

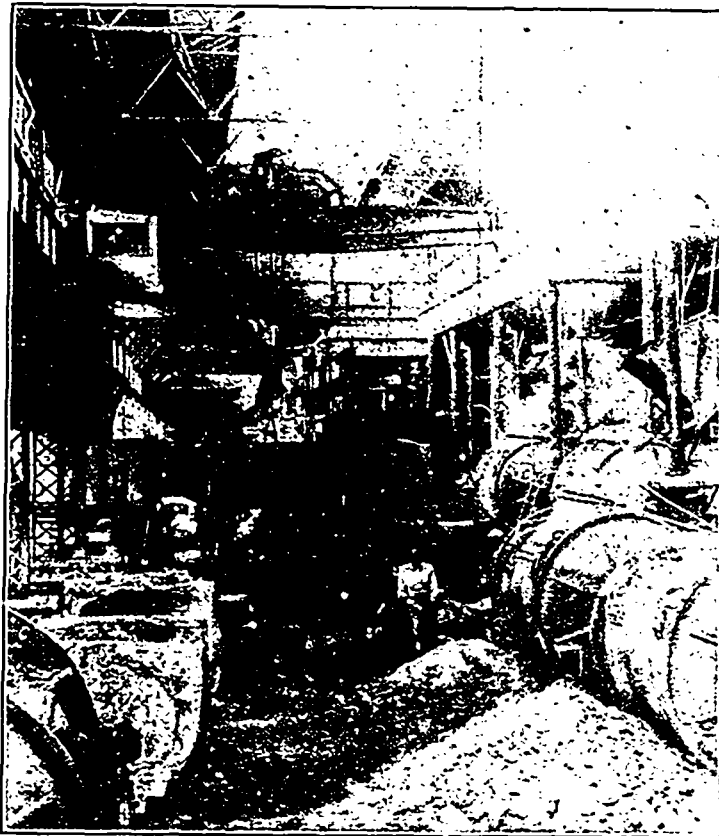
mine, substantial progress was made last year. The open workings were considerably enlarged—in fact they are now one big quarry, the dividing masses of ore having been broken down and sent to the smelter. There is here a long, double-tracked adit, known as the mule tunnel, from which half a dozen raises have been made to the quarries above. Near the end of this tunnel, a big stope was opened a few months ago in a large body of ore of good grade. This ore may prove to be the same body as that in No. 5 quarry, but this cannot be determined until the raise, now being made, shall break through. When the mine was visited about the middle of November this raise was up about 150 feet, in ore most of the way, but there remained about 50 feet more to be passed through before the connection would be made. The consolidation of the crushing plants having been decided upon, a new tunnel was driven, to intersect the main shaft (from which the 200-ft. and 300-ft. levels were opened) on the same level as the quarry tunnel. At the shaft a large pocket has been excavated, and this will discharge into the 4 to 5-ton skips, obtained to replace the cages previously used. The skips will empty into a bin at the head of the shaft, the ore passing thence to either one of a pair of Jenckes-Farrel crushers, each having a jaw-opening of 24 by 36 in. These crushers will be worked by two engines, driven by compressed air, so arranged that either engine can drive either crusher, thus reducing chances of stoppages by breakdowns in either engines or crushers. A belt conveyor will take the crushed ore to the main ore bins for shipment by rail thence to the company's smelter at Greenwood. All the plant for this improved arrangement for crushing the ore has been purchased and some of it has already been installed. Where the excavation was made for the crushers a body of good ore was opened up and from this 6,000 to 7,000 tons were taken out. This body of ore has since been proved to be of considerable size, recent reports placing its dimensions, so far as yet explored, at 200 ft. by 130 ft. The diamond drill has been used underground during recent months with satisfactory results, one hole proving the occurrence of very good magnetic oxide ore down to 345 feet below the collar of the shaft, at which depth the drill was withdrawn.

Montreal & Boston Co.'s Mines.—This company last summer arranged to consolidate the Dominion Copper Co.'s Brooklyn-Stemwinder and Rawhide mines, Athelstan-Jackpot mine, Sunset group and Morrison mine. With the exception of the last mentioned all these several properties are now on the list of shippers, sending their ores to the company's smelter at Boundary Falls. The Brooklyn and Stemwinder have been equipped with new machinery and plant equal to handling 600 tons of ore a day, and they are now producing about 400 tons. Ore bins, tramways, and other surface works have been constructed. Altogether these properties are now in condition to regularly maintain the output required from them to keep the smelter supplied. The Rawhide lately commenced shipping and will soon be producing about 300 tons daily. The company has expended many thousands of dollars on this property during the last six months, providing it with machinery, building gravity trams capable of handling up to 600 tons a day, and generally putting the mine into shape for dealing with the large tonnage of ore it has in sight.

Emma.—During the year important development work was carried on at the Emma mine, and the existence of large ore reserves of similar high character of fluxing material, but having higher values in gold and copper, was fairly demonstrated. A second incline was sunk, started from the level of the lower railway track, and from the bottom of this diamond drilling in various directions was carried on. At the same time a considerable tonnage was shipped, the shipments for the calendar year amounting to about 38,000 tons. In June of last year a three-fourths interest in the property was acquired from Messrs. Mackenzie, Mann & Cox, by Mr. J. J. Campbell, who afterwards sold out to the B. C. Copper Company, between whom and the Hall Mining & Smelting Company (by virtue of the latter's rights as owners of

the other one-fourth interest) an arrangement was entered into under which the B. C. Copper company operates the property for the benefit of both companies. As the mine is only about ten miles distant from the head office of this company, this arrangement should prove a convenient one.

Oro Denoro.—The ore quarries opened on this property in 1903 were worked last year and some 15,000 tons (dry weight) were shipped. The value of the mine has been greatly added to by recent developments. In grading for the new railway line, from Grand Forks to Phoenix, which crosses this claim, another big body of ore was cut. This appears on the surface to be about 100 ft. in width. Higher up the hill its width at one point seems to be about 200 ft. Ore has also been uncovered in many new places. Shipments are being made from No. 1 quarry, which is alongside the C. P. R. company's Phoenix branch line, and from the magnetic or No. 2 vein.



Copper Converter Plant at Granby Company's Smelter, Grand Forks.

Senator.—The Granby company is working this claim for the useful fluxing ore obtainable from it. Some 3,500 tons have been shipped to the smelter at Grand Forks. In November a 30-h.p. steam boiler and 25-h.p. double drum hoist were installed, for the purpose of operating a derrick, the mine being worked by the "glory hole" method. The ore carries low values in gold, silver and copper. It is hauled about three-quarters of a mile to the railway, on a down-hill grade.

Mountain Rose.—This claim lies next to the Emma, and its ore is of a similar nature to that shipped for some time past from that mine. Its output is not yet large. There are two or three other claims in the same vicinity upon which work was done last year and from which small shipments were made.

THE HIGH-GRADE MINES.

The silver-gold mines about Greenwood attracted attention throughout the year. Beyond mentioning that the Provi-