BUGLE

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RIPPLE ROCK GEM & MINERAL CLUB
Box 6, Campbell River, BC, V9W 4Z9

Editor: Gordon Burkholder
Assistant: Janet Burkholder

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June 2015

Regular monthly meeting
2nd Friday each month at 7:30 pm
(**Except June; 1st Friday and July & August; no meetings**)
Craft Room, Campbell River Community Hall
401-11th Ave
Campbell River, BC

RIPPLE ROCK GEM & MINERAL CLUB

RIPPLE ROCK EXECUTIVE 2015

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Vice-President	Linda Henderson	250-286-1718
Past President	Gordon Burkholder	250-923-1740
Secretary	Steve Cooley	250-287-4388
Treasurer	Dennis Cambrey	250-337-8949
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Assistant Wagonmaster(s)		
Show Chair	Molly Milroy	
Shop Coordinator	Beba Adams	250-926-0044
Shop Maintenance		
Entertainment	Pat Doyle	250-285-2377
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Showcase	Beba Adams	250-926-0044
Slab Draw/Collection	Beba Adams	250-926-0044
Coffee Break	Melissa Ticknor	
Basic Lapidary Instructor	Steve Cooley	250-287-4388

Delegates to Vancouver Island Zone Meetings

Senior	Gordon Burkholder
Intermediate	Jan Boyes
Junior	Ulla Williams

WORKSHOP

Shop located at 246 Dahl Rd.
For general shop info contact
Beba Adams 250-926-0044
The workshop hours are posted on the club website.
www.ripplerockgemandmineralclub.com

MEMBERSHIPS
A single membership is $15.00 and a family is $25.00. Memberships may be paid at the General meetings or by mail to Box 6 Campbell River, BC, V9W 4Z9.

President

As always at this time of year everything seems to revolve around the upcoming 'Show'. I'd like to thank all of the members of the Committee for their hard work in preparing this year's show. Molly Milroy has her crews working hard. Please remember to come to the meeting on Friday and volunteer some of your week end time in helping at the show.
The annual club Pot Luck picnic is set for July 5 from 10:00 - 2:00 at the covered picnic area at Miracle Beach Provincial Park. Bring along a dish to share, and your eating utensils. The club will supply hotdogs and burgers plus all the fixin's. As well there will be a rock auction and we'll need donations from members.
Have a great summer!
Kathy Young

Vice President

I have been so busy working on the show that my reading time is down to about zero minutes so I have nothing new to report there. If you're looking for some summer reading check out the library's inventory on the web site or give me a call.
Linda Henderson

Show Committee Report

We are down to weeks before the 2015 Show. There are still some things that need members' attention. Dennis is looking for medium sized rock samples for the Club display. Bring them to the meeting or drop them off at York Industries and make sure your name is on the bottom if you want them back. Rocks and related items are needed for the silent auction it would be nice to have them on the night of the set up but they can be brought in at any time.
There are many people to thank for their help in preparing the show this year. My committee has worked and continues to work on making this a great event. Jan Burkholder has provided her expertise and given lots of information on how things get done. Harry Kerr has done a huge amount of extra work and as my right hand man gets a great big thanks.
Molly Milroy

Show-case Display

Jack and Jan Boyes held a work/painting bee to get all of the show cases ready. We have 14 cases in our care and will be using 7 at the show to house displays from various Island clubs. Thanks to Linda, Harry, Molly, Gord, and of course Jack and Jan for helping out.
Beba Adams

Shop report

Things are going well but we'll need to send off some of the Nova wheels for resurfacing. Bob Hayhurst has been doing some repair work on the trim saw and other machines.

Just a reminder, that the Shop will be closed for a month during the summer for renovations, clean-ups and repairs.

Beba Adams

Wagon Master's Field Trips

We have the Rock Candy Mine field trip planned for the end of July. See the web site for details.

Here's something from the Parksville club.

Shane Mawhinney

We (Parksville Rock Club members) are working on the fieldtrip to Texada Island June 18th to 21.

Please let either myself (Jim McKinnon, terracrystal@shaw.ca; 250-722-2276) or Linda Strand (lindaandclaude@hotmail.com; 250-248-0602) know if you are planning to join in the fieldtrip. We need to have a sense of numbers by June 7th.

