Place: Arden Community Club Hall Rd Arden, WA



Time 7:00 PM Third Tuesday April - September 6:00 PM October -March & August

The Panorama Prospector

October 2016

Minutes September 20, 2016 Since 1996 20th year anniversary

Johnie Pitman called the meeting to order with what remained of his voice. The Hurleys and the Bristows were attending to other matters.

"Rock My World" was voted the theme for our annual show and sale March 17th and 18th with set-up Thursday the 16th at 8 a.m. The club will once again provide sub sandwiches for lunch. Matt and Debbie Harbin's 4-H Club will cook for Saturday and Sunday. There are a few volunteers sewing the grab bags. If you have time, more help is needed.

Carol Barr, a recent visitor, will take any rockhounds on field trips if you're visiting the Payson, AZ, area.

Sherryl Sinn's grand-daughter did good work and got rewarded at the garnet dig field trip.

There will be no extra booth space at the Marcus Cider Fest Saturday, October 1st. There are not enough good quality rocks to sell. Johnie and Ginger still have many buckets of donated rocks for sale.

Remember that it's just \$2 per hour for members to use the shop tools.

Becky Dobbs, Bill Allen and Deborah Danielson will be contacting people for nominating officers for the coming year.

Dues will be \$20 per family starting in November.

Our meetings will start at 6 p.m. with our October 18th meeting, and that will continue through March.

Kathy Fritz was the lucky September door prize winner.

Deborah Danielson has contacted the people providing the juice and snacks for October *continued page 3*

A Taste For Shellfish by Bruce Hurley



"Mainstream" Carnivorous (Left) & Hybodontid (Right) Sharks Teeth Cretaceous Age, Vernal Area, Utah

Most summers, my longtime friend and fellow geologist Marshall Davenport, of Knoxville, Tennessee, and I meet somewhere in the middle of the country to go fossil collecting. Since we both live in places with lots of tree cover, we generally head for somewhere with few trees and an abundance of fossil-bearing sedimentary rocks. This September we met in Salt Lake City, and from there visited Wyoming for fossil fish, Nevada for ammonites and Colorado for plants. We had good luck finding what we expected in all three places, and ended our collecting near Vernal, Utah, on the way back to Salt Lake and then home.

Vernal is the home of the hillside quarry of Dinosaur National Monument, where some of the most famous dinosaurs of the Jurassic Period may be seen within the sandstone in which they were buried. If you go to Vernal, the glass-enclosed quarry wall is a must to see. But we were not there to visit the dinosaurs, this time. Instead, we trudged up a hill within distant view of the quarry, looking for sandstone laid down offshore of an ancient beach, during the following Cretaceous Period. Years ago, collectors reported finding small sharks' teeth on anthills in the area, where ants had ejected the small teeth from their sand mounds. Several years back, we had visited this area and found no intact anthills. But we did find several loose sandstone boulders containing shell-rich layers, composed mainly of fossil clam shells. These layers also contained small ammonites and a few sharks' teeth. We were not able to locate the shell-bearing sandstone in outcrop, however, giving us only an isolated glimpse of what it might contain.

After checking the morning weather forecast, we knew that we would have perhaps three hours to find the sandstone layer and get a better look at the fossils it contained, before a wet and windy weather front would arrive. When we again reached the area where we had previously found the shell-bearing boulders, we realized that other collectors had found the boulders since our previous visit, and no trace was left of them. Now what should we do? A look at the darkening distant sky told us that whatever it was, we needed to be about it very quickly,

Since boulders fall downhill, logic would indicate that the sandstone outcrop we were seeking was above us, on a bluff guarded by vertical cliffs of sandstone. After walking around the cliffs for a ways in each direction, I finally found a way to scramble over them, but the sandstone contained not a single shell fragment. Tired and a bit disappointed, I sat down, to at least enjoy the view before we headed for Salt Lake. And as I turned back to look towards the bluff above, there was a small layer of sandstone containing shell fragments.

