

ANALYSIS OF CANADIAN APATITE.

Having thus given a general sketch of the various undertakings, we will now consider in detail the actual working or mining of the apatite, and the methods of preparing it for market, but before doing so it will be necessary to refer to the analysis and the nature of the ore. Pure Canadian apatite tests between 88 and 93 per cent. phosphate of lime; the following table of analyses by Dr. Christian Hoffman* gives results of selected samples:

	I.	II.	III.
Phosphoric Acid (1)	40.373	41.080	39.046
Fluoride (2)	3.311	3.474	3.791
Chlorine (3)	0.438	0.260	0.476
Carbonic Acid (4)	0.026	0.370	0.096
Lime	47.828	49.161	46.327
Calcium	3.732	3.803	4.258
Magnesia	0.151	0.158	0.548
Alumina	0.609	0.705	1.190
Nickel, Cobalt, and Copper	—	—	—
Iron	—	—	—
Sesquioxide of Iron	0.151	0.125	1.290
Insoluble residue	3.890	0.370	3.490
Total	100.509	99.506	100.512

(1) Equal to Tribasic Phosphate of Lime	88.138	89.682	85.241
(2) Equal to Fluoride of Calcium	6.796	7.131	7.781
(3) Equal to Chloride of Calcium	0.685	0.406	0.744
(4) Equal to Carbonate of Lime	0.059	0.840	0.218

(I. is from Storrington, Province of Ontario; II. is from Buckingham, Province of Quebec
III. is from North Burgess, Province of Ontario).

* Geological Survey of Canada, 1879.