

out from the shaft begins at twenty feet from the surface, and is seven feet wide; it is cut back about ten feet from the shaft.

Owing to the mine being filled with water up to within twenty-five feet of the surface, I could not view it lower down, but was informed by Mr. Sweet, that purple copper ore was obtained at the depth of forty feet. If this is the case, then there must be another cupriferous belt, which was cut by the shaft at that depth, for we have seen that the beds seen on the surface leave the shaft at the depth of twenty feet.

In future operations, it will be best to run a level into the hill on the course of the lode at some convenient point, say on a line with the bottom of the present shaft, and to stope out the ore above, at a suitable time after another shaft has been sunk, so as to strike the ore beds deeper. Such a level stoped at any time will not injure the mining ground, for the water will run off freely to lower ground, the inclination being large.

The cost of transporting the ore from this mine to West Farnham Railroad station, sixteen miles distant, is two dollars per ton. To Memphramagog Lake, distance twenty-three miles, the cost will be three dollars per ton, and by railroad from thence to Boston, five dollars per ton; or eight dollars per ton in all to Boston. It will cost about as much to take it to Pike's River, nineteen miles, and by water to New York by Lake Champlain and canal.

The land included in the lease or sale of this mine is one hundred and twenty acres, and the extent of the copper beds on it is half a mile on the course of the beds.

If the ore from the Sutton Mine, dressed by bucking, was raised to ten or twelve per cent., as we were informed, it is obvious that by proper machinery it may be raised to twenty per cent., and much ore that is necessarily lost in waste by bucking or spalling will be saved.

I advise the use of stamps and the round buddles as applicable to the dressing of this ore. Water sufficient for the dressing-house may be had from springs in the hill and from the mine: and it will be easy to construct a reservoir at a sufficient height above the dressing-house to secure an adequate and regular supply for the machines.