



## The coticule diaries

On the trail that led from Vielsalm railway station to Petit Sart - where the last remaining coticule mining company resides - my eye fell on the blue pieces of rock that were used to solidify the path we walked upon. Every one that ever used Belgian Blue Whetstones knows how characteristic their appearance is. So I picked two of them up, rubbed them together with some water and noticed how they instantly produced that typical, purplish blue, ink-like slurry. We were utterly amazed that the stones we so carefully safeguard in our sharpening drawer at home, were lying here by the thousands under our feet, some of them big enough to cut two or three large honing stones. But there was more... The ocean of blue stones was speckled with equally recognizable

yellow pieces of rock. This simply couldn't be. Or could it? The slurry test was positive, and everything else about those stones was so undeniably coticule that it would have been hard to conclude otherwise. "It's probably worthless, due to some quality issue", we speculated, and continued our way, every few yards picking up yet a bigger chunk, wasting our precious drinking water on slurry tests. We found a real pure and big slab of at least 3 kg, partially embedded in the soil. With 3 more days of fierce hiking ahead, none of us had the courage to pick it up and store it in his already overweighted backpack.

We took a short break at a large WW II monument, constructed by a plate attached to what appeared to be an enormous piece of Blue/Yellow combo stone.

Right on time we arrived at Ardennes Coticule. It was pleasantly cool inside the large entrance hall. A friendly young man entered from an adjacent room and introduced himself as Rob Celis. He's a building engineer and son of Maurice, who is a mining engineer. They also employ a geologist and a few local employees that already worked at the firm when Maurice saved it from closure after bankruptcy in 1998. Rob started our guided tour in the storage room of the finished hones. It was an almost sacred moment to stand there between the shelves that were loaded with countless coticule "bouts", which means "piece" in French and is used for designating irregularly shaped hones. They were all ordered in boxes by sizes and cosmetic quality. The bouts are numbered from 1 to 10, according to size, and are graded "standard quality" or "3th quality", the latter mainly sold for industrial purposes. The rectangular stones come in all sorts of dimensions and are graded "selected quality", for



*Familiar blue and yellow rocks along the way*



stones with no cosmetic flaws, “standard quality”, for stones with some cosmetic flaws, “3th quality”, with more severe cosmetic flaws. Their is a 4th grade, called “Kosher”, for those rare specimens that are absolutely impeccable. None of those grades has any influence whatsoever on the performance of a stone. We hardly saw any rectangular hones. That’s because the demand exceeds by far the momentary availability of large enough pieces of raw coticule to produce large rectangular hones, said Rob. On the counter we saw some nice samples displayed of coticules with a variety of different color shades, hardness, and -to some extent- honing capabilities. Rob would elaborate on that later. He first explained the basic physical peculiarities of the coticule stone and its mineral composition. I possibly can’t address this any better than the explanation that’s already present on their printed product brochure and on the website: *“The stones are mined from approx. 480 million year old, almost soft, grey-yellow sedimentary rock built up from clay and volcanic ash. During regional metamorphosis a reorganization of contained minerals has taken place. Many of the minerals disappeared but importantly some appeared namely quantities of Spessartit Garnet crystals. When using these whetstone the crystals are released from the stone itself and produce together with water a very “abrasive milk”. In crystal form the Garnet is round or slightly oval and resembles a football (5-20 micron), made up of tiny facets (Rhomboid). These facets create obtuse angles to each other, and it is these corners which are in contact with the metal to be sharpened. These attributes are why the stone sharpens so quickly and delicately.”*

We asked him about the stones we found along the way. He shrugged and said: “Sure, this is Coticule County. That stuff is surfacing every-

where”. He said it would basically be the same as what they dig up in the quarry. Some of it is so brittle it can’t be used for anything, some of it is too contaminated with other species of rock, and some of it is just plain, good coticule. He asked where we found those pieces, and informed us that the path we followed was lying on top of the same coticule rift as their quarry, that’s actually just a bit further ahead from where we walked. He said that if we would have taken the time to explore the surrounding woods a bit, we surely would have found the remains of several abandoned -caved in- coticule pits. Which brought us seamless to the way coticule has been excavated out of the ground for many ages.

