Analysis of a Sample of Strontianite from Strontian, Argyllshire.

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[Read June 16th, 1885.]

THE samples to which this note refers were freshly cut from the quarries at Strontian. The mass differs much in quality, but is largely made up of the usual acicular groups. The colour of the mass as received varied, according to the composition, from a slight green shade where Strontianite predominated, to the more pure white of barium and calcium compounds.

The analyses were made from various portions, No. 1 being the selected Strontianite, No. 2 the more white portion of the mass. The results were as follows:—

		1	2
Strontium carbonate	...	94·502	56·601
Barium carbonate	...	0·214	0·051
Magnesic carbonate	...	—	0·416
Calcium carbonate	...	4·819	6·814
Plumbic sulphide	...	—	1·071
Strontium sulphate	..	—	21·248
Barium sulphate	...	—	10·014
Calcium sulphate	...	—	3·638
		99·535	99·853

The figures in analysis No. 1, when recalculated to the proportions of strontium oxide (Strontia), lime and carbonic anhydride, give the following results:—

Strontia	SrO	66·312
Lime	CaO	2·702
Baryta	BaO	0·166
Carbonic anhydride ...	CO_2	30·355
		99·535

These results do not differ materially from those quoted by Dana, as analyses by Stromeyer, Thomson and Klaproth, of the mineral as found at Strontian.

Analysis No. 2 on recalculation yields:—

Strontia	SrO	...	51·660
Baryta	BaO	...	6·608
Lime	CaO	...	5·311
Magnesia	MgO	...	0·198
Lead	Pb	...	0·927
Sulphur	S	...	0·144
Sulphuric anhydride ..	SO_3	...	14·853
Carbonic anhydride ...	CO_2	...	20·152
			99·853

I am not aware of any published results corresponding to this analysis of the crude mass. The proportions of the various minerals, as given above, have been calculated in the states of combination in which they evidently occur. In making the calculations I have been guided by the solubilities of the substances—weak acid dissolving out the carbonates, &c.

The carbonic anhydride found by actual analysis agreed with this assumption, whilst the insoluble sulphuric acid corresponded with the proportions of Strontia, &c. found after fusion, &c. of the portion insoluble in acids.