

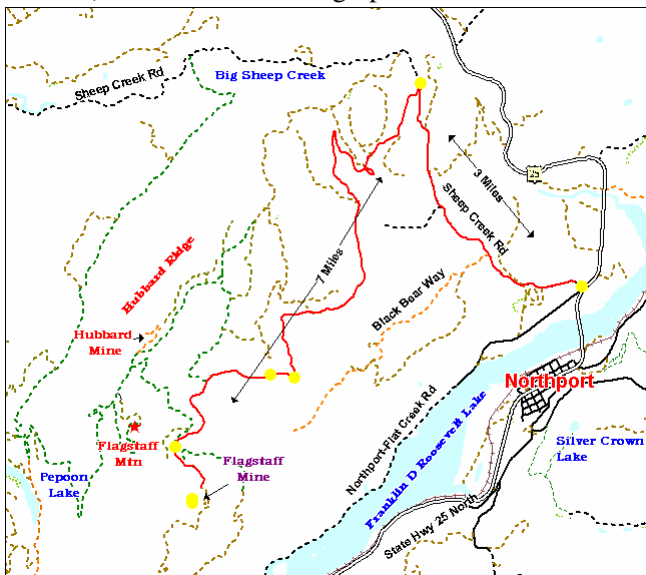
Flagstaff Mountain

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.