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

THE PANORAMA GEM & MINERAL CLUB

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

The Panorama Prospector

April 2005

Panorama Gem and Mineral Club Minutes
March 15, 2005
By Luci Bristow

At the 6:00 PM Rock Show meeting, we discussed the progress we are making in putting our Show together. Everything is on schedule and as planned. **Please remember that we are setting up starting at 8:00 AM on March 31, at the Fort Colville Grange Hall. All help is welcome!**

At the 7:00 PM regular meeting, we were happy to have Don and Suzanne Andrews as new members. Welcome! Johnie announced that he has not moved but has a new mailing address: 701 Williams Lake Road, Colville. Bob Bockman stated that the Spokane Show was better than last year financially. Johnie thanked the Rock Rollers for all the their help in supplying tables and show cases for our show. A grand prize was selected.

Rex Barrans talked about his display representing all the sites where minerals have been collected on both private and public lands. He will have this display at our Show. He also mentioned that a trip to the Cleveland Mine is being planned for this spring.

Diane Rose gave an interesting talk about her trip to Quartzsite and Tucson. She had a number of pictures and some "treasures" that she and Mike bought. The green obsidian was outstanding! She reminded us that the North Idaho Rock Show will be June 4 and 5, 2005.

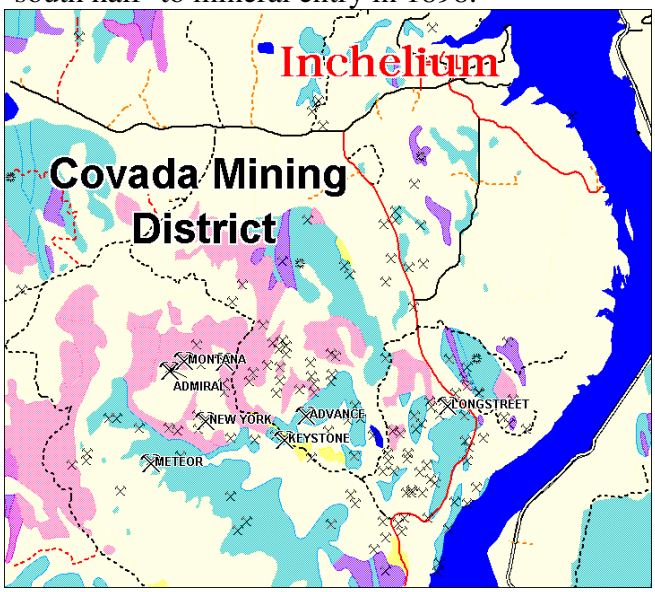
Johnie also announced that there will be an "Ashwood Rock Stack Day" – May 27 through May 30, 2005. Anyone interested should contact Johnie.

Cookie bakers for the next meeting are: Suzanne Andrews and Bob Adams.

See you at the Show!

Covada
By Joseph Barreca

I was driving down Covada Road on the Colville Indian Reservation near Inchelium. Gray clouds hung low over second growth timber and stump ranches laid out along the flats. Fresh red rocks in a hillside quarry rose above a recent logging operation, evidence of the mineralization that led to formation of the Covada Mining District. In his 1918 mining report on the Colville Indian Reservation, Joseph Pardee writes that the "District was pretty thoroughly examined by prospectors within the decade following the opening of the diminished Colville Reservation or 'south half' to mineral entry in 1898."



Pardee described rocks of the Covada Group as Paleozoic argillite, schist, quartzite and conglomerate. Today geologists classify the area as the "Covada Terrane", an ancient sea floor that accumulated debris from volcanic islands as it formed 480 million years ago. Volcanic conduits squeezed basalt into layers of mud on the sea floor and sub-marine hot springs spread metallic deposits of copper, lead, zinc, gold silver and

many other metals. These mixed with quartz sand, volcanic sandstone and chert from the shells of plankton fed by the hot spring minerals. This sea floor was crushed into the immovable mass of the North American Craton as other terranes piled on to the west. They pushed it up over some existing formations and into the quartzite rocks that bulged up to form the Huckleberry range in Stevens County.

