



THE MINERAL VEIN

Official Newsletter of

THE MINERAL SOCIETY OF MANITOBA September 2015

FIELD TRIPS HAZARDS

Excerpts from the National Post August , 2015



John Montgomery, an amateur geologist and mineral collector in Ottawa, was digging for minerals in an abandoned mica mine in the Gatineau Hills, Quebec, when he was charged by a black bear.

Here's an account of his story: "I had walked about 45 minutes into the bush. I was basically in the middle of nowhere. I had my tools, but I didn't have any bear spray or bear horns or bells. I was just digging.

I was thirsty, so I decided to stop and stretch my legs. I remember standing up and turning to the right and seeing this black thing way at a distance. I thought it was a racoon or something. And then it starts walking in my direction and, as it's getting closer I realize that's not a racoon, it's a bear.

It was just walking, lumbering along. And I start to back up. I was tripping and stumbling. The bear was about 200 yards away. Its head was moving back and forth. It lifted its head and started sniffing the air. It turned around directly at me, and started running at full speed, like a frigging dart coming at me.

I knew that as soon as it started to run there was no way I could outrun it. I knew that they climbed trees, so I couldn't climb a tree. I didn't have any of my tools. All I have are my hat and my gloves and it's now charging at me. That's when I started to scream.

I took my hat off and started waving my arms. I tried to make myself look big but it kept coming even faster. It wasn't slowing down. It was low to the ground, and galloping.

I took my gloves off and I decided to whistle, with two fingers. That loud shrill piercing whistle. And that's when the bear stopped in its tracks.



It stood there, looking right at me with his beady eyes, and I just kept whistling. The bear eventually turned around and left. I just kept whistling until I found the road, and then I just collapsed on the ground. I was never so scared in my life.

I did find one really good mineral, though."

I hope your summer field trips were rewarding with great mineral specimens and a bit less excitement than this poor fellow!

THE MINERAL SOCIETY OF MANITOBA

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The Mineral Vein is published monthly from September to June.

Meetings are held on the first Wednesday of each month from September to May inclusive at the Manitoba Museum in room P47 on the Planetarium level. They begin at 7:30 PM and feature announcements, an invited speaker and a raffle. Members are encouraged to bring along any new, interesting specimens, or specimens appropriate to the speaker's topic.

Field Trips take place from May to September to interesting sites in Manitoba or neighbouring provinces and states.

Membership: A single membership is \$15 while a family membership is \$20. Memberships run from October to October.

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UPCOMING EVENTS

September 2, 2015: MSM regular monthly meeting begins at 7:30 p.m. at the Manitoba Museum. Presentation by **Tyler Hodder** on the Quaternary environment, in particular stratigraphy and the implications this has for mineral exploration.

September 12 & 13, 2015 : Archaeological, Rocks and Minerals Weekend at Oak Hammock Marsh - Explore the mineral world through exhibits, demonstrations and displays during this family-friendly event. This is one of the club's main outreach activities for the year.

October 7, 2015: The Annual General Meeting of the Mineral Society of Manitoba room P47 (Lower/ Planetarium level) in the Manitoba Museum 7:30 p.m. This meeting is also our annual "Show and Tell" and everyone is encouraged to bring any of their mineral or fossil treasures and show them to the group.



Founded in 1971, the Mineral Society of Manitoba is dedicated to promoting the study of minerals, rocks and fossils for their scientific and recreational value.

The Mineral Society of Manitoba hosts monthly meetings covering a variety of mineral related topics. In addition, the Mineral Society organizes summer field trips to collecting localities, and hosts educational exhibits about minerals and fossils.

SEAWATER INVOLVED IN MAKING DIAMONDS

By Kristy Condon (University of Alberta)

Some of the rich diamond deposits in the Northwest Territories may have been formed as a result of ancient seawater streaming into the deep roots of the continent, transported by plate tectonics, suggests new research from an international team of scientists in Canada, the U.S. and the U.K. The discovery further highlights the role played by plate tectonics in "recycling" surface materials into deep parts of the earth, building on the ground breaking discovery by a University of Alberta team last year of vast quantities of water trapped more than 500 kilometres underground.

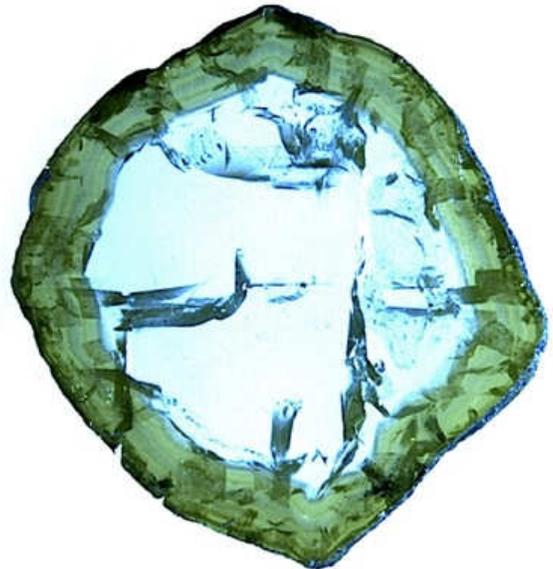
The Northwest Territories is home to rich deposits of high-quality gem diamonds as well as so-called "low-quality" diamonds, which are covered in a coat of cloudy material.



