

the lead-producing capacity of the plant at Trail will have been increased 60 per cent., and that, too, on a more economical basis than in the past. This further information was given: "Not only is the company in a position to produce zinc commercially, but at the request of the Shell Committee at Ottawa a zinc-production plant is being installed at Trail, this to have a daily capacity of 35 tons of refined zinc. The zinc-output for 1910 has been ordered by the committee at profitable prices. The Shell Committee also requested that the company should undertake the refining of copper—a new Canadian industry. While this new departure will be carried forward on a limited scale at first, it is expected to develop and involve the treatment of much of the matte and blister-copper taken from British Columbia copper-reduction works. The committee has ordered at fair prices the output of refined copper for 1916."

The considerably increased provision made for the use at Trail of the Cottrell process for the electrical precipitation of fume is a noteworthy advance, since the use of this process greatly facilitates the separation of valuable materials from waste gases and smoke from roasters, furnaces, and converters; these materials are lead, zinc, and a little silver, much of which might easily be lost if the fume and dust were not cheaply and effectively saved on its passage through fines and stacks to the open air. At Trail the Cottrell dust-collecting plant on the lead-furnaces has been nearly doubled in size, and a new plant put in to treat fumes from the roasting department. Another plant is being constructed for fumes from the copper-converters and a part of the roaster gases, and still another for the zinc-refinery plant. In this connection the following brief excerpt from an address delivered recently in New York on the subject of "Recovery from Waste Gases" is made: "The recovery of these materials often would be warranted for the additional revenue which they would produce even under present circumstances; in others it is desirable to develop processes for separating the constituents of the collected fume and dust. Investigations at one smelter showed that metals having a gross value of approximately \$4,000 a day were being discharged into the atmosphere. The expense of collecting, smelting, refining, and marketing the valuable ingredients becomes an important item, and thus it behoves metallurgists, chemists, and engineers to devise cheaper methods of dealing with such problems."

After having for years shipped to Tacoma, Washington, U.S.A., the product of its copper blast-furnaces in the form of matte, the Consolidated Company has at length made provision for producing blister-copper at Trail. Two 12-foot Great Falls type copper-converters for converting copper matte have been installed, together with the requisite blowing-engine, which is a turbo-blower of 15,000 cubic feet capacity, driven by beveling gears from a 900-horse-power motor.

Much experimental work having been done at Trail in connection with refining zinc electrolytically, and spelter of good quality having been produced to the amount of about $\frac{1}{2}$ ton a day, from ore from the company's *Sullivan* mine, the building and equipment of works, to have a capacity of possibly 35 tons of spelter a day, was commenced last autumn. The zinc-refinery buildings include structures for grinding, roasting, leaching, electrolyzing, and melting plants, motor-generator building, and transformer-station, together with fine systems, Cottrell dust-collecting plant, and a concrete stack 200 feet high and 12 feet inside diameter. It is planned to have the plant ready for operation early in 1916. It is, perhaps, well to mention that, up to date, experiments in connection with the production of electrolytic zinc have practically been confined to the company's own ores, so that as yet it is not possible to say what can be done by this method with the prevailing zinc-lead ores of Kootenay District. The zinc-refinery buildings are of steel and tile construction. The plant covers approximately 6 acres of ground.

Other West Kootenay Divisions.

In Arrow Lake Division work was done on the *Millie Mack*, situated in the neighbourhood of Burton. So far as known, no progress was made at the *Big Ledge* zinc claims, on Bald mountain, on the West branch of Plingston creek.