Newsletter267

Keith's Corner/McGill News

June 21, 2024

Reverberatory Furnaces

The last two Newsletters were about the stacks that carried the smoke and gases away from the smelter frunaces and converters.

There was a converter stack and a reverb stack. There have been several Newsletters about the converters, so here is some info as best I can remember about the reverb furnaces.

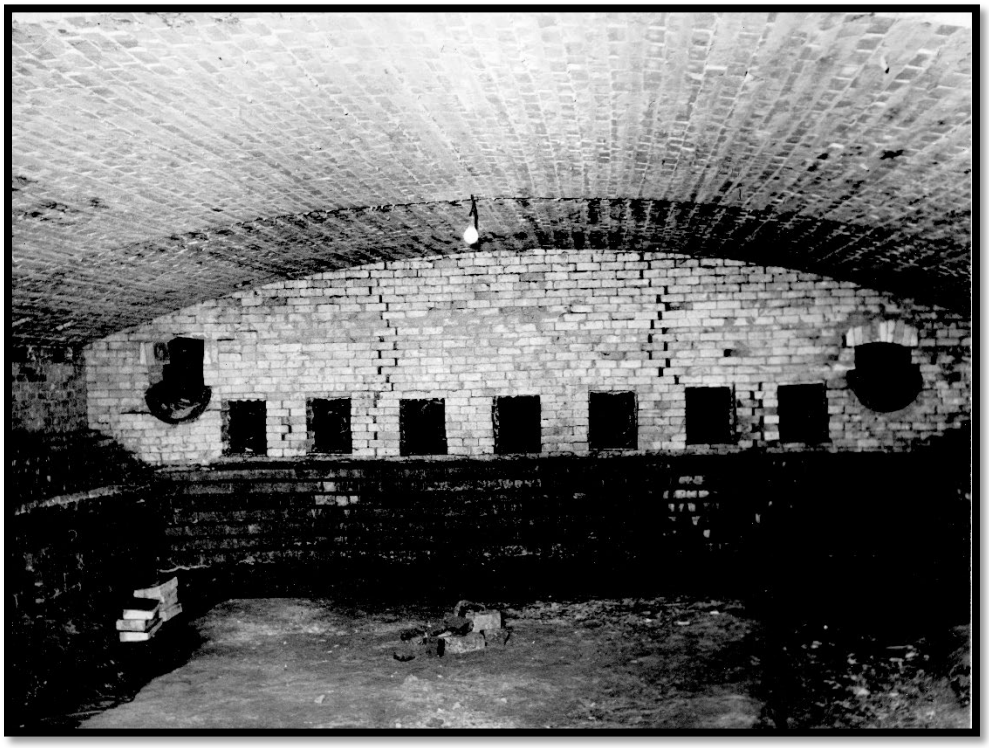
This was taken on November 15, 1912. It was only 4 years after the smelter was in operation, so it could be a re-build, but it looks to me like a brand new one.

The reverbs were made of fire brick that can withstand a lot of heat. The reverb temperature would go as high as 2800 degrees F plus. The bricks in the roof are

place in an arc and are hung by a hook from a super structure above the reverb. The intense heat expands the brick and tightens the roof into a cement like structure.

The bricklayers do a terrific job of building these furnaces.

Here is a later phot of the west end of a reverb.



This is the end wall facing the converters. The large square holes on each side are the slag launders that receive the slag from the converters to be smelted again in the reverb. The 7 holes are for the tubes that blow in fine coal dust to keep the molten ore (matte) in a molten form. The ore is first heated by means of blown in ignited oil.

The holes for the coal dust are about 4 feet above the deck on the outside wall. The deck is for workers to stand and clean the holes if they get plugged up with coal dust or splashing matte. This is a very dangerous job. Sometimes the coal dust will snuff out the flames for an instant and then the resulting combustion, (explosion) forces air, flames and some molten ore out the coal windows. One has to be ready to hit the prone position and let the flames go over you. I did not

