

With A. C. transformers on a 60 cycle system, the power required will be about 347 h.p., the efficiency being 93 per cent. As in the other two systems of arc apparatus considered, a tabulated sheet (No. 3) has been made, showing the comparative annual cost of this system. As it is impossible to say (except in individual cases) what proportion of the cost of frequency changers should be charged to the arc system, when 25 cycles are in use, this item has been omitted in this table, but will be considered in the cost of power later.

(To be concluded in September issue.)



MINING MATTERS.

The Sault Express announces rich gold strikes in the vicinity of Webbwood.

The Edmonton Gas and Oil Company, is engaging drillers and buying apparatus to begin drilling immediately for gas or oil in the vicinity of Edmonton.

The Foley mine at Fort Frances, is to be reopened. Mr Bowden, of Haughton, Mich., the president of the company, is satisfied that the property will pay for operation.

Preston has passed a by-law to raise \$27,000 to purchase the incandescent and arc plants now in use. A new power station will be erected and a first-class plant will be installed.

The Vermilion mine, which has been idle for several years, is now operated, yielding gold, nickel, cobalt, silver, platinum and copper. It belongs to the International Company.

Foundations have just been laid for four hundred coke ovens for the International Coal and Coke Company, at Coleman, Alta. The company expects soon to be able to get out 1,000 tons of coal, and make 500 tons of coke daily.

The Canada Refining Company, with headquarters at Ottawa, has leased the Black Donald graphite mines for a period of two years, and has started in to carry on operations on an enlarged scale. Electric power will be utilized.

Diamonds have been discovered in the matrix at Oakley Creek, twenty miles from Inversell, New South Wales. The matrix is of deloritic rock, which experts claim to be of similar formation to the South African diamond bed. This is the first discovery of diamonds in Australia.

The Westinghouse Electric Company, of Lancaster, Penn., has installed the electric apparatus in connection with the gold dredge operated on Poorfarm flats, Pine Creek, Atlin, B.C. This method of mining is said to be proving profitable, the dredge having given splendid returns since operations commenced.

The Colonial Copper Company have established extensive works for the concentration of ore at Cape D'Or, in the Minas Channel, N.S. Manager S. G. Painter says the production amounts to 200 tons of ore per day, and that the output will soon be doubled. This copper he declares can be placed in New York at five cents per pound.

Capitalists represented by J. C. Ferneau, have definitely decided to erect a zinc smelter at Fernie, to cost not less than \$100,000. The zinc silver-lead ores of the Slocan will be treated. The object in locating at Fernie, is to bring the ore to the fuel, on account of the fuel being the larger tonnage. A zinc enriching plant will be erected at Rosseberry, in the Slocan district by the same people.

It is expected that work on the corundum property owned by the Corundum Refiners, Limited, of Palmer Rapids, Ont., will be commenced shortly. Some delay was caused owing to the inability of the company to secure the water-power at that place, but it is now probable that satisfactory arrangements will be made. This company has secured from the Government and by private purchase, some fourteen hundred acres of rich corundum lands in Raglan township, Renfrew county, this tract representing almost all of the corundum deposit remaining in the Province. The company are erecting a mill, which they expect will be in operation next summer.

Thamesville has decided to purchase the electric light plant.

Star of the East Gold Mine, (near Peterboro,) shows an improvement as the streak descends. Quartz which assayed \$180 at the surface now scores \$196. E. J. Cowain, the superintendent is now arranging for the installation of a new stamp mill.

Two seams of first-class bituminous coal, one seam eleven feet wide, the other six feet, and in close proximity, have been discovered not far from Ladysmith, B.C. Experts attach great importance to this discovery, owing to the exporting port of Ladysmith. The new coal is declared to be a continuation of the famous Wellington seam, and it can be easily worked owing to the pitch of the veins.

There is a great deal of talk in Kaslo about the discovery of a large ledge of dry ore on the south fork of Kaslo creek, at a distance of 15 miles from the town. Some samples of antimonial silver from the ledge have been brought in which run 2,000 ounces in silver to the ton. The find is causing considerable excitement. It was made by J. P. Miller, a mining man of Kaslo.

Work at the Radnor iron mine in Grattan, Ont., was suspended and will probably remain so for some time. The reason for this move is not clear, but it is generally understood that the owners of the mine, the Messrs. Drummond, of Montreal, are not satisfied with the present condition of the iron industry in Canada, and are endeavoring to induce the Government to increase the duty on ore from the United States.

T. W. Gibson, Director of Mines for Ontario, has received a report from New Caledonia, the French penal island, which is practically the only nickel producing territory in the world besides Ontario, and it shows that the industry is flagging there. While in 1902 the island produced 129,653 tons of nickel ore, it raised only 77,360 tons in 1903, which is only about half of the output of the Copper Cliff, Ont., mines.

The Imperial Coke and Coal Company has acquired control of the Alberta Coal and Coke Company. The conditions demand that the coal lands of the Alberta company be at once developed, and provided with coke ovens and other plant. The Alberta company owns 6,400 acres on the Crow's Nest Railway, near Cowley, Alta. The Imperial Company owns ninety sections of land six miles from Michel, in British Columbia. W. Applequist, D. McLeod, and H. McLeod were the principal owners of the Alberta company.

G. O. Buchanan, inspector of lead bounties, speaking in Nelson, B.C., said: "The production of lead at present is at the rate of 30,000 tons per annum, though I do not know that it will continue at that rate for a year. This heavy production is caused largely by the heavy shipments of the St. Eugene mine, which is producing 1,500 tons of metallic lead per month. This output was never exceeded in this country but once, and that was in 1900, when the output was 31,000 tons, the production that year having been stimulated by the extraordinary prices in London. The country is in a better condition to take care of its lead than it has ever been."

"Cobalt" is to be the name of one of the new towns on the Temiskaming railway. It will, according to the decision of the Town Site Committee, be situated on Long Lake, about fifty-eight miles north of North Bay, and from present indications it will be one of the most important mining towns in Canada. It was in this locality that the rich finds of nickel, cobalt, arsenic, and silver, were made last fall, and cobalt has been given the preference in the naming, because the cobalt ores found are among the richest and finest known to scientists. An army of prospectors are at work in the district, and T. W. Gibson, Director of Mines, states that, although the country is a difficult one to explore, enough new discoveries have been made this spring to demonstrate that the mineral bearing area is larger than was at first supposed.