

stone foot-wall into the hanging-wall. There is also cutting across the ore a small dyke, eight inches thick, of typical gray gneiss. The shaft, which was down about 100 feet, was following along this cross-dyke. Work was begun in May, 1883, and sufficient work had not been done to fully settle the relationships. About 4000 tons of ore had been extracted. It is very hard, compact, and cleavable. Associated with the ore, both in small veins, and in bunches, is a variety of carbonates of the alkaline earths, varying in composition as at the Bethlehem mines; but the analyses showed, in some cases, such an excess of magnesia as to indicate that a considerable amount of magnesite must be mixed with some of the dolomite, although every one of six specimens of the carbonates which I examined showed an amount of lime sufficient to be precipitated by sulphuric acid in moderately concentrated solutions. In one case the carbonate was undergoing decomposition into a silicated material looking a little like serpentine. Occurring in a very similar manner to the carbonates is a white cleavable felspar. Serpentine is quite abundant in some portions of the ore, and there is also some visible pyrite.

To the west of this opening, a second shaft was being sunk, which, after passing through about 90 feet of a mixture of hornblendic material, and magnetite too low in iron to be considered available ore, passed through about 12 inches of a cleavable calcite, carrying pyrite, chalcopyrite, and mispickel in large amounts. After passing through this layer, good, hard, and cleavable ore like that in the other shaft had been found, and at the time of my visit there were about 20 feet in it without any change.

About 2000 tons of the ore have been shipped to Zanesville, Ohio, the composition of which is represented by the following analyses, for which I am indebted to Mr. B. W. Folger, of Kingston, Ontario.

Fe, . . .	62.32	63.80	60.96	63.01	64.89	61.39
SiO ₂ , . .	10.67	8.30	7.27	9.04	6.26	6.61
Mn, . . .	0.51	0.47	0.80	0.61	0.48	0.61
Al ₂ O ₃, . .	.....	.....	0.50	0.62	0.55	0.75
S,	0.39	0.12	0.071	0.42	0.22	0.23
TiO ₂, . . .	.....	.....	traces	trace	trace	trace
CaO, . . .	0.64	0.09	1.86	0.34	0.48	0.50
MgO, . . .	0.98	4.01	3.88	4.49	2.04	5.29
P,	0.01	0.011	0.012	0.020	0.013	0.012

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