

Hatrockhound Gazette 2023

PO Box 1122, Hermiston, Oregon 97838



Meetings at 6:30 on the 2nd
Tuesday of each month
First Christian Church of
Hermiston:
775 West Highland
(Go to back of church)

Officers:
President – Doug Gill
V. Pres. – Mike Filarski
Secretary – Trista Meek
Treasurer – Mel Lambert
Members at Large – Louise
Lambert and Laura Tiffany

Newsletter/Website – Judi Allison, 1701 NW 11th St, Hermiston, OR 97838 541-720-4950
jall23.wix.com/hatrockhounds



Hatrockhounds Gem and Mineral Society is Affiliated with:

The Northwest Federation of Mineralogical Societies
And The American Federation of Mineralogical Societies



AFMS Rockhounds “Code of Ethics”

I will respect both private and public property and will do no collecting on privately owned land without permission from the owner.

I will keep informed on all laws, regulations or rules governing collecting on public lands and will observe them.

I will, to the best of my ability, ascertain the boundary lines of property on which I plan to collect.

I will use no firearms or blasting material in collecting areas.

I will cause no willful damage to property of any kind such as fences, signs, buildings, etc.

I will leave all gates as found.

I will build fires only in designated or safe places and will be certain they are completely extinguished before leaving the area.

I will discard no burning material - matches, cigarettes, etc.

I will fill all excavation holes which may be dangerous to livestock.

I will not contaminate wells, creeks, or other water supplies.

I will cause no willful damage to collecting material and will take home only what I can reasonably use.

I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.

I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and will leave all collecting areas devoid of litter, regardless of how found.

I will cooperate with field-trip leaders and those in designated authority in all collecting areas.

I will report to my club or federation officers, Bureau of Land Management or other authorities, any deposit of petrified wood or other materials

on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.

I will appreciate and protect our heritage of natural resources.

I will observe the "Golden Rule", will use Good Outdoor Manners and will at all times conduct myself in a manner which will add to the stature and Public Image of Rockhounds everywhere.

Hatrockhound Gazette – March 2023 Issue

March Meeting: Tuesday, March 14, 2023, 6:30 pm

Program: "Collecting Rocks & Minerals - Tricks, Tips, & What I Like to Collect" by Bill Hamel of the Lakeside Club

Bring a mineral or rock to share. The March birthstones are aquamarine and bloodstone, if you have either of those to share. . .or anything you choose.

Treats- Art and Jonnie and Judi

Hatrockhounds Minutes

Meeting February 14, 2023

Sixteen members attended the meeting tonight.

Treasurer's report: Mell reported the amount in our treasury. It is quite sufficient to keep us going. He received the receipt from ALAA. Judi explained that ALAA is American Land Access Association, and that is it a lobbying group that speaks for the rockhounds and others who wish to preserve our ability to use our public lands. Mel also paid the post office fee of \$182 for the year. There had been a suggestion about trying to get a box in Umatilla, but it appears all fees are quite high. Donna said she paid \$141 (or thereabout) in Echo.

Old Business: The Upcoming Show: ATM-Premier Company charges approximately \$100. Mike will arrange to get one. Mike has been talking to dealers. Tomorrow, Mel and Mike will go to EOTEC and pay for the show. The dates are May 13-14, 2023. Set up on May 12th. Flyers: Mike will have them printed in March and will bring in to April's meeting. He may get about 12 more road signs. For Mother's day only door prize we will have gem trees. There are several already made. We also discussed admission increase. We will raise it for the Federation show and will probably leave it at that rate.

There are still sign ups needed for treats.

We will have the Federation Show next year. The date has been an issue. (The date is now confirmed: May 10-12) The Federation gets the silent auction proceeds. The kids' corner money will be ours. We will split the net profit with the Federation. There may be a live auction that goes to a specific fund. The Monday after we may do a wagon ride with geocaching.

New Business: Mike read a report from the Oregon Council. Judi went to the Oregon Council meeting. She

we bank there.

Show and Tell/Program: Heart shaped rocks: Donna, Karli, Mel, Timber, Chris, Warren, Don, Anita and Judi

Door Prizes: Judi, Timber and Chris

Secretary, Trista Meek

Executive meeting: NA for February, 7:00 at Judi's Everyone welcome.

Website: jall23.wix.com/hatrockhounds



Some fine looking hearts that were shared at the February meeting. Some were finished, some were natural, some were carved and some formed as a heart. Thanks, folks, for sharing.

Cryptocrystalline By David W. Powell

Cryptocrystalline is a scientific name for a large group of rocks that includes the varieties that every rock hound is familiar with: chert, chalcedony, jasper, agate, turquoise, flint, and petrified wood among others. Most cryptocrystalline rocks cut and polish well. “Crypto” means hidden and “crystalline” means a 3-dimensional crystal structure. So, cryptocrystalline rock is made up of “hidden crystals”. Microcrystalline rocks have a crystalline structure that can be seen under a microscope. But the tiny crystals of cryptocrystalline rocks are so small they cannot even be individually distinguished with a microscope. To see them takes the even greater magnification of an electron microscope.