The outcrop turned out to be rather obscure, but trended around the hill, with discontinuous flat boulders marking its level. Marshall soon joined me, and we broke a number of them, again finding whole clams, ammonites and small pointed sharks' teeth. While we were selecting samples to carry back, I decide one rock was too big, and began trimming it down with my hammer. I stopped immediately, when I saw something completely new to me on its side. It was about one-half inch long and black, but did not much resemble the sharks' teeth we had seen before. I thought it might perhaps be a small reptile scute (armor plate), but Marshall maintained it was some type of strange tooth. With the wind already beginning to pick up, we shelved the scientific discussion, packed the fossil material and headed back for the truck, to start for home.



Ammonite & Clam Fossils Cretaceous Age, Vernal Area, Utah

Several days after returning to Suncrest, I went through the Utah fossils until I found the strange black fossil. After examining it more thoroughly, I began to search through images of various fossil scutes and teeth on the Internet. It took me several long computer sessions over several days, but I eventually determined that Marshall was indeed correct, it is a fossil tooth. This tooth came from a hybodontid shark, a member of an ancient group which lived from about 360 million years ago until approximately 7.5 million years ago. These sharks, unlike most carnivorous sharks today, specialized in eating shellfish, including clams and other pelecypods, and ammonites. Upon trimming another rock shell-rich specimen, I eventually found a second tooth, which even better displays the characteristic stubby conical shape of these teeth. An array of these teeth on each jaw made it easy for hybodontids to crush their hard-shelled prey. Indeed, these sharks were the most numerous type for much of the long history of sharks. Unearthing these teeth and their shellfish dinner on a high bluff in the Colorado Plateau, a hundred million years later and hundreds of miles from the sea, was a fine ending to another great adventure in paleontology.

(Thanks a ton to Bruce for giving us this article. Please write something about your favorite rockhound topic to share with everyone in the newsletter. Although digital content is preferred, I'll take paper and especially pictures.) and just wants to remind everyone that if you are unable to participate, then please contact someone and trade months. Deborah can be reached at her home number 509-960-1535 or at her cell number 509-207-0447. Her email address is mickeesmom.dd@gmail.com. See you October 18th at <u>6 p.m.</u>

end

Obsidian *by Johnie Pitman*



The following is some information about layered obsidian. If the obsidian has flow lines or layers it might have some nice colors if oriented correctly, this is rainbow obsidian. If you cut across those lines you will see some translucent layers but no color. The color will be in the translucent layers but you will need to cut almost parallel to the layers in order for the light to reflect off the black layers back up through the translucent layer to reveal the color. The more transparent the translucent layers are the brighter the color. The wider these layers are and the more numerous they are the better chance for different colors from the same piece of obsidian. Mahogany colored layers sometimes reflect a gold colored sheen. As you move the slab around the sheen will appear to move as the angle of the light changes. If you polish rainbow obsidian leave the surface relatively flat or a low dome to get the best color or sheen. There are many different types of obsidian, snow flake, gold sheen, silver sheen, velvet, rainbow, mahogany, pumpkin, and spider web are a few.

The Exodus Vein by Joseph Barreca



[Tom Distler above a crevas on the Exodus Vein]

This is a story about the search for an obscure mineral in an out-of-the-way place. But that might describe almost any adventure in rockhounding, so it is not that unique after all.

In this case, the out-of-the-way place is the Gemania Mine, just north of the Spokane Indian Reservation in Stevens County. I've written other stories about the Germania: July 2005 when the club explored the mine's waste dump on a trip led by Rex Barrans; May 2013, about the history of the mine and how it's very pure Tungeston was used as an alloy in guns produced by the Krupp Metal Works in Germany to fight the allies in World War II and most recently in June 2014, when I introduced the mine's new owner, Bill Broderson, and related a threat of fire that prompted a quick retreat from the area.

The threat of fire became a reality in 2015 when the Carpenter Road Fire swept through the area destoying what was left of the old mine buildings, clearing brush from old foundations and opening up the forest. So when Tom and I reintered the area this Fall, it was to a very different scene than in years past. It was easy to see the many man-made cuts and mounds of material that had accumulated over the 50 year lifetime of the mine. Old pieces of metal pipes, roofing, rails etc. appeared in many places. But we were looking for a different quarry.

