

ently inviting public attention to the zinc ore deposits of British Columbia is to secure a general realization of their extent and considerable value. Zinc smelter, in both the United States and Europe have already awakened to the potentialities of the zinc industry of the Province, and as a result zinc ores are being exported to foreign countries to be manufactured into spelter and zinc oxides. This means that Canada first pays freight on the raw material taken out of the country and afterwards pays freight and duty on the manufactured zinc products it imports. It is estimated that Canada in this way pays more than two cents per pound on all spelter it uses and proportionately on other zinc finished products. Heavy losses have been incurred in the past in the large quantity of zinc, together with the silver in it, run to waste in concentrating lead ores, the tailings from a dozen 100-ton concentrators assaying from 20 to 30 per cent zinc, and in the penalties paid the smelters for the excess percentage of zinc in the lead ores marketed. But the position is much changed now, for whilst it is developing that to a considerable extent zinc is replacing lead at depth in important mines, methods for the recovery of zinc are being steadily improved and—a very important consideration—spelter commands a far higher price than does lead. Peculiar and extraordinary conditions in British Columbia have heretofore caused the advantages and prospects of the zinc industry to be overlooked, but now, slowly but surely, it is being realized that there is a bright future for zinc in British Columbia, and that it will add a new and distinct branch to the mining industry of the Province.

In preparing his summary of the known deposits of zinc ore in the Province, Mr. Garde commenced with the leading silver-lead mines around Sandon, in nearly all of which is to be found a considerable tonnage of zinc ores blocked out. The following is condensed from that summary:

PAYNE (Sandon).—This mine's first zinc shipment of 1,000 tons was made to the Lanyon Zinc Co., of Iola, Kansas, in 1902. The ore averaged about 41 per cent. zinc and contained as well nine oz. silver to the ton. In 1903 the Payne Company put in a magnetic separating plant, which eliminates all but about five per cent. of the iron and reduces the quantity of other impurities, thus making zinc concentrates of a character desirable for spelter manufacture. Concentrates are now being shipped to Antwerp, Belgium, under contract with zinc smelters in Europe, at the rate of between 200 and 300 tons per month. The total quantity of zinc shipped by this mine to March 31 is about 1,800 tons. The estimated output is now at the rate of about 3,000 tons per annum of 52 to 55 per cent. zinc blende concentrates, with a silver content of about 10 oz. per ton. They are known to occur in the Payne mine large quantities of ore containing zinc in association with silver-lead.

LUCKY JIM.—This mine is regarded as the most important zinc property in the Slocan District. The vein or deposit is wide and can be mined conveniently. The blende is of high grade, but the silver values

are low—about six ounces to the ton. There is also a large tonnage of lead blocked out. In 1899 an experimental shipment of 1,800 tons of zinc blende was made to a zinc smelter near Manchester, England. This averaged 50 per cent. zinc, three per cent lead, and six oz. silver per ton. The death of the promoter of this enterprise necessitated a discontinuance of operations. The property was lately acquired by local men who intend working it this year.

SLOCAN STAR AND SILVERSMITH.—These properties, besides having blocked out a large tonnage of high-grade silver-lead ore, contain much zinc blende suitable for concentrating. Some of this zinc ore carries high silver values, but its average silver content is about 50 oz. to the ton. So far as known no shipments of zinc ore have yet been made from these mines, but some 200 tons running about 40 to 45 per cent. blende and 150 oz. silver have been held over awaiting higher prices. The Slocan Star Company is reconstructing its milling plant so as to be able to produce zinc concentrates as well as the high-grade silver-lead concentrates its mill was originally designed to make.

IVANHOE.—This mine shipped about 500 tons of zinc blende concentrates to United States smelters during the first quarter of 1904. The average assay of its product is given as 44 per cent. zinc, 28 to 30 oz. silver, four per cent. lead and six per cent. iron. Present output of zinc ore is about 200 tons monthly, and shipments are made principally to Iola, Kansas. The Ivanhoe concentrator was last year rearranged so as to save the zinc ores as a by-product to the galena.

WASHINGTON.—This mine has some 30,000 tons of concentrating ore exposed, part of it being zinc blende sorted out from its high-grade silver-lead ore when that was being prepared for shipment, and part in place in the mine. The ore is similar to that of the Payne, near which mine the Washington is situated. It is stated that the owners of the property will this season erect a concentrating and magnetic separating plant at Kaslo to treat their own ore and custom ores as well.

WHITEWATER.—This mine is believed to have a fair tonnage of zinc blende exposed, but heretofore the zinc eliminated from the silver-lead ore in the course of concentrating was run to waste. No zinc has been shipped as such, but the ore on hand appears to be of a desirable character for producing zinc concentrates by wet and magnetic separation.

WHITEWATER DEEP.—The conditions here are similar to those at the adjoining Whitewater mine. A considerable tonnage of good concentrating material is available.

RUTH.—Quite a large tonnage of zinc blende is available here, and about 700 tons are on hand awaiting disposal. The Ruth mine has its own concentrator, and during the past year a zinc by-product assaying 40 per cent. zinc, 10 oz. silver, two per cent. lead, 16 per cent. iron and five per cent. silica has been made.