



THE MINERAL VEIN

Official Newsletter of

THE MINERAL SOCIETY OF MANITOBA

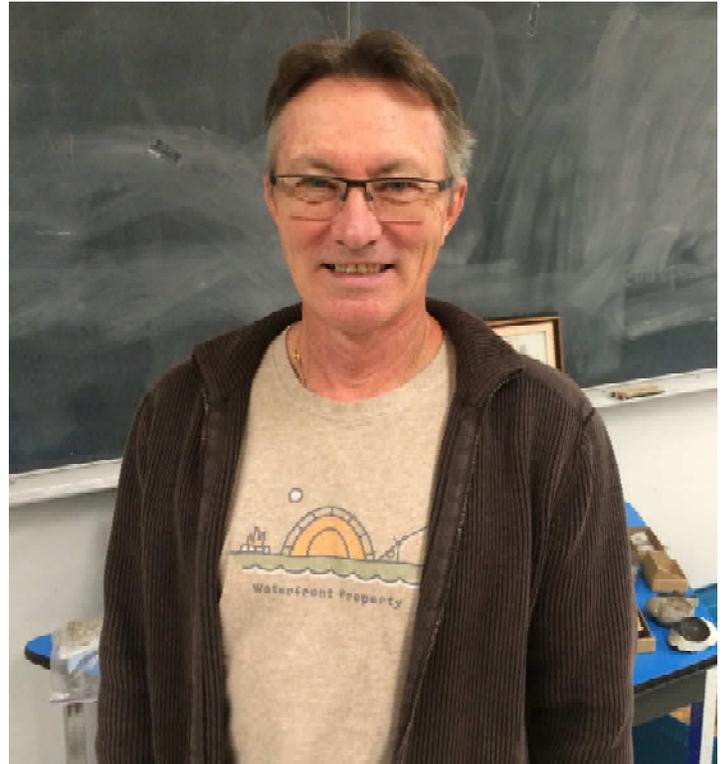
December 2015

NOVEMBER PRESENTATION SUMMARY

By Jacques Bourgeois & Marjorie Turton

Our guest speaker in November was Gordon Hill from the Manitoba Archaeological Society. He talked about the importance of stones to the early cultures of Manitoba. He is a skilled Flint Knapper, what he refers to as the "Second Oldest Profession in the World".

Rocks are multipurpose. They can be used as building material, artist materials, tools and weapons. When describing an era in archaeology, it is often referred to as an Age such as the Stone Age, the Bronze Age, the Iron Age, the Computer Age, the Space Age, etc. based on the technology used at the time. During the Stone Age, the obsidian was the most important stone used for tools and for trade. It was considered the best stone as it could easily be shaped into a knife blade, scraper, spear point, arrowhead, awl, and axe destined for agricultural and domestic tools as well as weapons for war. In South America, obsidian was plentiful and was used extensively. With the aid of this stone a vast and highly developed society developed there. Huge buildings with remarkable stone masonry were constructed. We admire those structures even today. Not only was obsidian used extensively as tools there but it was also an item of trade. Obsidian from South America was found in the southern USA. It became the base of economy throughout South America.



Obsidian is still the sharpest cutting tool. This type of volcanic glass can produce cutting edges many times finer than even the best steel scalpels. At 30 angstroms, a unit of measurement equal to one hundred millionths of a centimeter, an obsidian scalpel can rival diamond in the fineness of its edge. When you consider that most household razor blades are 300-600 angstroms, obsidian can still cut it with the sharpest materials nano-technology can produce.

Even today, a small number of surgeons are using this ancient technology to carry out fine incisions that may heal with minimal scarring. The biggest advantage with obsidian is that it is the sharpest edge there is, it causes very little trauma to tissue. Steel scalpels, at a microscopic level, have a rough cutting edge that tears into tissue. Obsidian, meanwhile, cleaves into a fine and continuous edge when properly cut.

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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

December 6, 2015: Annual Christmas Party. Save the date and mark your calendar for our annual Christmas Party to be held at the Garden City Canad Inn. We will be in the Ambassador Rom at the Aaltos restaurant from 4:00 till 9:00 p.m. Prime rib buffet supper begins at 5:30 and is \$20 per person (\$17 for seniors 55+)

Please let Lisa know if you are planning to attend the event by December 2.

