



THE MINERAL VEIN

Official Newsletter of

THE MINERAL SOCIETY OF MANITOBA

APRIL 2018

MARCH PRESENTATION SUMMARY

By Jack BAUER

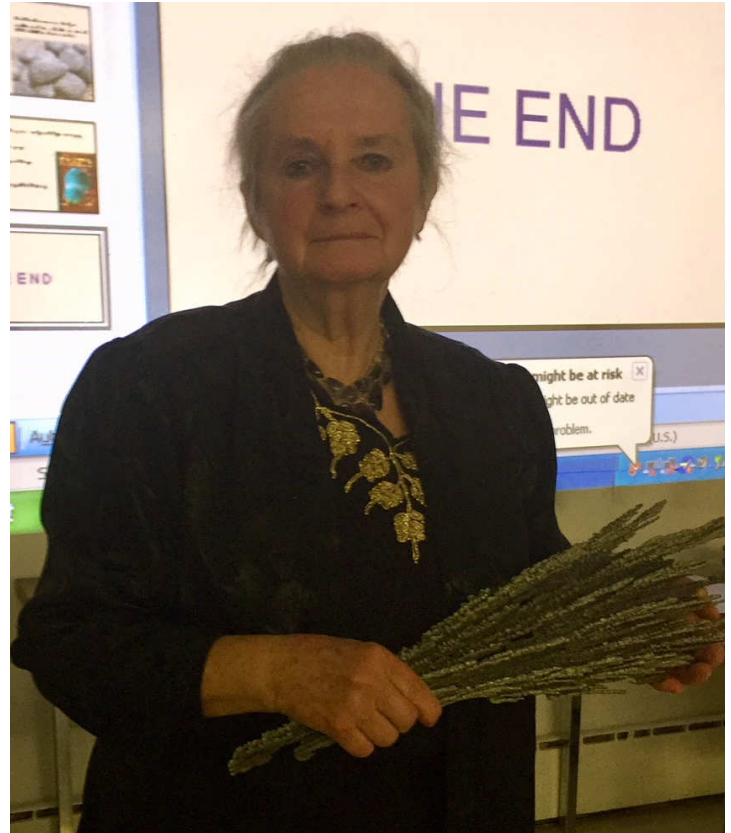
Our meeting started a half hour early, to give our guest speaker, ample time to give, her extensive presentation. Dr. Eva Pip's anticipated presentation, attracted 29 members and they were rewarded with a spirited talk about how easy it is to be fooled into purchasing a fake mineral. Yes, and I found out, that I had altered minerals in my collection too.

Dr. Eva Pip has been a professor (now retired) at the Universities of Winnipeg and Manitoba for 40 years, in the fields of toxicology and water quality. She has more than 125 publications, 3 books, also several scholarly papers on paleostratigraphy. She have served on numerous environmental panels and committees, as well as on Boards of Directors, and has received various community service and academic awards. Rock collecting has been a lifelong passion of hers.

This presentation delved into the shady and lucrative world of fake minerals and fossils, and the multitudes of ways in which collectors can be duped when buying specimens for their collections. These ploys range from the obvious to the truly subtle, so that even experts and museums have been fooled. Mass production of bogus specimens is a significant industry in many countries, including China, Morocco, Afghanistan, Russia, India, Brazil and Mexico.

The primary types of deception were examined along with common examples of each. However in many cases, several kinds of fakery may be combined in one specimen.

Synthetic manufacture retains the original chemical composition, but is not of natural origin. Many sorts of "specimens" may be artificially grown in a lab or at home, according to widely available internet



Dr. Eva Pip presenting on fake minerals

instructions, for example bismuth crystals or chalcantite. Additional or similar chemicals may be incorporated, the result even grown or mounted on "matrix" and passed off as "genuine" specimens, complete with faked locality labels.

