We met at the Middleburg office of National Limestone at 9:30 am on May 11th and were cheerfully greeted by owner Eric Stahl. Eric is unique in that he gives his Christian testimony to every group that comes to his quarries. He asks that you look him in the eye as he boldly explains in a straightforward manner: --- “I believe that Jesus Christ is the son of God. If you believe that, you will have eternal life in Heaven and not go to hell.” Wow! Then we held a safety brief, signed waivers, and took a group picture (he asked for a copy). Since a few of our 10-person group (Renee, Bernie, Tim and Lorna S., Gary, John W., Margie, Diane E., Rich, and Dave) had never been in a quarry and some others had never been to these quarries, we took the time to review the basics like what a “berm” was and why it is important --- “a berm is a safety barrier of rock/dirt designed to keep people and vehicles away from danger areas (highwalls and cliffs). Do not climb on or cross a berm.” We emphasized always wearing proper safety gear (hardhat, safety glasses, steel toed boots, gloves, and a bright colored safety vest) while on the quarry property.

Our plan for the day was to spend about 2 hours in each location --- Middleburg quarry, Mount Pleasant Mills quarry, and the wavellite pit. Since we were the only club collecting that day, we had the entire place to ourselves!

National Limestone mines limestone to make crushed rock, rip rap and related products. Limestone itself is basically old sea bottom and seashells composed of calcium, carbon, and oxygen --- CaCO3 is the chemical formula. Over eons of time, rainwater (which absorbs CO2 and becomes acidic) seeps down through cracks (caused by earthquakes) in the limestone while dissolving the limestone and creating holes. These holes (or “vugs”) become the perfect environment for the redeposition of the dissolved minerals from the limestone. So, the key to our collecting success is searching for limestone rocks with “vugs” in them. These vugs contain crystals of calcite, strontianite, massive fluorite, celestite, pink dolomite, and many minor minerals such as pyrite. Also, cave formations of flowstone (travertine) have been uncovered in both quarries and some of the material has been set aside for collectors.

At 10:00 am, we left the office and caravanned into the Middleburg Quarry. Since it had been raining a lot in the days preceding our trip, the rocks were clean and well washed off. The downside was muddy roads. All vehicles would need a thorough cleaning after this trip. We led the group to the area where the travertine had been stockpiled so everyone could collect some. Nearby were several large piles of limestone stockpiled by size. I took some of the newbies and walked around one of these piles looking for vuggy rocks — but we could not find any. We did find some nice clusters of calcite crystals that someone had previously left on a rock. I also showed them some massive white calcite with beautiful purple fluorite embedded. I reemphasized the safety precautions --- stay off the rock piles --- and left them to search further on their own.
Interesting flowstone formation at Middleburg quarry  

Lorna S. at Middleburg  

John W. and Tim S. at Middleburg  

view of Middleburg quarry driving in
I then made a long scouting trip around the edges of all the quarry roads in the central part of the quarry that were not blocked off. Tim S. also helped with this by searching the area at the far end of the quarry. He reported that he only found a small amount of fluorite there. I found and left a relatively small area in the lowest part of the quarry that had some calcite crystals, but not enough material for the whole group. On my return to the group, I discovered an interesting, but truly dangerous safety issue --- a crack in the quarry floor in the road about 6 feet out from a berm. The fresh horizontal crack was 1” to 2” wide and was exposed for at least 15 feet. I proceeded along the road around a curve to the left and looked back. The berm was on the edge of a tall cliff which dropped at least 30 feet to the level below. The cliff below the crack was clearly cracked vertically and was bulging out at least a foot beyond the rest of the cliff face. The whole section was ready to fall. The weight of a vehicle could have caused a disastrous cliff-fall. Later, I showed our group, then placed a red plastic safety cone in front of the crack, and then called Eric and reported the problem. He thanked me.

Back where I had left our group, everyone had located several excellent vuggy rocks with calcite crystals clearly showing. Within a few minutes, I used a 6-foot-long steel bar to move some large, relatively thin (1 foot x 3 foot x 3 foot) rocks out from the stockpiles onto to the quarry floor. Since the rocks were large, it was time to put my sledgehammers --- a 10 pounder and an extra-large 20 pounder (affectionately called “Bertha”) --- into action. With some well-placed whacks, I reduced the large rocks to more manageable sizes containing very nice clusters of calcite crystals which allowed everyone to collect some nice specimens. It is great when you have the right tools.