Here is some information to help you plan:

Ferry Schedule Information: Comox to Powell River
http://www.bcferries.com/schedules/mainland/copr-current.php

Powell River to Texada:
http://www.bcferries.com/schedules/wireless/NGI/Powell_River_-_Texada_Island.html

Possible Accommodation:
-Texada Island Inn - 1108 Gilles Bay Road 604-486-7711

Campgrounds:
http://www.powellriverdirect.com/sports_recreation/parks/texada_island.html#.VWNccVIYFhc

Shelter Point Park was used by Ripple Rock Club when they organized their fieldtrip
- RV Park: http://www.texadarvpark.com/ (need Adobe Flash Player to open) or http://texada.org/texada-rv-park-storage/

Possible exploration sites:
LaFarge/Texada Quarry, Imperial Limestone Co., Little Billy Mine

Look forward to hearing from you.

Jim McKinnon

Web Notes

The web site is updated regularly all year long. If you'd like to find out what's going on between "Bugle" editions check out the web page. News, Items for sale, Field trips, and General Notices can be found on the site at www.ripplerockgemandmineralclub.com

Keep your eyes open for information on Mabel Baaske's huge rock and slab sale coming this fall. Information will be posted as received to the web page.

Janet Burkholder

Editor's Message
This will be the last issue until September as we take our summer hiatus. I am looking forward to gathering more informative items for the coming issues of the Bugle.
Janet and I will be trying our hand at selling at this year's show and I am looking forward to giving this a try. I will see you at the show and hope that you drop by and say, "Howdy!"
Gordon Burkholder

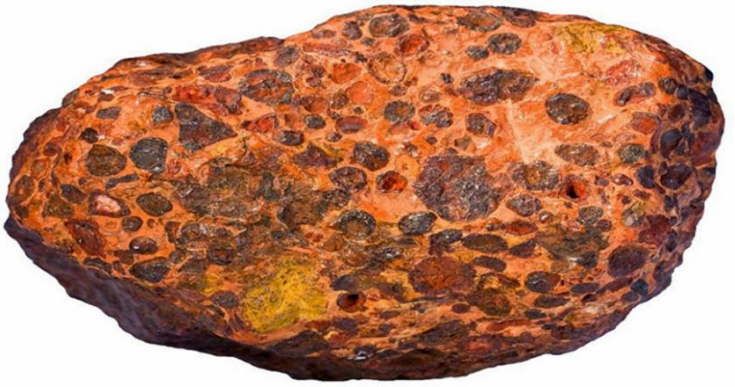
Quotable quote: Get your facts first, then you can distort them as you please. *Mark Twain*

FROM THE MINERAL SHOP

THE 10 MOST BENEFICIAL MINERALS

Bauxite

Aluminum in bauxite is hosted by aluminum hydroxide minerals, mostly gibbsite. Archaically called hydrate of alumina or alumina trihydrate ($Al_2O_3 \cdot 3H_2O$),it is found in nature as the mineral gibbsite (also known as hydrargillite) and its three, much more rare polymorphs: bayerite, doyleite and nordstrandite. Closely related are aluminium oxide hydroxide, AlO(OH), and aluminium oxide, Al_2O_3, differing only by loss of water.



Iron Oxides; Major source for making steels.

Iron oxides and oxide-hydroxides are widespread in nature, play an important role in many geological and biological processes, and are widely used by humans, e.g., as iron ores, pigments, catalysts, in thermite (see the diagram) and hemoglobin. Common rust is a form of iron(III) oxide. Iron oxides are widely used as inexpensive, durable pigments in paints, coatings and colored concretes. Colors commonly available are in the "earthy" end of the yellow/orange/red/brown/black range.

Copper minerals

minerals are all types of copper ore. [Photographs from the Ko-collection (Japanese), copyright Kyushu University]

Major source of copper, which is used as an electrical conductor in all sorts of applications occurs as native copper or in minerals such as the copper sulfides chalcopyrite and chalcocite, the copper carbonates azurite and malachite, and the copper(I) oxide mineral cuprite. The largest mass of elemental copper discovered weighed 420 tonnes and was found in 1857 on the Keweenaw Peninsula in Michigan, US.

