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Problems in Establishment of a Steel Industry

Investigations into supplies of iron ore, quality of coke, markets, shipping conditions and labour argue in favour of establishment of industry on Pacific Coast.

A strong syndicate of Seattle and San Francisco financiers have been investigating for the past two years the iron and steel possibilities along the Pacific Coast with a view to the establishment of a modern steel plant to be located on the Pacific Coast with an undoubted favouring of a position on Puget Sound perhaps in the neighborhood of Seattle. This syndicate has engaged the services of prominent engineers and steel men to investigate every phase that enters into the operation and marketing of steel. Mr. B. L. Thane engineer in charge of the investigations on the invitation of the Vancouver Chamber of Mines addressed it on January 31st last in regard to their findings of conditions on the Pacific Coast. In his address Mr. Thane took up the question of iron ore, coke available, markets, shipping conditions and labour conditions and laid before the Chamber the information which had been gathered at great expense to the syndicate.

Mr. Thane pointed out that the available sources of iron ore along the Pacific Coast were located in Southeastern Alaska, British Columbia, California and Mexico. The South eastern Alaskan and British Columbia ores were for practical purposes in the same class. These ores have not been generally uncovered so that the problem of diamond drilling and development is necessary to determine whether a sufficient supply and reserve are available. In some cases the ore contains enough copper to warrant treatment for this mineral which would in some cases pay the entire cost of the manufacture into pig iron. In other cases the ore contains such a large percentage of sulphur that it must be excluded from practical consideration until new treatments have been devised. It is fairly safe to assume that British Columbia and South Eastern Alaska possess ores suitable for the blast furnace but the amount must be determined by actual survey and development. In southern California on the Eagle Mountain property there is already blocked out 60,000,000 tons of hematite and in Mexico there are two large deposits respectively five miles and 25 miles from the sea, running 68% hematite of which there are from 25 to 30 million tons exposed. By experimental determination the mixture of one ton of British Columbian ore to two tons of Californian or Mexican ore would make a suitable mixture and would produce an excellent Bessemer pig iron.

Mr. Thane stated that the most essential feature in the manufacture of pig iron is uniformity and if this uniformity cannot be maintained it would be better not to consider the establishment of a steel industry. It therefore requires a great deal of consideration and careful planning to insure this uniformity of iron ore so that the basic pig may be obtained of a constant metallurgical content. This will necessitate if British Columbian and southern ores are used a large mixing plant which will make the charge delivered to the blast furnace the same, day in and day out.

In general the conclusion of the syndicate in their investigations in regard to iron ore are that under favourable conditions pig iron can be manufactured on the Pacific Coast at a price not in excess of the costs at Garry and at Pittsburg. Much of the British Columbia ore on account of it being outside of the Bessemer limit for blast furnace must be excluded. On the other hand there are suitable ores which are obtainable and it seems likely that on development large quantities would be uncovered.

The place of coke in the manufacture of steel is very important and a great deal of time and energy has been devoted to this problem. Metallurgical coke that will withstand the heavy conditions of blast furnace operations, which is low in sulphur content and also low in ash requires a great process of selection and experiment. Some of the Vancouver Island coals must be excluded from consideration on account of their large sulphur content and others must be excluded on account of large percentage of ash and still others on account of being too friable to support the blast furnace charge. Mr. Thane stated that while there are available Vancouver Island cokes it seemed that the Crow's Nest Pass quality more nearly fitted the conditions than that of the Vancouver Island. By experiment and development coke from coal mined in the northern districts of British Columbia may prove satisfactory. However from the investigation so far carried on the Pierce