

## 09/15/09 Westside Board meeting minutes

### Meeting Open

There was no West Side Board meeting on September 15 since only a couple people showed up and the Clubhouse was locked.

### Heather Lake Field Trip Report

by

Brian Waters, WSRC

On Saturday, July 25th Crystal, Lisa and myself headed out to the Rainy Creek Campground in the Lake Wenatchee area so that we would be close to the meeting spot for the field trip to the Heather Lake area to collect garnets on July 26th.

I would not recommend camping there at this time of year (or for that matter would Lisa or Crystal) because the mosquitoes are way too thick. They attack a person the minute they leave their vehicle, and they were attacking our three dogs as well. Also, the black flies were thick while we were collecting in the creek. After setting up camp we went down to the store to purchase some more potent bug killer so that we could stand outside and poke around for actinolite specimens.

The next morning we went down to the Ranger Station to meet up with people arriving for the field trip. The trip was well attended, with over thirty people meeting at the Ranger Station before our leave time of 9:15am. The westside was heavily represented by the participants, including the Wickwards from the West Seattle Rock Club. Another ten to twenty people caught up with the field trip on the road.

After we left the Ranger Station Ed Lehman led us to an area where he gave us a short geology lesson and pointed out an area where people could collect small specimens of actinolite, mica and other minerals. People were also given directions to the area where they could collect different colored samples of talc, or soapstone.

After that it was off to the creek to collect garnets. Ed brought extra screens in case some people didn't have any. The hike into the collecting area was pleasant and it was a beautiful day to be collecting in the creek, despite the black flies. The temperature was perfect for that kind of collecting, not too hot and not too cold.

As I walked around it seemed that everyone was enjoying themselves and having some luck in finding garnets. I'm not sure how the day ended for most as we left kind of early as I was feeling under the weather, but I think everyone had a decent time.

### Diamonds May Be The Ultimate MRI Probe Say Quantum Physicists

ScienceDaily (Sep. 23, 2009) — Diamonds, it has long been said, are a girl's best friend. But a research team including a physicist from the National Institute of Standards and Technology (NIST) has recently found that the gems might turn out to be a patient's best friend as well.

The team's work has the long-term goal of developing quantum computers, but it has borne fruit that may have more immediate application in medical science. Their finding that a "quantum bit" has great sensitivity to magnetic fields hints that MRI-like devices that can probe individual drug molecules and living cells may be possible.

The system, formed from a nitrogen atom lodged within a diamond crystal, is promising not only because it can sense atomic-scale variations in magnetism, but also because it functions at room temperature. Most other such devices must be cooled to nearly absolute zero to operate, making it difficult to place them near live tissue. However, using the nitrogen as a sensor or switch could sidestep that limitation.

Diamond, which is formed of pure carbon, occasionally has minute imperfections within its crystalline lattice. A common impurity is a "nitrogen vacancy", in which two carbon atoms are replaced by a single atom of nitrogen, leaving the other carbon atom's space vacant. Nitrogen vacancies are in part responsible for diamond's famed luster, for they are actually fluorescent: when green light strikes them, the nitrogen atom's two excitable unpaired electrons emit a brilliant red light.

The team can use slight variations in this fluorescence to determine the magnetic spin of a single electron in the nitrogen. Spin is a quantum property that has a value of either "up" or "down," and therefore could represent one or zero in binary computation. The team's recent achievement was to transfer this quantum information repeatedly between the nitrogen electron and the nuclei of adjacent carbon atoms, forming a small circuit capable of logic operations. Reading a quantum bit's spin information has been a daunting challenge, but the team demonstrated that the information could be amplified, making it much easier to read.

Still, NIST theoretical physicist Jacob Taylor said the findings are "evolutionary, not revolutionary" for the quantum computing field and that

the medical world may reap practical benefits from the discovery long before a working quantum computer is built. He envisions diamond-tipped sensors performing magnetic resonance tests on individual cells within the body, or on single molecules drug companies want to investigate—a sort of MRI scanner for the microscopic. "That's commonly thought not to be possible because in both of these cases the magnetic fields are so small," Taylor says. "But this technique has very low toxicity and can be done at room temperature. It could potentially look inside a single cell and allow us to visualize what's happening in different spots."

The Harvard University-based team also includes scientists from the Joint Quantum Institute (a partnership of NIST and the University of Maryland), the Massachusetts Institute of Technology and Texas A&M University.

From Science Daily online edition

### **Wulfenite - Our Rock of the Month**

Wulfenite is a lead molybdate mineral with the formula  $PbMoO_4$ . It can be most often found as thin tabular crystals with a bright orange-red to yellow-orange color, sometimes brown, although the color can be highly variable. In its yellow form it is sometimes called "yellow lead ore". Wulfenite is not hard enough to be classified as a gemstone

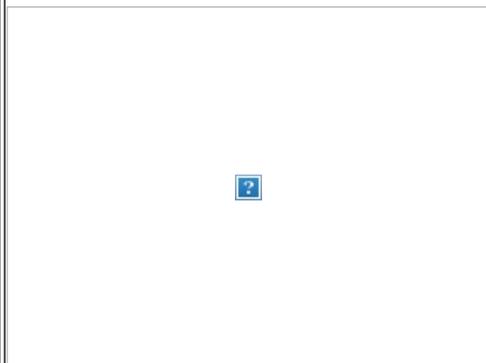
Wulfenite is named for Franz Xavier von Wulfen (1728- 1805), an Austrian mineralogist.

