

As Canada is now in a position to produce steadily fine gold, the Canadian Government should certainly take steps immediately towards purchasing this gold at whatever point it may be produced and so save the Canadian producers the cost of shipping and selling it to the United States Assay Offices.

It is believed that the above shipments of fine gold, or refined gold to the United States Assay Office, and silver brick to the Philippines, are the first which have ever been made as the result of smelting and refining ores in Canada.

The Canadian Smelting Works, Trail, are therefore in a position to supply Eastern Canada with whatever pig lead they may require, fine gold ready for minting purposes, fine silver, copper sulphate for use in Manitoba and the North West Territories, and will in a few months be turning out metallic antimony which will be used in making various babbit metals.

THE HENDRYX PROCESS OF ELECTRO-CYANIDING.

A TESTING plant of the Hendryx process of electro-cyaniding is in operation at the laboratory of Mr. C. M. Fassett, of Spokane, Washington, for the purpose of demonstrating to mining men and others interested the advantages this process offers for the extraction of the precious metals from ores suitable for cyanide treatment. It is claimed for the Hendryx process that it will effectively treat all ores that the ordinary method of cyaniding will treat, and many others that the latter can not be used for, including ores carrying from one to three per cent. copper; further, that complete extraction of the values can be made in from three to six hours, according to the adaptability of the ores to this process, and that consequently fresh pulp can be fed to the tank four to six times a day, instead of having to wait 24 hours or longer, as is necessary where the old process is used. The cost of extraction is stated to be low, too—from 25 to 50 cents per ton.

If the ore be found amenable to this process of treatment it is crushed very fine, to ascertain what percentage of extraction is obtainable. Then tests are made with various sizes of crushings to determine the size best adapted for the treatment of that particular kind of ore. This determined, the pulp is fed into a very weak solution of cyanide contained in a circular tank having a funnel-shaped bottom, above which is a cylinder rising to near the top of the tank. A propeller or agitator within this cylinder causes the pulp in solution to rise to the top, whence it flows over sloping plates to the sides of the tank and there sinks to below the agitator, the contents of the tank being thus kept in continuous agitation until the gold and silver have been deposited on electrically charged plates. Experiments are being made with lead-coated iron plates, these giving a softer backing and permitting of a closer saving when the plates are scraped. The electric current used for depositing the precious metals not only accomplishes this purpose but also aids in the solution of the gold and silver from the ore, and regenerates a considerable proportion of the cyan-

ide that would be lost were only the ordinary agitation process used.

The contents of the tank can easily be sampled at any time, by catching in a cup a little of the liquid as it flows from the cylinder and having it tested to tell how the extraction is proceeding at that stage of the operations. The contents of the tank can be drawn off into settling tanks and new pulp be fed in without delay and without stopping the agitator. After the slimes and tailings have settled the solution can be syphoned off for re-use. The solution is heated before use, the deposition being much more rapid with a warm solution. The total extraction made is from 80 to 96 per cent. of the assay values.

The Hendryx process has already been introduced into Old Mexico, Arizona, and California. The Mexican plant has a capacity of 120 tons per diem; the Arizona plant treated about 12,000 tons; the California plant is only a small one but the process will also be in use in that State on a commercial scale before long.

We publish elsewhere a description of the twenty-stamp combination silver mill in course of erection at Five-Mile Camp, near Ferguson, in the Lardeau district, for the Silver Cup Mines, Ltd. The particulars given were obtained at Five-Mile by our special commissioner, who found the superintendent of construction, Mr. Elwin Benner, and the draughtsman on the works, Mr. E. C. Hutchinson, both in the employ of the Union Iron Works, of San Francisco, Cal., which is supplying and erecting the plant, most courteous and obliging in facilitating his work of obtaining information. It is worthy of note that Mr. Benner, who has had considerable experience in the erection of stamp mills and other plant in North America, stated that the equipment for the Silver Cup mill includes more machinery and plant than that of any other twenty-stamp mill he knows of. The mill is not an ordinary concentrator; it is fully equipped for dry crushing, wet crushing, concentration, roasting and pan amalgamation, these together making it a "combination" mill, as described. The Silver Cup Mines Company is to be congratulated on its enterprise in putting in this mill and, too, on the fact that its erection is in such capable hands.

The issue of the Annual Summary Report of the Dominion Geological Survey is being so long delayed that its usefulness will to some extent be lessened. Possibly by the time this comment is published the occasion for it will have been removed, yet in view of the fact that this year's season for field work will be well on towards its close before the results of the previous season's work are available to the public it appears desirable to direct attention to the long delay. There may be difficulties in the way of issuing reports of this kind promptly, nevertheless the lengthy delay is regrettable.