Diamond with a gem-quality core and fluid-rich "coat". The coat contains millions of tiny fluid inclusions that trap pristine brine from 200 km depth. (Photo credit: Anetta Banas)

All diamonds are formed from fluids, but only these less attractive coated stones still contain traces of their scientifically valuable source fluids. The fluids in the coats are sky-high in sodium and potassium and chlorine, and it's very difficult to get that from the Earth's normal mantle. Research shows that the most sensible place for it to come from is seawater, which is basically a sodium chloride solution.

This captive seawater likely became trapped in a massive slab of the Earth's oceanic crust that was subducted beneath North America some hundreds of millions of years ago. The interaction of these seawater brines with the overlying mantle rocks produced a chemically diverse range of fluids from which diamonds crystallized, and could then be carried back to the Earth's surface via an erupting host volcanic rock known as a kimberlite. These fluid-rich diamonds provide scientists with the most pristine examples of deep Earth fluids from around 200 km beneath Earth's surface.



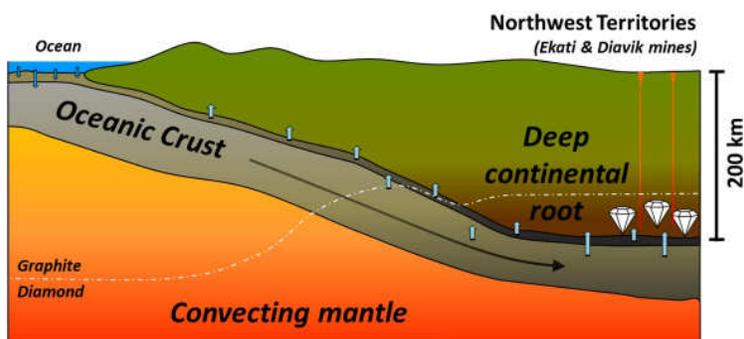
The beauty of the diamond is that because it's such a robust capsule, it protects the material that it trapped at that depth from any subsequent change. It literally carries pristine bits of material from right where it came from, essentially unchanged.

Although high-quality gem diamonds are normally estimated to have been formed three billion to 3.5 billion years ago, these poor-quality, fluid-rich diamonds appear to be just a few hundred million years old—significantly younger in the Earth's geological timeline. One theory to explain this age difference is that the two types of diamonds are actually formed by similar processes, and then over time the fluid-rich stones transform into the gem diamonds. Pearson and his team plan to do further studies on the fluids found in these diamonds to test this model.

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SEAWATER INVOLVED IN DIAMONDS (cont)

What the research indicates is that the standard model that used to be around, that diamonds are only formed in very ancient times, 3.5 billion years ago, by a very specific process, is not necessary true. There are more processes that form diamonds at a whole range of different times than we thought possible.



Schematic model of subduction of oceanic crust altered by seawater and the infiltration of brines into the base of the deep continental root beneath NWT, Canada, to make fluid-rich diamonds.

Understanding more about how diamonds form can shape exploration models of how to find them, offering clues to help locate further deposits. Canada is the world's third-highest diamond producer by value, and the majority of the product is retrieved from the Northwest Territories, where mining is a significant contributor to the territory's economy.

FIELD TRIP ITINERARY 2015

There is still one field trip left for the season:

Holland, MB. (September or October)

This trip to collect pyrite nodules. is tentative and subject to low water levels for a successful trip. This will likely take place in the fall. Contact, Jack Bauer for details.

This field trip is subject to the weather. Field trips may require participants to sign a liability waiver as a condition to gaining access. Field trips are also subject to sufficient participation (and may be cancelled), so keep in touch prior to an upcoming trip. Advise trip leader of any unexpected changes.

SUMMER BBQ AT JACQUES' PLACE

In spite of a rainy afternoon and challenging parking situation due to an afternoon baseball game which monopolized most parking areas in the streets of Old St.Boniface, we had a great turnout for the annual MSM Summer BBQ.



Fortunately, the rain was on and off and we even managed to get a bonfire going. The food was delicious and plentiful and everyone seemed to have a good time.



FIELD TRIP REPORT

By Jack Bauer / Pictures by Thomas Epp

Our intention on this trip was to find some collecting sites within a two hour drive from Winnipeg. I met up with Russ and Thomas Epp, on Saturday, at the Nopiming Lodge at Bird Lake. We planned to explore the Conglomerate outcrops South of Star Lake and running in an east west direction. The outcrops were easily accessible from the road in a few locations. The numerous outcrops were separated by swampy areas (fortunately were not too wet) and areas of dead fall that were considerably more difficult to negotiate. The conglomerate outcrops were intersected by numerous Pegmatites trending in a North / South direction. We peeled back a lot of moss that covered the outcrops.



After 7 hours we covered most of the conglomerate outcrops and I was exhausted. The geology of the area is promising and warrants more research. I believe we should explore the north West area of Star Lake between Tulabi Lake, on our next trip.



I observed Microcline feldspar and quartz blebs were common in the Pegmatites. We did not find any Beryl or Tourmaline. Muscovite and Biotite Mica was common and weathering out of the Pegmatites. Some nice Muscovite crystals were found. Garnet crystals were scarce except for the large well formed (Almandine?) garnet 2" +/- .25" (some weathering damage) within a Feldspar quartz pegmatite. A very interesting association warranting more research. This garnet is still firmly imbedded within the pegmatite. I marked the location, so we could find it again.

The weather was warm 30*c and the mosquitos were scarce, but the deer and horse flies were hungry.



I would like to thank Russ and Thomas Epp for their help and expertise. I would not have been able to cover the area that we did, on my own.