

Stopping and raising ore	\$1.325
Per ton.	
Proportion for development485
Transporting to Esquimalt and Nanaimo Rail- way Company.14
Surface, etc.22
Ore dressing04
	<hr/>
	\$2.21
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Under the heading of Surface, in the above costs, are included maintenance and repairs to buildings and plant, pumping from the Chemainus River, odd surface works, and general administration at the mine. The total costs chargeable against the ore are slightly higher than those of last year; this being due to the delays caused by the tramway. The stoppages due to this meant extra expense at the mine, as some of the expenses did not stop while the tram was idle. Also the cost of maintenance and repairs to buildings and plant was higher in proportion to the ore shipped, as the plant used was larger than that used last year, while it could not be worked to its full capacity until the capacity of the tramway was increased.

The amount of development work done during the year was: Drifting, 1869 feet. Cross-cutting, 1,251 feet, and raising, 364 feet. The costs have been considerably reduced from those of last year, being: Drifting reduced from \$9.15 to \$7.15 per foot. Cross-cutting reduced from \$6.77 per foot to \$5.19 per foot. Raising reduced from \$11.59 per foot to \$10.61 per foot.

Tonnage Delivered to the Smelter.—The total tonnage delivered to the smelter during the year was 48,623½ tons, which was all won from the mine, and the average values of this, from assays received from the smelter during the earlier part of the year, and from assays taken at the mine from the daily mine run during the latter part, have been: Copper 4.61 per cent., silver 2.77 oz., and gold 0.14 oz. per ton, which would give the gross contents as being about, copper 4,483,000 lbs., silver 134,680 ozs. and gold 7,000 ozs.

"X. L." Mineral Claim.—A considerable amount of trenching was done on this claim, and the results have been most satisfactory, as they prove beyond a doubt that the lode runs through this ground. In several of the trenches a good iron capping was found on the direct line of the lode, and the schists are similar to those surrounding the Tyee ore-body. A cross-cut from a trench close to the southern boundary line of the Lenora encountered the main south wall of the lode, and some small stringers of barytic ore were found near it, so that the prospects for finding ore-bodies in this claim are good.

Prospects of Ore in Depth.—Now that preparations for developing the lower levels have been completed, it is hoped that during the coming year ore will be found in depth. Although it is possible that some time may elapse before discoveries are made, there is, I think, very little doubt but that ore in large quantities will be found as soon as the workings reach a point below the line of movement found at the 300-ft. level. The indications in the small amount of work done at the 400-ft. level are favourable, and although too little has been done there to prove it, the ground appears less broken than at the 300-ft. level. The ore-body in the upper levels has been proved to be of such a great size, that although it has been cut off temporarily by the broken ground at the 300-ft. level, it is certain to make again in depth. Even though no large body was found at the 300-ft. level, stringers of barytic ore were found, and the mineralization was heavy throughout. The graphitic schists, although in a shattered state, were found there, and they have been found again at the 400-ft. level. No ore has ever yet been found in the mine without there being graphitic schists in the vicinity, and they have undoubtedly had something to do with the deposition of the ore. Where these graphitic schists occur at the 400-ft. level, they do not show anything like the amount of shattering that they do at the 300-ft. level, and besides them there is a selvage full of nodules of quartz containing copper. It is possible that this selvage represents the top of an ore-body, and if it does, the ore-body should be encountered in the

main shaft, between the 400-ft. and 500-ft. levels. Had some intrusion of foreign rock, such as diabase, cut off the ore at the 300-ft. level, there might be grounds for thinking that the cut-off was permanent; but the only diabase met with at that level was a narrow intrusion lying parallel to the main south wall, and this, when cross-cut, was found to have graphitic schists to the north of it.

From the conditions so far found there is no reason to think that the ore has been permanently cut off; and indeed the very nature and form of the schists would lead one to expect to find the ore in masses, with zones between them showing stringers, as the channels through which the ore passed when in a molten or gaseous state; the large masses forming in the weak places in the schists.

In conclusion, I would say that, although as before remarked, the developments at the 300-ft. level have not been as successful as hoped for, I consider the future prospects of the mine very bright. The conditions are favourable for doing fast and cheap exploration work, and the great size of the ore-body in the upper levels gives time for a large amount of exploration work to be done while still keeping up regular shipments of ore, and also gives reasons for believing that the finding of other ore-bodies in depth is only a matter of time.

SMELTER MANAGER'S REPORT.

Mr. T. Kiddie, the smelter manager, reports as follows:

During the year the following additions and extensions to the plant have been made:—A general office, consisting of main office, manager's office, draughting room, vault and cellar was built. In order to provide additional roasting capacity and spread the roast piles over a larger area to facilitate their removal, eight additional roast beds were added during the year, and trestles extended with cuttings between, on the same general plan as those already installed. A brick-making plant, consisting of two one-horse power pug mills and drying shed, was installed for the making of raw ore fines into brick form. The buildings are 132 feet by 30 feet and 100 feet by 34 feet. The pug mills are the ordinary brickmaking mills, while the drying floor is a bottom heated floor, fired from both ends, with flues of red brick tiling between each fire box, with two separate stacks, one for each set of furnaces, the flues, being covered with clay and rolled, forming the drying floor. This has proved a practical and very economical mode of drying, the capacity of the plant being 8,000 bricks, equal to 28 tons of ore per day. A similar one-mill plant, 58 feet by 30 feet and 30 feet by 30 feet, for the making of flue dust into brick form, was erected west of the smelter building. The burnt ore tramway between the roast yard and the smelter was doubled in order to handle the increased tonnage of ore for the furnace. The coke track of the Esquimalt and Nanaimo Railway Company was extended 150 feet and ground graded 150 feet by 30 feet by 5 feet, and floored with 2-in. plank for the storage of coke against any possible accident or shortage; and on the east side of the burnt ore bins a temporary sampling mill was erected for the sampling of custom ores. The Esquimalt and Nanaimo Railway Company supplied and we installed a 6-in. Duplex steam pump, placed at high-water mark in the lagoon, and connected with our fresh water system. A dam of slag was run across to the "spit," which gives a large reservoir of salt water at all stages of the tide for fire or slag-shooting purposes. In addition to the above, we are now laying a 4-in. pipe line to connect with the city water mains. These, with our supply from Rock Creek, put us in a safe position against fire, or possible accident to the Rock Creek flume.

During the year a large amount of finishing work has been done to the plant. Steam pipes covered, boiler feed-water heater put in, additional cast-iron floor plates laid in the smelter shed, and steel plates on the charging platform; cast iron flume plates for slag shooting; engine and boiler room roof covered with corrugated iron; a machinery shed or storage warehouse, 20 feet by 30 feet erected; electric light system extended; drains dug and the grounds around the smelter and office generally cleared and graded; while the machinery, plant and buildings have at all times been kept in thorough order and repair.