

paper after making an interesting comparison between the average grade of Cripple Creek ore produced in 1902, which was nearly \$30 per ton, and that of the Black Hills, placed at \$4.61 per ton, and showing that the large tonnage of the latter, greater than Leadville and Cripple Creek combined, in considerable measure compensated for its comparative low value, gave the value of its total production for each year from 1876 to date. This table of production suggests some encouraging thoughts relative to the larger mines of the Boundary district of British Columbia, also usually classed as low-grade mines. The Black Hills district commenced its mineral production in 1876 with a value for that year of \$1,200,000. During 27 years there has been a gradual increase until in 1902 the yearly total had reached \$8,250,000, whilst for eight months, to August 31, of the current year, it was \$6,750,000. Our own Boundary district produced about \$490,000 in 1900, about \$2,000,000 in 1901, something like \$2,500,000 in 1902, whilst for eight months, to August 31, of this year, the value of its production was approximately \$2,400,000. Given a similar rate of progress for a few years and the Boundary will not need to take a back seat, even in the presence of the Black Hills.

A report has been allowed to get abroad that the Trail and Nelson smelters have lately endeavoured to take an unfair advantage of the provisions under which the bounty on lead was granted, by raising the treatment charges on ores of this class. From enquiry we learn that there is no foundation for these allegations. The Hall Mines smelter has made practically no change in the rates charged on silver-lead ores; while the Canadian Smelting Works is still taking Slocan ores on the basis of \$15 for freight and treatment, with a 10 per cent. zinc limit. This rate is the result of the keenest competition between the American Smelting & Refining Co., the Puget Sound smelters and the Kootenay smelters. At the same time there should certainly be some accounting for the fact that the Government grant has, as yet, exercised so little apparent effect in stimulating the lead mining industry of the Province, and the explanation that the Act in question had yet to be passed by the Senate, and that consequently producers could not tell definitely when the bounty would be available, is hardly a satisfactory one. Under existing conditions the relatively high price of silver and the added profit the bonus on lead affords, production should at least equal that of three years ago. In fact the Government has a right to expect that such should be the case, the bounty having been granted practically on that assurance.

An undertaking of rather exceptional interest is, we understand, being initiated in the Upper Duncan country, in the construction and establishment of a mono-line railway affording communication to a mineral region of, in general, very great promise but heretofore handicapped by reason of its inaccessibility. In

a country so rugged and mountainous as British Columbia, the "mono-railway" system should offer very great advantages, provided, of course, the claims advanced in its favour are substantiated. It is said, for example, that in the mono-rail system, gradients and curves are, from an engineering standpoint, matters of quite secondary importance, while, too, the system can be established at a relatively small cost, maintenance is, of course, much less expensive than in the case of ordinary railways, and the risks of accident are reduced to a minimum. It is sincerely to be hoped, therefore, that the new venture in the Lardo-Duncan will prove both an engineering and a financial success, for thereon largely depends the introduction of the system generally in the Province as a means of affording efficient and cheap transportation facilities to outlying mining districts, and result in the solving of a very difficult problem.

Some notes of the Hendryx Process of Electro-Cyaniding appear elsewhere in this issue. It is stated that Dr. W. A. Hendryx, of Los Angeles, California, has been experimenting for years in this connection, and that he is fully confident he has brought his experiments to a practical issue as demonstrated by the success attending the use of his process on a commercial scale in California, Arizona and New Mexico. If it be found that in ordinary operation it will treat most gold and silver ores—those that are insoluble of course excepted—securing a high percentage of extraction quickly and at low cost, it will be a decided advantage and saving, both in time and cost of treatment—wherever applied to ores or tailings that will yield their precious metal contents under electro-chemical influences. The testing plant seen at work in Spokane last month by a representative of the MINING RECORD appeared to be simple enough in operation, and assurances were received on the spot from competent and reliable men that it was accomplishing the results claimed for it both effectually and economically.

#### CYANIDE PLANT AND PRACTICE AT YMIR MINE, BRITISH COLUMBIA.\*

(By Edwin C. Holden.)

**I**N making the original estimates for a report recommending the cyanidation of Ymir stamp-mill tailings, the writer was unable to find in any of the standard works on cyanide practice certain data applicable to the local conditions; nor has he as yet seen the same practice recorded in the rapidly growing literature on cyanidation. To present these figures, together with a few novel features of local practice, the present paper is offered.

The ore treated is obtained from a fissure vein of steel dip, occurring in a slate country. The ore body is lenticular in plan, swelling from 4 feet in width at one end to a maximum of 42 feet, and tapering irregularly to less than 18 inches, where pay values cease.

\*From Am. In. M.E. (October).