

cut by the seventh level, the pay ore exposed is 215 feet long and 4 feet wide, averaging \$17.50 smelter gross assay value. Other levels are being extended to explore the east shoot, which is so far only partially exposed.

General Remarks.—The mill under construction by the Rossland Power Company, and intended to provide an outlet for these ores, has been delayed by an unfortunate series of circumstances. The arrangements for site, railway facilities, etc., were not settled until late in the season of 1903. The pressing need for milling facilities compelled a forced start and construction during a winter which proved to be of unusual severity and length. This, with numerous attendant difficulties in the delivery of materials and machinery, delayed the completion of the plant until the end of July. Owing to the universal expectation of at least a normal water supply this season, it was intended to use temporarily the water system of the Canadian Smelting Works, and to postpone until the following year the construction of its own water line extension to Murphy Creek. The season, however, has been marked by a drouth beyond all precedent, and this fact, together with unexpected difficulties with the city of Rossland, made it impossible for the smelting works to supply the water required to operate the mill. It thus became necessary to immediately construct a four-mile line to Murphy Creek. This is now finished and the mill has just begun operations.

We have been fortunate in retaining an unusually able staff, and I take pleasure in expressing my appreciation of their earnest co-operation. The chiefs of departments are: Mr. Carl R. Davis, E.M., superintendent, and Mr. Charles V. Jenkins in charge of the purchasing and accounting.

(Mr. Kirby's interesting tables of production and costs will be published in the February issue of the *MINING RECORD*.)

THE HASTINGS (B. C.) EXPLORATION SYNDICATE.

The Directors, in their report for the year ended May 31st last, state that the slight improvement recorded in the financial position of the company for the previous twelve months has been further maintained. The cash on hand at bankers has increased to £4,382; the general expenses exhibit a reduction of £193, and the expenditure on mine development has decreased by £851 in comparison with the figures in the balance-sheet on May 31st, 1903. The ore shipped to the smelters realized \$9,163 sterling, after deducting the cost of freight and treatment. From the report of Mr. Leslie Hill (the local manager and engineer) it will be seen that all Mr. Hill predicted in his previous report in respect of the Arlington mine has been fully borne out, and although, with his usual caution, he does not commit himself, it is satisfactory to note that he believes shipments of ore to the extent of 100 tons monthly can be maintained for the present. On the company's other mining claims in the East Kootenay district no work has been done during the past year, the directors preferring to wait the result of developments on adjacent properties. Under the manager's advice, two additional sections to the Blainmore coal lands have been secured, which Mr. Hill considered were necessary, and will be valuable when the proper time arrives for negotiating for the sale of the properties, as to which the directors advise a waiting policy. The coal lands being situated in the Northwest Provinces of Canada, it became necessary, in order to comply with the laws of the district, to establish a registered office of the company at Coleman, in the neighborhood of the coalfields, and this has been effected at a very nominal cost. During the spring Mr. Leslie Hill, at the invitation of the board, paid a visit to this country, and the directors were thus afforded an opportunity of personal conference with him, the advantages of which are sufficiently obvious.

B. C. INSTITUTE OF ASSAYERS.

At the annual meeting of the B. C. Institute of Assayers held in Rossland during the month the following gentlemen were elected to executive offices: President, William F. Rob-

ertson, Provincial Mineralogist, Victoria; vice-president, A. I. McNab, Canadian Smelting Works, Trail; secretary-treasurer, Arthur A. Cole, Centre Star mine, Rossland. The following named, in addition to the officers elected, constitute the members of the council: J. Cuthbert Welch, smelter manager, Montreal and Boston Copper Company, Boundary Falls; Alex. McKillop, Nelson; Thomas Kiddie, smelter manager, Tyee Copper Company, Ladysmith; Herbert Carmichael, provincial assayer, Victoria. The treasurer having submitted a satisfactory financial statement, the committee appointed to prepare a minimum schedule of assay charges for adoption in British Columbia offered the following recommendations:

FIRE ASSAYS.

Gold	\$ 1.50
Silver	1.00
Lead	1.50
Gold, silver and copper in one sample....	3.00
Gold, silver and lead in one sample.....	3.00

WET ASSAYS.

Alumina	2.50
Antimony	5.00
Arsenic	5.00
Chromium	8.00
Cobalt and nickel not separated	5.00
Cobalt separated from nickel	10.00
Copper	2.00
Iron	2.00
Lead	2.00
Lime	2.50
Magnesia	3.00
Manganese	5.00
Nickle separated from cobalt	10.00
Phosphorus, rough determination in an ore	5.00
Silica	3.00
Silica, insoluble matter, no fusion	1.00
Sulphur	3.00
Zinc	2.50

For control work, i.e., assayed in duplicate, add 50 per cent to above figures. For umpire work, i.e., assayed in triplicate, or more, double above figures.

Discounts when five samples are submitted at one time, 10 per cent, when ten or more samples are submitted at one time 20 per cent. The report was adopted.

Papers were read by Mr. L. C. Wynne on "The Extraction of Oil in Oil Concentration Products," and by Mr. Douglas Lay on the "Determination of Silver in the Sulphide Ores of the Slocan," followed by an interesting discussion.

BRITISH COLUMBIAN SMELTERS AND THEIR PRODUCTION OF METALS.

The following brief review shows the tonnage treated at the several smelters that reduce British Columbian ores, together with their production of metals and the additions to plant, machinery, etc., made during the year. In all instances both tonnage of ore and production of metals for the month of December are estimated, so that the figures, though approximately correct, are subject to such revision as shall be necessary when the actual results of December's operations shall be ascertained.

Trail.—The ore receipts at the Canadian Smelting Works, Trail, in 1904 totalled 163,865 tons. The sources of this ore were as follows: East Kootenay, 7,725 tons; Nelson and Kootenay lake, 2,450 tons; Ymir, 1,090 tons; Rossland, 131,130 tons; Slocan, 7,040 tons; Lardeau, 500 tons; Boundary, 7,590 tons; miscellaneous B. C. ores, 1,450 tons; foreign ores (chiefly from Republic and neighbouring camps), 4,800 tons. Of these ores, 5,525 tons were gold quartz; 17,080 tons silver-lead and silver-bearing lime, and 141,260 tons gold-copper. Included in the foregoing were 5,100 tons of concentrates. The production of matte was 2,675 tons, and of silver-lead bullion,