Cryptocrystalline rocks get formed when silicon dioxide dissolved in a hot alkaline water solution is deposited on rocks when the solution turns acidic. The different varieties, colors and textures come from the percentage of silica and various minerals and impurities in the solution.

Whenever you are unsure if the nodule you found is chert or jasper or some other silica dominated stone you can safely say it is “cryptocrystalline”. It is a big word with a simple meaning. It covers most of the pretty stones we are looking for so you can say cryptocrystalline with confidence that you are correct.

You can impress your friends and family with the scientific designation. From Yakima Rock & Mineral Club Vol. 6 No. 2, February 2023

Are you getting your copy of the Northwest Newsletter?

If you are not receiving the Northwest Newsletter, please contact Judi so she can correct the omission. Every family should be receiving a copy.

Attention All Juniors!!!!

Karli, Judi and Jamie met and prepared a schedule and fun activities for the Juniors until the end of the year. Get ready to have some fun while you learn!

April 22-23 – Join the fun field trip to the Owyhees for jasper.

May 12 – Enter a display in the Hatrockhound show

June 9 – Rock of the month – Pumice

July 21- Scavenger/geocache Hunt

Stay tuned for more details!

Borax & the Borate Minerals

November 28, 2022

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Borax is perhaps the best-known of the borates, a group of 45 boron-containing minerals that are a subclass of the carbonates. Borates contain boron and oxygen in hydrated combinations with one or more metals.

The household-cleaning product, Twenty Mule Team Borax®, has been on store shelves for 130 years. Its familiar logo, a 20-mule team hitched to two 15-ton



capacity freight wagons and a water wagon, depicts one of the frontier West's greatest feats of mine haulage—the grueling 165-mile-long, desert journey to haul borax from mines in California's Death Valley to a railhead during the 1880s.

Although widely disseminated in trace amounts, large, economic borate deposits are rare and found only in arid regions where boron-rich runoff water seasonally evaporates from intermittent lakes to form concentrated, layered deposits of borate minerals.

California Mining The world's largest borate deposits are in California's Mojave Desert. Before their discovery in the 1870s, borax, then known as "tincal" (TING-kal) was imported from Tibet and Italy for limited (and questionable) uses in medicinal remedies. The modern borax industry was born in the 1880s when miners began developing California's deposits. By the early 1890s, Twenty Mule Team Borax® had become the preferred laundry and cleaning product across America.

Furnace Creek was formerly the center of Death Valley mining and operations for the Pacific Coast. California has four commercially important borate minerals: borax [hydrous sodium borate, $\text{Na}_2\text{B}_4\text{O}_5(\text{OH})_4 \cdot 8\text{H}_2\text{O}$]; colemanite [hydrous calcium borate, $\text{CaB}_6\text{O}_{11} \cdot 5\text{H}_2\text{O}$]; ulexite [hydrous sodium calcium borate, $\text{NaCaBO}_6(\text{OH})_6 \cdot 5\text{H}_2\text{O}$]; and kernite [hydrous sodium borate, $\text{Na}_2\text{B}_4\text{O}_6(\text{OH})_2 \cdot 3\text{H}_2\text{O}$]. All occur in close association.

Borate Minerals Borax, kernite, and colemanite form white, or colorless, monoclinic crystals. Ulexite crystallizes in the triclinic system as radiating aggregates of needle-like crystals and vein-type layers of closely packed, fibrous crystals, the latter displaying an interesting optical phenomenon. When inch-thick slabs of fibrous ulexite are polished flat, on both sides and perpendicular to the fibers, and placed on a printed page, a clear image of the print appears on the top plane. Similar to fiber optics, ulexite's long, needle-like crystals transmit light longitudinally, hence its nickname "TV rock."

Recovering Borates Borates are recovered by brine evaporation, solution mining, and open-pit mining. Brine miners pump underground, boraterich brines into surface ponds for evaporation; solution miners inject superheated water into underground borate beds, then pump the dissolved borates to the surface for evaporation; and open-pit miners use large earth-moving equipment to dig shallow strata of borate minerals. The borate minerals are dissolved in water, purified, and recrystallized. Borax, ulexite, colemanite, and kernite are then converted into chemical borax [partially hydrated sodium tetraborate, $\text{Na}_2\text{H}_4\text{B}_4\text{O}_9 \cdot n\text{H}_2\text{O}$]. This is a popular cleaning agent that, when dissolved in water, forms an alkaline, antiseptic solution used as a household disinfectant, laundry detergent, and water softener.

