

Place: **Union Hall**
Meyers Street
Next to Campus Life
In Kettle Falls



Time: 7:00 PM
Third Tuesday
Each Month
(Jan.-Nov.)

The Panorama Prospector

October 2009

Panorama Gem and Mineral Club

Minutes
September 15, 2009
Luci Bristow

In Johnie's absence, Steve White opened the meeting. Vanita introduced, and the Club welcomed, Gene Trevis and Jim Lowe from Kettle Falls. Harold Ingram and Nena Wright volunteered to bring cookies to our next meeting. Sylvia gave the Treasurer's report.

Bill Allen was thanked for his great grilling at our picnic. We had approximately 46 in attendance.

Steve Fox talked about our field trip to Flagstaff Mountain. 7 people enjoyed this outing. There were several types of rocks found, including malachite, argillite, and perhaps some marcasite.

Rex Barrans spoke about the field trip to the Red Marble. 11 people were present. Everyone was asked to sign a waiver by the owners. They had a really good time and everyone found some nice red marble (magnasite). He also mentioned that we could probably visit the White Rock Quarry, which is near Barstow. We would be required to sign a waiver there, also.

The last field trip of the year is planned for September 26, 2009. We will go to the South Fork of Sherman Creek for diopside. Please meet at Harvest Foods, Kettle Falls, at 10:00 AM.

It was announced that Rex Barrans received a certificate for being Rock Hound of the Year from the National Federation. Congratulations, Rex!

We enjoyed our anniversary cake, which Margie provided. Congratulations, Club!

Rita Cordrey spoke about her trip to Ghost Ranch, New Mexico and her dinosaur dig. She really enjoyed this trip. She was featured in a magazine. The pictures showed her deep in dirt happily digging! Thanks for sharing your experience, Rita.

Bob Bristow talked about a trip to Redmond, Oregon and finding some metates. [A *metate* (or mealing stone) is a mortar, a ground stone tool used for processing grain and seeds. He will be going on a dig later this month.

(Continued on Page 2)

The Red Marble

By Joe Barreca



[Rex Barrans standing at the Iron Gate site]

The story of the Red Marble Quarry begins long before the club field trip on September 9th. In many ways, this was as much a history tour as a rockhounding field trip. Our leader, Rex Barrans brought with him a four-page history of Magnesite in the Chewelah Area written by Walt Goodman, which I have transcribed and you can find online at:

<http://www.mapmet.com/PGMCNews/News2009/Magnesite.pdf>.

Magnesite [MgCO_3] is the principle ore at the Red Marble. There is no true marble in the quarry. There are other ores involved, especially at some of the other mines nearby, Dolomite [$\text{CaMg}(\text{CO}_3)_2$], and Brucite [$\text{Mg}(\text{OH}_2)$]. Magnesite is a critical component of refractory brick. Most of the ore traditionally came from mines overseas but close to the coast, where oceanic shipping costs were reasonable. With the involvement of the United States in World War I in 1917, the supply of Magnesite decreased at the same time that the demand for metal produced in ovens lined with refractory brick went up.

A search for new supplies in the US led to interest in our area because of the known Dolomite deposits, a close cousin of Magnesite. Deposits at the
(See Magnesite on Page 2)

Minutes from page 1

Vanita Novak spoke about their trip to the Rock Hound Retreat. There were six people from our Club there. She brought back some beautiful wire-wrapped jewelry she learned how to make. Jerry Novak took a class on cabbaging. Great job!

Sylvia reminded us that we have a raffle going for the portable black light. We have collected \$54.00 so far, but need another \$155.00 to pay for the light and have the Club realize a benefit. She also mentioned our Club hats for sale. \$10.00 each.

After the break, we watched the third part of "Those Fabulous Thundereggs".

Thank you, Steve White, for conducting the meeting. The meeting adjourned at 9:00 PM.

(Magnesite Continued)

Finch Quarry and the nearby Allen-Moss Quarry were quickly developed. A railway to haul the ore was built up to the junction of Smola Rd and Red Marble Rd, but never finished. The huge NW Magnesite plant at Chewelah was built and an aerial tramway was built for \$60,000 from the Finch Quarry to NW Magnesite.

Our tour passed the remains of the old plant on Hwy 395 and went out Quarry-Browns Lake Rd and down Smola Rd to that junction. From there, we continued along Red Marble Rd to a junction with Klines Meadows Rd called Carrs Corner. The

Keystone Mine is a couple of miles up Klines Meadows Rd and had deposits of brucite, dolomite and serpentine. It was a major player in mix of mines supplying the plant. We continued up Red Marble Rd to where it branches to the Double Eagle Quarry to the north and the Red Marble to the South East. This location is called the Iron Gate. This where ore from the Red Marble and from the Double Eagle was held in bins to be shipped by wagon to the railhead and down to Valley. The Valley operation was later bought out by NW Magnesite in Chewelah.



