

04/21/09 Westside Board meeting minutes

Meeting Open – Stu Earnst

Stu Earnst opened the meeting at 7:48pm

Kathy gave the treasurer's report

Old Business

Ed is working on updating the map booklets. When the work is completed he will put the maps on a CD. Bob Pattie will then have the printer make the hard copies from the CD.

Mt Higgins field trip. Ed has tried to contact Mike Messenger to find out where to send our insurance information. Longview Fiber is OK with the Mineral Council's planned field trip as long as there are no issues with the road to the collecting area. Longview has not had a chance to check on the road conditions yet.

New Business

Ed has been in contact with Lande Rock Creations about the thulite they are selling. In addition to selling thulite rough, the company will also lead field trips to the output crop. For more information about pricing or field trips contact:

Lande, LLC
PO Box E
99 Shumway Rd
Omak, WA 98841
or call Jim at 509-826-4940
Email: lampedc@yahoo.com

Wagonmster report

Ed and Stu reported that the Racehorse Creek field trip for plant fossils and morel mushroom went well with as many as 40 people in attendance. The morels were not abundant due to the prolonged cold weather, but everyone was able to take home at least one good fossil such as palm leaves.

The trip to Saddle Mt is coming up on the weekend of 5/16-17. This is the same weekend as the combined meeting in Ellensburg.

MEETING ADJOURNED Submitted by Glenn Morita, Secretary Pro-Tem

Famous Petrified Forests

by Dick Young

Our petrified forests are generally of three types. The first type has been showered and completely covered by volcanic ash leaving the trees standing in an upright position. The Petrified Forest of Yellowstone National Park is an example of this type. The trees are standing in their original state where they grew many millions of years ago. The forest of Yellowstone covers more than 40 square miles which is the largest area known. Another unusual feature of the Yellowstone Petrified Forest is that many thousands of fossilized leaves, needles, cones, and seeds of over one hundred different kinds of trees and shrubs have been found there. It is the only place in the world where twenty-seven successive layers of petrified forms can be seen.

The story behind Yellowstone Petrified Forest is that an old volcano began to erupt and continued for some twenty years. Mineral-bearing waters had begun to petrify the once living forest. In the span of a couple of years, a new forest began to appear and grew for the next five hundred years. Then the old volcano erupted again. The process reoccurred twenty-seven times as twenty-seven distinct layers of buried forest have been exposed in the fossil forest on the south side of Laramie River Valley. An example of a well preserved stump can be seen a few feet from the highway along "The Petrified Road." Along two-thirds of the way up on the eastern edge is a group of upright standing trunks of unusual beauty and size just as they grew many millions of years ago. The largest of these petrified stumps is a redwood over five feet in diameter and believed to be approximately one thousand years old when buried by volcanic debris.

A second type of petrified forest is believed to be the result of logs jamming at the mouth of a river, sinking into the mud, and becoming petrified. The Petrified Forest of Arizona is an example of this type. Driftwood may be deposited on the shore by the winds. Generally fossil wood which at one time was driftwood does not have bark. The fact may account for the lack of bark on the wood in Arizona.

The Arizona forests are between one hundred and two hundred million years old. One stone log, twenty feet wide and forty feet thick, flung across a ravine forms a natural bridge - the famed Agate Bridge.

The Arizona forests are composed of different forests varying in coloring. The Rainbow Forest is a multiplicity of colors, the Blue Forest is mostly carbonized sections, and the Black Forest is brilliantly black. Many logs are white, some almost transparent, and make up the Second Forest, while the Third Forest displays large specimens as long as one hundred sixty feet.

The fossil wood is of three general types.

1. Jasperized wood predominantly bright red, some translucent, and variegated with a riot of colorless.
2. Small amounts of bright red wood are found, often with areas of nearly colorless quartz.
3. Section of dark or nearly black wood.

The opalized wood forests of central Washington run a close second to the famed forests of Arizona. An outstanding feature in Washington is that the only fossilized ginkgo trees known in the world are found there. The well known Ginkgo Petrified Forest is of the driftwood type, of the ten thousand fossilized trees in this forest; only six have been identified as Ginkgo trees. The Ginkgo is one of our oldest and most primitive types of trees, a direct ancestor of our modern tree, and is remarkable in that it has survived through millions of years while other species have died out.

Nevada boasts of the largest petrified tree known in the world. It is fourteen feet in diameter and nearly three hundred feet long. Another distinction in Nevada is that the woods of Virgin Valley are fully opalized with the "fire" of the fire opal. A third type is that of scattered woods may be covered in some manner, to become solidified later. For instance, rising water in a lake may completely cover a forest and protect it from decay. Later on petrification may preserve the trees permanently. Some of the woods in California, Nevada, Oregon, and central Washington have this origin.