Carl Putname

My Geologic Atlas of Ferry County shows 138 mines in this district but none are operating today. I wanted to know more about what happened in the Covada. I turned down Putnam Road on my way to visit with Carl Putnam. (Somewhere to my left, on the flanks of Rattlesnake Mountain, was the Silver Leaf, one of the District's most productive mines.) I met Carl 30 years ago when he helped my family develop wells on land near Republic. He had told me about the stone house he was building with lintels of solid rock above the windows and I had wanted to see it ever since. Carl is 87 now and still runs his cattle ranch spanning several hundred acres. He is looking forward to a knee operation that will let him work on the fence lines more easily. Several mines are on his land, but his real wealth is in knowing the territory.

When his family moved there in 1922 (Carl was 4 years old), the McGrath Ferry crossed the Columbia at the bottom of the road and the town of Camp Columbia with a hotel and barber shop was near by. Several mines had already been explored and mostly abandoned. What I show as the "Blue Jay" (Iron), that red quarry I saw on the way in, was called the "Ice Mine" because evaporative cooling in the talus slope formed natural ice that the settlers used for refrigeration. The Silver Leaf had produced $6000 worth of ore (lead and zinc) by 1922. Other mines on the south side of Rattlesnake Mt. had produced gold, silver, copper and antimony.

Silver Leaf Mine

The miners either moved on or married native women and settled down. They established the town of Covada with high hopes. It was laid out in the shape of a wagon wheel, somewhat like Washington DC where Silver Creek Rd meets Stray Dog Canyon Rd. The name comes from some mines in the area, the Columbia + the Vengeance + the Ada = Covada. (None of these names are in use today.) It was abandoned in 1924. The mines were bought up by investors such as R.R. Coleman, who owned stores in Meteor, Inchelium and Covada and George Eves who was worried about enemies and carried a 45

at all times. He accidentally shot himself with it one day but managed to ride up to the Longstreet mine, which kept producing (copper, gold, silver etc.) until 1937 where he got help from the Kinley family getting to the doctor.

Prospector Thompson, who operated the Bridge Creek Placer at the end of Putnam Rd and had discovered the Silver Leaf mine, eventually sold the pipe from the placer to Carl's Father, C. Frederick Putnam. Thompson used the money to build a service station in Enterprise, on the Stevens County side of the river. Carl went on to become Stevens County Commissioner from 1956 to 1972. He still worked for the county as planner and assorted other jobs when I met him in 1975 and served on the school board for even longer. He built the house from 1946 to 1986 living with his wife Florence in what is now the basement for 17 years. (Now I don't feel so bad about how long my house is taking.) The walls are 2 feet thick and framed on the inside.

Silver Leaf Quartz Crystal Pockets

On the way home, I stopped at the Silver Leaf. There are up to 20 minerals associated with the mine based on metals that include, iron, copper, lead, silver, tungsten, antimony and uranium. The most collectable specimens have pockets of quartz crystals, sometimes coated with other minerals. (This sample thanks to Rufus Cabral.)

A Real Gold Mine
Part 4 – Core-Drilling into Rich Veins

By Bob Bristow

After recovering from the robbery described in the last article, I began building a mill for processing the gold/copper ore. (This was an experience in itself and will be described in a future article.) While working evenings on the mill, weekends were spent learning more about the deposit. After thoroughly exploring the surface, I decided to see what was underground. My first attempt was using a device to detect the reduction in electrical resistance and the generation of an electrical potential due to rotting sulfides in mineral veins. This worked really great for veins that had weathered, but my primary deposit was made up of fresh sulfides and the changes in resistivity were weak. I was then left with the option of blasting an adit into the rock or core drilling. Blasting an adit sounded like more fun but core drilling sounded more practical.

