30 pm
820 Gartshore St. Unit 19
Fergus, On N1M 2W8 (located only 1 hour from Toronto)
Contact: Ken Dardano at 519-831-3093 or gneissguy@bell.net

Jun 19 Mineral Identification Night at the ROM 4:00 pm to 5:30 pm
Use President's Choice Entrance on Queen's Park, doors nearest
Museum subway stop.
Visit their website at:
<http://www.rom.on.ca/en/activities-programs/events-calendar/rock-geology-mineral-fossil-and-meteorite-identification-clinic>
or contact at: 416-586-5816; naturalhistory@rom.on.ca

List of Coming Events Courtesy of the CCFMS Website