

## THE VAN ANDA SMELTER.

(By Our Special Commissioner.)

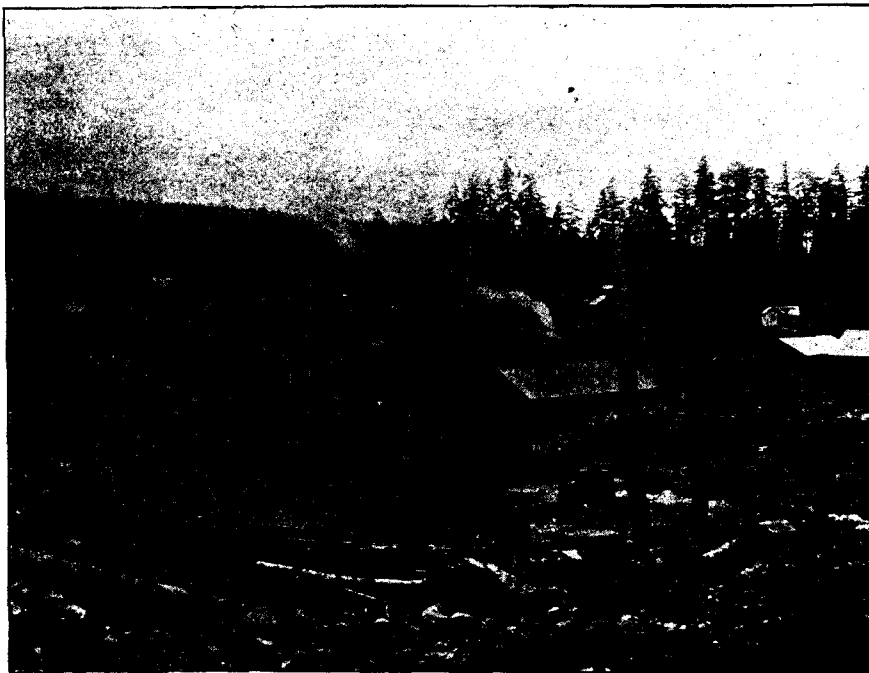
THE lead furnace recently purchased by the Van Anda Company now presents quite a changed appearance. Completely overhauled, it has been converted into a hot blast copper furnace. It occupies the space between the smelter shed and the incline, a spot reserved for the purpose. The idea in installing the new furnace is *not* to double the smelter's capacity, though that is more than accomplished,—the old furnace having a capacity of 50 tons and the new of 75 tons, but to provide against accidents. Such occurring up to the present necessitated suspension of work for two or three days, with consequent loss to the smelter.

The smelter plant now consists of an 80-horsepower boiler, pump, engine, two blowers, cold blast furnace with goose neck pipe leading into a dust chamber, and hot blast connecting with the dust chamber.

The advantage of the hot blast is in the saving of coke and the consequent lessening of the cost of production. At present, smelter charges are \$6 to \$9 per ton according to the amount of silica the ore contains.

The ore brought from the mines is weighed and deposited in ore-bins, of which there are three. From

made into three parcels: one of which is given to the owner of the ore—if he happens to be other than the Van Anda Company; one goes to the assay office to be assayed; the third, sealed by the owner of the ore, remains in the smelter and is used if umpiring is necessary. One-tenth of the ore being thus disposed of, the rest is roasted. (Some of the ore now coming



General View of Works

out of the Cornell mine is so good that it does not require roasting, but passes straight to the furnace.) The ore is placed on a bed of cordwood; the wood

lighted and the ore burned, sulphur fumes being given off. Everything has its compensations; these fumes are no exception. The destruction that they cause is desirable and otherwise: otherwise, when the blight to trees and flowers is considered; desirable in the temporary absence of bacteria and insects. Scarcity of flies in Van Anda is translated into meaning that Lenora ore is on the piles. Roasting occupies from fifteen days to a month. The better the roasting the higher the matte.

Thus roasted the ore is taken on cars to the smelter, weighed, then dumped on to the feeding platform—which is in the rear of and above the furnace. There it is mixed with the proper percentage of iron flux, 5, 15 or 20 per cent. being required. The Van Anda ores contain suf-

ficient lime to require no addition in that line. When the furnace requires feeding coke is shovelled in, then ore and iron. These melt and the heavier—the mineralized portion—goes to the bottom of the



Interior of Smelter, Van Anda.

these it passes through the automatic sampler, where it is cracked and one-tenth withheld as a sample. That tithe is then passed between rollers, and, after being reduced to as fine a powder as required, is