As in previous years, Tony has accepted to be the official auctioneer and will be auctioning off minerals and other interesting items brought by members to the event. Make sure to bring these extra special items that have been taking up space in your closet for the auction!

January 6, 2016: Regular Meeting of the Mineral Society of Manitoba room P47 (Lower/Planetarium level) in the Manitoba Museum 7:30 p.m.

Guest speaker will be Jim Bamburak. He will talk will be about Walking in William "Strata" Smith's footsteps.



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.

In North America flint, or chert, a sedimentary rock composed of microcrystalline quartz, was the rock used to make knife blade, scraper, spear point, arrowhead, awl, axe and fire. It was an important item of trade. The people of North America would trade what they had in abundance for this important material: bison and, bison products.



In this area, the most valuable stone was the Knife River flint found west of Bismarck, North Dakota. It is an exceptionally high-quality and durable tool stone with a wide distribution range throughout the states and adjacent provinces. It was used in many tools and points found in southern Manitoba. It is distinctive in appearance being finely textured, uniform, nonporous, brown to dark brown. It can range in size from gravel to small boulders.

Here in Manitoba, Swan River Chert was the rock mostly used to make tools and points. It is a lithic material that was commonly utilized by pre-contact people on the southern part of the Canadian prairie provinces and the adjoining states. It occurs in highest density west of lakes Winnipegosis and Manitoba. One primary geological source of Swan River chert is located in west-central Manitoba. Rather than a continuous bedded layer, the chert occurs in randomly distributed solution chimneys in Devonian carbonates of the Souris River Formation exposed in the Mafeking quarry, west-central Manitoba.

This Chert also occurs in glacial till and other Quaternary deposits within the area of use. Normally it is very difficult to work as it resists even sledge hammer blows. It actually needed to be "cooked" to be made into tools. Once "cooked" however, the resulting spalling improves its flaking ability. In its natural state it can be various colours: white, gray, brown, and even black.



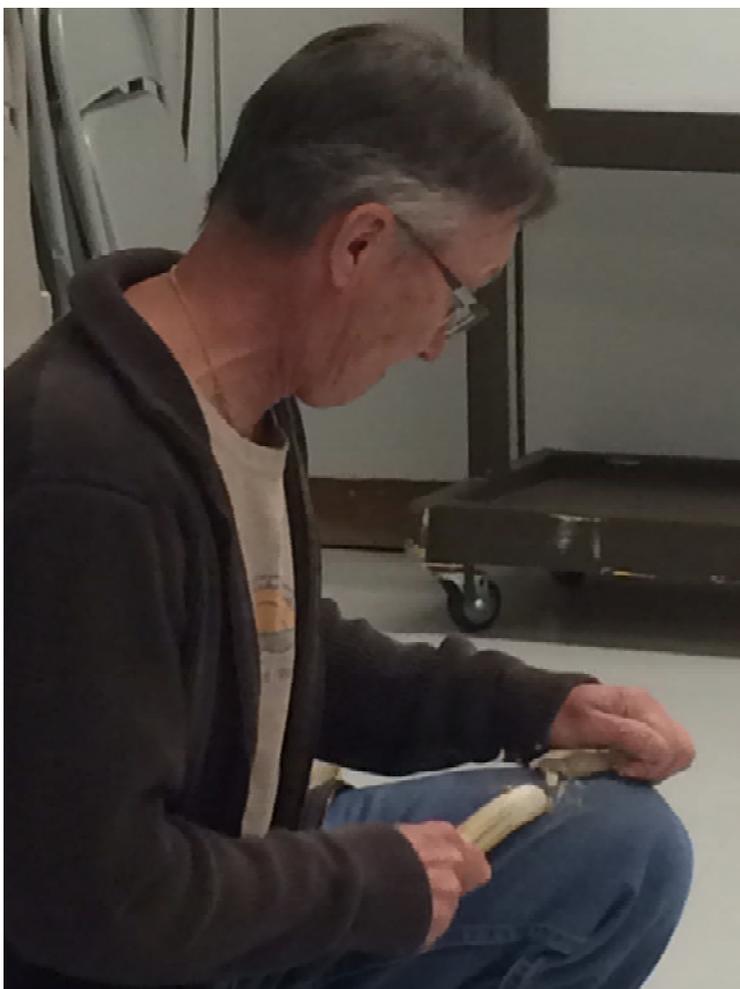
According to Gord, the chert had to be slowly heated around the fire. The temperature of the fire depended on the wood used and the length of time depends on how many beer you had while cooking the stones...Something he referred to as experimental archaeology. After a while, the stone start "tinking" and the side closest to the fire falls off and change colour. The cooked and flaked artifacts resulted in a colour change that matched the colours of the ancient artifacts.