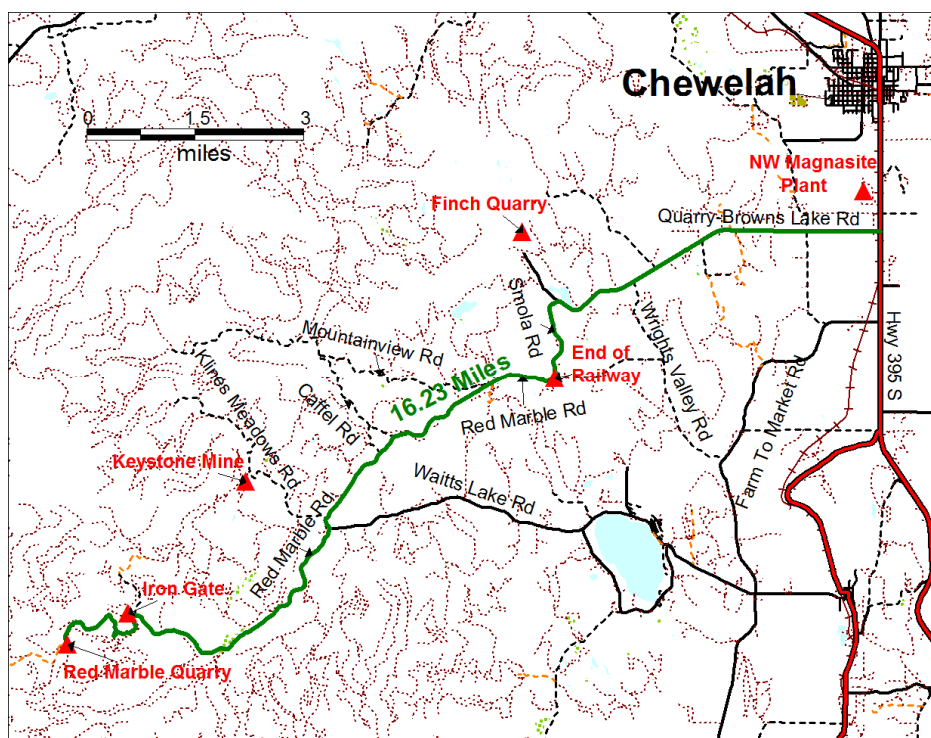
[Flags mark the Iron Gate and Red Marble entrance.]

With the end of WWI, interest in Magnesite dropped off sharply until the beginning of WWII. Calcining Kilns that burned away extra oxygen making the ore lighter for shipment were built in several places. All of these processes, the railways, tramways, kilns and other equipment ate up investors' money and with the end of the boom and the beginning of the depression.

Between late 1918 and early 1919, over 100,000 tons of Magnesite was shipped. It dropped to only 3000 tons in 1921. The overseas mines were back in control.

Mr. Roy Bishop, vice-president and general manager of NW Magnesite lobbied for 3 years to get a protective tariff on Magnesite and finally won out in 1921. Production increased but not to WWI levels.

In 1940 with the outbreak of WWII, intense interest in Magnesite created a tremendous boom in construction of facilities and development of the Red Marble. Rex Barrans was in the first crew to go up to the Red Marble and do exploratory drilling to expand the quarry. New processing and hauling facilities were built. The Magnesite plant doubled output to 475 tons per day. Over 700 men were put to work.



We passed the ruins of a crushing and separating plant that once held a 42 inch crusher, the largest in the state.



The road into the quarry is blocked by huge boulders, so we walked in, buckets and picks in hand. All of the sparkling red Magnesite ore contains massive crystal structures, but there are no known vugs with pure Magnesite crystals. We were like ants in the giant expanse of rock cliffs that line each level of the quarry ascending into to surrounding hills. The sound of rock hammers soon echoed off the quarry walls from every direction.



In a slide of slick serpentine-like shale on the north edge of level II, I found nice pyrite crystals. With a heavier bucket and a lot of quarry left unexplored, I headed back to the cars parked near the entrance for some lunch and a mini-rock show.

Rex and other rockhounds were soon pouring over maps of the area and talking about other mines. There are over 40 within 5 or 10 miles. After initial work was completed on the Red Marble Quarry in 1949, magnesite production there lasted another 39 years until a larger company bought out the business and closed the plant. Today some of the beautiful rock is hauled to the coast for landscaping. We hauled away as much as we could carry, but nothing like the loads those 17 ton Euclid trucks hauled back



[Karl, Scott, Joe and Rex map out new adventures]

in the day. We are still waiting for word of how it looks as a tumbled rock.

Sherman Creek Diopside

By Joe Barreca



[The club digs in at the Cedar Ridge Diopside Site]

It's September 26th, another beautiful day in Kettle Falls and the group headed out following our fearless leader, Steve Fox, to South Fork Sherman Creek Rd, just off Sherman Pass Hwy 20 at about Mile Post 331.5. (There's no actual marker but South Fork Sherman heads off south of the Hwy between the two mile markers.) Stay on that road and go 4.5 miles just past USFS Rd 120. The site is on the upper side of the road in layers of rock.



