

THE CHEMICAL COMPOSITION OF ANDRADITE FROM  
TWO LOCALITIES IN ONTARIO.

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1. LUTTERWORTH.

The specimens examined were collected by Dr. F. D. Adams at the "Paxton Iron Mine," in the township of Lutterworth, Ontario.<sup>1</sup> The magnetite at this locality is associated with a number of other minerals, including garnet, pyroxene, and hornblende. The ore body is also cut by reticulating veins holding quartz, calcite, orthoclase, pyroxene, scapolite, allanite, etc. The garnet is black in colour, and looks exceedingly like ordinary black tourmaline. It is mostly massive, but also found in crystals, which are rhombic dodecahedrons with their edges generally truncated by the tetragonal tris-octahedron ( $\infty O, 2 O 2$ ). Carefully selected material was found to have a specific gravity of 3.813 at 17°C., and gave on analysis the following percentage compositions:—

Silica . . . . .	35.68
Alumina . . . . .	5.88
Ferric oxide . . . . .	23.70
Ferrous oxide . . . . .	3.65
Manganous oxide . . . . .	0.81
Lime . . . . .	29.64
Magnesia . . . . .	0.35
Loss on ignition. . . . .	.28
	<hr/> 99.99

The mineral was specially examined for titanium, but no trace found.

<sup>1</sup> See Report of the Geological Survey of Canada, Vol. VI., 1891-92-93, Part J, by Dr. Adams,