

## Unusual Fluorescent Mineral from HK Penn Md Quarry by Dave Lines



Seven members (Joe, Ralph B., Tim, Rich, Pam, Joyce and Dave) of the Southern Maryland Rock and Mineral Club joined 17 other members from the Montgomery County club and the Delaware Mineral Society at the Haines & Kibblehouse (HK) Penn MD quarry at Peach Bottom, PA bright and early at 7:30 am on Saturday May 28, 2022. Located in the State Line mining District, the serpentine related minerals found here are similar to the 31 kinds documented from the immediately adjacent Cedar Hill quarry. The predominant minerals of interest are mainly green in color due to chromium, nickel or copper.

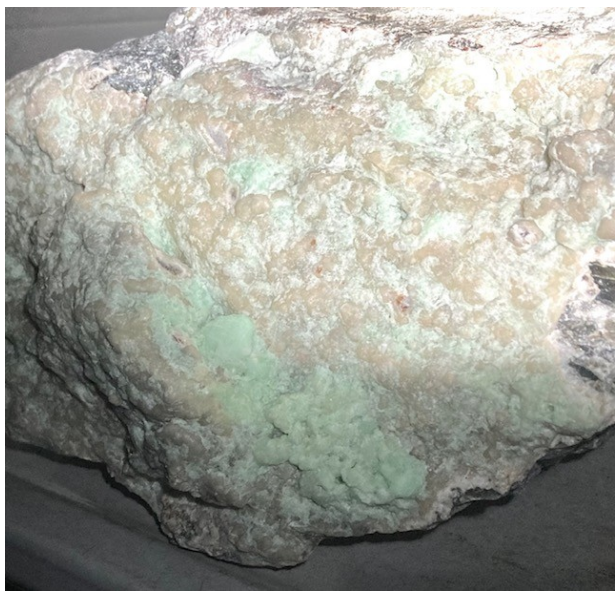
The rainy, stormy weather of the night before had just cleared when we arrived, and everything was literally dripping wet. Perfect conditions for cleaning off the rocks. Lots of changes at the quarry were underway since we had last visited in the late fall of 2021. The quarry office had moved to a trailer, a very large gravel ramp leading up to and past a grizzly and rock crusher had been constructed and there were many components for a new rock crushing plant sitting around awaiting installation. They were going to be very busy.

After signing the quarry waivers, we listened to a safety briefing by the quarry superintendent who emphasized no climbing on the berms, do not go beyond the drilling machine on the second level, everyone must stay on the same level until he leads us to a new level, and we were to expect lots of mud. Additionally, the lowest level was under 50 feet of water.

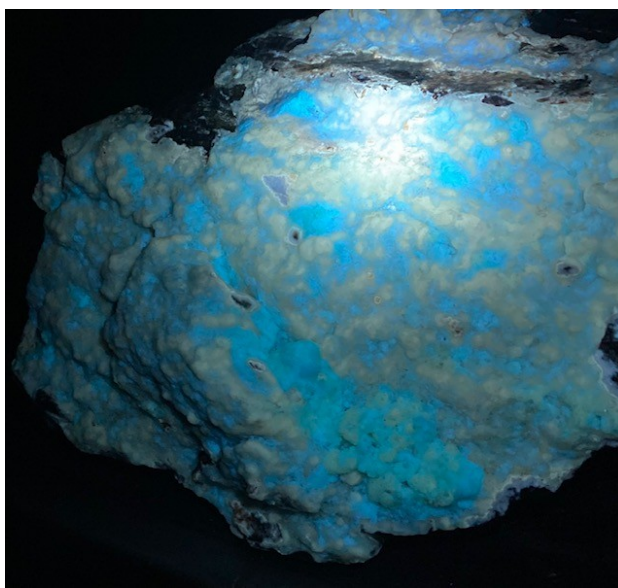


At 8:00 am, we all caravanned down to the 3<sup>rd</sup> level and spread out and parked around the perimeter. Rich and I parked near the center of the west wall. There seemed to be plenty of interesting green material just about everywhere, so I went to check on Pam and Joyce to ensure they got started okay. Joe (who had given them a ride into the pit because they wisely felt their car was not up to the task) already was showing them what to do, so I took some pictures and returned to find Rich already piling rocks in the truck. He was having a great time. I was looking for good quality lapidary material as well as for some minerals that I thought I could recognize. Members of the other two clubs seemed more knowledgeable than me, so I asked many questions as I surface collected green “antigorite” --- especially the variety “picrolite” because it was very clear green and pretty. I also looked for the turquoise-colored “mcguinnessite”. I picked up lots of small, but nice pieces of antigorite and occasionally found larger chunks of solid green material that all looked to have great lapidary polishing potential.

At 9 am, I left Rich to walk around the level to find some friends like Tom from the Delaware club and to check on how others from our club were doing. Tom was sitting in the shade of his vehicle when I located him --- he was today’s Delaware trip leader but was recovering from recent hip surgery, so he was taking the trip at a slower pace than usual. We reminisced a while, then I left and checked on the others. Tim had found a few micros he liked, Ralph was collecting the far edges, Joe and Joyce were engaged in talking about solving world problems and Pam was talking with a lady from another club --- everyone was happy. I returned to the area around the truck and Rich was still piling green rocks in the back. I joined him and did likewise for about thirty minutes.



