



THE MINERAL VEIN

THE MINERAL SOCIETY OF MANITOBA NEWSLETTER

November 2006

The Mineral Society of
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2005 – 06 EXECUTIVE

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Society News

Dues are \$10/year (\$15 for families) and are payable at the October meeting or by mail during October.

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 draw. 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, neighboring provinces and states.

Next meeting Wednesday, January 3, 2007.

We will have the pleasure of **Alain Bailes, Ph.D., P.Ge.**, He is Chief Geologist of IEDM, Manitoba Geological Survey, Precambrian Mapping Section.

He will be giving us a presentation entitled **Origin**

of Manitoba: violent, chaotic and ever changing. It is a talk that presents the early "history" of Manitoba in geological terms.

XMAS PARTY on Dec. 3, Sunday

Contact Sherri Godard at 231-0290 prior to November 20 deadline for reservations.

This year's Xmas party will be at the Army Navy & Air Force Veterans Winnipeg Unit No 1 (Legion), on 300 – 1395 Ellice. This is between Ellice and Sargent with entrance on Empress Street. The Legion is north of Ellice Ave. between S.I.R. and Economic Development and Mines (Energy and Mines). **See map, page 2**

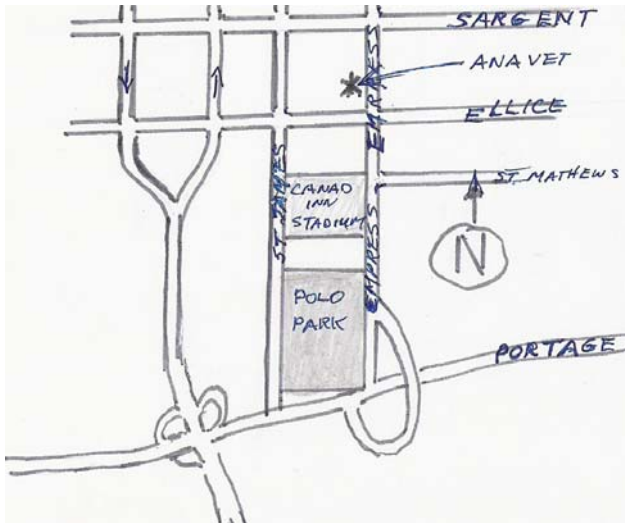
This year we will be feasting on a sit down turkey dinner with all the fixings. For \$15.00 per person, this includes; salad, stuffing, mashed (real) potatoes, cranberry sauce, desert, tax, and gratuity.

There will be an open bar, with drink prices at \$2.40.

Our Xmas party will be from 3:00 PM to 10:00 PM. Dinner will be served at approximately 4:30 pm with our auction happening after desert featuring our ever-popular auctioneer Tony Smith. Please bring auction donations; preferably minerals, fossils, related books, but anything of unique interest, will be welcome.

Two other Xmas parties will be happening in adjacent rooms. When entering the front doors, turn left then right. Walk straight through this room, past the bar, to the games room, at the back, left.

Lots of free parking is available. As per inquiries, S.I.R. and Energy and Mines do not have a problem with after hour parking. Except: the four stalls in front of Energy and Mines, which are reserved 24 hours.



Contact Sherri Godard at 231 0290 prior to November 20 deadline for reservations.

Executive Meeting Highlights

1. We still require volunteers for Manitoba Mining & Minerals Convention 2006 November 20 – 22. Please submit name immediately to Jack Bauer 632-6934.

The Manitoba Mining and Minerals Convention has been the annual focal point for the province's mineral sector for 38 years. The Mineral Society Of Manitoba will be participating again this year. Monday a.m. we need to setup our display. The first school class will be arriving at 1:30. We will be busy November 21 and 22 from 8:30 a.m. to 4:30. We will be stationed in the student Activity Corner providing minerals and fossils to be put on glue cards. We will also be displaying our Robinson collection and, of course, Jack Bauer will be displaying our fluorescent samples. **Last year we volunteers were provided with free parking and a lunch with the Premier. It also provided with an opportunity to talk with various prospectors and miners.** This editor, for one, learned a lot. It is also a good time to make contacts with people in the mineral world.

What we need are volunteers: people to handle the glue cards and students. Please phone Jack Bauer at 632 6934 to volunteer.