Alien chemicals may be crystallized onto natural crystals and advertised as "rare new finds". Natural crystals may be coated with various metals deposited under vacuum or using electroplating. Minerals such as calcite may be soaked in copper sulphate to create pseudo "pseudomorphs". Byproducts from smelters or electroplating operations may be sold as natural specimens: these include zincite crystals and a variety of metals. Magnesium may be passed off as silver.

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UPCOMING EVENTS

April 4, 2018—7:30 p.m.: MSM regular monthly meeting begins at **7:30 p.m.** at the Manitoba Museum. Our guest speaker, **Liga Kalina**, from Unicorn Opals and Gems, will talk about opals. Liga started cutting in 2014 with hand tools and then with some encouragement from Australian opal cutters and other support has continued to discover the beauty and craziness of opal fever. Now with better equipment and years of experience she will be presenting a presentation on the different specimens from the world that she has worked with and some of the opal mines around the world.

April 12 to 15, 2018: Winnipeg Rock, Gem, Mineral & Fossil Show at the Red River Exhibition Park. Presented by Silver Cove. We need some members to volunteer at a table to promote the Mineral Society with our black light display.

May 2, 2018—7:30 p.m. : MSM regular monthly meeting begins at **7.30 p.m.** at the Manitoba Museum. Our guest speaker will be, **Kathryn Lapenskie**, from the Manitoba Mines Branch. She will be speaking about our proposed field trip to Winnipegosis, which is tentatively scheduled for the last weekend in August (subject to budget constraints). She will be talking about Devonian Stratigraphy and the well preserved fossils, found in the area.

June 3, 2018;: MSM BBQ, we are still looking for a place to have our Spring BBQ. If you have any suggestions, please contact **Jack Bauer @ 204-632-6924**



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.

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.

MARCH PRESENTATION SUMMARY

Larger crystals such as quartz, fluorite and calcite may be reshaped and polished to camouflage damage or to simulate other minerals, or may be carved into more expensive shapes.

Many kinds of specimens, including quartz and gemstones, are commonly dyed ("enhanced") to give them a more expensive or unusual appearance. Okenite is a common victim because it easily absorbs food coloring dyes that can be precisely applied. Moroccan anglesite may have been soaked in Javex to give it an appealing golden color. There are many other examples, including the use of toilet bowl cleaner to give attractive blue hues.

Minerals may be heat treated to change their color: the most rampant example is baked amethyst which becomes fake citrine. Selenite crystals may be blow torched to give them a frosty look. Quartz crystals may be irradiated with gamma radiation to produce black "smoky quartz". Many other minerals may be processed in this way to give "unusual" or more desirable colors: aquamarine, topaz, rubellite, kunzite, green quartz.

The use of glue is an enormous problem, and can range from "repairs", "restoration", or reinforcement, to meticulous fabrication of entire mineral and fossil specimens. Most commonly, crystals are added to marginal specimens, to create unusual mineral combinations or to give a more sensational appearance. The glue at the base may be disguised with powdered matrix. Gemstones such as turquoise, malachite and lapis lazuli may be "reconstituted" (aka "stabilized") by combining poor-quality gemstone powder with glue and plastic. The famous Archaeoraptor hoax in 1999 originated with a Chinese "fossil" that was later found to be an intricate composite of dozens of pieces that included different dinosaur fossils and unidentified bird bones combined with crafted "missing parts" and sculpted and painted fillers. Particularly egregious are the tastefully arranged multiple fossils, often of different geological ages, mounted on fake matrix plates; these are turned out by the thousands in Moroccan and Chinese factories.

Ammonite fossils and precious gems such as opals and ammolites may be "multiplied" into several specimens by lamination. The specimen is sliced into numerous layers, and each is mounted on plastic or composite "matrix": only the surface veneer is real.

Fake fossils may be entirely sculpted or molded from plastics and resins, and set into realistic matrix. Amber is another particularly widely faked item: indeed the majority on the market is faux. Large quartz crystals may be cut and polished glass. "Gemstones" such as "calsilica" and "fordite" are layers of congealed car paint in wildly contrasting colors that are cut and polished, complete with labels of bogus "mines". Niahite is a fertilizer chemical that can be crystallized into a mind-boggling array of convincing crystal shapes and colors. Even coprolites (fossil feces) have been known to be faked!

