being almost entirely sulphur. Further blowing has very little effect on the iron. The amount of iron oxidized per minute of blowing is about 190 lb. and is used as a measure of the efficiency of the converter work.

As already explained, under the blast furnace practice, part of the converter slag made is poured into the furnace settlers. This amounts to about 70 per cent of the total, the remaining 30 per cent consisting of the 'sculls' from the ladles, and a portion that is poured on the ground and smelted as part of the blast furnace charge.

The slag usually made contains about 27.5 per cent silica, which is higher than is found at the majority of copper smelters. It is quite feasible to make the silica 20 per cent or even lower, and it is advantageous to do so from the standpoint of the converters alone, but when the practice of pouring the slag into the settlers was adopted it was found necessary to keep the silica around 27 per cent in order to get the best results. A low silica converter slag soon caused the settlers to fill in with a sticky mass not conducive to good settling.

As mentioned above, quartz and mine rock are the fluxes used. The former contains about 91 per cent silica, but no metal values, the latter about 53 per cent silica and 1 per cent copper-nickel. As the rock is an otherwise waste product from the picking belts at the mine, but contains some metal value, it is advantageous to use a certain amount of it, but its low silica content, none of which is present as free silica, makes it an inefficient flux. It is found possible, however, to use it in about equal quantities with the quartz, but for the last three or four blows of each charge it is preferable to use quartz only. The silica content of the average mixture used is about 72 per cent, which after fluxing its accompanying bases to a 27.5 per cent silica slag, leaves about 62 per cent to do useful work in the converter.

Power.

Hydro-electric power, developed at High Falls on the Spanish river, is used at both mines and smelter. High Falls is a small settlement reached by a company-owned spur from Turbine, a flag-stop on the Soo branch of the C.P.R. and on the Algoma Eastern about 28 miles from Sudbury.

The river flow past High Falls is not sufficient at all times of the year to furnish enough energy. To offset this disadvantage, a natural storage has been developed on the upper