

The results of my analysis, as published in my Report of last April, are given in the tabular statement below. No. 1 is the composition of a fragment of a large crystal from a bed on the slope of the iron ridge on Lot 28 in Templeton; No. 2 shows the composition of a piece of the so-called "steel-ore," taken from a continuation of one of the beds on the south side of the marsh; and No. 3 represents the composition of the average ore, as obtained from the foot of the iron ridge on the same lot. It is this latter analysis which must be taken as the expression of the general quality of the ore, as it was made from a large sample, selected carefully from a heap of about 300 tons, with a view to obtain a trustworthy average result.

	(1.)	(2.)	(3.)
Sesquioxide of Iron.....	89.80	88.08	85.45
Protoxide of Iron.....	7.06	6.86	5.24
Titanic Acid.....	2.34	3.17	2.12
Protoxide of Manganese....	trace	0.24	0.15
Magnesia.....	0.22	0.13	0.17
Lime.....	trace	0.55	0.41
Phosphoric Acid.....	trace	0.16	0.13
Sulphur.....	trace	0.03	0.35
Graphite.....	0.43	0.35	0.28
Insol. Rock-matter.....	0.11	0.26	5.77

Metallic Iron.....	{ In No. 1=68.34 per cent.
	{ In No. 2=66.98 " "
	{ In No. 3=63.88 " "

The average amount of metallic iron in the Haycock ore generally, is thus shewn to be equal, in round numbers to 64 per cent., a result confirmed by other independent analysis.* The rock-matter, with which the ore is more or less intermixed, consists essentially of orthoclase feldspar (composed of silica, alumina and potash), with traces of hornblende, tourmaline and magnesian mica. The amount of free silica is apparently very slight. Hence, in the furnace treatment of the ore, the loss by slagging would be comparatively low, and but little flux would be required. The average furnace-yield may be fairly estimated at 60 per cent., and thus five tons of ore would make three tons of pig-metal. This latter, it is evident from the above and other analysis, would be a first-class metal, equal to the best brands of Bessemer pig. Since the date of my first Report (in which the high quality of the ore was strongly insisted upon), two or three hundred weights have been practically tested by reduction in a Siemen's furnace at the works of the Nashua Steel Company. The result was a *steel* of surprisingly good quality, averaging as nearly as possible about 60 per cent. of the ore employed.†

4. *Estimated Amount of Ore* :—That a very large amount of ore is contained within the limits of the Haycock Location is beyond the possibility of doubt. The number and near contiguity of the

*64.45, Harrington; 79 to 64, Wuth, 66, Britten; 64.24, Wendell.

†A sample of this steel may be seen at the Assay Office of the writer, 11 King Street West, Toronto.