2. The Geo Science Students at the U of M requested money. Regretfully denied
3. Some T-shirts are still available for sale.
4. President and Vice-Pres. went to Dowling Insurance to clarify our insurance policy.

November 1 Meeting Highlight

Chris Lammers presented her collection of Fluorites CaF₂

On our November 1st meeting, we had the pleasure of Chris Lammers give a presentation on Fluorites. For those who were unable to attend or wants to review some of the salient points are reproduced here.



Cleaved fluorite Octahedra



Cubic fluorite crystals from [China](#)



Viewing Chris's collection

Fluorite (also called **fluor-spar**) is a [mineral](#) composed of [calcium fluoride](#), CaF₂. It is an [isometric](#) mineral with a cubic habit, though octahedral and more complex isometric forms are not uncommon. [Crystal twinning](#) is common and adds complexity to the observed [crystal](#) habits.

Occurrence

Fluorite may occur as a vein deposit, especially with metallic minerals, where it often forms a part of the [gangue](#) (the worthless "host-rock" in which valuable minerals occur) and may be associated with [galena](#), [sphalerite](#), [barite](#), [quartz](#), and [calcite](#). It is a common mineral in deposits of [hydrothermal](#) origin and has been noted as a primary mineral in [granites](#) and other [igneous rocks](#) and as a common minor constituent of [dolostone](#) and [limestone](#).

Fluorite is found as a common gangue mineral in hydrothermal veins, especially those containing lead and zinc minerals. It is also found in some greisens, granites and high-temperature veins, and as a component of some marbles and other metamorphic rocks.

Fluorite is a widely occurring mineral which is found in large deposits in many areas. Notable deposits occur in [Germany](#), [Austria](#), [Switzerland](#), [England](#), [Norway](#), [Mexico](#), and [Ontario](#) in [Canada](#). In the [United States](#) deposits are found in [Missouri](#), [Oklahoma](#), [Illinois](#), [Kentucky](#), [Colorado](#), [New Mexico](#), [Arizona](#), [Ohio](#), [New Hampshire](#), [New York](#), and [Texas](#). Illinois has historically been the largest producer of fluorite in the United States, however, the last of the mines closed in 1995.^[1] The Illinois general assembly passed a resolution in 1965 declaring Fluorite as the official state mineral.

Fluorescence

Fluorite gives its name to the property of [fluorescence](#), as many samples fluoresce strongly in [ultra-violet](#) light. The fluorescence may be due to impurities such as [yttrium](#) or organic matter in the crystal lattice.

Fluorite's fluorescence color is largely dependent on where the original specimen was located. Blue is the most common color but red, purple, yellow, green and white also occur. Fluorite also exhibits the property of [thermoluminescence](#).

General	
Category	Mineral
Chemical formula	calcium fluoride CaF ₂
Identification	
Color	White or colorless, purple, blue, blue-green, green, yellow, brownish-yellow, pink, or red.
Crystal habit	Occurs as well-formed coarse sized crystals also massive - granular.
Crystal system	Isometric 4/m bar 3 2/m.
Cleavage	[111] Perfect, [111] Perfect, [111] Perfect.
Fracture	Uneven.
Mohs Scale hardness	4
Luster	Vitreous.
Refractive index	1.433-1.435
Pleochroism	-
Streak	White.
Specific gravity	3.18
Fusibility	3
Solubility	Slightly in water.
Other	sometimes phosphoresces when heated or scratched. Other varieties fluoresce beautifully.

Uses

As well as ornamental uses, fluorite is used in the making of [opalescent glass](#), [enamels](#) for cooking utensils, [hydrofluoric acid](#), and as a [flux](#) in the manufacture of [steel](#). Fluorite is also used in some high performance [telescopes](#) and [camera lens](#) elements instead of glass. Exposure tools for the [semiconductor](#) industry, make the use of fluorite for the optics for 157 nm wavelength. This wavelength is created by an [excimer laser](#) with F₂ gas, and the fluorite is a unique material that has high transparency at this wavelength. It has a very low dispersion so light diffraction is far less than ordinary glass, and in telescopes it allows crisp images of astronomical objects even at high power. The name fluorite is derived from the [Latin](#) *fluo*, meaning "flow", in reference to its use as a flux. Fluorite is slightly soluble in water, and is decomposed by [sulfuric acid](#) to form free [hydrofluoric acid](#), which etches glass.