

tures of this rock in quarries or cuts the pyrite is often preserved, but the loose crystals are usually solid limonite. Rarely they are found hollow, the pyrite nucleus having changed into some form more soluble than the surface portions. It is noteworthy that the cube seems to be the only form present on them, the writer having never seen any other form, altho hundreds of crystals have been examined.

FAMOUS MINERAL LOCALITIES: THE CHESTER EMERY MINE

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Perhaps few localities in the United States are so often mentioned in mineralogic literature as the old emery mine at Chester, Mass., but like many other of the more famous New England localities, printed references to it are very old and vague and give the modern collector no idea as to just how to find the place whence the fine specimens of other years have come and leave him with the discouraging feeling that a visit to the locality at the present time would be a profitless waste of time and money. Within the past three years, one of the most prominent of American mineralogists was heard to say that he had visited Chester recently and that there was no longer anything to be found there. This remark caused the writer to avoid Chester for some time and almost to fail to visit the emery mine at all. The trip was finally made rather from a desire to see the locality than in any hope of obtaining specimens. This trip was however shortly followed by a second, and the fact that time for a third visit to this fascinating locality was not available has been a matter of keen regret.

Chester is best reached from Springfield, Massachusetts, by way of the Boston and Albany railroad, the trip requiring about an hour, and the fare, round trip, being less than two dollars.

The emery vein has been described frequently, particularly in the Monograph by Emerson¹ to which reference may be had for details of the geology. The emery lens extends in a north-south

¹ U. S. Geol. Survey, *Monograph 29*.

direction for several kilometers and much mining has been done. The most important portion of the vein was that opened by the "Old" mine, which is south of Walker Brook on the auto road to Jacob's Ladder in the Berkshires. It is just in the western edge of Chester village and but fifteen minutes walk from the railway station. The old mine has not been worked for a dozen or more years. Natives of Chester and vicinity claim that the emery is still available in untold quantity but that the mine was acquired by "the trust" and closed to remove its competition in the market with the inferior imported emery. A former superintendent of the mine told the writer that the available emery was largely worked out. This together with the increased use of artificial abrasives as alundum, carborundum, etc., probably accounts for the abandoning of the mine which, as Emerson remarks, was always more interesting scientifically than it was valuable economically. The mill has been torn down and only the tall stack remains. At the brook level there are still extensive dumps in spite of the fact that much rock has been hauled away for highway construction. These dumps have been thoroly picked over but still contain much fine radiated black tourmaline, some margarite, massive epidote, corundophilite, emery and much magnetite. The lowest adit, which is near the level of the brook immediately above the former site of the mill and beneath a trestle of the Chester granite quarries railroad, has caved at the portal so as to be inaccessible. Near the tunnel the writer found masses of bladed pale green epidote containing films of malachite and plates of menaccanite (ilmenite). Aragonite also occurs here in fine white rosettes on joints, and masses of black biotite resembling that of the Pelham asbestos mine, and granular bronzy black hornblende are abundant.

Higher up the south mountain are two other adits, both of which have large dumps and thus are much more prolific in fine minerals than are the dumps in the bottom. The writer did not learn of these upper dumps until his second visit. Probably more than half of the mineral collectors who visit Chester for a day do not find these, and this accounts for their superior richness in good material, they being less thoroly picked over. Margarite in beautiful micaceous masses showing broad folia of fine rose-pink color is perhaps the most striking mineral. Masses of glistening gray margarite-schist which look as tho they had been rolled up while in a plastic condition, when broken open often

have the center filled with the finest margarite associated with folia of deep green corundophilite or plates of the menaccanite. In one place the writer found a mass of aggregated margarite and black tourmaline which had, within a day or two, been broken up by some other collector. Some masses resembling fine-grained pink quartzite when analyzed proved to be massive margarite. Corundophilite is also common in scaly or schistose masses which often contain tourmaline or emery. Small plates of corundophilite also occur scattered thru greenish to reddish granular oligoclase, which is the indianite of Shepard. Magnetite is very abundant in large masses.

Emery is also common, altho even a very observant mineralogist may overlook it entirely. The writer was unfamiliar with the appearance of the abrasive and learned to distinguish it by trying the hardness of all heavy black minerals on a piece of glass carried for the purpose. Cracking up the tough masses of emery is strenuous work and requires a sturdy hammer but the industrious collector may be rewarded by some good crystals of corundophilite, diaspore, rutile or even the ethereal amesite—the last a prize indeed. The writer found one or more specimens of each of these. Menaccanite (ilmenite) is not rare and often wraps a nodule of biotite, in curved plates. Black tourmaline is very common and by using a little care in splitting off slabs parallel to the planes in which it occurs beautiful specimens may be obtained. Talc is common in broad slabs usually more or less rusty and rarely in good specimens. Epidote forms masses of interlaced needles and imperfectly columnar forms. Pyrite is common in large imperfect crystals. This completes the list of minerals found here by the writer.

The two upper tunnels and the tunnel of the Macia Mine which is immediately opposite, north of Walker Brook, are open but were not explored for want of a light. Great open stopes, which recall the metal mines of the west, break thru to the surface here and there along the course of the vein and the explorer needs be wary lest he fall thru some concealed opening to certain death many meters below. On the line of the emery lens south of the Old Mine a number of openings have been made, especially at the Wilbur Mine but these were not visited. The Macia Mine immediately north of Walker Brook in a little ravine has no very extensive dumps and a small amount of margarite was the only interesting mineral seen. Further north on the

high mountain known as North or Gobble Mountain are a number of openings but these were not searched out.

While at Chester the writer walked north some 5 kilometers along the Boston and Albany railroad, spending an hour carefully searching the railroad cut in the south end of the great Middlefield serpentine bed which has produced the serpentine pseudomorphs after olivine called hampshirite and, more recently, fine olivine crystals. No sign of these minerals was seen, and some picrolite and deep green serpentine were the only specimens obtained here.

The rock cutting on the railway a few meters north of Chester station is much blackened by years of coal smoke and cinders, as is common along this road. Some good small garnets of a deep red color occur here and a white sandy quartz bed furnishes abundant fine specimens of a fasciated black hornblende.

Most New England towns, and more particularly Chester, have for several generations past been the homes of ardent and enthusiastic local mineral collectors. These men, either from mutual rivalry or a desire for personal gain, have often jealously guarded the locality whence they obtained this or that mineral, and as a consequence many of these old localities are now entirely lost. From such lost localities Chester has furnished excellent specimens of epidote, cyanite, zeolites, calcite, zoisite, garnet, menaccanite, spodumene and many others. Fortunately collectors of the present day are more fraternal (if less numerous) and usually favor publishing details regarding finds which will enable others to follow them and find specimens of interest.

One native of the village of Chester informed the writer that three fourths of all known minerals were to be found within the limits of the township; this may have been the case in Shepard's day. But probably not more than a half dozen areas of similar size in the country outrank it in total number of species known at the present time.

Mineral collectors in this country often have a rather hazy idea as to the location and character of the localities in South America which have yielded so many fine specimens to collections, and it has heretofore been difficult to obtain definite information as to such localities, and even as to the correct spelling of their names. A recently published book, "Mineral Deposits of South America," by Benj. L. Miller and Joseph T. Singewald, Jr., will be found of interest in this connection, as it contains detailed descriptions of practically every important mineral occurrence on that continent.