Light green material interspersed with tannish colored hydromagnesite



Same specimen under mid-wave UV light

In earlier discussions with Dave F. and Jonathan of Montgomery County, I decided to collect some magnesite because they said it may fluoresce. Magnesite in that quarry is mostly white and forms in thin layers between the antigorite “shingles”. A similar mineral also found there is hydromagnesite --- a light tan colored material that typically forms a 1/4-inch-thick layer on other rocks. I spotted a layer of hydromagnesite on a rock in the quarry floor and tried to dig it out with my rock pick – but no luck. So, I got a larger pick and Rich’s six-foot steel bar and went back after it. Eventually, with Rich’s help, we managed to pry it up out of the floor – a good 20 pounder. Then I noticed some beautiful light greenish spherical balls attached to the rock directly beneath the one I had just removed. I first thought it was mcguinnessite because of its almost turquoise color --- but it was something else. Rich helped me for the next 10 minutes or so trying to dig out the deeper rock without damaging it. Since vuggy rocks (rocks with holes or pockets in

them) are rare here, the rock we were trying to remove was most unusual for this quarry because we could see several vugs in the rock --- all with green spheroids in them. Before proceeding, I carefully collected all the small light milky green colored spheroids that we could see around it and placed them in small plastic containers provided by Rich. We then removed enough other rocks along the sides to relieve the pressure that held the “specimen rock” in place. Eventually, with the six-foot steel bar, we were able to gently pry up the rock we wanted.



Once we had the rock out, we could see that entire vuggy side was covered with a layer of botryoidal (bubbly-like) hydromagnesite. I then used a brush and a bucket of water to carefully remove some of the mud and debris on the specimen. Surprise --- the entire surface of the hydromagnesite was interspersed with the same green colored material. Next surprise was when Rich shined his new mid-wave UV flashlight on the rock – despite the sunshine, we could see that it (especially the green stuff) fluoresced a nice light blue color.

Of course, by this time we had attracted a small crowd who all wanted some of the find. Word spread and folks came to take pictures. Rich and I collected more of the small green spheroids from the hole where we had removed the rock, then pulled out some of the adjacent rocks to make sure we had collected the entire pocket. We gave some of the loose spheroids to the others who had gathered to watch. Another factor was that it was already after 11:00 am and most of the others wanted to move to the bench on Level 2. The quarry superintendent who was aware of our find, came over and asked if we were ready to move yet – and we said yes.

Caravanning up to Level 2, we parked at the far end of the narrow bench and searched along the berms on each side. I found and collected some mcguinnessite, as did some others. Rich and Tom found some small pieces of a very dense rock that a proved to be chromite. Everyone seemed satisfied with their finds for the day. We all left the pit a little before 12 noon. Rich and I stopped near the quarry office to change our footwear and repack the truck for the trip home.

Later, after the trip, Tom emailed that one of the DMS members had found a very rare mineral called Nakauriite. Nakauriite was ‘originally’ found at the next door Cedar Hill Quarry back in the 70’s or 80’s but went unidentified for some years. It was later found at Nakauri, Japan where it was studied and identified as a new mineral species. It has only been found a few other places around the world.

At home after the trip, I sprayed off “my find of the day” with the garden hose. That evening after dark, I took some pictures of the specimen under a strong mid-wave UV flashlight. The results were rather spectacular --- it fluoresced a beautiful baby blue color. Now I will await analysis of the specimen by others who hopefully will be able to determine what it is. Who knows --- it might be a new mineral? 😊



Very pretty green see-thru antigorite specimen



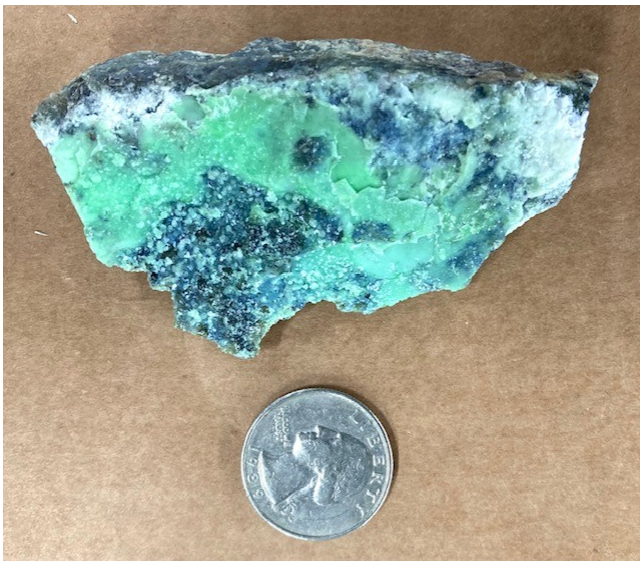
Another specimen of antigorite about 1" diameter x 1" long almost williamsite quality



Another antigorite pretty specimen



Picrolite specimen



McGuinnessite specimen



Some of "green" lapidary quality specimens of serpentine found -- all should polish nicely