

Rainbow Rocks from Willis Mountain, Virginia

By Dave Lines



Immediately upon splitting open the large black boulder, you could see several pockets of kyanite crystals completely covered with a coating of very brightly colored iridescent hematite. They absolutely glistened in the bright sunshine with a shiny metallic luster. At last, we had finally found some Willis Mountain specimens of iridescent hematite that clearly rivaled the beauty of those found at Graves Mountain, Georgia.

Unfortunately, it was time to leave --- it was 12:45 p.m. and the field trip was over in 15 minutes. Acting quickly, I continued to break apart the rather soft rock with a large (20 pound) sledge hammer and a long pointed steel chisel. Within a few minutes, I broke the 300 pound hunk in half and reduced one part into manageable chunks which were then expertly packed by Rich Simcsak into heavy duty cardboard boxes and flats in single layers. Together, we carried our finds about 30 yards to the van for the trip home.

We had to leave the other half of that rock there. It broke my heart. I gave a nice hand sized specimen of the material to Mike Morris (Willis Mountain rep) in appreciation --- he was ecstatic and said it would go into their display case.

The annual field trip to the Willis Mountain kyanite mine had again been superbly put together by Dave Callahan of the Lynchburg Club and hosted by the owner (Mr. Dixon) who was represented by Mike Morris. Participants were limited to 100 members of local rock and mineral clubs. Safety was paramount as all attendees were required to wear steel toed shoes, safety glasses, up to date hardhats, gloves and long pants. Additionally, all

vehicles that entered the mine had to apply the parking brakes and chock their wheels when parked.



When we entered the mine in a long convoy of vehicles at 9:20 a.m., it was obvious that a great deal of mining had occurred in the past year. The usual area where we had parked on the mountain in past years was all red dirt with very few rocks. After a cursory inspection of the area, we walked to the top where many folks had already driven. The trees on top of the mountain were gone and much of the top had been removed. There was lots of fresh rock everywhere up there. Near the top the road divided and Rich went left and I went right and uphill.

I saw John Haskins and his wife Nona of Lynchburg hammering with a small hammer on a good sized rock, so I asked if I could help. The upshot of this was that John drove me back down to my van which I drove back to the top so I could use my BIG sledge hammer (the 20 pounder) to break open some very hard boulders showing promising looking blue-green crystals. After about 30 minutes of work, we had some nice gemmy crystals (in matrix) of what we think is either apatite or the rare green mineral found there called "trolleite".

Then I said farewell to the now small crowd of specimen admirers that had gathered and walked further along the road toward the top. I had in mind finding some iridescent hematite because back in the summer of 1996, my son Jeff and I had stopped at Willis Mountain during a weekday and were given permission to collect that day (big difference from nowadays). I remember Jeff had walked up an old firebreak (or trail) that went almost straight to the top of the mountain and he found a good deal of iridescent hematite coating on matrix. We were both inexperienced novices at that time, but we could see

that the specimens were interesting, but of little value because the iridescence was faded and the matrix was crumbly. Since that firebreak had been exactly on the opposite side of

the area where I now was, I reasoned that the recent shots on the mountain top might have uncovered some better specimens. As it turned out, I was right.



At the end of the road, I walked into a small clearing at the base of a recent shot. A very friendly family --- Wayne Lee and his young son Addison and Wayne's sister Karen all of the Shenandoah Valley Club --- had already discovered some of the iridescent hematite in some small rocks which were very soft and almost crumbled when broken apart. But inside these rocks were small pockets and vugs of iridescent hematite coated kyanite crystals. I asked Wayne if I could join them and look around for more. Yes.

I spotted a double bread loaf sized rock of black hematite streaked with white quartz --- and showing some small areas of iridescence. It was very soft rock, but with a small chisel and a four pound hammer, I carefully began to split off small pieces and soon revealed some nice pockets of kyanite crystal clusters coated with iridescent hematite. They were small, but gorgeous. In the next hour or so, I collected a full flat of specimens. Meanwhile I had called Rich on the cell phone and he had joined me. As the word spread of this discovery, about a dozen other folks joined the search for more. Everyone was

finding something interesting --- I saw some nice blue blades of kyanite crystals --- including one about 4 inches long and very gemmy.

While this was all going on, young Addison (about 10 years) was nearby pecking gently on the side of a large black rock with a small rock pick about 10 feet above and 20 feet away from our location. He was very intent on his discovery and had found some good thumbnail specimens of iridescent and botryoidal hematite.



Then along came Mike Morris (the mine rep) who immediately recognized that young Addison was in a potentially dangerous situation as the large rock (4 feet tall by 2 feet wide by 1 foot thick) was resting in a vertical position on soft sand and could fall on him and/or others. We were caught totally unaware and we should have been more observant for such dangers. Lesson learned.

Mike asked Addison to move away from the rock and Mike then pushed it over where it remained. Later, after Mike left, Wayne examined Addison's finds and decided to reinvestigate that rock. Throughout the morning, Wayne and I had been comparing our finds, so when he broke open a section of that rock and showed me two nice hand-sized specimens of iridescent hematite, I became very interested. Since it was 12:45 p.m. and time was running out and since Wayne only had small tools, he quit and gave me the rock--- (back to the first two paragraphs). When I broke it apart, I gave the first nice hand-sized specimen to young rockhound Addison. He beamed! The best one went to Mike Morris. And when we returned home to Maryland, Rich and I equally divided the remainder of the specimens. I believe there is much more of this iridescent hematite there, but it will probably be crushed and gone before we return next year.

During our drive home, Rich and I discussed the probable geological source of this beautiful material. Those of us who have collected at Willis Mountain over the years have all found a blend of white or light gray kyanite, white quartz and pyrite. The pyrite is small and is disseminated throughout the material. It is a bright and flashy material that kids love. Anyway, we surmised that when this rock mixture was subject to rain water and the atmosphere, the pyrite probably turned to sulfuric acid and seeped away --- leaving empty spaces. In these empty spaces, the released iron (Fe) combined with oxygen and dissolved in water that had trickled down through the rock. The iron oxide (hematite) was then redeposited in coatings of various thicknesses on the remaining material --- mostly kyanite --- where some of it, depending on conditions, was partly oxidized in a variety of patterns and striking colors --- every color of the rainbow. Rainbow rocks.

