

## **Trip Report for National Limestone Quarry in Mount Pleasant Mills, PA**

By Joseph Bytella

The Southern Maryland Rock and Mineral Club conducted a field trip to the National Limestone Quarry in Mount Pleasant Mills, Pennsylvania on Saturday Oct. 2, 2010. Dave Lines was the trip coordinator and leader. The field trip was attended by nine ( Dave, Jim, Ralph, Mary, Joe and Paula, Joe B. and Harry and Tina) of our club members and five members from the Northern Virginia Club.



Dave greeted the attendees at the quarry entrance between 9:00 – 9:30 AM, then we were briefed by the Eric Stahl (quarry owner) in a field trailer about safety procedures and the minerals typically encountered in the quarry, e.g., wavellite, calcite and strontianite. Wavellite is a rare mineral ( $\text{Al}_3[(\text{OH},\text{F})_3(\text{PO}_4)] \cdot 5\text{H}_2\text{O}$ ), whose only other noted location in the United States is in the state of Arkansas.

After the safety briefing, most of the group members mined a loose outcrop of wavellite in a coarse sandstone matrix. Sledge hammer and chisel were required to expose the small green veins of wavellite. Most of the mineral specimen crystals were only 1 to 2 mm in diameter.

Later in the day, we mined the loose limestone boulders in another location in the quarry and found numerous pockets of calcite crystals, and some pockets yielded rare double-terminated calcite crystals. A few club members found fossilized coral and brachiopods in the excavated limestone boulders which originated from the Silurian and Devonian eras.

**Addendum and Photos** by Dave Lines



The wavellite deposit is not in the main quarry --- rather, it is located in a tiny outcrop on the backside near the top of the mountain (ridge) where the quarry is. Accessible only by a very narrow road which had been bulldozed along a steep mountainside, the wavellite “pit” is a half moon shaped affair that appears to have been scooped out with a frontend loader or a dozer for about 50 feet long and 20-30 feet back into the mountain. The back side is sloped about 45 degrees. The matrix is weathered sandstone/limestone with some visible fossils such as moonsnail gastropods. The highly fractured matrix is interspersed with red clay and red dirt.

The wavellite is generally in thin veins in the rock and seemed to be covered with and/or stained by the red mud. Since the area had received a deluge of 8 inches of rain the day before, the rocks on the surface were washed clean. Pale yellow-green wavellite was readily visible on at least 1% of the matrix in the form of little half-spheres ranging from 1/8 to 3/8 inches in diameter. The key to finding more wavellite (after the easy stuff was picked up) was to scrub (with a stiff brush) the mud from each and every surface of the rock matrix pieces in a bucket of water --- and



to *look for the shape* --- round half spheres --- of the wavellite. (Note: At home, Super Iron Out seemed to remove most of the red/brown stain from the wavellite.)



About ten of the attendees worked the wavellite pit for a few hours, then all but three moved back to the main quarry. The three who remained stayed until 2:30 p.m. and were able to search more carefully and safely use sledges and chisels to split open any yellow-green seams of the wavellite. They were sometimes rewarded with pockets of red mud which covered the wavellite spheres. Some of the pockets also contained small quartz crystals interspersed with the wavellite.

The best wavellite specimen I saw was a plate about 3 inches by 4 inches covered with  $\frac{1}{4}$  inch green wavellite spheres and it was found on the mountainside below the pit in thick brush.

