



The Rock-It

June 2011

Officers: For 2011 and 2012

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Secretary: Merri Miller
Treasurer: Troy Smith (503) 646-1932
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Board Member: Steve Nelson (360) 397-5284
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Sunshine Person: Barbara Brandt (503)-658-3690
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Refreshments Book: Libby Adcock
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Programs: Jan Davis-Shelley (503) 348-4833
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Membership: Merlia Tilgner (503) 666-2905
Regional Advisor: Wayne Werder (503) 233-8934
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"The Rock-It" is the official club publication of the Mt. Hood Rock Club. The news deadline is the first day of every month, for that month's publication. The contents of "The Rock-It" may be reprinted if credit is given to "The Rock-It" and the author.

Meetings: Mt. Hood Rock Club meets the second Tuesday & the fourth Monday of each month. Meetings are held in the basement of the United Methodist Church in Gresham. The Church is located at 620 NW 8th St, Gresham, OR. Regular meetings start at 7:00 pm. Juniors are welcome!

Mt. Hood Rock Club: Phone No. (503) 760-1825
Dues are due before January 31st if you want to be included in the club's roster for that year.

Dues: \$10.00 per adult, juniors \$1.50 family membership same household \$15.00.

Oregon Council Web site:
www.oregoncouncilrmc.org

Mt. Hood Rock Club is a proud member of the Portland Regional Gem & Mineral Show Association, Northwest Federation of Mineralogical Societies and the Oregon Council Rock Mineral Clubs.

Website: check us out on our new web site.
<http://www.mounthoodrockclub.com/>



June Birthdays

Patty Amos
Phil Bolton
Kirby Harris
Michala Senarsky

Anniversaries:

Bud & Jo Hauschild

The schedule for the Shop:

Tuesday 10 am - 2 pm

Host: Steve Nelson

Wednesday 6 pm -10 pm

Host: Lee Boehner

Thursday 6 pm -10 pm

Host: Jim Crismon

Friday 6 pm-10pm

Host: 1st and 3rd Rick Beehler

Host: 2nd & 4th Dan Espeland

Saturday 9 am – 1 pm

Host: Ellis Valenter

2nd Saturday 1pm-6pm

Host: Rick Beehler

We invite all MHRC members to come see the Lap shop and are encouraged to sign up to participate if they want- \$7 per session, 3mo \$90, 6mo \$150, 1yr \$250
\$.40 per lineal inch cut on 16", 18", 24" saws

Federation News

In July the Federation show will be held in Chehalis, WA we are looking for Demonstrators for the show we want to show the people in the area what can be done with the rocks they find. If anyone is interested in demonstrating please contact me and I will sign you up. You can email me at packrats2@q.com. We would like to

find some ice cream buckets or small tubs for slabs to use at the show. We also need good rock we can auction off in the oral auction and rock for the silent auction also. Anyone who would like to help at the show please contact Dick or Patty and we can give you any other further information you may need. You can get all camping and motel information on the Northwest Federation web site or in the June Federation newsletter. We need good rock for the silent auction and any nice pieces for the Oral Auction which will be held on Sunday you can get your donations to Dick. Income Tax deduction receipts can be given for donations or the rock or equipment can be on consignment for your 60%. If you would like one please give us your name and address with your donation.

Federation Field Trip

Over Memorial Day weekend the Tri Federation Field trip was held at Hampton Butte with field trips to many other locations. There estimated to be around 230 people at the event. Even though there was rain and snow and very cold conditions the rockhounds endured the freezing weather.



Some of the group!



Doug True talking to the group



Piece of Pink Limb



Terry & Dick Bibbens find



The roads to glass butte were rutted and wet! This had dried considerably.



Dick thinks this was found in Wegner Canyon



Don't know if you can see the snowflakes I was home in a nice warm bed. Dick took these pictures for the first 3 or 4 days he had heater problems and didn't have any heat in the trailer.

Borax

Borax is mined in Boron, CA. It is where almost half of the borates that the world uses is mined. Borates are mineral that contain the elements boron and oxygen. The company has been mining borates for more than 125 years. Back in the old days, they used wagons pulled by twenty mules to carry the minerals. Today they use giant trucks, rail cars and ships to get borates from the mine to their customers in more than 80 countries around the world. Borates are very special minerals: they're used to make everything from glass, detergents, ceramics and plant food to footballs, nail polish and Play-Doh. There are borates in your house, borates in your clothes, borates in your family car and even borates in your computer.

