

THE ROCKET

May 2024

deadline for next issue
June 14, 2024

Club email: secretary.hrc@gmail.com
Newsletter email: Edrocket18@gmail.com
Roz MacLean – editor

Future Meetings: Our monthly meetings are on the fourth Friday of the month.

Next Meeting: Friday – May 24 at 7PM at Hastings Community Center Hall

This meeting can be a “hybrid meeting.” For those unable to attend in person, please contact our secretary, Crystal, for a zoom link for the meeting.

Program for next meeting (May 24)

Perry Poon is coming to talk about fossils and the Vancouver Paleontological Society. They are a non-profit society that is open to anyone with an interest in fossils. They hold meetings every month featuring talks on different aspects of paleontology often with an assortment of fossils for display, discussion and identification. Did you see their display at the BC Gem and Mineral Show. They had some fantastic fossils there.



Program from last meeting (April 26)

Guenter Otto presented the program at our last meeting. He introduced us to stone carving with a few anecdotes about how he got started. He showed us to the tools and discussed some techniques used for stone carving in jewellery. Guenter also pointed out how some of the tools could be made or gathered less expensively than some other sources. We are very lucky to have him as a club member willing to share his expertise.



Photo Tim Haslam



photo Susan Hamilton

Guenter will be offering a stone carving class to club members.

Crystal has sent an e-mail about it and the information is later in this newsletter.

Workshop Hours

If you are a member in good standing and have taken the required lapidary workshop training course, you can drop in at the workshops and use the equipment on a first come, first served (shared) basis. Be prepared to work on another project if you need to wait to use a particular piece of equipment.

Shown below are the regular workshop hours. Changes are often announced by email. Some short programs are announced at meetings, maybe in an email, or in this newsletter.

Lapidary:	Monday	6:30 pm - 9:30 pm	Richard
	Wednesday	1:00 pm - 4:00 pm	David
	Thursday	6:30 pm - 9:30 pm	Tim
	Saturday	1:00 pm - 4:00 pm	Robert
Silversmithing*	Wednesday	9:00am - 12:00 noon	Robert
	Saturday*	9:00am - 12:00 noon	Crystal and Robert

***Beginners to Silversmithing** are asked to contact Crystal before attending.

Instruction is available **only at the Saturday session** and there is a \$35 beginners kit with supplies needed for silversmithing.

Workshop News

Stone Carving with Geunter

The date for registration has passed, but I put this in the newsletter for future reference and because the workshops will be recorded and available for club members at a later date. We hope to have more courses like this.

There will be a 2-part Intro to Stone Carving Class on Sunday May 26 and June 9th from 10:30am - 2:00pm. Please note that this workshop is not a first come first serve, this is invite only. Open to instructors first, as we will need people to continue to instruct this new class, Intro to Stone Carving. Attendees must have sufficient experience in lapidary and must be able to attend both sessions.

Part 1 Carving - Sunday May 26 10:30am - 2:00pm

- Workshop fee: \$25
- Materials cost: \$275
- Will include: Industrial Diamond Burr Set of 30 \$69.50, Eurotool Flexible Shaft Machine 1/4 HP HDP- \$165.00 and hanger, tray, mat, stones and instruction.

Part 2 Polishing - Sunday June 9 10:30am - 2:00pm

- Workshop fee: \$25
- Materials cost: approx. \$50 (tbd)
- Will include: Diamond grit, vaseline/ paste, assorted bristle brushes, polishing pads/bobs and wooden shapes/bobs for polishing.

Please fill out the form to register: <https://forms.gle/ccu2mQFLdHuFngjZ7>

Also if Interested in tools only, we will be buying bulk order so if you have interest in getting the group's deal on flex shaft (\$165.00) and diamond burrs (\$69.50), please fill out the form for "tools only".

After registration, we will notify you if you have a spot. Please pay a deposit of \$250 CASH to secure your spot on Saturday May 18th to Lara.

Latest Projects



Saturday morning silversmithing

photo Richard Kotecki

Help Our Club and Earn Vouchers for Workshops

From Linda Foy: Hey, we have started a new way to help your club... at the May 2023 meeting it was decided (and agreed upon) to start a voucher program for those who help. The way we are starting this is by making 'windows' in rocks- and these rocks will be used for the grab bags and at our shows.

