

worked on a scale commensurate with probabilities. Formerly it was operated on florid hopes. The change is one of the benefits of the rational leasing system.

"Dios Nos Guie" is the motto over the entry to a well-known Mexican mine. Being translated, it signifies "God Guide Us." Whilst there is a touch of pathos in this prayerful legend, it is most eminently opposite. Appropriate to many a mine would be the rendering "God Help Us."

Canada now ranks seventh amongst the copper producing nations of the world. Last year its estimated production was 33,000 long tons. This slightly exceeded Germany's production, and was slightly less than that of Chili.

It is announced that the Indian Geological Survey has discovered the occurrence of asbestos of excellent quality in Idar State. The mineral is said to be of the amphibole variety, some of the fibre being as long as 8 inches.

The report of the Council of the Canadian Mining Institute for the year 1912, printed elsewhere in this issue, is a satisfactory record of progress. It is gratifying to note the steady increase in membership, which now is in excess of a thousand. The accessions during the year of 170 members, associates and student members, constitute an increase of nearly 20 per cent. on the membership returns of 1911. There could be no better indication that the value of the work of the Institute is both recognized and appreciated by the mining men of the Dominion. By the establishment of a branch in Southern Alberta last autumn the Institute is now represented by local organizations in all the principal mineral producing provinces, with the exception only of Nova Scotia, where, however, it is least necessary. The meetings last year were distinctly successful from every point of view, and the volume of transactions, which we understand, will be distributed shortly, will contain many papers of quite exceptional interest and importance.

A circular recently issued by the secretary of the Canadian Mining Institute contains the information that the next annual general meeting will be held in Ottawa. The provisional programme as published promises well. The subjects announced for discussion are for the most part of timely interest or have a practical significance. The meeting, we learn, is to be opened by H.R.H. the Governor-General, and the Rt. Hon. the Prime Minister has accepted an invitation to be the Institute's guest of honour at the "annual dinner," at which he will speak.

RESIGNS OFFICE OF PROVINCIAL ASSAYER.

With the close of 1912, Mr. Herbert Carmichael, of Victoria, ended a long period of service with the British Columbia Government, having resigned the office of Provincial Assayer so that he may give his time and attention wholly to his private interests.

On September 21st, 1891, Mr. Carmichael was appointed Government Analyst, and in the spring of the following year received the appointment of Provincial Assayer, the duties of both offices thus devolving upon him. At that time there was not an organized Department of Mines in the Province, nor any separate clerical staff to attend to the work connected with mining. The Provincial Secretary or another minister of the day acted as Minister of Mines, and his staff attended to whatever clerical work was requisite in that connection. The only technical advisers in respect of mining the Provincial Government then had were Mr. Archibald Dick, of Nanaimo, Inspector of Mines, and Mr. Carmichael, Provincial Assayer. From the time the Hon. John Robson, then Premier, was as well Minister of Mines, until the present there has been a very large expansion of the mining industry of the Province, and with it of necessity the organization and development of the Department of Mines.

Prior to 1892 lode-mining was of very little importance in British Columbia, the total value of production up to that year, as on official record, having been less than \$300,000. The aggregate value to the end of 1912 is in excess of \$200,000,000, so that during his term of office Mr. Carmichael has seen the industry with which he has so long been officially identified make advances that, in so new a country, may fairly be described as tremendous. This is the aggregate value of lode minerals produced—not of all minerals—for the grand aggregate is now nearly \$330,000,000.

An Interesting Incident.

As an interesting incident of by-gone years, it may be mentioned that one of the first lots of ore Mr. Carmichael had sent to him was some from Slocan district, forwarded by Mr. Frank Fletcher, long identified with Nelson. This was found to assay more than 3,000 oz. in silver to the ton, and notwithstanding that he got similar results from each test he made, the new Provincial Assayer signed the certificate with fear and trembling, for such rich galena ore until then had been unknown in British Columbia. To-day, and for many years, such an assay return, would cause no surprise. The banner year for work in the Assay Office was in 1897; there was nothing like it before, nor has there been since.

Mr. Carmichael, among many useful duties performed, was largely instrumental in getting the Bureau of Mines Act, 1895, passed, which Act he drafted. Under that Act, Mr. W. A. Carlyle was the same year appointed the first Provincial Mineralogist for British Columbia, and these two officials in January, 1896, began the organization of the Bureau of Mines. Early in 1898 Mr. Carlyle resigned, and was followed in the office of Provincial Mineralogist by the present occupant, Mr. Wm. Fleet Robertson, who took office on June 1st, 1898.

During many years of zealous performance of his official duties, Mr. Carmichael has made numerous friends throughout British Columbia, and these, while regretting that the Department of Mines is losing the efficient services of so good a chemist and so capable an officer, will wish him abundant success in his enterprises, several of which will hereafter fully occupy him.