

ZINC IN BRITISH COLUMBIA.

THE zinc question is not simply a matter of local interest, but is of national importance." Such is the deliberate statement of Mr. Alfred Garde, of Sandon, Slocan District, resident manager of the Payne Consolidated Mining Company, and chairman of The Associated Silver-Lead Mines of British Columbia, the latter an organization of silver-lead mine owners and managers.

The zinc question has for months been engaging the earnest attention of prominent mining men and others interested in the fuller utilization of the mineral resources of the Slocan and other parts of the Province where zinc ores are known to occur. Following a decision of the owners of low-grade silver-lead mines, arrived at after very careful consideration of the present situation, the Associated Silver-Lead Mines resolved "to endorse the proposal of the low-grade miners, whereby the Dominion Government is to be requested to extend the benefits of the Lead Bounty Act to a limited amount of ore to be exported and smelted abroad; provided that such extension shall not prejudice the payment of the full bounty on ores smelted in Canada." The bearing this has upon the zinc question is that the lead ores of most of the mines benefited by the lead bounty also contain zinc, so that in assisting the lead-mining industry the opening up of bodies of zinc ores is aided. A second resolution passed by the Associated Silver-Lead Mines instructed its special committee "to memorialize the Dominion Government to engage a high authority on zinc and its treatment (such an one as Walter Renton Ingalls, of Boston, Mass.) to investigate and report on the zinc ores of the Kootenays." These resolutions have been endorsed by the district Boards of Trade, first by each board separately, and next through their respective representatives on the executive council of the Associated Boards of Trade of Eastern British Columbia, sitting in a special meeting called to consider these and other matters.

At a meeting of the Nelson Board of Trade, held a short time previously, Mr. Garde submitted for the information of the members who attended a statement outlining the benefits to be derived from fully investigating the zinc resources of British Columbia as to their extent, value, character, etc., and giving much information relative to the occurrence of zinc in silver-lead mines about Sandon and other parts of the Slocan, and incidentally a brief summary of places elsewhere in the Province at which zinc ores have been found. Mr. Garde's review is too lengthy to print in full here, so only the following synopsis of it can be given:

For the past ten years zinc ore deposits have been known to exist, especially in districts where silver-lead mining has been carried on, but only within the past year has attention been paid to their economic features. The presence of zinc in excess of the smelters' limit of ten per cent. has involved the ores being penalized by the smelters at a rate of 50 cents per unit. It was found that in many mines lead in

large measure gave place to zinc, or that the two metals were so intermixed that processes for their independent recovery had to be adopted. This led to the opening up of a market for zinc, much of which had previously been run to waste in concentrating the silver-lead ores. Many difficulties confronted the mines; some ores were of a complex nature, some had low values in silver, or there were obstacles in concentrating and in high cost of transportation, so that the establishment of zinc smelting and reduction works in British Columbia was an evident condition to the profitable working of these mines. But capitalists would not expend money in erecting and equipping local reduction works until they were certain that the character and extent of the available zinc ores warranted them in doing so, hence the urgent necessity for a full investigation by a competent authority of the zinc resources and the conditions attending their utilization. That such an investigation would result favourably there was little doubt, it being known that the zinc resources of the Province are extensive. The resultant benefits would not be confined to zinc mining, since in exploring for zinc ores large bodies of lead ores would also be discovered, the two metals occurring here in close association.

The varying physical features of the zinc ores of different districts puzzle the miner and metallurgist in one respect—that of the wide difference in their silver values, some ores carrying only about six ounces, while others contain high silver values. A. processes for a close recovery of both the silver and zinc values have not yet been perfected, mines producing zinc ore, also high in silver, are subject to a loss of from one-fourth to one-third of the silver value, since the smelters only allow them for two-thirds or, at best, three-fourths of the silver contents of zinc ores. This is one feature requiring particular attention and expert advice. In the Slocan, though, or in that part of it lying within a radius of ten miles of Sandon, the average quantity of silver contained in the zinc ores is estimated at about 25 ounces per ton of 50 per cent. ore. Emphasis is placed upon this point, for the reason that the prevailing opinion is that Slocan ores contain a far higher average in silver and that until such time as the smelters shall be able to pay for more than three-fourths of the silver it would be better to leave in the mines ores running high in silver, looking to the recovery of a higher percentage being eventually made practicable.

An important consideration brought out is that, apart from their silver contents, the zinc ores of British Columbia are worth mining for their zinc values only. It is believed that there exists in this Province an unlimited quantity of zinc ores suitable for both spelter and zinc oxide productions. The zinc industry, therefore, should not be hampered by the fact that highly argentiferous zinc ores also occur; these should be regarded as exceptions to the rule and should not be permitted to interfere with the utilization of the large deposits of strictly zinc-bearing ore worthy of consideration for their zinc values alone. One of the main objects in view in persist-