So, have you ever gone out for a walk and found an interesting rock?
When you picked it up did you have a desire to know what was inside? (You may be a rockhound)
Did you have an overwhelming desire to lick it? (You are probably a rockhound)
If no one was around- did you lick it? (You are absolutely/definitely a rockhound)
A window is like a "perpetual lick" on the rock.

There will be a container in the workshop with rocks in water. When you polish a window in three stones you can hand them into the instructor running the session. You will receive a voucher for those completed rocks. That voucher allows you to have a free workshop in the future (by handing the voucher in).

If you polish more - you can get more vouchers... but- if you do such a good job that you keep the rock; that does not count towards the voucher!

You can also donate three rocks towards the task, that helps the club too... and should earn you a voucher. But those three rocks donated may not count – unless they are good enough to polish! Most quartzites and silicates will polish, and porphyries as well. The typical river rock that is used in landscaping is mainly Fraser River rock and it is mostly quartzites. Thanks in advance, and have fun!

Stabilizing Methods from Bob Walker

Part 2 of 5

Opticon 224 is a popular resin used for stabilizing lapidary material. Here's a step-by-step guide on how to use Opticon 224 resin:

1. Preparation: Ensure that your lapidary material is clean and free from any dirt, debris, or oils. It's best to clean the material with soap and water and let it dry thoroughly before proceeding.

2. Safety precautions: Wear appropriate personal protective equipment (PPE), such as gloves and safety glasses, to protect yourself during the process. Opticon 224 is a resin and should be handled with care.

3. Mixing: Opticon 224 comes in two parts—an epoxy resin and a hardener. Impregnation: Place your lapidary material in a suitable container or vacuum chamber. Slowly pour the A part Opticon 224 resin over the material, ensuring that it completely covers the surface. The resin should penetrate the material's pores and fill any voids.

4. Vacuuming: If you have a vacuum chamber, place the container inside it and apply a vacuum. The vacuum helps remove any air bubbles and aids in the resin's penetration. Follow the recommended vacuuming time and pressure specified by the manufacturer.

5. Curing: Once the vacuuming process is complete, remove the container from the vacuum chamber and allow the excess resin to drain off. Transfer the material to a clean surface.

6. Mix 8 parts A and one part B solution.

7. Paint this solution all over the material. Wrap in aluminum foil and place in an oven at 150 degrees F. Cook for 1 to 2 hours. Remove and let cool.

8. Allow 24 hours to complete.

9. Finishing: After the resin has fully cured, you can proceed with shaping, cutting, and polishing the stabilized lapidary material as desired.

Remember to follow the manufacturer's instructions provided with Opticon 224, as they may include specific guidelines or variations for different materials and application techniques. It's also a good practice to conduct small-scale tests or practice runs before applying the resin to valuable or large pieces of lapidary material.





The British Columbia Lapidary Society News

Classifieds: Have you seen the equipment for sale on the BC Lapidary Society website: It looks like Darlene Howe, of somewhere in the lower mainland, is emptying a workshop.

Rock and Gem Shows

June 1 & 2, 2024 **Selkirk Rock & Mineral Club**, Castlegar Recreation Complex, Castlegar
June 8 & 9, 2024 **Ripple Rock Gem & Mineral Club**, C. R. Community Centre, Campbell River
*July 12, 13, & 14 2024, **1120 Rock Club**, Rutland Centennial Hall, Kelowna
July 20, 2024 **Abbotsford Rock & Gem Tailgate**, Central Heights Church Parking Lot, Abbotsford
Sept. 21 & 22, 2024 **Fraser Valley Rock & Gem Show**, Kinsmen Community Center, Aldergrove

*note date change

2025 Calendar Photo Contest

Submit your entries by July 1st!

The BCLS publishes a calendar each year, featuring 13 photographs of rocks and minerals from British Columbia and the dates of rock shows across the province. The photographs included are determined by way of contest.