Wulfenite crystallizes in the tetragonal system, often occurring as stubby, pyramidal or tabular crystals. It also occurs as earthy, granular masses. It shows a white streak and has a hardness of 2.75 - 3.0 on Mohs scale of mineral hardness. It is a dense mineral, with a specific gravity 7.0.

Wulfenite is found in many localities, associated with ores as a secondary mineral associated with the oxidized of lead deposits. It is also a secondary ore of molybdenum, and is sought by collectors.

A noted locality for wulfenite is the Red Cloud Mine Arizona. Crystals are deep red in color and usually formed. The Los Lamentos locality in Mexico produced thick tabular orange crystals. Samples from Phoenixville, Pennsylvania, while usually not bigger than microcrystals, desirable because of the unusual location.

<http://en.wikipedia.org/wiki/Wulfenite>



*Wulfenite from the Red Cloud mine, La Paz county, AZ  
image from Dllloyd under the GNU Free License Agreement*

from Everett Rock & Gem club Pebbles, 09/09

### **Help the Department of Narual Resources Stamp Out Vandalism**

by Mark Mauren, Assistant Division Manager,  
Asset Management and Recreation Division,  
Washington State Department of Natural Resource

The Recreation Program needs your help. Vandalism at our recreation sites is taking a big bite out of our strapped budget. If you witness any abuse to resources, vandalism, or illegal dumping on DNR-managed lands, please report these incidents. Be sure to note any license plate numbers and get a description of any vehicles involved. If the matter doesn't require an immediate law enforcement response or for after hours and on weekends call 800-562-6010. Otherwise, call 911. You can also contact the regional offices directly for non-emergencies. A list of phone numbers is at: [www.dnr.wa.gov/AboutDNR/Regions/Pages/Default.aspx](http://www.dnr.wa.gov/AboutDNR/Regions/Pages/Default.aspx)

Damage in Capitol State Forest

Those of you who live in the South Puget Sound area may have seen an article in Monday's Olympian about vandalism at Capitol State Forest at: [www.theolympian.com/southsound/story/908945.html](http://www.theolympian.com/southsound/story/908945.html). We also wrote about the issue recently for DNR's Blog, at

<http://bit.ly/k5hnt>.

This vandalism is not an isolated case. Vandalism is happening all across the state on DNR-managed lands. As our recreation budget gets leaner, we have to do more with less. When vandals strike, we often must redirect our dwindling resources to repairing or replacing damaged items, such as the new signs that were recently installed in the forest.

In June, vandals shot up or otherwise damaged 30 brand new signs in Capitol Forest. Some of these signs were damaged beyond recognition and will need to be replaced. View photos of the damage at: [www.flickr.com/photos/wastatednr/sets/72157620787018462/](http://www.flickr.com/photos/wastatednr/sets/72157620787018462/)

Though it may seem as if signs can't be that expensive to replace, this damage adds up. It will cost us nearly \$1,000, in time and materials, to replace the signs that are no longer readable due to vandalism. Here's the breakdown of the costs:

Large blue "Capitol Forest Entrance" sign - \$500

"Leaving Public Land" sign - \$250

"Fall Creek Campground" - \$100

"Greenline Trail" - \$75 per sign.

The money we'll need to spend replacing these signs could have been used to pump an outhouse, replace a couple of rotten picnic tables or four fire rings, or grade a parking area, for example. It's a shame that the small minority of people who vandalize public lands cause problems for the majority of people who are law abiding and respectful of state resources. Thank you for your help in reporting vandalism.

In the next few months, the Recreation Program will be developing some programs that will involve volunteers in helping us reduce vandalism. Stay tuned for more information about that in future e-mails.

#### **DNR uses new media tools to communicate about recreation**

In addition to DNR's Blog, the Recreation Program is diving into other social media avenues to keep you informed.

**Twitter:** For quick updates: <http://twitter.com/waDNR>

**Facebook:** Connect with other outdoor recreationists, learn about volunteer opportunities and more. Become a friend of DNR at <http://www.facebook.com/home.php?#/profile.php?id=1752219634&ref=profile>

(Be on the lookout for another e-mail from us inviting you to become a member of our Facebook Recreation Group)

**Flickr:** Check out DNR's gallery of photos at <http://www.flickr.com/photos/wastatednr>

**Ear to the Ground Blog:** Read all of our Blog postings at <http://washingtondnr.wordpress.com/>

**Recreation pages on DNR's website:** Find out what DNR has to offer in outdoor recreation across the state.

[http://www.dnr.wa.gov/RecreationEducation/Topics/OpenClosureNotices/Pages/amr\\_statewide\\_rec.aspx](http://www.dnr.wa.gov/RecreationEducation/Topics/OpenClosureNotices/Pages/amr_statewide_rec.aspx)

From BEMS e-Tumbler 08/09