The June 2014 article in this newsletter explained the alure of scheelite, an elusive white or yellow crystal that often accompanies tungeston ore but is virtually indistinguishable from the quartz, feldspar and other minerals that are found in the granite matrix where the tungeston ore emerges except with the help of short and medium wave ultraviolet light. Under UV it apears as a light blue color that is rare among fluorescent minerals.



[Rock samples next to the club's UV light.]

So our method was to amble about finding rocks that might have black tungsten ore in them and then bringing them to the back of my car. That is where I left the club's UV light with the many wavelengths and a heavy and somewhat quirky 12 volt battery which made it cumbersome to carry around while looking for rocks. It was also handy that the enlarged black plastic bag that goes with the light could stay there and be used to block out the daylight while looking for the blue glow of scheelite.

With our little impromptu UV lab in place the next challenge was to figure out where to look for tungeston ore. Over the years I had become convinced that there was virtually none of it left in the huge waste piles that stretched out below the main adit of the mine.

A very helpful and lengthy report on the mine from Washington State's Department of Natural Resources, (<u>ger_ic117_iaml_germania.pdf</u>), shows that the main working of the mine followed the Exodus Vein, a long geological feature that stretches southwest to northwest across Sandcreek where the main workings of the mine were built.



[Yellow dots show stopes along the Exodus Vein.]

I had occasionally pondered why a mine that was named by a German for Germany would have it's main feature labelled "Exodus". I'm pretty sure Leon Uris, author of the famous book, had nothing to do with it. Interestingly there was an imigration of Germans back to Western Germany after the war of about 600,000 people because they were kicked out of the countries that they had invaded. It was also called an "exodus". The word generically means people leaving one place for another. In the case of this mine, it means ore leaving the Germania for uses throughout the US and other countries.

Our plan was simple. Explore the "open pit" and some other features near the main workings of the mine and then follow the Exodus Vein to examine the open stopes described in the DNR report. We immediately found several good-sized rocks that proved to have scheelite in them between the car and the overgrown workings of what must have been the "open pit". This was pretty exciting after having visited the mine several times over the years and only finding one bona-fide sample of scheelite as described and photographed in the June 2014 issue of the Panorama Prospector. Not content to leave well-enough alone, Tom and I devised a way to explore the vein without having to carry equipment up the hill to the top of the vein along with rocks coming down. I had already loaded a topological map of the area (<u>WA Adams Mtn 239728 1985 24000 geo.pdf</u>) on my Samsung tablet. Using the <u>Avenza GPS Map</u> app, a mobile device like the Samsung that has an internal GPS chip can tell you where you are on a map at any scale and let's you mark the location and even attach pictures.

The topo map showed a 440 foot rise from our location by the main mine adit to the highest exposure of the vein. Luckily that exposure was near the road we drove in on. Since we had two vehicles, we left my car at the bottom and drove Tom's pickup to the top of the vein. That way we could explore open stopes that lay in a straight line down the hill to the car and the UV light.



[Tom dropping a rock down an open stope.] This actually worked well and we could easily follow the line of pits down the mountain. Luckily, the pits themselves did not look to have much ore left in them. The vein was narrow and apparently completely worked out. But there were

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still many interesting rocks, some with quartz crystals and others with ore scattered outside of the stopes. Perhaps and word about "stopes" is due here. Stope is " a step like part of a mine where minerals are being extracted." (Wikipedia). In practice, a drift - a gently sloping tunnel with track for ore cars, is driven along the vein and material from the vein above the track is excavated into ore cars that can be easily rolled down the track to a shaft where they can be hauled up or dropped down to a dump, depending on the geography.

There was another tunnel that started near the top of the vein, the Roselle tunnel. Apparently ore was mined from above that tunnel until they reached the surface. There is no evidence that it was carried over the surface to the mill. Most of these "open stopes" however have caved in and do not reach the level of the original drift.