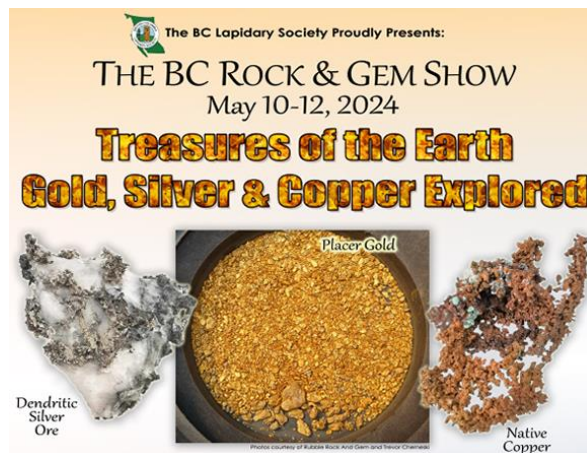
The contest is open to all BCLS members. Enter for a chance to win one of 13 spots on our 2025 calendar. The prize for each photo chosen is a lapidary item valued at not less than \$20. **Contest closes Canada Day July 1st 2024.** See full contest rules below. Remember, our calendar lists all the BCLS club shows. Help make our calendar great!

<http://www.bclapidary.com/rock-mineral-calendar.php>

Nick Tsourganis of Hastings Centre Rockhounds has had pictures in the 2024 and 2023 calendars.

The British Columbia Lapidary Society hosted the BC Gem Show

Our club had 6 show cases at the provincial show and there were club members demonstrating. Many members were able to attend the show and tailgate sale. We are looking forward more great projects.



Our club activities

Show Cases at the BC Gem & Mineral Show





Show Cases were submitted by Dan, Jo & Renee, Gunther & Linda, Allison, Tim, Kyle & Joyce, Steve, TJ, Midori, Sara & Lucy. I don't have the order right, but it was great to see our club so well represented.

July 7, 2024

Tailgate Sale/Hastings Community Association Anniversary

As part of Hastings Community Centre Association our club will be participating in the anniversary celebrations on July 7. There will be many activities and we will need many volunteers. Please talk with Lara who will be heading a committee to organize volunteers. We need people to operate a Spin and Win Table in the park, to work on the Tailgate Sale and to do demos and tours of the workshop.

The Tailgate Sale will be organized by Richard and Sante, and sponsored by the Community Association. Instead of the parking lot (which will be needed for other events) the "tailgate sale" will be modified to an indoor sale. It will be held in the Community Hall (same room as our general meetings).

Our events will be starting 1 hour before the Hastings Centre events.



HASTINGS CENTRE ROCKHOUNDS CLUB

PROUD PARTICIPANT OF



July 7th, 2024 (Sunday) 10:00 AM - 2:00 PM

HASTINGS COMMUNITY CENTRE,
3096 EAST HASTINGS STREET, VANCOUVER BC



Information Table
Location: Field west of the Community Centre



Mini Rock, Mineral, and Jewelry Show/ Sale
Location: inside Community Hall
(Facing Pender Street)



Demo & Workshop Room Tours
Location: Lapidary Room
(Community Centre, downstairs)



Scan Here to Learn More about the Hastings 90th Anniversary Celebration Event & Open House

WHERE TO FIND US

Website: hastingscentrerockhounds.com/ 

Facebook: facebook.com/groups/hastings.rockhounds 

SPONSORED BY  



HASTINGS 90TH ANNIVERSARY CELEBRATION

HASTINGS COMMUNITY ASSOCIATION
90TH
EST 1934



SUNDAY, JULY 7TH
11:00AM-2:00PM

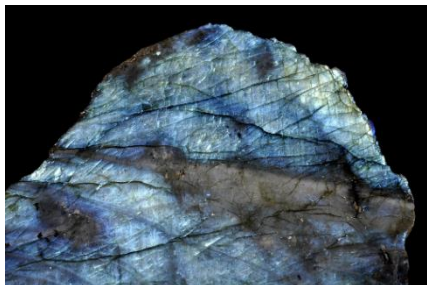
3096 E HASTINGS STREET
WEST GRASSY FIELD BEHIND
BUILDING (BESIDE SPRAY PARK)

LIVE PERFORMANCES, FOOD TRUCKS,
YOUTH BBQ, FACE PAINTING,
CARICATURES, BOUNCY CASTLES
AND MUCH MORE!



