There is a reasonable prospect of the construction of the projected Midway-Vernon railway being commenced next spring in which case the West Fork mining camps will have much attention paid to their high-grade ores.

THE SMELTERS.

GRAND FORKS SMELTER.—Extensive additions to plant and buildings were made at the Granby Consolidated Mining, Smelting & Power Company's big reduction works at Grand Forks during 1903. Two new water-jacket blast furnaces were put in (bringing the treatment capacity of the smelter, now having six furnaces, up to about 2,000 tons per day); three standard Connersville blowers, equal in volume to No. 8, and three 100-h.p. Westinghouse electric motors to operate them; a full complement of receivers and cast steel 5-ton matte ladles; two 12 by 14 Canadian Rand Drill Company's locomotives and fifteen 6-ton Union Iron Works slag cars, for dumping the slag hot instead of granulating it; and some necessary equipment to make the copper converting part of the works equal to converting the copper matte from twelve to fourteen furnaces of the type in general use in Boundary smelters—roughly 70 to 100 tons of matte each 24 hours. A milling machine, for doing intricate small work, was added to the power appliances of the machine shop. The furnace room was extended 108 feet and the blower room about 50 feet, these additions increasing the length of the main building to about 350 feet.

Besides generating electric current equal to about 1,100 horsepower at its own power house, situate just below the smelter on the North Fork of Kettle River, the Granby Company uses electric power supplied by the Cascade Water Power & Light Company, with which it has a contract for up to 1,000 horsepower. A brick sub-station was built at the smelter early in the year and a double-circuit three-phase line was brought in three miles from the main transmission line between Cascade and Phoenix. The electrical equipment placed in the smelter sub-station includes one set of 1,000-h.p. Canadian General Electric air-cooled step-down transformers with motor and Buffalo blower, one set of 800-h.p. Westinghouse oil-cooled transformers, switchboard, lightning arresters, static interrupters and the customary other apparatus. The voltage is here reduced from 20,000, which is the pressure carried on the transmission lines, to 500 volts. Besides making this provision for extra power, more lighting facilities were added about the works.

The tonnage of ore smelted during 1903 to December 13—the date to which exact figures were obtainable—was 365,486 tons; the estimate for the unexpired portion of December was 31,230 tons; total tonnage for the year, 396,716 tons. Besides this there was, of course, a considerable tonnage of matte from other smelters, converter slag and sweepings, flue dust and other materials, the above figures representing the tonnage of ore alone. The production of copper for ten months ended October 31 was 12,988,946 lbs. With that for the months of November and December estimated the year's production of metals was approximately as follows: Copper, 16,932,056 lbs.; silver, 356,900 ozs.; and gold, 47,500 ozs. This includes the product of the matte received from the smelters at Nelson, Greenwood and Boundary Falls for converting into blister copper, as well as that from the nearly 400,000 tons of ore smelted at these works.

No information was obtainable from the company's officials as to further extensions of the smelting business here, but it is understood that necessary preliminaries are having attention so as to be prepared for eventualities should it be decided to operate on a still larger scale. There need be no hesitation regarding ore supply, for the company's mines could without difficulty double their output, but there are other important conditions that must be taken into account before the management may prudently commit itself to a policy involving a large increase in outlay on plant and buildings.

The coke supply has been a troublesome problem, either labour troubles at the collieries or a shortage of railway cars for transporting the coke during several months of last year having compelled a curtailment of smelting operations. These difficulties were removed towards the close of the year, so that latterly not only was sufficient coke for all the furnaces received but the supply was large enough to admit of a reserve of between 2,000 and 3,000 tons being acccumulated. In this connection it may be mentioned that the International Coal & Coke Company is opening coal mines at Coleman, Alberta, from which the Granby Company expects next summer to obtain part of its supply of coke, and later possibly all its fuel requirements will be met by supplies from this source. It is stated that a colliery equipment for a daily production of 2,000 tons of coal has been ordered, and that the contract has been let for building an initial battery of 104 coke ovens, and a general manager engaged to report for duty on January 1st. It has been announced that the company's coal areas were inspected by a leading Pittsburg coal mining engineer and that he estimated the amount of bituminous or coking coal in sight on the company's property and located above the level of the Old Man River to exceed 64,000,000 tons. It is claimed that the coal is easily accessible and that there is good reason to believe that within twelve months a daily output of 2,000 tons will be practicable.

GREENWOOD SMELTER.—The British Columbia Copper Company's smelter at Greenwood smelted a total of about 170,000 tons of ore during 1903. The values recovered were approximately, $13,700 ozs. gold, 52,000 ozs. silver, and 3,950,000 lbs. copper. A change was made in the management of the works early in the year, Mr. Paul Johnson having retired at the end of February, to be succeeded two months later by Mr. J. E. McAllister, who had been for some time assistant superintendent at the Tennessee Copper Company's smelter at Copperhill, Tennessee, U.S.A. The works were inoperative during the greater part of March and April, consequent on the failure of the coke supply whilst the Crow's Nest Pass coal miners were on strike. Since April, though, work has been continuous, except for occasional brief stoppages for necessary repairs.