Misrepresentation occurs when the specimen label is wrong. While honest misidentifications do occur, unscrupulous suppliers may knowingly and deliberately pass off cheap or bogus material as something genuine, rare and expensive. Specimens of unknown origin may acquire made-up locality data to boost saleability. Sometimes a supplier may misdirect the real origin of his material to deter other collectors from finding the site or to conceal illegally collected specimens. Labels from old collections may be repurposed for unrelated newer or fabricated items.

The presentation provided advice on strategies to identify fakes in collections: for example many glues fluoresce under UV light, acetone and paint thinner may dissolve some glues, fillers and dyes, a soldering iron may melt plastics, examination under high magnification may reveal ugly secrets. However as technology advances, so does the quality of the fakes, and there are constantly new tricks. Learning how to protect yourself is essential for today's collector. Joining internet groups dedicated to exposing fakes and keeping up with new frauds may be useful. However purchasing specimens on the internet, particularly from auction sites or private sellers' forums is not recommended, because the cardinal rule is:

ALWAYS EXAMINE BEFORE YOU BUY!

FIELD TRIPS INFORMATION

By Danial McKay

Field trip season is upon us and here is some useful information to assist you in planning your trip.

Gillis Quarry: Monday, May 7th, 2018

Meet at the Walmart parking lot in Southdale by the old pizza hut at 8:30 a.m.

- Departure: 9 a.m. - Arrive on site: 10 a.m.

Gillis is about a 45 min drive from the perimeter of the city and is an active quarry. Gillis has some great fossils that can be found in their rubble pile. The quarry is closed on weekends so the field trip will take place on Monday.

The quarry charges \$15 for a car and \$25 for a truck.

Helpful tools:

- Rockhound Hammer or mason's hammer
- 5 lb hammer commonly known as a crack hammer or at the very least a heavier weight hammer
- Solid rock chisel with a guard if possible
- Pry bar
- Neoprene gloves
- Bug Spray (trust me on this one don't forget this)
- Sunscreen
- Lots of Water
- Lunch for the day
- Music helps but headphones are not recommended as they stop you from hearing warnings and equipment
- Bucket or container to carry your finds
- Paper Towels or toilet paper to wrap your fossils
- Band-Aids (just in case)
- Good pair of shoes preferably with ankle support for walking on rocky surfaces.
- Small shovel or road shovel to move larger rubble but usually not needed.
- A good night's rest, its hard work finding fossils and using a hammer and chisel



Souris Agate Pit: Sunday, May 20th, 2018

Meet at the Walmart parking lot in Southdale by the old pizza hut at 8:30 a.m.

- Departure 9 am - Arrive on site 11:30 am

Souris rock shop and permits purchase at noon.

The Souris agate pit has a lot of different minerals from fossils, petrified woods, corals, and of course agates galore. It's a bit of a drive but well worth the trip if you are an agate lover. Dig permits can be purchased at the local rock shop in Souris.

Permit costs \$20 per vehicle.

Helpful tools:

- Shovel
- Water sprayer really helps or rain is amazing to help find stuff
- Neoprene gloves
- Bug Spray (trust me on this one don't forget this)
- Sunscreen
- Ball cap or hat to keep the sun away its wide open area.
- Lots of Water
- Lunch for the day
- Music helps but headphones are not recommended as they stop you from hearing warnings and equipment
- Bucket or container to carry your finds
- Paper Towels or toilet paper to wrap your finds in.
- Band-Aids (just in case)
- Good pair of shoes preferably with ankle support for walking on rocky surfaces.
- A good night's rest

THANK YOU

This is a Big Thank You , to **Susan Micheals** from the Manitoba Mines Branch, for their donation of a flat of fine Zeolite specimens. Your donation and support is greatly appreciated!

*Thank
you*

