

Boundary district. Several of these companies realizing that the oxidized ores, found in the upper portion of the ore bodies, were apt to be replaced at depth by sulphides, have consequently, either by purchase or by consolidation, acquired all available deposits carrying an excess of oxidized iron, thus securing for themselves an adequate supply of this material for fluxing purposes.

The improvement in metallurgical practice is attested by the fact that the average contents of the ore mined in this district during the past year was but 1.38 per cent. copper, \$1.44 in gold and 0.3 oz in silver to the ton, upon which profits were made. It is further stated that the general costs of mining and smelting have been reduced. Another note refers to the fact that prospecting has developed new coal fields in East Kootenay, up the Elk River, while in the Telkwa Valley, in the Omineca District, what promises to be important deposits of semi-anthracite coal are reported to have been found. Much has been heard during the past year of the value of the product of the Nickle Plate mine at Hedley City, in the Similkameen, where was treated in 1904 about 10,000 tons of ore. It is somewhat disappointing, therefore, to find, in view of previous greater anticipations, that the values recovered did not exceed from \$12 to \$15 a ton, though, of course, this is a very good grade of ore.

The chief features of the report, however, are the special bulletins on the Atlin, Southeast Kootenay, Nelson and Slocan districts, prepared by the Provincial Mineralogist, after visiting the respective localities.

We publish elsewhere in this issue a lengthy extract contained in the report on the district first mentioned, as it appears to us to contain especially valuable information in respect to hydraulic mining conditions there. But another reference to the discovery of a curious and unusual occurrence of magnesite, found within the limits of the town of Atlin, is also worthy of note. The formation in the vicinity of the town is composed of magnesian rocks. Skirting the town site on the east is a low depression, swampy in character, in places showing "hummocks" of white magnesite, which seem to be "growing up" from the swamp level. The deposit is exposed on the surface, covering an area of several acres, and at a depth of about ten feet, to which it has been dug, continues pure and clean from all foreign matter. Mr. Robertson makes this comment:—

"This deposit was at first considered to be simply an accumulation of magnesite formed from the decomposition of the surrounding rocks and deposited by surface waters in this swamp. If such was its origin, it seems incredible that the deposit should be so free from clay and other materials, equally portable by water, and that it should be deposited in mounds above the water level. It seems probable, therefore, that the deposit is not from water, but that underlying this draw some particular stratum in the magnesium rock occurred, which, being softer, was more easily worn away, so forming the draw, and being more susceptible to the action of swamp waters carrying carbonic acid, was altered from an oxide of magnesia into the carbonate of magnesia or "magnesite," in which

operation it would be greatly increased in bulk and so rise in mounds, seeming to "grow up" from below."

This deposit of magnesite was, during the year, located as a mineral claim, and some two hundred tons sent to San Francisco to be used in the manufacture of "magnesia brick," for furnace linings. It is thought, however, that the purity of the deposit would admit of it being used for other purposes, in which case it might be marketed to better advantages.

As has already been mentioned, the Government bounty on lead exercised a decided stimulating influence on this industry, but the beneficial effect was more appreciable in the case of the Southeast Kootenay industry than elsewhere. The reason given for this is that the silver-lead mines in this section of the country are capable of producing a large tonnage of ore in which the silver values are relatively low as compared with the lead contents, while the reverse is the case in the Slocan mines. The St. Eugene mine is taken as an example. Here it requires some five tons of ore to make one ton of concentrate; a ton of concentrates contains about 33 oz. of silver and 1,300 lbs. of lead, the approximate gross value, of which would be:—Silver, \$16.50 and lead, \$19.50. The bounty on a ton of these concentrates would be equivalent to \$9.75 or nearly \$2.00 per ton on the ore itself, the gross value of which, exclusive of the bounty, would be only about \$7.20.

In the Slocan, however, the condition of mining is reported to be better than is implied by the increased output. Some years ago all visible ore was extracted as quickly as possible, in fact, the mines were gutted, and, in many cases, development was allowed to take care of itself. The mines, of course, lent themselves readily to this practice, as in many cases shipping ore was encountered at the surface, and could be followed down or into the hill. As Mr. Robertson states, the inevitable day of reckoning came, and it is only now that development is receiving the attention necessary to admit of the district maintaining anything like a uniform production. The report also includes, in addition to the customary excellent half-tone reproductions from photographs, a number of inserts giving the flow sheets drawn by the Provincial Mineralogist, showing in detail the operation of the principal concentrators and mills in the Slocan and East Kootenay.

MINERAL DEVELOPMENT IN NEWFOUNDLAND.

The Geological Survey of Newfoundland has issued its seventh annual report, compiled by Mr. Jas. P. Howley, F.G.S., on the mineral statistics of the Island. This report records another satisfactory increase in output; though there has been a slight falling off, both in the quantity and value of certain commodities, namely:—barite, slate, granite, building stone, etc. The total value of the raw materials of Newfoundland's last year's production is valued at \$1,353,953.00, or an increase of \$84,148.00 over the 1903 output. During the past four years, in fact, mining development in Newfoundland has made slow but steady progress, for example: in 1900 the total value of the mineral production was valued at \$792,099.00; in 1901 it reached \$1,202,272.00; in 1902, \$1,217,686.00; in 1903,