By Roz MacLean

Labradorite



is the gem of the month. I have been fascinated by this Canadian gemstone for a while, but as I looked into labradorite, things weren't very simple to understand. There was some confusion, some chemistry, and a lot of vocabulary to learn before I felt I had a good understanding of this beautiful lapidary material.



<https://www.artegia.com/products/labradorite-royal-ray-of-light-gold>

Fire Mountain Gems

According to a CBC article, "Labradorite was known to ancient Inuit people, and was named by Moravian missionaries in the Nain area in 1770. In 1975, it was named Newfoundland and Labrador's official mineral." In fact, the name Labradorite is for the location it was found and identified.

Then I came across the International Gem Society.org (IGS) discussion of the value of Labradorite: "Labradorite (Mexico, Oregon, etc.) is a yellow to gold Feldspar material found in many locations." This sounds like Oregon Sunstone. This doesn't sound like the material I have seen called Labradorite.

A bit more research shows that the chemistry is the clue.

Labradorite is a Feldspar, the most abundant group of minerals. Feldspars are found in almost all igneous rocks and all rocks formed from them. They are all aluminium silicates combined with one or two metals. Labradorite is found in fine-grained, faster cooling basalt or slower-cooling, coarser grained gabbro. Both basalt and gabbro are igneous rocks.

The Feldspars are further divided into classes by crystal structure or by chemical composition. Labradorite is Plagioclase Feldspar. Plagio- is from ancient Greek and means slanting or sideways or oblique. -Clase is also from ancient Greek and means fracture. Plagioclase is a reference to the group having two cleavage directions almost at right angles to each other. The cleavage pattern is one good field identifier of plagioclase feldspar which shows at least two surfaces of cleavage often with striations (tiny, straight parallel grooves on a cleavage surface.)

According to geology.com and others, Plagioclase feldspars are a solid solution series ranging from pure albite, $\text{Na}(\text{AlSi}_3\text{O}_8)$, to pure anorthite, $\text{Ca}(\text{Al}_2\text{Si}_2\text{O}_8)$. The names of the minerals in the series are based upon their relative abundance of albite and anorthite. A chart from geology.com explains it best:

Plagioclase Group Minerals		
Mineral	% Albite	% Anorthite
Albite	100-90% Ab	0-10% An
Oligoclase	90-70% Ab	10-30% An
Andesine	70-50% Ab	30-50% An
Labradorite	50-30% Ab	50-70% An
Bytownite	30-10% Ab	70-90% An
Anorthite	10-0% Ab	90-100% An

Labradorite, from Labrador and other places, has the same chemistry as Oregon Sunstone, and that is within a range of combinations.

Oregon sunstone is beautiful and different enough, with its own considerations and controversies, to deserve its own article. Here we will focus on the grey-black to grey-brown material most of us know as Labradorite.

Labradorite has a hardness of 6 - 6.5. In the field, the most distinguishing characteristic after cleavage, striations and hardness, is the optical property described in various articles as a schiller, iridescence or labradorescence. According to mindat.com **schiller** is

A variable optical phenomenon in gems or minerals, related to sheen; varies from a milky to an almost metallic shimmer to a vivid iridescent play of color. It is usually seen just below the surface in certain varieties of pyroxene, feldspar, etc.

If there is a fire or flashing play of colour as the stone is moved, like in precious opal, we call it **Iridescence**. When the flash is like larger plates of colour, like in Labradorite, we call it **Labradorescence**. Photos from Wikipedia show this effect very well.



Labradorite can show a play of colors with blue, green, pink, yellow, orange and even reddish colours. These colors are from light reflecting off submicroscopic planes. According to an explanation in gem-a.com (the Gemmological Association of Great Britain),

Slow cooling... provides time in which atoms can move from one part of a crystal structure to another. These parts become richer in (one or the other of the minerals) than the crystal as a whole. The locations and orientations of these areas are controlled by the host crystal and their sizes by the cooling rate.

This process, called exsolution, produces oriented layers and inclusions of one type of feldspar in another...