Although we did find some nice pieces of ore and scheelite near these stopes, this exploration proved to be less productive in terms of minerals although certainly as interesting for the history. There were pieces of track and other old metal along the way. Most of the pits were marked with red flagging, so they were easy to follow down the hill.



[Ore-bearing rocks in daylight]



[The same rocks under UV.]

Membership Dues:

\$20.00 per **household** per year is due to the club Treasurer Johnie Pitman (address below) on the third Tuesday of November for regular members.

Webpage: <u>http://panoramagem.com/</u> Contact: Bruce Hurley, President, 509-413-2768.

We, **The Panorama Gem and Mineral Club**, are a multifaceted group of mineral-minded people. Our proud members include some real gems, a few fossils, and even some diamonds in the rough. A few have lost some of their marbles, but they know where to get more! A few need to polish their coordination because they are always tumbling! And some are miners who use the "silver pick" as their tool of choice! It should be crystal clear, that we all enjoy this unique conglomeration and above all else we strive to **HAVE FUN.** And we never throw stones (away).

National Fossil Day - October 12th

(This is part of an article about activities at the Stonerose Fossil Center that arrived too late for last month's newsletter that were over too soon for this months.)

Join Stonerose Eocene Fossils for a weekend of fun, fascinating fossils, October 7th-10th! Friday is Kid's Day; Republic, Curlew and Orient schools are bringing students for digging fossils, painting a Geologic timeline on the street, and a session with Dr. Bruce Archibald to talk bugs. There will be a special time set aside for those adults interested, to do maintenance on the Members Area of Boot

New Meeting Time

The monthly club meetings at the Arden Community Center will begin at 6 PM starting October 18th this year. They will return to the 7 PM meeting time after the rock show in March.

This meeting will have the usual mini-rock show, extravagant refreshments, silent rock auction, tall tales of rockhounding adventures and probably a video in the same vein.

Hill.

Friday from 5:30-6:30 attend a free presentation at the Republic Senior Center. Arizona State University PhD Graduate Students will present "Adventures in Yakima Canyon: Fun in a Miocene Swamp" and "Pink Bollworm Moths and Stonerose Acer Fossils".

Saturday dig for fossils at the Boot Hill quarry from 8-4 and meet Dr. Bruce Archibald (Simon Fraser University). Dr. Archibald is a paleo-entomologist, which is the study of ancient insects. His dedication has been invaluable to Stonerose for many years, and he has made many exciting discoveries.

Panorama Gem and Mineral Club: Organizational Chart			
Officers:			
President:	Bruce Hurley	10617 W. Lakeside Lane, Nine Mile Falls, WA 99026	509-413-2768
Vice-President:	Bob Bristow	PO Box 1165; 2567 Mud Lake Rd. Chewelah WA 99109	509-935-4375
Secretary:	Anni Sebright	POB 293, Clayton, WA 99110	509-276-2693
Treasurer:	Johnie Pitman	701 B Williams Lake Rd, Colville, WA 99114	509-684-8887
Trustee 2:	Gene Fisher	295 Gold Creek Loop Rd, Colville, WA 99114	509-684-8546
Trustee 3:	Bill Allen	2633 Highline Rd, Chewelah, WA 99109	935-8779, 936-2446
Trustee 1:	Becky Dobbs	968 Phillpott Rd, Colville, WA 99114	509-684-6931
Committee Chairs			
Program Coordinator:	Bev Bockman	1750 N Havichur Loop, Post Falls, ID 83854	208-773-5384
Hospitality:	Debora Danielson	1365 Arthur Ct, Kettle Falls, WA 99141	509-960-1535
Club Shop:	Gene Fisher	295 Gold Creek Loop Rd, Colville, WA 99114	509-684-8546
Historian:	Carol Price	PO Box 77, Laurier, WA 99146	509-684-2857
Newsletter:	Joseph Barreca	2109 Hwy 25 South, Kettle Falls, WA 99141	509-738-6155
Show Chair	Bill Allen	2633 Highline Rd, Chewelah, WA 99109	935-8779, 936-2446

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