



THE MINERAL VEIN

THE MINERAL SOCIETY OF MANITOBA NEWSLETTER

April 2010

ADVENTURES IN DINOSAUR COUNTRY: THE ALBERTA BADLANDS

The April meeting of the Mineral Society of Manitoba featured two speakers for the price of one. Our own Jack Bauer and Ken Fumerton shared the stage to discuss their experiences collecting dinosaur and other fossils in the Alberta Badlands.



Jack Bauer and Ken Fumerton fielding questions at the April meeting.

Jack Bauer was first up and presented a slide show covering a 1994 collecting expedition to Alberta organized by the late Dr. George Lammers of the Manitoba Museum. The expedition's goal was to retrieve a Hadrosaur skeleton from an area near Brooks, Alberta. Several other members of the MSM including Chris Lammers and Graham Young also volunteered for this trip. In the finest tradition of Tom Sawyer, the organizers charged the volunteers for the opportunity to work their tails off in the hot sun digging, scraping, casting and carrying heavy loads up steep hillsides for days! All in all it took 2-3 weeks to get all the bones

out to a local airstrip where they were loaded into a Hercules aircraft for the trip back to Winnipeg. Jack gave a detailed account of the process of exposing the bones bit by bit, wrapping them in paper and encasing them in a gypsum plaster cast before transport. Most pieces could be carried out by one or two volunteers and some jury-rigged slings, however, one piece weighed in at about 1,000 pounds and had to be moved with a tractor. In the end, all of the Hadrosaur skeleton made it safely to its new home at the Manitoba Museum and portions of it are now on display there.

Ken and Donna Fumerton have been travelling to the Alberta Badlands for many years to explore this amazing landscape and purchase fossil specimens from a dealer in that area. Ken gave a wide-ranging talk full of fascinating tidbits of information, beginning with the surprising formation of the Alberta Badlands themselves. It is believed they formed during a catastrophic flood caused by the collapse of an ice dam holding back glacial Lake Bossano, perhaps in a mere 3 weeks. This flood carved out the canyons and valleys of the Badlands from the original flat-lying landscape and exposed the fossils beneath. Ken also explained how destructive normal weathering and frost-action can be on an exposed fossil bone, often destroying a bone within one year of it being exposed. This makes one wonder what the point is of some of the recently enacted protectionist laws are that prohibit or severely limit collecting fossils if they are going to be destroyed within a year anyway.

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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 plus neighbouring provinces and states.

Membership: A single membership is \$15 while a family membership is \$20. Memberships run from October to October and the annual dues are payable each October.

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UPCOMING EVENTS

May 5th Meeting: Combined meeting with the Gem Club and the Winnipeg Rock & Mineral Club. Our featured speaker will be Mr. Dave Joyce from Newmarket, Ontario, a long time mineral dealer and field collector. Dave will be speaking on "**Collecting Japan Law Twins (quartz crystals) at Foley Peak, British Columbia**" as well as some of the specimen mining that he has initiated or been involved with at various mines in Canada (e.g. the millerite from Thompson and gold from Red Lake). The crystals collected by Dave are the largest Japan twins ever found in Canada and the scenery pictures alone from this incredible site will make the evening well worthwhile. (see the article on P. 3 for a description of Japan Law twins).

May 27-29: Mining Week at the Forks: This annual event is a collaborative effort between the Manitoba Dept. of Innovation, Energy and Mines and The Mineral Society of Manitoba. Your Society will once again have a booth where school children can create instant mineral and fossil collections on our informative "glue cards" and marvel at the fluorescent mineral display. Yvonne Searle, Marion Foster and Jack Bauer will be managing our booth again this year. Please consider volunteering some time to spread the word about our favourite hobby. Call Marion Foster at 775-0625 if you can help out.

June 27th (tentative date): BBQ and Swap Meet at John Frigo's home. Time and details will be forthcoming in next month's newsletter.

Adventures in Dinosaur Country (cont. From P.1)

Ken also brought a wide array of fossils from his personal collection including two complete toes from a Hadrosaur and teeth from dinosaurs, rays and crocodiles. Did you know that as dinosaur teeth were worn down by chewing they were replaced by new ones growing in from below? Ken brought a great fossil that illustrated this process perfectly.



Some of the Fumerton dinosaur fossil collection, including two sets of toe bones in the centre.



Comparative anatomy! Glen Johnston compares his arm bones to a dinosaur bone.

All in all the presentation was very well received and most of us learned a lot about dinosaur fossils and collecting fossils in general. It was great to see two members of the Society prepare and present a talk that was so interesting to the audience and Jack and Ken are to be commended for this.

JAPAN LAW TWINNING IN QUARTZ

Quartz crystals can be twinned according to one of three generally accepted “Laws”: Brazil Law, Dauphiné Law, or Japan Law. Dauphiné twins are penetration twins in which the atomic building blocks of quartz, the silica tetrahedron, are intimately intergrown and show up on the surface of the crystal as a modification to the typical flat and/or irregular etched patterns on the faces. Brazil and Japan Law twins are contact twins in which the twin planes run parallel to the composition planes, producing a geometric pattern of triangles and lines. In the case of Japan Law twins, this shows up as a “V” shaped twin, typically of two crystals joined together along their sides, often in a flattened form and sometimes projecting upward from a bed of single, non-twinned crystals. These twins are easily the most visible to the eye and highly desired by collectors.



Japan Law twinned quartz crystals from Japan; South Dakota School of Mines Museum. 8cm long. Author's photo



Quartz (Japan Law Twin) - Brumado, Bahia, Brazil 6.8 x 6.5 x 1.1 cm (www.irocks.com)

RECENT EVENTS - Earth Day Trip

The Manitoba Mines Branch and Geological Survey offices and facilities were the site of a joint field trip on Earth Day, April 22, with 12-14 participants from the Winnipeg Rock and Mineral Club. This was an opportunity to learn first-hand where & how to pick up geology maps, mineral information, claim maps, etc. Thanks to Jack Bauer and Bob Kurz from the MSM and WRMC and to James Bamburak and Elaine Stevenson from the Mines Branch for organizing this outing. Here is Jack's description of the event:

We all met about 9 AM in the library of the Mines Branch on Empress Street for cake, coffee and our introductions. We then toured the various offices, met and chatted with some of the geologists and saw where they produced their maps and various publications. Elaine Stevenson gave us a glowing presentation about our partnership and the importance of the contribution from the Mineral Society of Manitoba to their efforts to promote the Earth Sciences and the importance of minerals in our world. We then car pooled to the department's facility on Midland Ave. Here we saw their field equipment and rows and rows of drill core boxes. They explained their numbering system to keep track of all of the samples and their locations. We saw their many rock saws and how they made their thin sections (this is how geologists examine the minerals of a rock under a microscope, much like a biologist looks at the insides of a cell – Ed.). Dr. Graham Young also stopped in briefly for coffee and some photographs with the members and the large amethyst specimen which the MSM purchased last year for the Manitoba Museum.

My overall impression is that this was a positive and worthwhile endeavour for the members as well as for the staff at Department of Innovation, Energy and Mines.

Jack Bauer



Admiring the MSM's 1,000 pound amethyst gift to the Manitoba Museum. L to r: Jack Bauer, Dr. Graham Young, geology curator of the Museum, Wendy Anthony, George Green and Marion Foster.



Enjoying free coffee and cake courtesy of the Mines Branch on Earth Day.