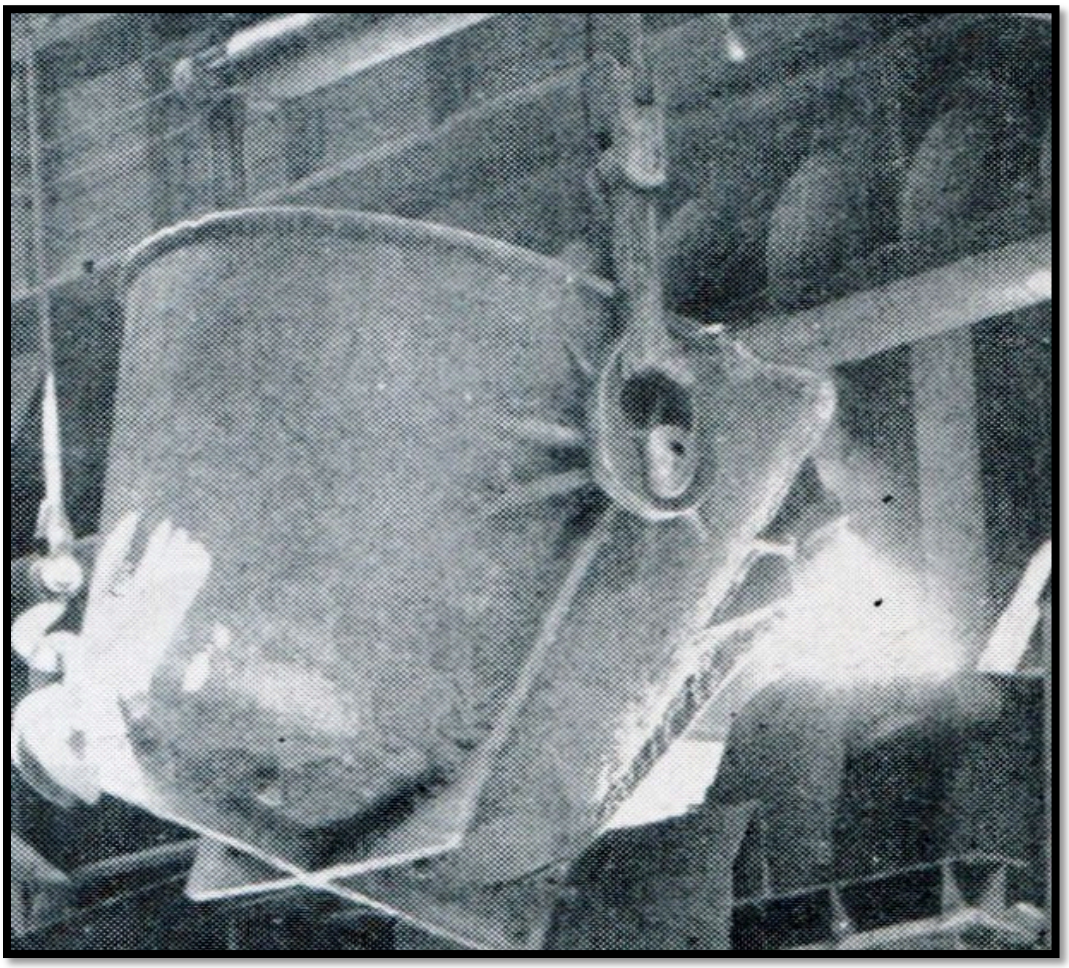
like this job at all. A new man on his first time at this job, panicked. Instead of hitting the prone position he turn and stood against the deck railing. He got severe burns all over his back. Temperatures over 2000 degrees are a might bit hard on human skin.

I only worked over there a few times as I liked the converter area better. The foreman that I worked under was Luke Sankovich. He was great to work for and knew those reverbs better than most foreman.

Here is another dangerous job—tapping slag or skimming the slag off the heavier metal on the floor of the reverb. This slag is run down a chute just like volcanic molten lava. It runs into a steady stream of water, where it breaks into millions of small pieces. This is the black sand that had horrible stickers if you stepped on it barefooted. The stuff is glasslike and will break off if you try to get it out with tweezers. Not much fun.

The hardest part of this job was putting a grey mud ball of fire clay into the hole to plug it. Molten slag shot all over the place. It took skill.

Old Photo



A pot full of converter slag being dumped into one of the 2 slag launder chutes. It has to be poured at a slow rate that doesn't clog the chute and must be fast enough to keep from getting cold and hard. Sometimes, if it is poured too fast, it will cause the reverb to "blow" and shoot molten ore back out the chute and the coal holes.