

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

August 2005

Panorama Gem and Mineral Club

Minutes for July 19th, 2005 Meeting

Luci Bristow

President Johnie called the meeting to order at 7:00 PM. Mabel introduced guests Sharon Erickson and Carol Bose. We welcomed them and hope they will become members.

Treasurer Larry gave the treasurer's report. He also said that he and Carol were in Oregon and enjoyed themselves rock hunting. Johnie announced that he has written a \$500.00 check for Jesse Schwell, who received our scholarship. Jesse will be attending Brigham Young University in the fall.

At the last meeting of the club, it was moved to purchase a short and long wave fluorescent light called a "Way Too Cool Light". Joe Barreca researched this light and found that we could purchase one plus accessories (Light - \$390.00; Charger - \$60.00; Case - \$10.00 and shipping \$12.00.) After discussion, it was moved by Bob Bristow to increase the dollar amount to \$460.00 that will include all of the accessories as well as the light. Diane seconded and the motion carried. This light is for use by all club members. Joe said that as of the last newsletter printing, we have 20 people with unpaid dues. As we discussed at a previous meeting, a yellow highlight was placed on their newsletter to let them know that they owed dues. We decided to send a "gentle reminder" with the September/October newsletter. Johnie thanked Joe for the wonderful newsletters and for all his work in preparing them.

Rex mentioned the Rock Rollers Picnic on Sunday, July 24th at Brown's Park... Diane Rose reported on the Madras show. She and Mike then went on to Davis Creek, California, Hampton Butte, and the Sun Stone area out of Plush, Oregon. They had a great time!

Rex and Diane talked about field trips. One is scheduled for Flagstaff Mountain on July 30, 2005 for Barite. Our program was a video on "Collecting Earth's Natural Treasures" starring Bob Jones. The second half will be shown at the next meeting in August. Thank you, Bev, for supplying this video.

Flagstaff Mountain

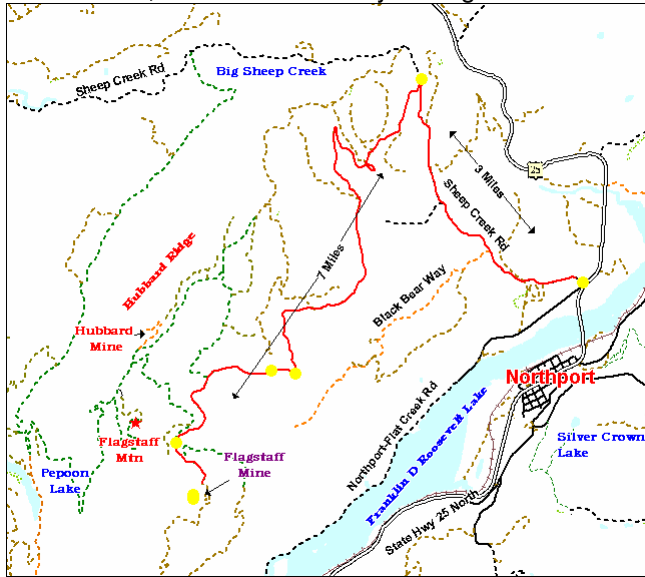
Joseph Barreca

Our field trip to the Flagstaff Mountain barite mine almost derailed when our fearless leader, Diane Lentz caught a flu bug. But she alerted vice president Steve White and President Johnie Pitman. Steve took charge of the field trip. Actually, he charged right up to the mine and it was all people could do to keep up.



In 1981, geologists including Bill Swartz explored the barite deposit at the Flagstaff and outlined 1.4 million tons of barite with a specific gravity of 4.0. Barite is heavy alkaline earth-metal (specific gravity of 4.5 or 4.5 times the weight of water) used in rock drilling operations to "float" lighter rocks to the surface and clear the bit. The Sells brothers sold mining rights to CE Minerals. Bill writes: "The company, CE Minerals as subsidiary of Combustion Engineering, refitted the Calhoon Mill, at

Leadpoint, to grind the barite and concentrate it with hydro-cyclones. They were aiming at a market in the BC and Northern Alberta oil fields. Before any product was shipped, NL Industries (National Lead the old Dutch Boy Paint) built a grinding mill, at Prince Rupert, to process 4.1SG barite, from China. Their price for sacked barite FOB Rupert was less than CE's mining cost. The haul road, on Flagstaff, cost \$750,000. A little rock went in the box, but there was no payday. Another, expensive missed hole, for Stevens County mining."