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Stone tools were quickly and easily made. A flake could be made into a spear point, knife, scraper, arrowhead, all in sequence from the same piece of chert. The easily and quickly made arrowheads were disposable object as opposed to the shaft and fletch of the arrow. The undamaged arrowhead didn't get used twice out of respect to the animals. The arrowheads were also made small so as to penetrate between the bison ribs to inflict a killing blow to the lungs or to the heart. Atlatl were used to throw the spears during bison hunts. The stone tips, coupled with the increased velocity produced by the atlatl, were just as good as today's steel tipped arrows.

The end of stone age tool in Manitoba was brought by metal tools brought by Europeans on the Nelson river.

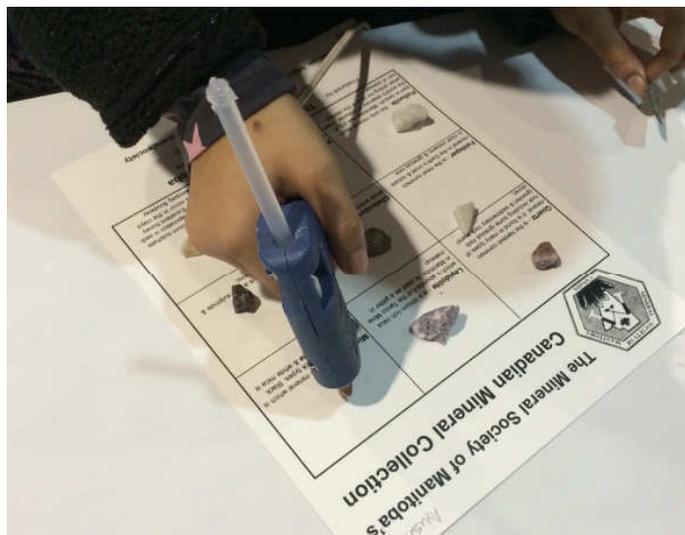


Gord demonstrated how to make a point using chert and talked about the various possible source for chert in Manitoba. We had quite a good attendance for this talk in spite of the weather and there were lots of questions asked at the end of the presentation.

THANK
YOU!

Here is a note we received from Susan Michaels, Outreach and Special Projects Coordinator with Manitoba Geological Survey. She coordinates the kids activities during the Mineral Convention.

“Wow!...you *participated*, you *conquered* (Winnipeg weather) and **YOU ROCKED!!** Thanks so much to each one of your organizations and to you and your volunteers for being a truly integral part of making **2015 Manitoba Rocks! School Tours at Convention** a success! Considering the sudden arrival of winter mid-way through the event, I was extra-happy that the Brandon school was scheduled Wednesday (they let me know they arrived safely back home ahead of bad weather and they thought the 2.5 hour trip each way to get to the tour was 100% worth it)! Our Friday out-of-town school cancelled due to bad roads, but we always receive great feedback from everyone who takes part. Once again this year, participating schools told us Manitoba Rocks! is the best field trip ever! We received loads of high 5's from kids and their smiles and the fun they had learning said it all. We do hope you plan to join us again next year!”



Attendance was lower than anticipated because of the weather but overall the teachers and students seemed very pleased with the activities at our booth. Thank you to all those who volunteered their time for this event.