them. In general character, all these deposits agree closely. The iron content is variable, ranging from 45 to 65 per cent. Phosphorus is often below the Bessemer limit; on the other hand, sulphur is usually so high that the ore would require preliminary roasting, to render it suitable for economic smelting. Most of the deposits carry copper in the form of chalcopyrite, and in portions of some of them at least, the quantity may be sufficient to constitute an ore of copper rather than of iron. Garnet amphibole, and other silicates are abundant, and locally, in such quantities, that hand sorting of the ore is necessary.

Practically, all the ore bodies are located at or near the contact of limestone with igneous rocks, and genetically they are regarded as replacement deposits of the contact metamorphic type. As such, they are characteristically uncertain, and irregular in outline, and the association of ore and wall rock so variable that it is not safe to assume their extension beyond the zone of direct observation. Mining operations have not been extensive enough to determine their vertical shape and extent, or their mineralogical composition at depth.

Making due allowance, however, for lack of development, and for all doubtful and uncertain factors, it is still possible to say that there is in the aggregate, in the known magnetite deposits of the coast district of British Columbia, a sufficiently large tonnage of ore available to support a small local iron industry for many years when conditions justify its establishment. There is little doubt, also, that active exploration would disclose many bodies of iron ore at present unknown.

The coast magnetites, while somewhat handicapped by their composition, and while they will in most, if not in all cases require to be roasted before smelting, are capable of producing a good merchantable pig-iron. They can be easily and cheaply mined, and are located close to tide water. Besides an adequate supply of suitable ore, other important considerations in the establishment of an iron industry are the proximity of fuel and flux, the ease with which the raw materials can be assembled at the point of production, and a market for the product at profitable prices. On the British Columbia coast, ore, coke, and limestone suitable for flux, are all obtainable within easy reach of each other, and all are located so close to navigable water, open the year round, that transportation would be of the cheapest. These considerations suggest that the ores will ultimately be smelted locally; on the other hand, the labour situation in British Columbia is not the most favourable.

Failure to establish an iron smelter in the past has usually been ascribed to the lack of sufficient market for pig-iron; it is possible that the real limitation to the smelting of these ores locally will be found to be the cheapness with which Chinese and Indian pig-iron can be laid down on the coast market.