A few minutes before noon, we all caravanned about 5 miles to the next quarry at Mount Pleasant Mills where we all parked beyond the big mud puddle. We ate our lunch on the go while we spread out looking for calcite and strontianite crystals. We eventually fought some calcite scattered here and there, but the strontianite was more elusive. Only Bernie found some and that was just one specimen.
Gary and Bernie at Mount Pleasant Mills (MPM) quarry

Members beginning search for specimens at MPM

John W. and Tim S. at MPM

Bernie at MPM
At 1:45 pm, we moved as a group to the wavellite pit on the backside of the ridge behind the Mount Pleasant Mills quarry. The pit itself is at the very end of a narrow, one-way woods road, so I queried each driver to make sure they were able and willing to back their vehicle out if necessary because we did not know whether we would have room near the pit to turn around. Then we drove in. The pit itself looked entirely different and was significantly enlarged since our last visit a year ago. The pit faces toward the south. The “spoils” were piled against the back (north) side of the pit right up to the woods. There was a depression about 10 feet deep in the right (east) half of the pit which may have been the result of a caved-in trench there. Above the depression along the very edge of the road was a long pile of rocks and orange dirt about 2 feet high. Since the rocks in the entire pit had been thoroughly washed off from the recent rains, simple surface collecting immediately yielded specimens of wavellite as well as fossil shells and agatized gastropods. Rich found a ¾” wavellite ball in the bottom of the depression on the east end, but after washing it off, it was covered with hard brown rock that could not be removed.
Lorna S. washing off rocks in mud puddle at wavellite pit

wavellite pit - Gary in Foreground and John in background
In the May issue of “EFMLS News”, EFMLS President Bill Stephens explained in his President’s Message that when they did the machine dig in the wavellite pit this past winter, they had left several excavator scoops of virgin material in the area along the road edge “for the clubs” to search for wavellite. That intel, along with similar advice from our club member Tom Z. (who had attended the April 6th field trip there with Friends of Mineralogy of Pennsylvania), pointed to the long rock pile along the road as the best place to search for wavellite. I tried to explain all this to our group several times, but everyone seemed was happy finding wavellite and fossils on the surface. The only person to begin digging there was Gary L. He found several small, but excellent quality, clusters of green wavellite balls in a few minutes. He showed me, and I then began digging into the ridge of rocks about 4 or 5 feet to his left (east of him). I found 3 excellent specimens of wavellite in a 2-foot diameter hole in 20 minutes. I tried to closely examine every side of every rock and then scrub it off with a stiff brush in a bucket of water that I had brought from the quarry. Several times, I was able to scrub off the orange clay and uncover nice wavellite. I showed my finds to our group and continued to encourage everyone to join us. But only a few (Rich and Tim S. and his wife Lorna) started digging with us.
Tim S. being a serious rockhound at the wavellite pit.

My spot continued to be productive as I dug out several smaller clusters of wavellite. I gave some of my finds to others as I was becoming a bit embarrassed by my good fortune. I used Rich’s 6-foot steel bar to remove large rocks (one in Gary’s hole and two in mine).

It was great fun to find such nice quality wavellite so relatively easily. I remember on past trips, taking hours to dig down as much as 4 feet and being very happy to find a couple of small clusters of wavellite.

But today far surpassed any previous trips as far as quality of specimens. My best specimen contains over 100 undamaged yellow-green colored wavellite balls covering an area of about 7” by 3”. It is a find-of-a-lifetime.
Around 3:30 pm the sky began to darken in the west. A check of the weather radar by Tim showed an area of rain headed our way. By 3:45 pm it began to sprinkle, so we packed up and began to drive back out the narrow road. Some backed all the way, and some were able to turn around and drive out headfirst. We all started home by 4:00 pm. It was another great trip --- I just wish that more of our club members had participated.

A special word of THANKS to EFMLS President Bill Stephens who left those virgin scoops of unsearched material for other rock clubs to find wavellite in. We salute you for your generosity (and leadership by example)!
A rare smile from Bernie.