

THE ROCKET

January 2022

deadline for next issue
February 11, 2022

Club email: secretary.hrc@gmail.com
Newsletter email: Edrocket18@gmail.com

(This month's colour = Imperial Yellow for the Lunar New Year and the Year of the Tiger)

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

Due to Covid-19 and concerns with gathering, we will be having a zoom meeting this month. Crystal (our club secretary) will send a link soon so you can access the meeting. We do have important business to discuss and will have a program. Thanks Nickell.

Next Meeting: Friday – January 28 at 7PM
By Zoom on your computer, in your comfortable place

Programs:

Did you know Canada is the 5th largest producer of gold in the world (as of 2020)? We've all heard about gold panning - that fun activity on the stream banks you might have done as a kid. But do you want to learn about how gold and copper are extracted from hard rock ore bodies? Well, you are in luck, our club member Nickell A, worked at a remote gold and copper mine in the mountains of BC back in 2009, and has prepared a presentation to share. Some of you might remember the presentation from a few years back - it will be the same but with fresh new statistics!

Last Meeting Programs:

It was our Annual General Meeting where we elected the executive for the next year. See the results below.



Paul gave a talk on Fluorite and brought in some colourful examples. He has let us include his article in this newsletter with some added photos and some historic background to the text. Please see the article on page 5.

We also had a "Bottle Drop" for Ways and Means. People went home with some interesting winnings.

As a sign of the times – we were all in masks. (Photos – Roz)





Fluorite, Rogerley Mine, County Durham

Roz came across this picture while looking at the Russell Society website. See p. 4 article, [For Rockhounds](#).

More in the Russell website gallery
<https://russellsoc.org/gallery/>

Executive for 2022 – Election results

President	Esther
Vice president	Diane
Secretary	Crystal
Treasurer	Sante (until he goes to Europe)
Senior delegate to the BCLS	Scott
Intermediate delegate to the BCLS	Nickell
Junior delegate to the BCLS	Paul
Program	Linda
Library	Grazyna
Field trip	Steve
Publication	Roz
Publicity	Arlene
Show	Sante & Linda
Ways & means	Joyce
Workshop	Committee: Sante, Bob, Dave, Richard
Club Representative to Hastings Centre	Nick
Director at large	Steve
Historian	Vera
Sunshine	Debbie
Membership	Nickell

SHOWS

There are currently no shows or sales listed on the BCLS Website. Times are still challenging with Covid – 19.



Hastings Community Centre has removed all restrictions on the number of people that can attend a workshop. Our workshop instructors decided that people no longer needed to make a reservation.

If you a member in good standing, have taken the required lapidary workshop training course, and are double vaccinated "passport" with ID to show, 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,

Lapidary:	Monday	6:30 pm - 9:30 pm	Richard
	Wednesday	1:00 pm - 4:00 pm	David
	Thursday	6:30 pm - 9:30 pm	Sante
	Saturday	1:00 pm – 4:00 pm	Bob
Silversmithing	Wednesday	9:00am – 12:00 noon	Marilyn
	Saturday	9:00am – 12:00 noon	Robert

Rendezvous 2022

Coombs, BC, June 2 — 6, 2022
Coombs Fair Grounds
1014 Ford Rd.
Coombs, BC

The Registration form for Rendezvous 2022 is now on the BC Lapidary society website. Rendezvous is our Society's annual gathering which has taken place since 1958 (well, until the COVID pandemic). Rendezvous 2022 will feature:

Field Trips
Camaraderie
Mini Rock Show and Sale
BCLS Annual General Meeting

The BCLS will strive to make Rendezvous 2022 open and welcoming to all while following the required COVID protocols set out by the Provincial Government at the time of the event.

This year Rendezvous and Gemboree have been combined into a single larger-than-usual event focused on bringing us all back together after 2 years of COVID retreat. Rendezvous 2022 will be hosted by our Vancouver Island clubs including Victory Lapidary and Mineral Society, Cowichan Valley Rockhounds, Parksville & District Rock & Gem, Courtenay Gem and Mineral Club, Alberni Valley Rock & Gem, Ripple Rock Gem & Mineral Club (Vancouver Island Zone).

Visit the web site at <https://www.bclapidary.com/rock-hunting-rendezvous.php> for the registration form and everything Rendezvous. Let's make a point of getting back together again and rocking BC!

