

Capp's Gold Mine.—The following description of the celebrated *Capp's Mine*, in Mecklenburg county, in this state, is from the pen of *Mr. Nash* late Civil Engineer,—and is contained in the Extracts from his Report on the Gold Region, politely furnished us by our friend *Gen. Louis D. Wilson*, and published, with the exception of the following, in last week's *Western Carolinian*.

“The reader, in order to have a correct idea of the situation of this Mine, must imagine a small stream, taking its rise in a gently undulating country, about five miles from Charlotte, in a north-west direction, the stream running to the south and south-west: On the west bank of the stream, a hill of small elevation is seen running parallel with it; along the top of this hill is a *flint ridge*, which may be followed by the numerous masses of quartz scattered on its surface, for the distance of a mile, or more. Gold was first discovered on the surface, amongst the masses of quartz, and on breaking open the masses themselves. The earth, when washed, yielded gold in great abundance. Numerous pits have been sunk along this ridge, for the distance of a quarter of a mile, or more. After removing the masses of quartz and earth for a few feet on the surface, a large vein of quartz is laid open, which declines to the west.

Several of the pits have been sunk to the depth of sixty or seventy feet into the vein; which is broken up by sledges, pick axes, and crow-bars, and raised to the surface by buckets and windlasses. The ore, as it comes up, presents the appearance of porous, spongy quartz; oftentimes containing (one half of its entire bulk) the red oxyde of iron, and auriferous iron pyrites, in a state of greater or less decomposition: At times, the pyrites will be almost entirely decomposed: at others, the work of decomposition can scarcely be said to have commenced. The quartz often appears not unlike honey-comb, or flawed with cavities; and is generally called the honey-comb rock. The red dirt, as it is called, (which appears to be earth mixed with the oxyde of iron, by filtration of water from above) is also found in large quantities, in the mine.

The gold is often found lining the cells of the quartz, in small particles; and not unfrequently it pervades the substance of the quartz itself, and is seen in the form of small grains in the solid rock, on breaking it open. Specimens of great richness and beauty, are often obtained from amongst the masses of the ore, as it is raised to the surface.

Some of the pits have been sunk sixty or seventy feet deep at this mine, without encountering much water, and the vein appears to grow wider towards the bottom; but the pyrites was found to be less decomposed than near the surface: indeed, it is said by the miners, that veins never have their pyrites decomposed after reaching down to the level of water; and contain but little of the oxyde of iron. Some few specimens of copper pyrites have also been obtained at this mine.

After the ore is raised to the surface, it is then sorted for pounding and grinding. It is first subjected to a furnace heat, to drive off the acids, and to prepare it more readily for pounding, by rendering the rock more brittle. The pounding is done by putting the ore into mortars, or a long trough, and heavy pestles shod with iron, falling into it, which are raised by arms fixed to a shaft, and turned by horse power. After undergoing this process for a while, the ore is reduced to powder, or fine dust, quartz, pyrites and all; it is then put into a mill, and ground under water, with quicksilver, to reduce the ore to a greater degree of fineness, and at the same time collect the gold by its uniting with the mercury, (or quicksilver.) The mill is fitted up not unlike a bark mill, with stones running on their edges, or in a vertical position. A large curb, or tub, is raised three feet high, made water tight, with the bottom formed by setting up staves around a large mill-stone, imbedded horizontally in earth and clay: the tub is made so that its top diameter is two or three feet larger than the bottom: from the centre of the horizontal stone, or bottom of the tub, a shaft is raised in an upright position, and fitted into a stout frame above, and turning on a pivot at the lower end; a large mill stone is fastened to this post by a spindle, so that it will roll on its edge, turning on its axis: two of these tubs are thus fitted up, a few feet apart with stones in them, turned by cog-wheels, driven by steam, water or horse power. A large stream of water constantly runs into the tubs, and keeps them full; the ore from the pounding mill is now put in, and with it the quicksilver; as the stones turn round they mash the ore to great fineness by their weight and friction. Each stone has two motions—one rolling round on its edge, turning on its axis; the other directly askew, as it is carried round by the shaft; thus greatly agitating the water, and giving a motion like a whirlpool. The gold settles to the bottom by the power of

gravitation alone, and is taken up by the quicksilver, forming an amalgamation, or compound with it, while the earthy and ferruginous particles float away with the water. The water runs off from the curb down an inclined plane, or a kind of spout two or three feet in width, the bottom of which is lined with skins, hair upwards, for the purpose of intercepting and securing any of the finer particles of gold which have escaped the mercury in the tub while washing or grinding.

Sometimes the ore is put into the tub without having been first burnt; and then not unfrequently the acids combine with the mercury, forming a compound, which floats off along with the dirt. Sixteen pounds of quicksilver was one day lost in the course of a few hours, from one tub, by this mysterious, and, to the miners, inexplicable process. More or less quicksilver is daily lost, in consequence of not first sufficiently preparing the ore by burning. The amalgum, or compound of gold and mercury, is subjected to a powerful heat in a crucible, with a retort fixed to it; the quicksilver is thus expelled, and comes off by the process of distillation, while the gold is left behind.

Twenty hands have been employed at this mine since the first of January last; and the quantity of ore raised, pounded and washed, will vary from fifty to an hundred bushels per day, by the aid of eight horses; yielding from two to three penny weights of gold to the bushel of ore, worth near 90 cents per dwt. The best business hitherto done at this mine, has been 1200 dwts. of gold per week; and from forty to fifty thousand dollars worth of gold will have been obtained before the expiration of a year from the commencement of operations.

A company of four gentlemen carry on the operations of this mine; giving to the proprietors, (most of whom are minor children) the liberal allowance of one fourth for a part of the ore, and one-fifth for the remainder, for the term of nine years.