Industrial Uses In industry, borax is a key component of Pyrex®-type, heat-resistant glassware. It is also used in paints, motor oils, enamels, ceramic glazes, and coated paper. An excellent metallurgical flux, borax is the standard coating on welding rods.

In the now-outdated, qualitative "borax-bead" test, borax was mixed with ground samples of metallic minerals or ores, then heated to incandescence. The molten mix

coalesced as tiny metal-borate beads with specific colors that indicated the presence of different metals.

Borax is also converted into boric acid [H₃BO₃], which is used medicinally for its astringent and antiseptic properties, and into boron carbides for manufacturing boron steels and exotic alloys.

Boron, California The world's largest borate mine is the Boron Pit, a 700-foot-deep, open-pit mine near aptly named Boron, California, which exploits a massive borate layer 1.5 miles long and 200 feet thick. Each year, the Boron Pit recovers one million tons of mixed borate minerals from three million tons of ore to account for half the world's borax output. Thanks to the Boron Pit, the United States is self-sufficient in, and a major exporter of, boron minerals and compounds.

Today, borax is hauled from mines in 100-unit trains of 270-ton-capacity hopper railcars—a far cry from the 20-mule team wagons of the 1880s.

This story about borax and borate minerals appeared in Rock & Gem magazine. [Click here to subscribe.](#) Story by Steve Voynick.

Upcoming Shows and events:

Mar 24th, 25th & 26th Spokane Rock Rollers, Spokane County Fair & Expo Center

Mar 25th & 26th Mt. Baker 2007 Pioneer Pavillion Cherry St, Ferndale, WA

April 1st & 2nd Sweet Home Sweet Home High School Gym 1641 Long Street, Sweet Home, OR

April 7th, 8th & 9th Ogden UT Golden Spike Event Center Weber County Fairgrounds 1000 N 1200 W

April 14th, 15th & 16th WAMS Polk County Fairgrounds 520 S Pacific Hwy W, Rickreall OR

April 15th & 16th Idaho Falls Gem and Mineral Society Idaho Falls 520 Memorial Drive, Idaho Falls ID

April 21st, 22nd & 23rd Central WA State Fair Park Modern Living Building 1301 S. Fair Ave, Yakima

April 29th & 30th Grays Harbor County Fair and Event Center 43 Elma-McCleary Road Elma WA

April 29th & 30th Lakeside Club Benton County Fairgrounds BLD 2 1500 South Oak Kennewick

April 29th & 30th Alki Masonic Temple (West Seattle) 4736 40th Avenue SW West Seattle WA

May 6th & 7th Umpqua Club - Roseburg OR Douglas County 2110 Frear Ave I-5 Exit 123 Roseburg

May 13th & 14th Bozeman Club Gallatin County Fairgrounds 901 North Black Bozeman MT

May 13th & 14th Hatrockhound EOTEC 1705 East Airport Road Hermiston OR 97838

May 19th, 20th & 21st Mt Hood Rock Club, Kliever Memorial Armory 10000 NE 33rd Dr. Portland OR

May 20th & 21st Butte Club Butte Civic Center Main Arena 1340 Harrison Ave, Butte MT

May 27th & 28th Clackamette Mineral and Gem Corp Clackamas County 694 NE 4th Ave Canby OR

May 27th & 28th Everett Club Evergreen State Fairgrounds Weikel Event Center 18359 Cascade View Dr, Monroe WA

June 3rd & 4th North Idaho State Fairgrounds Jacklin Building 4056 N. Gvmnt Way Coeur d'Alene ID

June 15th, 16th, 17th & 18th Prineville Rockhound Pow Wow Crook County Fairgrounds 1280 S Main St. Prineville OR Fieldtrip contact: Joe Van Cura jvancura@peak.org

June 16th, 17th & 18th Lower Umpqua Reedsport Community Center/City Hall 451 Winchester Ave Reedsport OR

August 3rd - 6th Billings Gem and Mineral Club NFMS and AFMS Show Thur 10 – 5 Billings Hotel and Convention Center 1223 Mullowney Ln Billings MT

August 18th, 19th & 20th WAMS Polk County Fairgrounds 520 S Pacific Hwy W Rickreall, OR

Sept 9th & 10th Clallam County Vern Burton Community Center 308 East 4th Street Port Angeles WA

Sept 16th & 17th Cascade - Kent WA Green River College Phys Ed Facility 12401 SE 320th St Auburn

Oct 6th, 7th 8th PRGMSA Wingspan Event Center Westside Commons 801 NE 34th Ave, Hillsboro

Oct 7th Idaho Falls Gem and Mineral Bonneville Co. Fairgrounds 1542 73rd S, Idaho Falls, ID

Oct 7th & 8th Marysville Evergreen State Fairgrounds Bldg #500 14405 179th Ave, SE Monroe, WA

(For details, check the Northwest Newsletter)