Interesting for Rockhounds

While we were on a "Covid Break" and a Summer Break in July 2020, we heard from a former member Michael Doel. Some of you may remember this former newsletter editor from the 1970's.

This month we thought we would share the note with you. I'd forgotten about it until going through some past records. Unfortunately, I have also lost the attached newsletter he sent but you can check out the Russell Society at <https://russellsoc.org>.

He is looking for some old newsletters and if you can help him, you can reach him through our club secretary.

On Sun, Jul 5, 2020 at 4:46 AM Michael Doel wrote:

Hi There!

Apologies for the "out-of-the-blue" approach but while searching on-line for something else, I came across a reference to the Hastings Centre Rockhounds. A whole roomful of memories promptly swung open - because, back in the early 1970s I used to be a member. Given the sad fate of many of the old clubs, it's really good to hear that the group is still in existence.

From 1970 - 1973 my then wife and I were working at UBC where we met someone (whose name I completely forget) who talked enthusiastically about stone polishing, silversmithing and rock collecting. He was a member of the Hastings club and encouraged us to come around to visit the club and meet the people. We were immediately hooked and pretty much joined on the spot.

We learned cabochon making from Cliff Smith. (I saw a reference in one of your past Newsletters to Cliff's death in 2008. He was a nice guy and I remember him fondly). We were taught silver-smithing by Lilian Castle in her amazing basement workshop. Possibly some of the current membership will remember her. Others who I remember from that period were a lady called Maxine (whose other name I'm afraid I've forgotten) and Wally Praedolins.

For a while we edited the club Newsletter - and that's one reason for this message. I suppose there isn't anyone around today who might have a copy of one of the Newsletters from the early '70s which we edited?

Being pre-computers, it was a laborious process involving chasing people for copy (or writing it ourselves), then typing each page onto a set of special stencil sheets with an old manual typewriter. The stencil sheets went one at a time onto the drum of an antiquated duplicating machine which you had to charge with various chemicals and then turn a handle to feed through sheets of paper. What came out was often somewhat crudely printed, but it was what we were used to.

I never kept any but I would really like to have one as a souvenir of the "good old days".

I'm 74 now and still firmly "into" mineral collecting, although I don't do any lapidary or silver-smithing these days (no equipment). I'm actually a member of six different mineral societies at present so the flame still burns - for one of them I edited the Newsletter for 10 years (old habits die hard) but at least there was my PC, clever software and printable pdf outputs. (On the off-chance that anyone might be interested I've attached a copy of one of my issues...)
Amazing to think that it all started 50 years ago with the Hastings Centre Rockhounds.

If you do have any information about (really) old copies of the Newsletter - or anyone who was member in the early '70s - I would be delighted to hear from you.
Many thanks.

Dr. Michael Doel
High Wycombe
England

Fluorite

*Paul Pinsker presented this as a talk presented to the Hastings Centre Rockhounds November 26, 2021.
Some additional historical information and images have been added by Joyce Pinsker.*

Most rockhounds have some fluorite in their collections; it is second only to quartz in popularity. Its abundance makes it available whether found personally or bought, and it is good value for the beauty it provides. Fluorite is found in such a variety of colours that it has been dubbed “the most colourful mineral in the world.” Every colour of the rainbow, in various shades, is represented in fluorite samples, along with clear, white, and black. While purple or violet are the classic colours, rare blue and rarer brilliant yellow are prized. Rarest of all fluorites are pink, black, and colourless. Colouration can be beautifully banded or zoned. Collectors also value how fluorite comes in a variety of crystal forms and for how it typically glows (or fluoresces) under either short- or long-wave UV light, or both; the phenomenon of fluorescence, after all, in 1852 was named for this mineral.

Well, what is fluorite? Chemically speaking, it is calcium fluoride or CaF_2 . Like most minerals it comes with impurities, which are critical to its fluorescence. Quoting no less authority than Bob Jones... “Only when the mineral contains some impurity that acts as an activator will the specimen respond under UV excitation.... for fluorite that turns a lovely blue under long-wave UV the activator is a rare earth element, europium.” Other rare earths, yttrium, and ytterbium are also known to activate fluorite to fluoresce.

