

TABLE X.—*Sampling-Results, Copeland Sampling Co., Victor, Colo.*

Using Oscillating Time-Samplers.

Cripple Creek Gold-Ore		
Lot No.	First Sample. Gold. Ounces per Ton.	Resample Gold. Ounces per Ton.
260	14.065	13.96
270	1.01	0.99
606	0.56	0.54
639	0.59	0.60
692	1.28	1.30
797	1.30	1.25

The most convincing tests of correct valuation in ore-sampling are those in which numbers of small lots are bought and paid for individually, and stored for a considerable time, until a sufficient quantity of ore has been collected to form one large lot. When this period arrives the individual lots are not mixed, but run through the mill in succession, and it is usually found that the mechanical sample of the mixture agrees with the calculated average as determined by the values in the original purchases as closely as the best control-assays.

The small lots when originally received, sampled, and purchased were coarse and generally wet, but when run through the mill the second time they are both fine and dry, giving thereby the greatest possible dissimilarity in conditions of size of particles and moisture-content. The excellent checks obtained on this class of work show conclusively that with "time-sampling" the results obtained are in no way affected by the physical conditions of the ore, and may be implicitly accepted as correct.

The art of sampling has now reached a stage where a standardization of methods is both desirable and possible, and it is to be hoped that the Mining Congress, or the proposed Bureau of Mines, will take the matter under consideration and appoint a thoroughly qualified commission which will give the subject the study and investigation its importance demands. Recommendations by an unbiased, competent board would do much to eliminate faulty methods, and bring about the adoption of standard systems of valuation which would prove of inestimable benefit to the mining and metallurgical industries from both a business and a scientific standpoint.

AGALMATOLITE—PSEUDO TALC.

On the south shore of Conception Bay, some ten miles from St. John's city, is a small settlement named Manuels, and three or four miles inland from this a quarry has been opened on a mountain for the working of outcroppings a deposit of substance sometimes referred to as talc. Properly speaking this terminology is incorrect seeing that the deposit referred to is silicate of alumina and potash with little or no magnesia. In fact it more nearly approaches in composition a material known as agalmatolite the figure-stone of the Chinese. The deposits extend over a big area forming the great bulk of two mountains and must contain some millions of tons. The concern operating this deposit is known as the North American Talc Co. They have had an overhead tramway constructed from the mine to the railway, a distance of about two miles. Their pier is at Seat Cove, some ten miles further up the bay, this being the nearest safe harbor for shipping. In 1905 they shipped about two thousand tons to Portland, Me., where the company have a large establishment for grinding the material and converting it into marketable condition.

Samples of the material were shipped to Messrs. Little & Walker analysts, of Boston, who reported as follows: "We find this to consist essentially of a silicate of alumina, containing only 0.05 per cent. iron oxide. This material is unique among those suggested for use as paper fillers in that it closely resembles clay while having the smoothness and other desirable physical properties of talc. We have examined your samples critically with reference to their use as a filler for paper. We consider the colour of the material unusually good, even remarkably good. It is very clean, has a particularly good feel, and is entirely free from mica. In view of these facts and the exceptionally good feel of the material, we feel justified in saying that in our opinion you have produced in the samples submitted to us an exceptionally good filler for the better grades of paper, and one which combines in a unique way the good properties of both talc and clay. The analysis resulted as follows:

Silica	53.11
Oxide of Alumina	40.22
Iron	.29
Lime	.69
Magnesia	.90
Loss of ignition	4.72
Moisture	.07
Alkalis	Trace

Experiments were also made with the substance as a filler for paper and a summary of the result of the mill test follows. Two lots of paper were made, one loaded with clay and the other with the Newfoundland "talc." The paper with the "talc" gave 22 per cent. ash and retention 77.5 per cent.; that with the clay, 16 per cent. ash and 72 per cent. retention. On the whole the "talc" seemed to work about the same as the clay, the finish with it being, if anything, a little better. The sample lot was also tried for coating and gave satisfactory results, the paper appearing to calender quite easily.

As this material is said to be of great industrial importance in the manufacture of porcelain, china and other wares, as well as possessing many of the desirable qualities of talc, it would appear that when fully developed this area is likely to prove of value.

A Dictionary of Chemical and Metallurgical Material, a neat paper-bound pamphlet, has been published by the Electrochemical and Metallurgical Industry, New York. Part I. is a list of machinery, appliances and material used in the chemical and metallurgical industries, with the names and addresses of the manufacturers. Part II. gives an alphabetical list of measuring instruments and laboratory supplies, also manufacturers' addresses in each case. Part III. is a professional directory. The price, 50 cents, is modest. The booklet is well worth having.

The tailings from the St. Eugene concentrator, Moyie, B.C., are being used as ballast by the Canadian Pacific. Four hundred tons per day is the amount of this product accumulating at the mill.

German colliery companies have adopted, almost unanimously, the system of quarterly dividend payments.