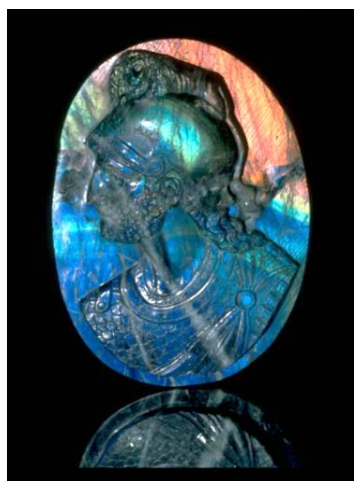
Exsolution of more sodium or calcium-rich layers and thin film interference are thought to be responsible for iridescence in labradorite.

In Labradorite, slow cooling is required to allow the Calcium, Sodium, Silicon and Aluminium ions to diffuse through the plagioclase and produce the lamellar (thin plate) separations. The separation of those chemicals into thin layers, where one chemical is stronger than in other areas of the plagioclase, causes the colour play. Because rates of cooling can be different for different rocks, labradorite may or may not have colour play and another plagioclase like Bytownite (see chart above) may have some colour play. Some sources say it is the concentration of calcium that makes the difference so Labradorite and possibly Bytownite are the only plagioclase that will have labradorescence.

The greater the play of colour, and the more transparent the stone, the greater its value. But, according to geology.com, Labradorite is rarely seen in mass-merchant jewelry. Instead, it is most often used by designers and jewelers who do unique and custom work.

That would be us.

The most striking example of lapidary work is a cameo carving in the Smithsonian Museum, and I include it here because of the growing interest in stone carving within our club. Most Labradorite is made into cabochons.



Smithsonian National Museum of Natural History

Specimen	Catalog Number	Locality	Weight
Labradorite	NMNH G1750	Canada, Newfoundland	810.70 ct

Gift of Purchase in 1888.

Careful study should be made of the material or the finished cabochon so it will be oriented to produce the best colour and flash. Consideration of how the final project will be viewed, and how it might move, or not, with wearing, and how the flash may appear, will all affect how the cabochon is created or put in a setting for jewellery.

According to E Jakeman's advice published in

<https://www.gemsociety.org/article/labradorite-gemstone-cutting-advice/>

"The most important thing when cutting labradorite is the orientation. Get your rough wet and turn it until you get a good flash of color. Mark this as the "top." ...Next, saw the rock in layers so that this color will be flat across each slab cut. If you get more than one flash, choose the strongest. I doubt any grinding will be needed to see this color. If you don't orient your rough, you'll wind up with a translucent gray stone without any desirable color flash."

According to geology.com, some cautions are required when using labradorite as a gemstone. Because it breaks in two directions with perfect cleavage, it may break with impact. So labradorite is not a great candidate for rings and bracelets unless well protected by the setting. With a MOHS hardness of 6 to 6.5 it will scratch more easily than jasper or agate so labradorite jewellery will need to be protected in storage too.

From an article by Hobart M. King, PhD, GIA Graduate Gemologist, in geology.com,



Anorthosite: Anorthosite, a rock rich in labradorite, is often cut, polished, and used as an architectural stone. It is sold under a variety of names such as "blue granite" or "labradorite granite." It is used as countertops, tiles, window sills, and facing stone. A building faced with labradorite-rich rock can be a spectacular sight when the sun hits it at the right angle. Millions of labradorite crystals reflect brilliant color flashes in various directions. This makes the building glitter colorfully in the sun as you drive or walk by.
Image copyright iStockphoto / Theanthrope.

Labradorite was first named in Canada, but it is found around the world.

A very colourful variety from Finland is given the name Spectrolite. Madagascar also produces a lot of Labradorite. They even produce a variety that is called Rainbow Moonstone because of its similarity to Moonstone with its milky background, but it has a wide range of colour play that reveals its membership (confirmed by chemical analysis) in the Labradorite class of Feldspars.

<https://4cs.gia.edu/en-us/blog/moonstone-a-gem-to-celebrate-the-moon/13501-960x960-feldspar-mineral-labradorite/>

The feldspar mineral labradorite—found in Madagascar—has a multicolored adularescence over a light bodycolor. It's known in the trade as rainbow moonstone, shown here as faceted gems.