Figure 1. Tapping into a Water Source

I subscribed to the "California International Mining Journal" and followed the core drill ads. After a meeting in Los Angeles, I rented a car and drove out to Lancaster and Barstow to look at small core drills. After settling on the one in Barstow, Luci and I drove down from Auburn in our old pickup to bring it home. This turned into an adventure in itself. Right after crossing the Oregon/California border, our pickup dropped from 13 mpg to only seven. We kept on going south but watched the map carefully to make sure the next gas station was within 140 miles. We decided to make a swing

through Death Valley and fill up at the good-sized town shown on the map just south of the monument. It was fair-sized all right, but a ghost town with wind blowing dust through the open doors of a large motel and gas station. We were now down to empty and no one was on the highway that early in the spring. However, with Luci crossing fingers and toes for luck, we made it the 30 miles to the next gas station. Then came the wind. Out on the open Mojave Desert the wind was blowing the dust so hard that the radio advised people to stay home. We had no trouble, but we did pass a semi-trailer blown off an overpass.

The old man we purchased the drill from was interesting. He had spent much of his life prospecting on the desert. He told us that he had purchased the drill after finding a rich deposit of silver. He drilled several holes to get samples and then approached a big mining company. They did their own assessment work but told him they were not interested. However, he soon found that they had staked all of the ground around his claim and were making plans to mine all around him.

After getting the core drill home, I spent much time in the library reading everything they had on core drilling. This included two large how-to manuals. But as usual, there are many things you need to know that aren't in the books. After getting another POO (Plan of Operation) approved by the Forest Service, I poured three concrete pads where there were signs of good mineralization. You need a lot of water for core drilling, so I ran a garden hose down from a small stream to the road. The idea was to fill four 60-gallon tanks and pump from those to the core drill. That didn't work. I only got a trickle of water. The fix was an initial six-inch diameter pipe followed by two 1.5-inch pipes and finally the garden hose. This allowed the water to build up pressure before being squeezed into the small pipe. It then took only about five minutes to fill a 60-gallon drum. Figure 1 shows the pipes and hose leading down to the road. About 80-psi pressure was needed for the core drill so I purchased a high-pressure pump and a generator to run it.

Figure 2 shows the little "X-Ray" drill set up to bore a vertical hole. (The planks directly behind the drill were used to slide the drill onto and off of the pickup.) The resulting hole was 1.125-inches in diameter with a 3/4-inch core. When the hole became over 30-feet deep, I used a tripod to lower and raise the drill rod.

One of the things the books didn't tell you was that the best ore is very brittle and tends to break up while drilling. Therefore, the very samples you want to collect go out in the wastewater. I solved this by drilling a larger hole at the top and cementing a pipe in it with a "T."

Figure 2. The Core Drill Setup

The "T" then led the water to a settling box where I could take a sample after every two feet or so and assay it.

My deposit had disseminated copper and gold. That is, the ore minerals were forced around grains of country rock into their current location. Figure 3 shows a typical chunk of ore. There are small bits of chalcopyrite all through it. The dark-blue layer across the top is solid chalcopyrite stained blue by azurite. Often the source of the disseminated minerals is a vein or other rich lode. I hoped to drill into one of these sources. I drilled holes about 40-feet deep in several directions (including up) to make sure there was plenty of ore to warrant building the mill. I planned to

Figure 3. Gold/Copper Ore

deepen these holes at a later date. On the last hole, after drilling a few feet, the wastewater suddenly turned black with ground up sulfides. My heart skipped a beat and I held my breath to see how far the rich ore lasted. The drill passed easily through the soft sulfides. However, after two or three feet, the water turned to gray again and I knew it was back in granite. This may have been the mother vein that was the source of the ore minerals. If so, it would be very rich.

Continuing those holes was not to be. One Friday I took off work to drive to Portland and attend a seminar sponsored by the BLM (Bureau of Land Management) and the Forest Service. While I was attending the conference to find out how to preserve the environment, some people decided only they knew best how to save the world. When I next went up to the mine, I found that these "environmentalists" had dropped items down the drill holes so that they could not be continued, bent over all my studs in the wall rock, and had broken up all of my concrete pads. They even carried off all of the concrete from one pad. One other pad was broken up and buried in rocks. In actuality, I had made plans to leave a better environment than what I had found.

I re-built one pad and went on to drill into something even richer than the possible mother vein, but I will leave that story for next time.