Some of the best rock picking was close to the parking area when you first come into the mine. Shelves of rock stepping down the mountain have open faces to the south and tailings to the sides. Both are worth looking over. Look for pockets of crystals in the rocks. Almost all of the rocks glitter in the sunlight. There are several different layers of rocks exposed. I asked Bill Swartz about this and he replied: "The structure, at the Flagstaff Mt. pit is a parasitic anticline, in the hinge zone of a recumbent syncline, that underlies the entire Flagstaff-Hubbard ridge..." He went on at length like this. The gist of it seems to be that a terrane formed on an ocean floor near volcanic islands pushed up over the Metaline Limestone that formed when this area was at the bottom of the Windermere Rift. The rift opened up 750 million years ago when pieces began to drift away from the existing continent. The mine exists near where these two collided.

The Washington State Department of Natural Resources lists the following minerals as being present in the mine: Barite, Calcite, Quartz, Muscovite, Graphite, Pyrite and Montmorillonite. Diane Lentz reported fluorite in the mix and there do seem to be several florescent minerals in the main ore (seen next article on UV light.) There were pockets of pale green crystals and also white quartz crystals. In fact some rocks seemed to be composed of many different types of crystals, but none of them very big.



Mike Latapie found the best crystals I saw during the trip. They were fairly flat, about 1/16th of an inch thick and had yellow tips. Looking for something similar on the website www.minedat.org, I found this picture, which was the one most

similar to rocks at the Flagstaff mine of any in the collection. Karl Volkman found this rock at the Big Rock Candy mine near Grand Forks. There are hundreds of different forms of barite. We seem to have our own style in this part of the world.

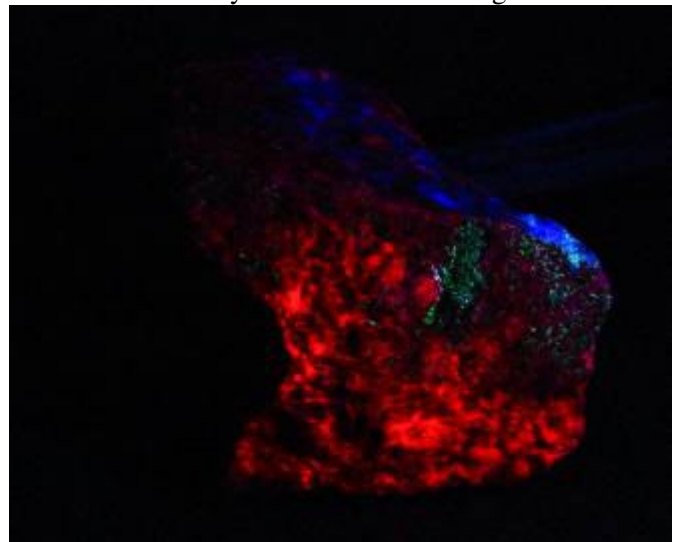
The Heritage Mine, immediately below the Flagstaff, has tungsten and zinc. It is probably part of the same excavation.

You can drive to the Flagstaff mine in a two-wheel drive car. The road runs along the contour line but has quite few water bars. Maybe we should try it at night and bring the UV light.

Way Too Cool Joseph Barreca

My first exposure to black light was in my cousin's retrofitted garage turned hippy pad in 1968. Besides the usual posters and other psychedelic trinkets, he decided to put little florescent spots on cockroaches and watch them crawl on the walls at night. Okay, so ultraviolet light may deserve some of the weird associations it has picked up over the years.

Since this light arrived at our house a couple of weeks ago, I have been obsessively (says Cheryl) checking every rock we have, including those out in the gravel pile to see what they look like under UV. In a fortunate tie-in to the Flagstaff Mt. trip, many of those rocks are very colorful under this light.



This is a picture of a rock Bill Gardner sent with the battery pack for the light. He wanted to make up for neglecting to send the battery pack with the

lamp. It more than makes up for the delay. The picture doesn't really do it justice, but it is a very spectacular specimen with several different colors, mostly an intense orange.

Bill Gardner makes these lamps. They are one of the best available. This one includes short, medium and long wave ultraviolet lights. The real key seems to be in the filters. They allow only select wavelengths and different minerals react to different wavelengths. I talked to George Polman, who sold the lamp through his web site: www.polmanminerals.com, about some newer lamps I had seen on the Internet that use LED technology. They are less expensive, brighter and longer lasting. The problem is that they are not as narrowly selective for one wavelength, and are not keyed to the specific ranges of natural minerals. In our lamp, that is done with the filters. At least the LED type of lamp need much less power. The battery pack for this puppy weighs 7 pounds and it feels like you have a sledge hammer on your belt.

The light plugs into this battery pack or any 12 volt DC power source, such as your car, that has a cigarette lighter-style socket. The battery pack came fully charged and even though I have used it quite a bit now, it still tests at 12 volts. It is rated to last 2 hours or more. Believe me you won't want to be carrying it any longer than that.