Rob guided us out of the storage room, into the entrance hall again, and showed us an old educational drawing of the traditional coticule mining technique.

It is important to understand the way coticule layers are embedded into the underground, before one can grasp how it is mined.

It runs up and down the Earth’s crust like a wrinkled bed spread. Sometimes it goes down 30 m, takes a sharp U-turn and comes up again just a few meters farther. Sometimes it dives in, only to surface again 1 or 2 km further. There is more than one such vein embedded into the underground of Coticule County, and each of them is slightly different. At the moment Ardennes Coticule is only accessing the layers of one vein. They possess another mine in Regné, a few km from the quarry. It has access to another vein but the investment to make that mine exploitable in compliance with modern (safety) standards is too huge to be a priority right now. “Old Rock” is



*A house build with Belgian Blue Stone*

another mine, located near Vielsalm, with access to some very interesting coticule layers. Maurice has tried negotiating with the high aged owner, but an agreement to reopen that mine could not be reached. Apart from those bigger traditional mines with a horizontal main shaft running into a hill, the landscape is dappled with mining pits, that mostly used to be run by one family. Often such a pit was located in their back yard, or on a small piece of land. What they did was digging - by hand -, a long trench, not wider than 1,5 m, several meters long and about one man's length deep. Then they carved many round holes just above the bottom at both sides of the trench, maneuvered heavy wooden beams into the holes, and filled the trench back up with the remaining blue stones, that were left after they harvested the usable coticule out of it. At the beginning and the end of the trench they left a hole, big enough for a man to pass through, and then they started excavating the rock underneath the wooden beams, forming some kind of mine shaft between the two holes. When that shaft was complete, they would carve holes and place wooden beams again, at the bottom of the shaft, fill it up with "useless" blue rock and start all over again, mining away underneath the filled up shaft. It was a process that could take years and many generations, some of those pits reached a depth of 40 m below the surface. All labor was done by hand. It is unclear to me whether they worked at the lowest level and instantly filled up the level above with the mining debris, or they transported everything to the surface for sorting it out before sending the debris back down. Either way, it must have been incredibly hard and high-risk labor. The reason for filling up the mining shafts after extracting the coticule, was for protection against caving in.

Nowadays, Ardennes Coticule, uses a very different method. It would be economical - and likely also physical - suicide to do it the old way. For each kg of coticule, 10 000 kg of other rock needs to be mined. To make his business profitable, Maurice has searched and found markets to sell that vast amount of rock. The blue stone has honing qualities as well, but it is also a good natural building material. On our way to the quarry Rob drove us by a large residential villa, owned by an architect, and entirely build with Belgian Blue Whetstone. Of course, they don't



call it Whetstone when used for building, but the material is exactly the same. Smaller debris, that can't be sold as building stones, is transported to a company that bakes ceramic draining tubes, and yet another fraction, clay with high manganese content, is sold to the brick baking industry for the production of black bricks, that have become a very fashionable building material lately. There is very little they don't use at Ardennes Coticules. Basically they are digging out a large piece of a hill, that is full of ancient coticule pits, salvaging



the coticule that couldn't be mined with the ancient traditional methods. At the moment, they are about to reach the bottoms of the former coticule pits and gain access to a fresh unmined part of the coticule layer.

Rob drove us to the quarry for a visit. He stopped briefly at the WW II monument, and explained it was a monument for the many US soldiers who lost their lives in a heavy combat during the Ardennes Offensive, during late December 1944 and January 1945. The erected stone indeed is Coticule, donated by their company.



*Cross-section of a former shaft, opened by Ardennes quarrying activities. The inset picture shows an opening to the lowest shaft.*



*WWII monument*



*Your servant, climbing a hill in Coticule County*