Ferrihydrite (≈Fe (OH)3)

Picture showing the Transformation of ferrihydrite (top) to goethite (bottom).

Is a widespread hydrous ferric oxyhydroxide mineral at the Earth's surface, and a likely constituent in extraterrestrial materials. It forms in several types of environments, from freshwater to marine systems, aquifers to hydrothermal hot springs and scales, soils, and areas affected by mining. It can be precipitated directly from oxygenated iron-rich aqueous solutions, or by bacteria either as a result of a metabolic activity or passive sorption of dissolved iron followed by nucleation reactions.
Common natural absorbers of toxic heavy metals and metalloids such as As,, Se, Pb, etc. (hydrous manganese oxides have a similar importance and are probably more important than iron hydroxides in the marine environment).

Zeolites

Natrolite Locality : Nasik District, Maharashtra, India Size : (11x9x7cm)

Known as molecular sieves, zeolites are commonly used in the cracking of petroleum to make gasoline, in chemical catalysis, and as cation exchangers in softening H2O Zeolites have a porous structure that can accommodate a wide variety of cations, such as Na+, K+, Ca2+, Mg2+ and others. These positive ions are rather loosely held and can readily be exchanged for others in a contact solution. Natural zeolites form where volcanic rocks and ash layers react with alkaline groundwater. Zeolites also crystallize in post-depositional environments over periods ranging from thousands to millions of years in shallow marine basins. Some of the more common mineral zeolites are analcime, chabazite, clinoptilolite, heulandite, natrolite, phillipsite, and stilbite. An example mineral formula is: Na2Al2Si3O10·2H2O, the formula for natrolite.

Gypsum (CaSO4 2H2O) An important component of cements.

Gypsum is a soft sulfate mineral composed of calcium sulfate dihydrate, with the chemical formula CaSO4·2H2O. It can be used as a fertilizer, is the main constituent in many forms of plaster and is widely mined. A massive fine-grained white or lightly tinted variety of gypsum, called alabaster, has been used for sculpture by many cultures including Ancient Egypt, Mesopotamia, Ancient Rome, Byzantine empire and the Nottingham alabasters of medieval England. It is the definition of a hardness of 2 on the Mohs scale of mineral hardness. It forms as an evaporite mineral and as a hydration product of anhydrite. Gypsum is a common mineral, with thick and extensive evaporite beds in association with sedimentary rocks.

Salt (NaCl) An essential nutrient

Common salt is a mineral substance composed primarily of sodium chloride (NaCl), a chemical compound belonging to the larger class of ionic salts; salt in its natural form as a crystalline mineral is known as rock salt or halite. Salt is present in vast quantities in the sea where it is the main mineral constituent, with the open ocean having about 35 grams (1.2 oz) of solids per litre, a salinity of 3.5%. Salt is essential for animal life, and

saltiness is one of the basic human tastes. The tissues of animals contain larger quantities of salt than do plant tissues; therefore the typical diets of nomads who subsist on their flocks and herds require little or no added salt, whereas cereal-based diets require supplementation. Salt is one of the oldest and most ubiquitous of food seasonings and salting is an important method of food preservation.

Quartz (SiO_2)

Quartz is the second most abundant mineral in the Earth's continental crust, after feldspar. It is made up of a continuous framework of SiO_4 silicon–oxygen tetrahedral with each oxygen being shared between two tetrahedrals, giving an overall formula SiO_2.
There are many different varieties of quartz, several of which are semi-precious gemstones. Especially in Europe and the Middle East, varieties of quartz have been since antiquity the most commonly used minerals in the making of jewelry and hardstone carvings.
Essential in the early development of civilization because of its use in cutting tools and weapons (hardness of 7 and a conchoidal fracture, producing sharp edges) quartz is also the primary source of silicon, which is the major chemical component of modern semiconductors.

