

be redissolved in sulphuric acid and used over again. He operates his process with considerable of the manganese sulphate in his electrolyte, and instead of using sulphuric acid for leaching, uses a solution of by-product sodium bisulphate.

"At Welland, Ontario, the Weedon Mining Co. is also said to be meeting with success in operating the Watts process. This process proposes the use of a solution of zinc sulphate for an electrolyte in electrolysis, the depolarization of the anode and the prevention of the formation of sulphuric acid by the use of any solid compound of zinc which does not contain objectionable impurities, such as zinc oxide, or blue powder. The fundamental idea of this process is the same as has been worked out in the treatment of the Bully Hill ore. It is also brought out in the recent patents of O. Best, of Oakland, Cal.

"At Mt. Read on the west coast of Tasmania, it has been reported that the Tasmanian Metals Extraction Co. erected a plant for the treatment of zinc-bearing ores, producing a concentrate of zinc oxide. Nothing of the details of the process has been given out, but the zinc is doubtless precipitated from solution by a solution of some alkali, and the resulting hydrate calcined to oxide."

The rapid advancement now being made in the hydro-metallurgy of zinc is in no small measure due to the war. There is at present an unusual demand for a high grade product and the price of all grades of spelter is high. There has seldom been a better opportunity to try out the electrolytic method. While it is not unlikely that experimental work would have been carried on by some of the companies under normal conditions, there would hardly have been the same progress in such a short time, but for the incentive given by war demands.

It seems likely that the electrolytic process will prove so successful that it will be well established and many difficulties overcome before the price of zinc returns to its pre-war level. It seems reasonable to expect the cost of treatment to be so much lowered that the problem of treating our troublesome zinc ores will have been very considerably minimized. It is a long time since any such advance has been made in the metallurgy of zinc. The owners of zinc deposits in Canada will do well to consider how the activities of metallurgists have increased the value of properties during 1915.

Calumet and Hecla Mining Company on New Year's Day announced a ten per cent. increase in wages to all employees. The big company is making a large output of copper and disposing of it at a good price. As usual under such circumstances the employees are given a share of the profit. The Calumet & Hecla management has a reputation for efficiency and consideration of employees that is second to none. The New Year's present is characteristic of the company.

According to our Cobalt correspondent the Nipissing stopes are now more nearly full of ore than at any time in the history of the company and discoveries of new orebodies at the Meyer shaft and under Cobalt Lake makes the future brighter than for a long time.

At the Dome numerous additions are being made to plant and the mill output is increasing. The December production was 30,120 tons, averaging \$5.34 per ton.

Owing to the war the cost of explosives for mining purposes has been considerably increased. This is of course to be expected. The extraordinary demand has resulted in great advances in the price of raw materials.

There is considerable interest in prospects at Porcupine and it is not unlikely that several claims, now idle, will be developed this year.

The National Graphite Company of Toronto has successfully put into operation its mine and mill in Hastings County. A very good product, comparing favorably with any on the market, is being obtained.

The Sudbury mining district is experiencing the most prosperous period in its history. The insistent demand for nickel and copper has led the producing companies to push production to capacity. This, however, has proven insufficient and important additions to plant are being made and planned. It is evident that the present year will witness an enormous increase in production of nickel and copper matte. Already the output has been increased to an extent not thought possible a few months ago.

Of the leading gold mines at Porcupine, Hollinger produced \$3,000,000, Dome \$1,325,000, Acme \$900,000, McIntyre \$750,000, Porcupine Crown \$600,000, Vipond \$265,000, and Dome Lake \$105,000 in the year 1915. As a gold producing district Porcupine is making an excellent record. The 1916 output is expected to be considerably larger.

The revival of chrome mining in Quebec, concerning which Mr. A. C. Allenson contributed an article in our issue of Sept. 15, has resulted in over 10,000 tons being shipped in the latter half of the year 1915. Twenty-two mines and prospects contributed to this total.

The demand for copper and pyrite has favorably affected the mining industry in Quebec. The Weedon and Eustis mines are making a large production of pyrite.

Good results are being obtained by the Weedon Mining Company in treating complex lead-zinc ores, at Notre Dame des Anges, by oil flotation methods. A commercial concentrate is being made. The concentrate will be roasted at the mine and then shipped to Welland for treatment by the Watts electrolytic process.

In Michigan the wages of copper miners have been gradually raised as the price of copper warranted it, until they are now the highest ever known in the district.