Boron in plant life

People didn't know about mineral nutrients when they first started growing crops more than 10,000 years ago. In fact, it has only been in the last 75 years that scientists and farmers discovered the seven essential micronutrients that plants need to grow, boron among them. Boron performs at the cellular level, and is integral to a plant's reproductive cycle; controlling flowering, pollen production, germination, and seed and fruit development. The mineral also acts as a fuel pump, aiding the transmission of sugars from older leaves to new growth areas and root systems.

Fundamental to Life

As one of the 109 elements that make up the planet, it's not surprising that boron is everywhere - in soil and water, plants and animals - in trace amounts. Although scientists refer to levels of "boron," it is important to note that the element boron does not exist by itself in nature. Rather,

boron combines with oxygen and other elements to form boric acid, or inorganic salts called borates.

Despite the millions of tons of industrial borates mined, processed and distributed around the world every year, far larger quantities of boron are transferred around the planet by way of natural forces. Rain, volcanic activity, condensation and other atmospheric activities redistribute at least twice as much boron as all commercial practices combined.

Boron in Your Diet

Plants get the boron they need from soil and water. In fact, they can't live without it. For humans, experts agree that boron is nutritionally important, and mounting evidence suggests that boron may be an essential element to our diet as well.

A key to understanding how much boron people need is knowing how much boron they consume, and from what dietary sources. Nutrition Research Group's Charlene Rainey of Irvine, California, is breaking new ground in her studies about the dietary boron intake of a cross section of healthy populations on four different continents.

Boron occurs naturally in seawater at an average concentration of five milligrams of boron per liter (mg B/L). The element generally occurs in fresh water lakes, rivers, streams, and groundwater at concentrations well below one mg B/L.

Boron is a naturally occurring element in soil originating from boron-containing minerals in the earth's crust. Boron availability and levels in soil are dependent on solubility of boron in the parent rock; the physical and chemical characteristics of the soil;

and the availability of water moving through it. The available level of boron ranges from 0.1 to 3 mg/kg of soil. However, most of the boron in soil remains part of insoluble minerals or is firmly attached to other components such as clay or organic matter. The total boron level (soluble and insoluble) in soil can be categorized as low-boron (less than 10 mg B/kg soil) or high-boron (on the order of 100 mg/kg). The average overall concentration of boron in all soil ranges from 10 to 20 mg/kg.

Boron deficiency is more widespread than boron enrichment. Extremely high-boron soils are rare. Existing large deposits were formed over many years encapsulating high concentrations of borates in non-permeable layers of clay. In some areas of the world soil is layered on top of rock with a high boron content. This rock is a source of boron and may result in boron-enriched topsoil and groundwater.

Borax has found more than 80 different types of minerals in our mine, some of them very rare. Here are the four main types of boron-based ores found in our principal mine.

Tincal - $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$

Tincal (pronounced "tinkle") is the most abundant ore in the deposit. Romans made glass with tincal.

Kernite - $\text{Na}_2\text{B}_4\text{O}_7 \cdot 4\text{H}_2\text{O}$

The second most abundant type of ore is Kernite, named after Kern County, California, where our primary mine is located. Crystals of Kernite more than five feet long have been found in the mine.

Ulexite - $\text{NaCaB}_5\text{O}_9 \cdot 8\text{H}_2\text{O}$

This form of ore takes on many different shapes. It can look like a mushroom, a cauliflower, a snowball or a bunny tail ... which is why it's often called "cottonball."

Colemanite - $\text{Ca}_2\text{B}_6\text{O}_{11} \cdot 5\text{H}_2\text{O}$

Colemanite gets its name from one of Borax's founding fathers - William T. Coleman -even though he made a name for himself mining cotton ball.

BORATES IN USE

Fundamental to Modern Living

Borates are an integral part of the natural world. Plants need borates to grow, and it seems people need them too. Not only as a nutritionally important part of their diet, but also as an essential ingredient in a dazzling array of the products we use every day. Borates are important ingredients in a variety of household and commercial products, chief among them:

- insulation fiberglass, textile fiberglass and heat-resistant glass (43% of world demand)
- detergents, soaps and personal care products (17% of world demand)
- ceramic and enamel frits and glazes, ceramic tile bodies (12% of world demand)
- agricultural micronutrients (5% of world demand)
- Other uses including wood treatments, polymer additives and pest control products
-

Mineral Composition

Minerals are free uncombined elements or elemental compounds. Their compositions are given as chemical formulae. The formula for fluorite is CaF_2 . This indicates that calcium (Ca) atoms have combined with fluorine (F) atoms.

