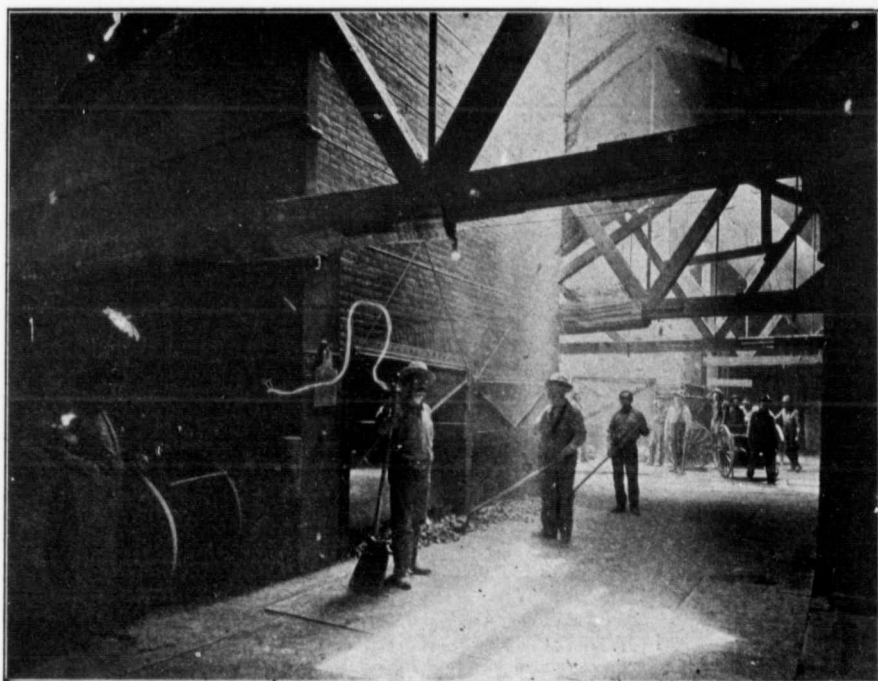


the supply of the latter is steadily being augmented, both by the gradual increase of production at several mines that have been shipping for some time past and by shipments from other properties now being opened up and that are becoming regular shippers. By the close of this year there will be no difficulty in maintaining a daily minimum output of 2,000 tons from mines now shipping to the two smelters on Boundary Creek, this leaving out of account the Granby Company's mines, which ship to that company's works at Grand Forks. At the present time the first-mentioned mines could together easily main-

#### ELECTROLYTIC LEAD-REFINING AT TRAIL, B.C.\*

(By Anson G Betts, Troy, N.Y.)

**A** SOLUTION of lead-fluosilicate, containing an excess of fluosilicic acid, has been found to work very satisfactorily as an electrolyte for refining lead. It conducts the current well, is easily handled and stored, non-volatile and stable under electrolysis, may be made to contain a considerable amount of dissolved lead, and is easily prepared from inexpensive materials. It possesses, however, in common with other electrolytes, the defect of yielding a deposit of lead lack-



Another Interior View, Boundary Falls' Smelter.

tain a daily output of 1,500 tons, while the two smelters cannot treat much more than 1,300 tons per day, so that it is clear more furnaces will be required, even after the Montreal & Boston Company shall have blown in its third furnace. It will likely be found, though, that both this company and the British Columbia Copper Company, operating at Greenwood, will in good time, enlarge their works sufficiently to meet the growing demand, and thus contribute to the further development of the smelting industry in the Boundary district.

ing in solidity, which grows in crystalline branches towards the anodes, causing short circuits. But if a reduction action (practically accomplished by the addition of gelatine or glue) be given to the solution, a perfectly solid and dense deposit is obtained, having very nearly the same structure as electrolytically-deposited copper, and a specific gravity of about 11.36—that of cast lead.

Lead-fluosilicate may be crystallized in very soluble, brilliant crystals, resembling those of lead-nitrate and containing four molecules of water of crystallization,

\*From a paper read before the American Institute of Mining Engineers.