Via BEMS Tumbler 04/09, from Breccia, 10/08, from Music City Rockette, 2/02; from Gem Cutters News, 11/05

Diamond is no longer nature's hardest material

Diamond lost its title of the "world's hardest material" to man made nanomaterials a few years ago. Now a rare natural mineral looks like it will surpass all them, at greater than 50% harder than diamond. Scientists at Shanghai Jiao Tong University in China have simulated how atoms in two minerals would respond to the stress of a finely tipped probe pushing into them. The first material, wurtzite boron nitride (WBN), has a structure similar to diamond, but is made up of boron and nitrogen instead of carbon. The second, the mineral lonsdaleite, or hexagonal diamond, is made up of carbon but its crystal structure is hexagonal instead of cubic.

Only small amounts of lonsdaleite and wurtzite boron nitride exist in nature or have been made in the lab so until now, no one had realized their incredible strength. Simulations conducted by the Shanghai scientists predict that WBN can withstand 18% more stress than diamond. Lonsdaleite on the other hand, can withstand 58% more stress. If the results of these simulations can be confirmed by physical experiments, both minerals would be far harder than diamond.

However, performing those test will not be easy. Since both minerals are very rare in nature, a way is needed to make enough of either of them to test the predictions. Lonsdaleite occurs in graphite containing meteorites that impact the Earth at high speed. Wurtzite boron nitride is sometime produced in highly energetic volcanic eruptions that create very high pressures and temperatures.

If the predictions are confirmed, WBN may turn out to be the more useful of the two substances. Because it is stable in oxygen at higher temperatures than diamond, it is ideal for use in cutting and drilling tools operating at high temperatures. This property also makes it possible to use WBN as corrosion resistant films on the surface of a space vehicle.

Unlike diamond, whose hardness is the result of stiff interatomic bonds, WBN's hardness comes from the flexibility of its molecular bonds. When the material is stressed, some bonds re-orient themselves by 90 degrees to relieve the tension. Although diamond undergoes a similar process, the structure of WBN makes it 78% stronger after the process takes place, diamond does not have this ability.

Scientists working at the University of Heidelberg in Germany have carried out similar research. They say that any attempt to give insight into mechanisms that improve a material's properties, especially hardness, is technologically extremely significant. They go on to say that the more that is understood about what influences the hardness of a material, the easier it will be to design hard materials to order.

Edited from New Scientist Online 02/16/09

Trip to Timberwolf

By Spence Seymour
Quarry Gems 10/04

It was early morning hours and time was running short. Never being to this site, Deb and I finally made it to the summit at about 4 p.m. There must have been and simpler approach to the unit.

It seemed that all the road marker numbers were where they weren't supposed to be. Taking the Bethel Ridge Road seemed to be the right way. However, a mile or so in the road to me didn't seem to make sense, like it was taking us down instead of up in the direction of the sun where that tall mountain ridge was. After a few turn backs we seemed to be heading in the right direction. We made it to the top and found the

spur road to Timberwolf. We saw this enormous rock ridge to the north east of us and a forest service cabin on the left. We decided to go up into those rocks to collect. Not finding anything but a bucket full of clear calcite and one butterfly calcite, we decided to come down off the mount and make camp. That seemed to go pretty well and it is a good thing we had long johns on. At a little over 6,000 feet during August in the Cascades temperatures can drop into the 20's and snow sideways and up.

The next morning arrived. It is Sunday and we have just the early part of the day to find these beautiful Quartz Crystals with water inclusions. So we got out the map that Keith Ikerd had gave to me, only to realize that we were collecting on the opposite side of the mountain. I felt real stupid then, when the directions were in front of me the whole time. We drove the car all the way to the top where the Timberwolf monuments stood. Looking down over the ridge it looked like to me that there had been some activity done in the past. We drove on down about a quarter of a mile from the top, went over the bank to a trail and we just started digging. We found a vug and some very nice small quartz crystals on plates. They cleaned very well with Muriatic Acid. Just down the mountain from where we collected is where the good stuff. It will be there next summer when we get there.

Not only is collecting fun and the air fresh to breath, Timberwolf provides a wide area to view and observe for mountain goats, mule deer, Rocky Mountain elk and migrating eagles, hawks and falcons. Be sure to bring plenty of water and your camera.

The Winter Agates of the Oregon Coast

by Bob Deurbrouck

Arlene and I recently returned from our week long annual Oregon coast agate hunting trip. Our daughter Jo was along too. Great company, good coffee, beautiful wild scenery, and, some agates. Who could ask for anything more. Actually the beaches were unusually sanded in, reflecting a rather mild winter. but we still found some 30 pounds of agates. I'll cherry pick the better ones of mine...which to me are the larger ones tumbled smooth by the surf and ideally showing a bit of red carnelian...and one way or another give away the rest. By far the best beach again this year was Short, or Agate Beach. It is located some two miles north of the small village of Oceanside, Oregon where we stay. No matter how sanded up the other beaches, Short Beach always has rocks showing. We even again found a couple of buoys, which I hang from our trees as part of my good old buoy collection (sorry... but no, being over 70 means never having to say you are sorry, except to spouses and police officers). At the beach at the south end of nearby Cape Lookout state park we found a few pieces of carnelian agate, but that beach was heavily sanded. Found an excellent rock shop in nearby Tillamook. It is Jim Coon's, Gem Brite Lapidary. Got a nice piece of rainbow obsidian with great 'flash' and some carnelian. A fun stop, near the end of a very fun trip.