The subscripted number (2) shows there are twice as many fluorine atoms as there are of calcium. Minerals are arranged into groups according to their chemical composition and their crystal structure.

Native Elements: These are free uncombined elements. This relatively small group consists of around 50 members, some of which (gold, silver) are very rare and commercially valuable.

Sulfides: A common group of over 300 minerals, sulfides are chemical compounds in which sulfur has combined with metallic and semi metallic elements. Pyrite and Realgar are examples of this group.

Halides: All minerals in this group contain one of the halogens: fluorine, chlorine, bromine, or iodine. Atoms of these elements combine with metallic atoms to form minerals like halite (sodium and chlorine) or fluorite (calcium and fluorine). This is small group of minerals with around 100 members in all.

Oxides and Hydroxides: This is a large group of over 250 minerals. Oxides are compounds in which one, or two metallic elements combine with oxygen. A metallic element combining with water and hydroxyl forms a hydroxide.

Carbonates: A group of 200 minerals, carbonates are compounds in which one or more metallic elements combine with the $(CO_3)^{-2}$ carbonate radical. Calcite, the commonest carbonate, forms when calcium combines with the carbonate radical.

Sulfides: These are compounds in which one or more metallic elements combine with the sulfate $(SO_4)^{-2}$ radical.

Phosphates: A brightly colored group of minerals, phosphates are compounds in which one or more metallic elements combine with the phosphate $(PO_4)^{-3}$ radical. Arsenates and vanadates are associated with this group.

Silicates: A significant and common group of over 500 minerals, silicates are

compounds in which metallic elements combine with either single, or linked Si-O (silicon-oxygen) tetrahedral Si_4^+ . Silicates are divided into six structural classes.



Getting White Lines Out of Your Tumbled Stones

Often after tumbling rocks, you will notice white lines on your newly polished treasures. These lines are caused by polish getting in small cracks in the rocks.

Sometimes there is nothing you can do to fix this problem. However, you can try a few little tricks to get them out.

First, try putting the rocks back in a very clean barrel after you clean the rocks of ALL polish and any dirt that may have gotten on them. Put water in them as you have for all the tumbling stages.

Instead of putting in polish, put in any soap that doesn't produce suds. Ivory soap flakes work well but have become difficult to find in the stores.

After you have the soap and water in the barrel with your stones, you will want to add CLEAN plastic pellets. Do not reuse the pellets from the polish because they are contaminated with the polish.

Seal up the barrel and let it run for a few hours and check. If the white lines are gone, you are done. If they are not let it go a few more hours. This process can take up to 24 hours. If the polish has not come out by then, it isn't going to come out at all.

I have heard of some people grating up Ivory soap bars with a cheese grater. That seems to be working well. My wife got a little agitated when she saw me headed to the food processor with a bar of soap. You might want to get permission or purchase a cheap cheese grater just for this purpose.

Do not use dish soap, laundry detergent, or even dishwasher soap. They will not work.

As always, feel free to call or email with questions.

Rick, rockshop@rocks4u.com



Super Power Crunch Bars

1/3 cup honey
2 Tbsp. Butter or margarine
4 cups Jet-Puffed Marshmallows
6 cups Honey Bunches of Oats Cereal
1 cup dried apricots, chopped
1 cup Almonds chopped

Microwave honey and butter in large microwavable bowl on HIGH 1 minute. Stir until well blended. Add marshmallows; toss to coat. Microwave 1 ½ minutes or until

marshmallows are puffed; stir until well blended.

Add: remaining ingredients; mix well. Press cereal mixture firmly into greased 13x9 pan. Cool, cut into 24 bars

Bench Tips:

TOOTHPICKS

The round, stronger toothpicks have a multitude of uses on the jewelry bench. I use them for mixing epoxy resin, for applying paste solder, with Zam for polishing in tight spots, and with a bit of beeswax for picking up and positioning small stones. They're particularly good for testing the fit of a small faceted stone in a prong or tube set finding.

PUMICE WHEELS

Pumice wheels are good for touching up a bezel after you've set the stone. The hardness is about 6 on the Moh's scale, less hard than quartz, so it shouldn't scratch any of your jaspers. However, I'd avoid or be real careful of using pumice near the softer stones like turquoise, amber, howelite, etc. If you're unsure that a wheel is pumice, test it with a piece of glass. Glass is about 5 ½ on the Mohs scale. If it doesn't scratch glass, it shouldn't scratch quartz.

Bench Tips by Brad Smith