Another caveat, the lamp is most effective at close range – a foot or so away from the rock. You should be able to pick up some fluorescence while standing up, but you will want to get close to really see it. Display cases need much brighter lights. If the club wants to have fluorescent rocks at it's annual show, we will have to find an AC display model.

That doesn't mean that we won't be able to try out all kinds of rocks in the meantime just using this lamp. I'll bring it to the next meeting with some samples. I hope other people can bring some too (and that I can get this letter out in time to let you know about it.)

Mount Palomar: Telescopes and Tourmaline by Bob Bristow

As the plane banked on our final approach into San Diego, I could see the airfield and the downtown high-rises. It appeared we would surely take the top off one of those buildings. Everyone feels like that on landing at San Diego, including the pilots. Luci was accompanying me to a meeting at the Naval Base. After landing, we rented a car and drove to a waterfront hotel a few blocks from the Star of India, an

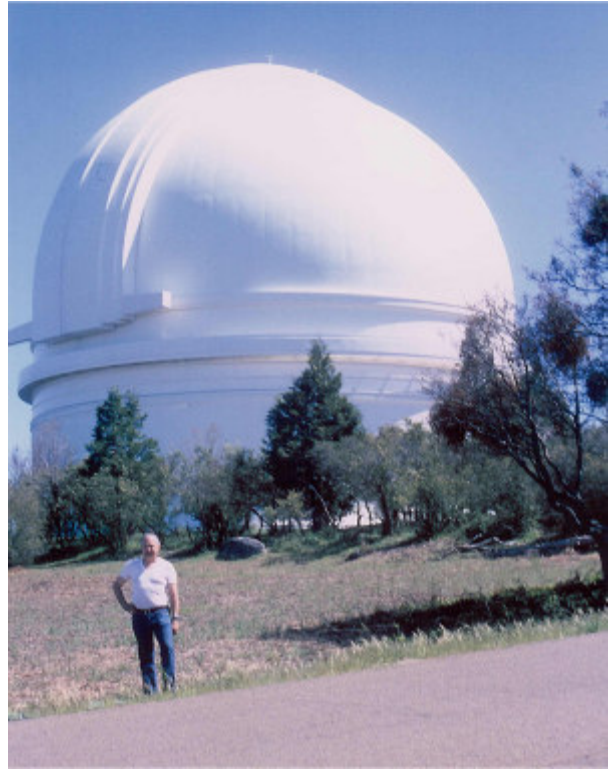


Figure 1. Dome of the 200 Inch Telescope

old sailing ship now used for tourists. (If you get a chance to tour the old ship, be sure to go down to the lowest deck. There is usually no one there but you and the popcorn shrimp. They are outside in the mud, but they make a popping noise that seems to be coming from right there in the ship!)

After the meeting, Luci and I headed east over the mountains toward the desert. At the crest of the mountains, we found two interesting rocks. One was a pegmatite vein with lots of black tourmaline (schorl). The other was a huge pile of round rocks that looked like truck-size bowling balls stacked one hundred feet high. The pegmatite vein was no surprise. There are literally thousands of them between Los Angeles and the Mexican border. The huge rocks are thought to form underground when cracks develop in granite and the granite then rots around the edges. Since corners

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rot faster than flats, the square blocks gradually become round. If the rock mass is then raised above the surrounding terrain, the rotted granite washes away leaving the still-solid round rocks.

We dropped down off the mountains into the Anza-Borrego desert to admire the many kinds of cactus and to plan a later visit to some of the fire agate mines further east. We then drove north along the foot of the mountains until we were below the old gold mining town of Julian. A road led up to Julian from the east that was composed of a series of steep switchbacks. Within a few miles, you go from cactus to high-mountain vegetation. Along the way, we went through some oaks. These were low, bush-type oaks with standard acorns but with spines on their leaves like holly. Julian is perched right on the crest of the mountains. The old gold mines are out of sight. They are on the east slope that is the face of a scarp where that block Peninsular Mountains tilted up.

Our destination was Mount Palamar that is also on the crest of the same mountains, but further north. Since astronomy is another hobby, I wanted to see the telescope that had been the largest in the world for many years. We passed a brush fire on our way up Mount Palamar, but it was stopped about a mile from the telescopes. Figure 2 shows the author with the dome of the 200-inch telescope in the background.

Another destination was Pala. Pala is a small Indian reservation town at the foot of the Palamar mountains. Just south of Pala is a paved road leading east up the mountain. A short distance up the road is a rock shop featuring the famous pink tourmaline from the pegmatites of that region. There was a large block of pegmatite in the yard from which you could break off a chunk to buy. The tourmaline was in bright pink starbursts. This tourmaline is not gemmy, but makes a showy specimen. I went by this store on three different occasions, but never found anyone there. The gate would be open and the door unlocked, but no one to take your money. One time the door of the little store was open and I walked in. There were nice samples of gem tourmaline and other gems, but no attendant.

