

line quartz, obtained from this mine, and the copper of this district is stated to contain on an average about 3·10 per cent. of silver. One mass of copper quarried from the Cliff Mine has been estimated to weigh eighty tons. It was sufficiently detached from its rocky matrix without injuring its original formation, to admit of its dimensions being obtained with considerable accuracy, and it was found to measure fifty feet long, six feet deep, with an average of about six inches in thickness. The total yield of this mine amounted during the past year to sixteen hundred tons of copper, a quantity exceeding, by nearly five hundred tons, the combined product of the other copper mines—eleven in number—of Keweenaw Point, and surpassing by a still greater amount the yield of the Minnesota Mine, the richest of all the works now in operation in the neighboring district of Ontonagon.

At the Cliff Mine some specimens of the ancient copper tools of the native metallurgists are preserved, but it is to the westward of the Keweenaw Peninsula, that the most remarkable traces of the aboriginal miner's operations are seen. The copper-bearing trap rock, after crossing the Keweenaw Lake, is traced onward in a south-westerly direction till it crosses the Ontonagon River about twelve miles from its mouth; and at an elevation of upwards of three hundred feet above the Lake. At this place the edges of the copper veins appear to crop out in various places, exposing the metal in irregular patches over a considerable extent of country. Here, in the neighborhood of the Minnesota Mine, are traces of the ancient mining operations, consisting of extensive trenches, which prove that the works must have been carried on for a long period and by considerable numbers. These excavations are partially filled up, and so overgrown during the long interval between their first excavation and their observation by recent explorers, that they would scarcely attract the attention of a traveller unprepared to find such evidences of former industry and art. Nevertheless some of them measure from eighteen to twenty feet in depth, and in one of them a detached mass of native copper, weighing nearly six tons, was found resting on an artificial cradle of black-oak, partially preserved by immersion in the water with which the deserted trenches had been filled, in the first long era after its desertion. This large mass had evidently been thus disposed preparatory to an attempt at removing it entire. It appeared to have been raised several feet by means of wedges, and then abandoned on account of its unmanageable weight; and probably portions had afterwards been detached from it, as its surface bore abundant traces of