

Minutes of the 10/19/99 Westside Board Meeting

The WSMC Westside board met on Tuesday, October 19, 1999 in the Maplewood clubhouse. Vice President Tom Johanson opened the meeting at 7:30PM.

Minutes of the 9/21/99 Westside board meeting we approved as printed in the Council Reporter.

Kathy Earnst gave the treasurer's report.

· A motion by Bob O'Brien was m/s/p to have Kathy consolidate the bank accounts

Correspondence:

· The WSMC has been invited by the NFMS 2000 display committee to put in a case. Mary Foster will be contacted about putting in this special case.

Committee reports:

Wagonmaster

- Ed will get together with some of the council members in January to set up his annual field trip agenda for the meeting in January.
- Ed is down to about 75 map booklets. This is barely enough for the Everett show in January.
- Ed suggested the Wagonmasters sponsor the field trip for the NFMS 2000 show.
- It was suggested that a note about the \$0.50 insurance fee be placed on the Wagonmaster Field trips page.

Nominating Committee

· Dave Sanders has accepted nomination for 2nd VP.

Collecting Site News

- Ed displayed some material from the new jasper/agate locality near Red Top.
- Ed is trying to track down a locality near Skykomish that produces material similar to Biggs Jasper.
- **The FR 1590 road is being considered for closure. This is off the Cascade River Road and provides access to the Hidden Value claims where samples of bornite, chalcopyrite, galena, and dolomite may be collected. This area is of educational importance since some of the old miner's cabins may still be seen. Call the head engineer, Bill Reisner, at the Sedro Woolley Forest Service office to comment on this road closure. 360-856-5700 ext. 216.**

Old business:

· The Plum Creek land exchange is stalled due to marbled murelets found on two of the parcels.

New business:

Emery Bayley of the Bellevue club was present. He is also a member of the NW Geological Society. They meet on the 2nd Tuesday each month from September through May at the University Plaza Hotel. Their meetings are over dinner (\$20) and a speaker gives a presentation afterwards. · Emery felt that the two organization could benefit from each other's areas of interest. Their web site is at: <http://www.scn.org/tech/nwgs/>

Meeting adjourned

Proposed Change to Quarterly Meeting Schedule

- **A By Law change was proposed to have three meetings per year for WSMC rather the four.**
- **New President Martin Casto will work out dates that don't conflict with Club shows. April, August, and October or November were the months proposed.**

This change was proposed to reduce the possibility of bad weather in November and February forcing the cancellation of meetings in Ellensburg. It was felt that three meetings a year would be adequate to conduct Council business.

Local Rock & Gem Shows

Seattle Regional show, 11/5-7, 12-6, 10-5, 10-5
Expo Hall, Puyallup Fairgrounds, Meridian & 9th, Puyallup

Skagit Rock show, 11/13-14, 10-6, 10-5
Sedro Woolley Community Center,
720 State St, Sedro Woolley

Quartz Color Causes
by Doug Mitchell

Here is a summary of a talk by Dr. George Rossman of Cal-Tech on the causes of color in various forms of quartz.

As has been said before, the dark color of smoky quartz is caused by impurities of aluminum combined with gamma ray exposure, and the purple color of amethyst comes from impurities of iron in the ferric state, again combined with damage from gamma ray exposure. The gamma rays knock an extra electron off the iron, leaving it in the quadruply charged state.

What was new to me was that the iron must not be substituting directly for silicon atoms in silicate tetrahedra for this to produce amethyst. The iron must be in channels that occur between the silicate tetrahedra in quartz. If the iron replaces silicon, instead the radiation effect produces an uncommon form of citrine.

The more common form of citrine is also colored by ferric iron in the channel sites.

The color of amethyst is not stable, and will fade noticeably with a few days exposure to sunlight, or any bright sources of green, blue, or ultraviolet light. I was a bit startled by this when I recalled seeing quite a few amethyst geodes out in the sun, probably for days, at satellite shows of the Tucson show. Ordinary incandescent lights, with their low color temperature, would have the least effect this way, but higher temperature lights like krypton or halogen lights would be worse. Heat will also fade the amethyst color. When the amethyst color fades, it is likely to be replaced by the citrine yellow color.

The loss of amethyst color can be reversed by exposure to "ionizing radiation", including x-rays and gamma rays (I neglected to ask whether shortwave UV would qualify), provided there is no aluminum in the quartz. In the presence of aluminum, the quartz will instead become smoky on exposure to x-rays or gamma rays. When I asked how radiation turned it to amethyst in the first place, Dr. Rossman explained that the smoky color fades faster than the amethyst over geological time periods. Thus if irradiating your amethyst does turn it smoky, waiting a few million years may complete a restoration of that amethyst color.

When quartz with ferric iron crystallizes above 270 degrees Celsius, it generally forms citrine. When it crystallizes below 265 degrees Celsius, it can become amethyst. Ametrine, with its alternating sectors of amethyst and citrine, forms only between those temperatures. During the entire crystallization the temperature must hold near 268 degrees, which is why ametrine is known from only one site (Anahi mine, Bolivia), which is now reportedly exhausted (at least until they find a new vein or whatever). The ametrine was found in clayey pockets in a dolomitic limestone. At the correct temperature, the amethyst forms in "r" sectors and the citrine in "z" sectors if my memory has not reversed them.

Dr. Rossman recently determined the cause of the pink color in ordinary rose quartz by dissolving it in hydrofluoric acid, which left a mass that was insoluble in boiling hydrofluoric acid. Examination with electron microscopes revealed that this mass to be composed of fibers smaller than the wavelengths of visible light, which proved to be made of dumortierite plus three new minerals. These fibers also give rise to asterism in this rose quartz, contradicting earlier explanations that involved rutile.

There is another, rare form of rose quartz, where well formed crystals show the rose color. In this case the color comes from aluminum and phosphorus impurities, again with gamma ray effects. Apparently this forms only in the presence of tourmaline. Perhaps the tourmaline absorbs something as it forms that would prevent the formation of rose quartz crystals.

Blue color in quartz is caused by ilmenite inclusions. The green of chrysoprase comes from willemseite (the nickel analog of talc) inclusions. A rare form of green crystalline quartz is colored by ferrous iron, I think, in the channel sites.

via **Rockhounds Newsgroup**,
via **Gem Cutters News 2/98**,
via **The Glacial Drifter 8/99**

Proposed wording for the sign at Walker Valley

Walker Valley Crystal Site

This mineral collecting site is under a recreational lease with the Department of Natural Resources by the Washington State Mineral Council. The council's goal is to invite collecting by all rockhounds with hand tools only for their personal, non-commercial use.

A local farmer chasing stray cattle discovered crystal specimens on this site in 1972. These crystal geodes were formed many thousands of years ago by the action of hot water being forced up through the crack and cavities in the volcanic rock. Clear quartz, amethyst, calcite, siderite, goethite, and higerite are some of the crystals found in these geodes.

The best specimens are found and easiest collecting is done on the south face of the black rock. Boulders can be pried loose from the bottom of the pit. Break them open to discover geodes. Dump broken rock over the side to keep the pit open for the next rockhound.

Dig at your own risk.

Leave no trash.

Thanks go to Dave Britten the author