About a mile further up the road is the Katerina, the first of the famous gem tourmaline mines. The mine was wide open, so we drove in and explored. This is a large pegmatite that is harder than the surrounding granite and so pokes up above the ground. The west end had been mined first and had a maze of small passageways that honeycombed that end. The pegmatite here was mostly white quartz with black tourmaline crystals. I had read that the miners knew when they were approaching a pocket of gem tourmaline when the black crystals turned clear. I crawled through many tubes (they were only about three feet in diameter), but found little of interest.

Around the mine and on the dump, however, there were lots of goodies. The most striking were the various minerals containing lithium. These minerals were all some shade of pink to purple. There appeared to be a good truckload laying on the ground. After exploring adits in the pegmatite for about an hour, I was startled to see a young couple emerge from one of the modern adits. The boy showed me a nice set of blue tourmaline crystals he had found in an overlooked hole. We didn't have time to explore much more that day but I came back two or three times more. (Whenever I had a meeting in Southern California.)

Parts of the pegmatite had very large crystals of schorl (black tourmaline). There was one that was nicely formed and I would very much like to have in my collection. It was over a foot in diameter and over six feet long. I might have tried to extract it but it was a bit big to take home on the airplane!

On one trip, I crawled into an interesting area. The mountain had pulled apart leaving a series of gaps in the rocks of the pegmatite. A couple of the gaps were large enough to stand up in. While crawling



Figure 2. Crack Leading to Mirolitic Cavity

along with my flashlight in one of the smaller cracks, my face ran into something that moved. Thinking it was a root from the surface, I grabbed it and started to yank. However, it didn't feel like a root so I stopped and shined the light on it. I immediately saw that it was a dynamite fuse about six inches long sticking out of the rock. The miner who had prepared the dynamite had used plaster of Paris as the stemming material. I thought about lighting the fuse and quickly crawling out. I just as quickly rejected the idea. The crack I was in couldn't have allowed more than a 12-inch bore hole. That meant that the total length of the fuse couldn't have been over 18 inches. If the fuse burned as it should, I would barely have time to crawl to an opening. However, that fuse had been there for years and who knows how fast it would burn.



Figure 3. Schorl Crystals in Pegmatite

On one of my first trips to Pala, I looked at the Katerina pegmatite and remarked that if I owned that property, I would look for a residual placer where the end of the pegmatite had rotted. Crystals falling out of the decaying pegmatite would have worked their way down to bedrock. On my last trip, the pegmatite had “No Trespassing” signs and a large excavator was digging down to bedrock. I guess I wasn’t the only one thinking about residual placers.

On another visit, I hiked up above the pegmatite to see what was on the hill above it. The ground was littered with black tourmaline and pieces of pegmatite. I saw a brown stain on a crack and climbed up on the rock for a closer look. It led to a crack in which I could see a miarolitic cavity. In the cavity, I could see crystals (Figure 2). I only carried a small gad and a rock hammer. There was no way I could break open that big rock without more tools. The meeting I was attending would last another day, so I would have another evening to come out to Pala and do more exploring. The next evening, I stopped at a hardware store and purchased a bag of large concrete nails. Back at the rock with the miarolitic cavity, I began driving nails into the crack. Before long, a part of the rock broke and I could see into the cavity. What a disappointment, there were large crystals, all right, but they were common muscovite mica books. Even so, it was a good trip. I found the sample of granite with nice schorl crystals shown in Figure 3 behind the miarolitic cavity rock. (I also found an old rock

hammer that someone had lost.)

Getting to Pala late one evening, I hurried up to a second small pegmatite further up the hill. When I got to the pegmatite, it turned out to be quite large. There was a single adit in the center of the exposed part of the deposit. There would be no exploring, however, because there were heavy iron bars welded together across the entrance. I did find a blue tourmaline specimen in the dump and several clear quartz samples with pink tourmaline crystals inside. Since I had been in a meeting in San Diego until late in the afternoon, I didn’t have much time at Pala. After quickly looking through the tailings at the upper pegmatite, I hurried down the hill since it was getting dark. I had brought a flashlight, but it was for seeing in cavities, not for getting down the mountain after dark. About halfway down the hill in a small depression, I grabbed a large boulder to let myself down. As my hands slid over the boulder, I felt protrusions. I stopped and traced the outline of one of the protrusions with my finger. It formed a star-burst pattern just like the pink tourmaline in the rock shop down the road. I excitedly reached in my pocket for the flashlight. It had fallen out as I climbed down through the brushy hillside. I had to leave all that tourmaline!

I wonder if that boulder of tourmaline is still there?



Mineral Identification
Mineral/Mine Locations

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