Fluorite, the definitive mineral for 4.0 on the Mohs scale, is quite soft. While its crystal habit is commonly cubic, it cleaves readily and cleanly. Hence it is sometimes referred to as a “spar”, a term used to describe easily-cleaved, non-metallic minerals that present a smooth face. A mass of fluorite crystals may be cleaved into various habits..., not only cubes, but also tetrahedrons, popular octahedrons, rhomboids, and even botryoids.

Fluorite forms as a late-crystallizing mineral, typically via hydrothermal activity in felsic igneous rocks (i.e., rich in elements that form feldspar and quartz). It is particularly common in granitic pegmatites, but also occurs as a vein deposit formed via hydrothermal activity in limestones (associated with galena, sphalerite, barite, quartz, and calcite). In recent years, the greatest sources of fluorite have been China (by far, with >50% of world tonnage), followed by Mexico, South Africa, Russia, Spain, Mongolia, Namibia, Kenya, and Morocco. Attractive crystal specimens are found in many additional countries, such as the USA, the United Kingdom, France, and Madagascar.

So, what is fluorite used for, besides looking pretty in your cabinet, or crafted into lapidary or other ornamental products? When used for industrial purposes, it is commonly referred to as fluorspar. Fluorspar is useful as a flux, by lowering the melting temperature to allow elements such as iron to flow better. It is mined for steel-making and the smelting of other metals to decrease the viscosity of slag and to remove impurities. The words *fluorite* and *fluorspar*, in fact, are derived from the Latin verb *fluere*, meaning *to flow*. Its usefulness as a flux was first written about by the German scientist Georgius Agricola in 1530.

In 1670 a German glass-worker discovered hydrofluoric acid when he treated fluorite with a strong acid and observed vapors rising from the solution. He kept this process proprietary and developed a profitable glass-etching business. Eventually, word of the process leaked out and over time a number of scientists experimented with hydrofluoric acid. In 1888 Henri Moissan (moissanite’s namesake) isolated fluorine, earning him the 1906 Nobel Prize for Chemistry.

The earliest uses of fluorite date back to the ancient Chinese and Egyptians, who used it for ornamental carvings and decorations. Fluorite was highly prized by the ancient Romans for its rarity and colour variation. Banded fluorite wine cups were brought back to Rome from Parthia (now Iran) by Pompey as spoils of war. The Emperor Nero spent the astonishing sum of 300 talents (1 talent = 60 lbs. of silver) or over 8.5 million in today’s Cdn dollars, on one of these rainbow-coloured cups. Only 2 of these exquisitely carved cups survive, both in the British Museum.

Roman drinking cup, ca 50-100 CE





Pre-colonial Indigenous peoples of the Americas also used fluorite, including in small carvings and for beads, pendants, and ear ornaments.

Pre-contact fluorite carvings, Mississippian culture, found at different sites in the Illinois-Kentucky fluorspar region

Fluorite used to be important for making refrigerants and aerosols but concerns over the ozone layer and global warming forced its disuse. Fluorite is still important, however, in the manufacture of certain enamels and special glasses, such as required for the lenses in microscopes and telescopes. The purest grades of fluorite are a source of fluoride for hydrofluoric acid manufacture, which is used in producing specialized fluorine-containing chemicals, with end products including non-stick plastics and wood preservatives. To strengthen tooth enamel and prevent tooth decay, fluoride is incorporated into toothpaste or, in some countries where populations are at risk and agreeable, added to the drinking water.

The Burin Peninsula of Newfoundland boasts one of the largest deposits of fluorspar. Extraction of ore from the mine at St. Lawrence started in 1933. Veins extended up to 300m in depth and over an area of 160 km². The mine was a godsend for the workers in the Burin, as a tidal wave in 1929 devastated the area, killing 27 residents (as if the Great Depression and collapse of fishing weren't bad enough). World War II was a boom time as demand for the fluorspar spiked, and huge quantities were mined and shipped to aluminum smelters in Quebec and the USA. By the 1970s, however, competition from mines in Mexico and South America made the St. Lawrence operation unprofitable, and in 1978 all mining ceased. After a few fits and starts over the ensuing 40 years, the mine reactivated in 2018, and finally began shipping ore from a new dock near St. Lawrence in July of 2021. The Burin Peninsula is the route that one takes to the town of Fortune, from where you shuttle over to France (St. Pierre et Miquelon). Should anyone ever venture there, don't miss stopping at the mine's museum and lapidary workshop at the village of St. Lawrence.



Members' fluorite samples displayed at the meeting
Photo courtesy Rick Kay