

in diameter. All the angles of these were much rounded, and the planes of the crystals, which were in close contact with the ore, were concave, and had lost their polish; retaining only a somewhat greasy lustre, precisely like crystals which have been exposed to the action of a solvent liquid. A thin, shining, green layer, apparently of a silicate of copper, covers the surfaces of the ore in contact with the crystals. Similar specimens of quartz have been found in the vitreous copper ore of this locality, and also at the Ham mine.

Fremont's shaft was sunk upon a quartz vein, which had an underlie of 75 deg. to the eastward. After following this for forty-five feet, the underlie changed to the westward, still with the same angle; but the shaft being continued vertically for seventy-five feet more, the second copper bed, with its underlying stratum of steatite, was met. The layer in contact with the steatite was excavated for five fathoms on the incline, in the course of which the vein from the surface was again met with. At the bottom of the incline, a level was driven in the bed for about five fathoms; and the copper ore being continuous throughout these distances, its presence may be said to be shown over about twenty-five square fathoms of the bed. In some parts of this working, the copper ore is found in the steatite; a layer of which, several inches in thickness, sometimes becomes a highly crystalline green tale, holding bitter-spar, and rich in disseminated sulphurets of copper. The shaft at G was sunk upon a quartz course, which abounded in vitreous ore. In a cross-cut from this shaft, at a depth of ten fathoms, a second quartz course was met with.

The following quantities of ore, averaging about thirty-five per cent., have within the last five years been shipped from this mine to England. The fractions of tons are here disregarded. In 1858, 10 tons; in 1859, 43 tons; in 1860, 104 tons; in 1861, 70 tons, and in 1862, 95 tons, equalling, in all, 322 tons of ore. In addition to this, there was at the surface, at the close of 1862, about 1000 tons of poor material, supposed to contain about two and a half per cent. of copper; besides 500 tons of material raised from the upper copper bed, and containing from four to five per cent. of copper.