Calcite (CaCO3)

Calcite is a carbonate mineral and the most stable polymorph of calcium carbonate (CaCO3). The other polymorphs are the minerals aragonite and vaterite. Aragonite will change to calcite at 380–470 °C, and vaterite is even less stable.
High-grade optical calcite was used in World War II for gun sights, specifically in bomb sights and anti-aircraft weaponry. Also, experiments have been conducted to use calcite for a cloak of invisibility. Microbiologically precipitated calcite has a wide range of applications, such as soil remediation, soil stabilization and concrete repair.

Phosphates; Essential plant nutrient used in fertilizers

Strengite Locality: Hagendorf South Pegmatite (Cornelia Mine; Hagendorf South Open Cut), Bavaria, Germany
Picture width 3 mm. Collection and photo Christian Rewitzer

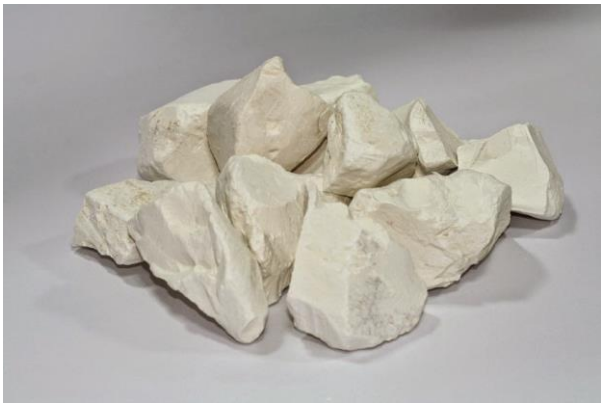
Phosphate minerals are those minerals that contain the tetrahedrally coordinated phosphate (PO43-) anion along with the freely substituting arsenate (AsO43-) and vanadate(VO43-). Chlorine (Cl-), fluorine (F-), and hydroxide (OH-) anions also fit into

the crystal structure. Phosphate rock is a general term that refers to rock with high concentration of phosphate minerals, most commonly of the apatite group. It is the major resource mined to produce phosphate fertilizers for the agriculture sector. Phosphate is also used in animal feed supplements, food preservatives, anti-corrosion agents, cosmetics, fungicides, ceramics, water treatment and metallurgy.

Hydroxypatite ($Ca_5(PO_4)_3(OH)$)

Is a naturally occurring mineral form of calcium apatite with the formula $Ca_5(PO_4)_3(OH)$, but is usually written $Ca_{10}(PO_4)_6(OH)_2$ to denote that the crystal unit cell comprises two entities. Hydroxylapatite is the hydroxyl endmember of the complex apatite group. Naturally occurring apatites can, however, also have brown, yellow, or green colorations, comparable to the discolorations of dental fluorosis.
Without hydroxyapatite, we would not have bones or teeth (or at least they would be made of a different mineral). It is known as bone mineral.

Clay minerals



Clay minerals are hydrous aluminium phyllosilicates, sometimes with variable amounts of iron, magnesium, alkali metals, alkaline earths, and other cations found on or near

some planetary surfaces. Clay minerals form in the presence of water and have been important to life, and many theories of abiogenesis involve them. They have been useful to humans since ancient times in agriculture and manufacturing.
Without clay minerals, we would have very poor soils that would be incapable of holding nutrient elements like K, nitrogen, and phosphorous, which are necessary for plant growth. Without plants and soils, we wouldn't be here!

That's probably as much as you want to know about these minerals right now but there is more information to be found at: http://www.geologyin.com/2015/01/10-most-beneficial-minerals-and-why.html#ohgWqOEiO4YukQv3.99

Quote: If the facts don't fit the theory, change the facts. *Albert Einstein*

ROCK OF THE MONTH

June Birthstone - Pearl

Pearl Color and Origins

Unlike other birthstones, which are formed from inorganic substances, a pearl is formed by a living organism. A pearl begins as a piece of grit or other foreign substance that makes its way into the shell of a marine or freshwater mollusk (oysters, clams). A defense mechanism kicks-in to coat the particle with layer after layer of a substance called nacre, eventually forming a pearl.
Naturally occurring pearls are very rare. Most of the pearls we buy are "cultured," pearls that originate when beads or pieces of nacre are intentionally inserted into a mollusk and allowed to grow.
Pearls are traditionally white with flashes of iridescent pink, but today's cultured pearls are available in a rainbow of colors and in a huge range of shapes and sizes.

