and one of the leading American authorities on this subject, made a close investigation of the situation in Cape Breton and in the course of his report said:—

"I approach the subject of smelting with some reluctance, as the extremely cheap coal and labor, and low ocean freights, owing to deep water right at the dock of a smelter would render this operation so much cheaper than usual that my estimates at first sight might seem preposterous; but I am calculating from the results of years of practical work and merely substitute the figures of Cape Breton costs for the ordinary costs:-

	Cost per lb. copper produced
Mining, sorting, concentration and freight to deliver 189½ tons of ore and concentrates at smelter daily (resulting from mining 600 tons)	2.88
Putting the above into 99 per cent copper	2.03
Total cost pig copper	4.91
Electrolytic separation and putting into electrolytic ingots or bars	83
Total cost of electrolytic copper	5.74 cents

This is probably a lower figure than obtains at any of the great mines.

Apparent profits on above basis (no credit is given for Gold and Silver in the copper. The marketing of the copper is not allowed for.)

	Profit per lb.
Electrolytic copper @ 9 cents	3.26 - 100 cts
" " @ 10 cents	4.26 - 100 "
" " @ 12 cents	6.26 - 100 "
" " @ 14 cents	8.26 - 100 "

	Mining Labor per diem	Surface Labor per diem	Mechanics Labor per diem	Coal per ton	Mileage of Rail Haul to market
Lake Superior	$2.00	$1.60	$2.30	$3.50	1000
Arizona	3.00	2.50	4.00	7.00	3000
Montana	3.50	3.00	4.75	4.00	2000
British Columbia	3.00	2.50	3.50	6.00	5000
Cheticamp	1.40	1.25	1.75	2.00	none

Average number of pounds of copper per ton of ore at well known mines. (From Stevens' Copper Hand Book).

	Lbs. Cop. per ton
Tennessee Copper Company	38
Granby Consolidated (B. C.) (Largest Copper producer in Canada)	30
Arizona Copper Company	75
Rio Tinto (Spain)	50
Sto.o Kopparberg (Sweden)	55
Tharsis Company (Spain)	40
Utah Consolidated	40 to 60
Anaconda (largest copper producer in the world)	60 " 100
Mansfelde (Germany)	50
Mount Lyell (Tasmania)	50
Tilt Cove (Newfoundland)	60 " 70
Canadian Copper Co. (Sudbury, Ont.)	35
Nichols Chemical Co. (Capelton, P. Q.)	60
Cheticamp Copper Co. (Cheticamp, C. B.) estimated	60 " 75

Estimated Profits.—Professors Woodman and Sexton state:

"It is our opinion that there should be a generous margin of profit if the ore runs $10.00 per ton and does not carry arsenic in appreciable quantities. The net gain per ton will of course depend somewhat upon the amount of ore treated, as well as the efficiency of the work." Analysis of the ore has proved satisfactory as to deleterious substances.

Mr. R. H. Anderson, under whose superintendence of Le Roi No. 1, Rossland, B. C., mining and smelting costs were reduced to the lowest point in the history of that corporation and who, while in Nova Scotia recently, took occasion to investigate the Cheticamp company's proposition closely, writes as follows:

"$10.00 ore at your property ought to net you, when mine and mill are in good working shape, $2.50 to $3.00 per ton at a conservative estimate." This would be a profit of about $500,000 on the estimated amount of ore now in sight at the mine.

That Mr. Anderson's figures are within the mark is confirmed by the