## GEOLOGICAL SURVEY OF CANADA.

## APATITE, var. 5.

Analysis of apatite from Loughborough.;

From the tenth lot of the tenth range of the township of Longhborough. W. J. Morris, Ecq., by whom the specimen was presented, stated that the vein from which it was taken—and of which, in his opinion, it might be considered a fair sample,—had a width of about seven feet.

Massive, compact. Lustre dull, in parts sub-resinons. Brittle. Fracture uneven, angular. Colour dull-red. Colour of powder reddish-white. Interpenetrated by delicate films of specular iron. Specific gravity 3<sup>.</sup>1641.

After drying at 100° C., its composition was found to be as follows:

Phosphoric acid <sup>1</sup>	40.868
Fluorine <sup>2</sup>	3.731
Chlorine <sup>3</sup>	0.428
Carbonic acid <sup>4</sup>	0.105
Lime	48.475
Calcium	4.168
Mugnesia	0.158
Alumina	0.835
Sesquioxide of Iron	0.905
Alkalies	?
Insoluble residue	1.150

100.823

1 Equal to 89.219 tribasic phosphate of lime.

2 Equal to 7.658 fluoride of calcium.

3 Equal to 0.669 chloride of calcium.

4 Equal to 0.239 carbonate of lime.

## APATITE, var. 6.

Analysis of spatite from Portland. From the "Watts Mine," situate on the sixth lot of the first range of the township of Portland. The property of the Buckingham Mining Company.

About seventy per cent. of the phosphate raised from this mine consists of this variety, the balance is similar to that described below, wherein the compact crystalline phosphate preponderates, sometimes to the almost total exclusion of the fine-granular.

Massive, crystalline-granular. Friable. Fracture uneven, granular. Prevailing colour greenish-white. Colour of powder white. Lustre glimmering. Specific gravity 3.1676.

The texture of this variety varies from a very fine-granular crystalline, greenish to greyish-white, homogeneous, somewhat easily friable rock, closely resembling a disintegrating sandstone,—to crystalline granular, with imbedded rounded fragments of semi-transparent sea-

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