Pearl Folklore

Different cultures throughout history have associated pearls with modesty, chastity, power and courage.

Quote: Look deep into nature, and then you will understand everything better. *Albert Einstein*

Kornography

Q: If H2O is the formula for water, what is the formula for ice?
A: H2O cubed.

WELCOME "NEW" MEMBERS

Membership
I'd like to welcome John Fisher and Linda Devitt to the club. John and Linda are from Royston.
Dennis Cambrey

FROM THE CUTTING FLOOR

I love to cut rocks! But I have found that there are many stones which require some serious work preparing to cut them or you can run into a lot of less-than-great cut pieces. Labradorite and obsidian are examples of such stones. I went looking for some good information and found this article on cutting labradorite. The article was written by the folks at Labradorite and Gems.

How to cut labradorite

Step one: Identify.
I normally identify the most exposed or protruded plain to start the cutting process. This makes it much easier to make multiple slabs from various plains in the same stone, allowing you to slowly work around conflicted plains and will reduce the amount of waste.

Step two: investigate.
When we investigate, we are evaluating the faces angle and the maximum flash exposure. The first thing I do if the targeted plain is a little rough or hidden, is to give it a quick run on my flat lap. I will normally just go with the natural angle of the face. This simply allows you to observe the flash a bit more clearly. Do the best you can in keeping the face 90 degrees to your vision. So from here we move to what I call investigative cuts.

If you look close, you will notice a few new faces. These are minor plain adjustments I have made on the flat lap machine to search for the best face angle. Over time you should be able to reduce the investigative cuts to a minimum, but in the beginning mine looked like a bad example of an attempted princess cut pavilion. So don't be worried. I have chosen to make two new angles. What needs to be done now is to repeat the rotation process. Do this on all your new angles until you have found yourself an acceptable central flash. What this is attempting to achieve is to eliminate a stone that only looks impressive from a right sided observation, or left, above etc. When you have made your choice proceed to cut that angle through the entire face.
Repeat the visual rotation and pivoting method again. Notice the difference? If by chance you are not pleased with the result, repeat the investigative cut process. If you are happy with the flash, move onto squaring up your piece.

Did you know… Water is composed of two gins, Oxygin and Hydrogin. Oxygin is pure gin. Hydrogin is gin and water.

Step three: Square

This step is just a quick and dirty method to ensure you get a decent foundation on your labradorite for running through your saw. You can skip this step if you use a plaster cast method, have a sliding vice on your saw, don't want to potentially waste material or have immaculate eyeball accuracy. The objective here is to make a 90 degree plain off your newly found face to use as a foundation for the table of your saw. This just helps run the rough through the saw leaving the only concern being to keep the face parallel to the saw blade itself. All you need to do is get any area, strip, side etc. 90 degrees to the flash face.

Ideally you should rotate your square around the labradorite and find the area that will require the least amount of material to be removed to achieve this.

The rough is sitting sturdily on the foundation plain, and my face is a perfect 90 degrees. This simply makes running the labradorite across the table easier and eliminates the rough from wanting to roll or pivot. I will admit, I typically only use this method if I find a very desirable flash making what little waste the foundation cut causes, little concern. Now let's cut a piece to see the yield.

Step 4: Cut

Here is the end result a successful full flash no matter the stones orientation. After all of that, I was able to get approximately 3, 1/4" thick pieces to cab with a great pattern and strong flash before that particular area was exhausted. At which point I repeated the processes for all the other areas with great potential.

Final Thought:

School Paper

John wrote an article in the school paper about how this chemical, dihydrogenoxide, has killed over 100,000 people world-wide, usually through inhalation. The story also went on to state that even if you wash your food you can never get this chemical off. No matter what you do you will be exposed to this very dangerous chemical every day of your life until you die. The story finished by claiming that there needs to be a government research group founded to find a solution.

A local newspaper reporter read this story in his daughter's school paper and decided to do a follow up. He ran the article in his newspaper and started a local push for a government study before they realized what the story was about.

(If you haven't figured it out di-hydrogen-oxide is the correct name for H2O or water. The deaths that were quoted were from drownings.)