The clear green crystals that we were looking for are Diopside, $[\text{CaMg}(\text{Si}_2\text{O}_6)]$. It is a mineral formed from Calcium, Magnesium and Silica. It is a translucent green color. This Cedar Ridge site is described in Minerals of Washington by Cannon, (p. 82). There is another mineral with a similar look and sound, Dioptase $[\text{Cu}_6(\text{Si}_6\text{O}_{18})\cdot 6\text{H}_2\text{O}]$. It is also green and of a similar hardness, but the principle mineral is copper, so it will have a green flame when crushed and burned. Steve Fox also did another test on these samples, by exposing them to acid. The calcium carbonate (limestone) matrix that held the crystals would fizz as it dissolved, but the crystals would not.



As you can see from this crystal, in John Squire's hand, they are not very big, and this was a big one. Rex found one reportedly as round as a little finger sifting through the dirt on an earlier trip. The vein that we have been exploring has been dug back between layers of rock. It will soon become dangerous to dig back much further. I'm not sure there is much we can do about that legally on Forest Service land. These are not particularly hard stones, 5.5.

There are also some nice mica "books" at this site. It is only 19 miles from Kettle Falls, so if you have not been there, it makes a great little day trip.



[What is it? (Probably use in prospecting.)]

Near and Far, Along the Columbia

By Joseph Barreca



[Geology tour stop #4 at the David Thompson sign]

On October 10th Several members of the Panorama Gem and Mineral Club took the 2009 annual geology tour hosted on different routes each year since 1980 by Bill Swartz (red coat and hat in this picture). The theme was "Near and Far, a Road Trip through Geologic Time." You can download an exact itinerary with commentary and pictures from the club website with this link:

<http://www.mapmet.com/PGMCNews/News2009/NearandFar2009.pdf>. The trip was 54.5 miles long.

It started in Kettle Falls with stops to look at the quartzite around the Kettle Falls entrance sign, Meyers Falls and the rock pit of an ancient coral reef up the road behind the Exxon Station. There



[Stop# 3 overlooking the Colville Valley]

are fossils to be seen here and a mix of geologic forces that lodged ancient sea beds onto the coast of the North American continent, pushed volcanic rocks up to the surface, carved the Colville River

Valley with glaciers and left a delta of glacial material at the mouth of the Colville River.

Going north on Highway 25, the tour stopped at the David Thompson Interpretive Sign along the lake on the way to Marcus. In the rock that has been drilled and blasted to carve out the bed of the highway, you can see a clear difference in color between the white granitic rocks to the north and the darker oceanic rocks to the south. The white rocks are a “dike” of igneous rock pushed up from the mantle of the earth about the same time, the Eocene Period, that volcanic forces on the West side of the Kettle Range Gneiss Dome created the Knob Hill Mine and Stonerose Fossil site.



[Open face of Calcite Crystals, Stop #5]

Harold Ingram, who provided the pictures for this story, noticed this huge 8-foot-wide face of calcite crystals along the highway near Stop # 5, mile 30.0, the US Gypsum Quarry.

Five miles further north, mile 35.2, Stop #6 reveals the twisted folds of metasediments in the limestone seen in this picture:



The rock here folds completely back on itself demonstrating remarkable plasticity that could

have only been produced under extreme heat and pressure.

There are 10 official stops on this tour and many more places noted in the itinerary that would be worth a stop if you took the tour on your own. We live in what many believe to be the most complex geologic area in North America. Even with an itinerary, there is no substitute for going on these geology tours with Bill Swartz as a guide. He tells you stories not only about the rocks themselves but also about the quarries and mines along the way, the people who worked them and the ways that the minerals were used. Keep your eyes open for notices about the trips in local publications, especially the North Columbia Monthly and the Stevens County Library website in October each year.

Northwest Rockhound Retreat

By Johnie Pitman

This retreat is really a great way to learn most of the skills in nearly all of the arenas associated with rockhounding and producing something useful from those rocks. It is put on by the Northwest Federation of Mineralogical Societies and is held at the Hancock Field Station which is on the John Day Fossil Beds National Monument located about 25 miles west of Fossil, Oregon. The Hancock Field Station is a remote station operated by OMSI (Oregon Museum of Science and Industry) and is set up to handle school classes with hands on experiences in archeology, geology, paleontology, botany, and I have forgotten the rest. The buildings are a bit rustic but serve the purpose very well.

The retreat offered classes in lapidary, silver smithing, wirewrapping, faceting, casting, intarsia, beading, doublets and triplets, and judging of competition cases. It is set up to handle 50 students but there was only 41 this year so there is a good chance that there will be room for you next year, think about it !!!

Five of our club members attended this year and all had a great time and even learned something. Vanita Novak took the wirewrapping class, Jerry Novac and Mike Rose took the lapidary class, Diane Rose took the silver smithing class and I took intarsia for three and a half days and wirewrapping the last day and a half.

Think about it for next year and we will have more information after the first of the year, it is a great place to learn more about our hobby.