

The Centre Star Report

The fifth annual report of the Centre Star Mining Company, submitted at the annual meeting held November 24th, presents the company's affairs in the most favourable light that the public has yet seen. For the first time in its existence the Company is reported free from all indebtedness, and in possession of an earned surplus for the year of \$88,157.12; the balance of profit and loss account carried forward being \$150,798.35. This showing is a most creditable one, and is altogether due to the energy and ability of its manager Mr. E. B. Kirby.

The tonnage produced and sold amounted to 88,387 tons, of an assay value of \$1,153.390, or \$13.05 per ton; the total freight, treatment and marketing charges amounted to \$7.05 per ton, leaving a local value of \$6 to the ton of ore. The total expense of production, *including all costs*, was \$3.30 per ton shipped, of which \$2.67 is given as the *mining cost*, and \$0.63 as office and administration costs. The real profit per ton, therefore, was \$2.70 on ore assaying \$13.05, or a profit margin of 20 p.c. on the assay value.

We advise shareholders to carefully compare the value and costs per ton for 1903, with the same figures for previous years, as in this way only will be appreciated the efforts and successes made by Mr. Kirby during the last two or three years, and for which he is entitled to the very highest credit. THE REVIEW has made this comparison, and, holding that the difficulties and disadvantages prevailing during the year ending Sept. 30th, 1902, exclude that year from any just comparison, has taken the year 1901 as the best year by which to show the magnitude of what has been accomplished.

The tonnage for 1901 closely approximates that for 1903, being 80,419 against 88,387. The assay value for 1901 was \$18.12 per ton, for 1903 was \$13.05, showing a shrinkage of \$5.07 per ton. The total charges (freight, treatment and marketing) for 1901 were \$9.48, for 1903, \$7.05; showing a reduction of \$2.43, which reduction is due to Mr. Kirby's efforts with the Canadian Smelting Works and the Canadian Pacific Railway. The local value of the ore in 1901 was \$8.63 and in 1903 was \$6.00, showing a decrease, in what the Company call "smelter's net value," of \$2.63. To offset the reduction in assay value of \$5.07, the company has effected a saving of \$2.43 in freight and treatment charges; and for the shrinkage of \$2.63 in net value, Mr. Kirby has effected reductions in the mining costs which, from his own tables, show figures of \$3.21 for the year ending 1901, and of \$2.67 for the year ending 1903, a saving of 54c. The amount of money expended on development work is much less than in previous years, being only 60 p.c. of the amount spent in 1901, and about 43 p.c. of what was expended in 1902.

The reasons for this decreased expenditure may be inferred from Mr. Kirby's report, which is significant as containing two statements of great import to the district of Rossland. There is no better authority on the camp than Mr. Kirby, and when he states that all the productive mines there have experienced a general change in the character of their ore deposits as depth is attained—having passed from high grade smelting ores to ores too low in grade to be treated directly by smelting, and that therefore they require a concentration of values before they can be marketed—the public may accept the statement as an absolute fact.

The second noteworthy and significant feature in the report is, the direct assertion by Mr. Kirby of the feasibility and profit of concentrating the pyrrhotite ores of the camp, and the statement that a subsidiary corporation is now building a mill of 200 tons daily capacity for such concentration, the mill being designed so that it can be promptly doubled in its capacity.

The two statements noted above are the main features of the

report; the decline of values is the experience of most mining districts throughout the world; the building of a large plant to concentrate the ore is the sequel to the announcement made in the report for 1902, and our comments at that time need not be repeated. It is perhaps to be regretted, from the standpoint of our readers, that Mr. Kirby has not yet seen fit to outline to his shareholders the process which he deems will be successful for the concentration of low grade ores, but there are doubtless many personal and company reasons why it is unadvisable at present to publish such details. We can only hope that after the Company is thoroughly satisfied Mr. Kirby will contribute to the Canadian Mining Institute the details of the method which he has perfected.

THE REVIEW sincerely hopes that an optimistic view may be taken of the Centre Star process for the concentration of low grade ores, since the practical success of any such method means an active life, not only to that particular district, but also, probably, to other districts in British Columbia, and means the restoration to the Province of some of the favor which it has lost during the last three or four years. We do not look for the immediate success of *any* installation, feeling that the problem presents many difficult details which require time for their successful treatment, but we do think that this beginning on the part of the Centre Star Company may mean the ultimate establishment of a permanent industry in the Rossland District. The LeRoi No. 2 Company has, according to various announcements in the press during last 12 months, made a trial of the Elmore Process of oil concentration, which is uniformly reported to be successful.

While we are not "in the know" respecting Mr. Kirby's process, we have been informed that it differs essentially from the Elmore, and that it has been thoroughly tested on a considerable scale at the old works at Silica which were remodelled for that purpose. The Company and the shareholders are to be congratulated upon having retained the services of one who is so well able to undertake the solution of difficult problems as their general manager. THE REVIEW extends its congratulations to Mr. Kirby, and hopes that next year it may be able to do the same to the shareholders of the Centre Star Company.

Hand Sorting vs. Milling.

The Arlington Mine at Erie, B.C. is an irregular vein in a slate formation. The vein has a very slight dip to the west, and sometimes lies conformably with the slates, and sometimes cutting across them. The slate formation is very much broken up and contorted, and there are layers of porphyry sometimes following the bedding of the slates and sometimes cutting across them at various angles and with different strikes. The ore consists of mixed sulphides of iron, lead and zinc; and the gold values vary greatly, sometimes values as high as 19 oz. of gold per ton in the mine car samples occur where the ore contains a larger proportion of zinc sulphides. The vein varies from a few inches to as much as 25 feet in thickness, but the sulphides are always in separate and distinct layers or bunches free from the surrounding vein matter, and the remaining vein matter contains practically no value. This fact of the ore being separate from the vein matter has an important effect on the question of hand sorting or milling, as also the fact that concentration only increases the value of the ore about (ten) 10 p.c., that is the clean ore shipped averaged \$49.35 per ton, while the concentrates averaged \$54.66 (assay value).

During the fifteen months from March 1901 to May, 1902 a concentrator and tramway were built and the mine was worked as a concentrating proposition, the whole width of the vein being broken in the stopes and put through the concentrator; a portion of the clean ore being sorted by hand and sent direct to the smelter.