

This monograph should contain, amongst other things, a full official record for each year of the amounts raised and milled and the yield therefrom; descriptions of the more important veins and their workings; the peculiarities, mineralogical and lithological, of the district; sections of the district at important points, and simple line drawings of the underground workings of the chief producing lodes. Also such other available information, technical, economic and geological, as would help to make a complete history of each district to date.

Doubtless one of the first questions I shall be asked is: "What will it cost?" To this I am prepared to give an answer. I have consulted Mr. Faribault, of the Dominion Survey, on this matter, and have availed myself of his experience and advice. Primarily, there are but thirteen or fourteen districts which I would map as suggested; I would say that a district which has not produced a minimum of 5,000 ounces since discovery, was not important enough for this map. Starting therefore with 15 districts the cost of fieldwork, plotting, compiling, printing and lithographing, should not exceed \$20,000. Some districts will cost more than others, for example: Sherbrooke and Waverley, the two largest and greatest producing districts, would probably cost \$2,000 each. While Wine Harbor and Oldham would not cost over \$1,000 each.

Much of the work could be done cheaply. A provincial land surveyor with assistant could go over the ground first, laying out area lines, marking each corner with small temporary stakes, and at each tenth stake putting in a more permanent monument; after him let two men come on with a level—engineering students from Dalhousie or McGill, who would be glad of the experience in the field—and run the contours. Finally let the chief, or geologist, come last with one good assistant; marking on the map as plotted by the two corps preceding him, the various veins, faults, etc., etc., as I have already mentioned, and collecting and arranging the large mass of valuable matter now solely recorded in the heads of the older local residents whose ranks time is steadily thinning.

From two to four, or an average of three, of these maps and monographs could be completed each year, putting on the Provincial Treasury a strain of not over \$4,000 to \$5,000 per year. After these maps are once published it is only a matter of local statutory regulation to have them kept up to date by the Mines Office.

I do not believe that there is a gold mining corporation or firm represented in this room but would have saved thousands of dollars in preliminary exploitation work had such maps as are proposed been available to him before he began work.

I may go further and say that I do not believe the Province of Nova Scotia can better advertise her resources abroad than by the dissemination of such maps and documents. It appears to me to be a case of killing two birds with one stone, advertising her mineral resources, and substantially helping the mining industry at the same time.

And I close by urging upon you the necessity of preserving in some form the data we now have in the memories of the older miners. Twenty years from now they will all be dead, and information gained will be dead, and information gained will be at second-hand.

DR. GILPIN—There is no doubt about it now is the time to do this thing. In respect to the remarks in Mr. Hardman's paper about the survey made by Mr. Dawson—the facts were that an agreement was reached between the Dominion Government and the Local Government in 1880 that they would join in bearing the expense of a topographical survey of the gold district starting from Halifax and extending eastward. This was projected in order to facilitate and expedite the work of the Geological Survey which was working from the east to the west on the Atlantic coast, so that whenever he struck the ground which had been previously surveyed he could get through his work more quickly. The amount of expense was considered too great and the survey stopped at the end of the first season. The plan of the work of Mr. Dawson became the property of the local government and has been in frequent demand and proved very useful for many purposes connected with surveys and location of waterworks, etc., and has undoubtedly saved expenditures in surveys, and paid for itself many times over.

A vote of thanks was unanimously accorded Mr. Hardman for his valuable remarks.

### Members Dine Together.

Promptly at eight o'clock the members to the number of thirty filed into the St. Julian dining room and sat down to an excellent dinner served by the proprietors of the Halifax Hotel. Mr. H. S. Poole, President of the Society, occupied the chair. Among the other guests present were noticed the Hon. W. S. Fielding, Premier of Nova Scotia, and Mr. S. P. Franchot, Vice-President of the General Mining Association of the Province of Quebec. Ample justice having been done to the generous bill of fare, a number of toasts were given, the speakers of the evening being Premier Fielding, Mr. John F. Stairs, M.P., Mr. Arthur Drysdale, Mr. R. H. Brown, and Mr. S. P. Franchot. The proceedings were enlivened by a programme of songs and choruses to which Messrs. G. J. Partington, W. R. Thomas, Alfred Woodhouse, B. T. A. Bell and others contributed, Mr. Ernie Wyld officiating with much acceptance at the piano. Considerable diversion was caused by the droll and humorous selections most effectively delivered by Mr. Frederick Taylor, of Lowell, Mass. The fun was kept up until a late hour,

indeed as far as we recollect "the wee small hours ayont the twal" were well advanced before the members dispersed, thoroughly pleased with their evening's enjoyment.

### Excursion to the Montague and Waverley Gold Districts.

On Friday morning a number of the members drove out in a four-in-hand to the Montague and Waverley gold mines where an interesting time was spent at the properties of the Symon-Kay Syndicate, the Nova Scotia Gold Mines (Ltd.), and the West Waverley Gold Co. (Ltd.) An inspection was also made of the work being conducted in the Laidlaw's Hill tunnel at Waverley. In a future issue we hope to be able to make a more extended reference to the work and prospects of these districts, which lack of space, it is to be regretted, prevents in this issue. An excellent luncheon was served at Beech's Hotel. The members reached town shortly after dark, having, notwithstanding the wet weather which prevailed, greatly enjoyed the drive and the outing at the mines, and each and all returned with a keen appreciation of the many courtesies that had been extended to them, notably by Messrs. Hardman, Wilson, Thomas and Woodhouse. It is greatly to be regretted that on account of other engagements a large number of the members of the Quebec Association were unavoidably prevented from participating with their brethren in Nova Scotia in the pleasures and excursions of this meeting.

### Ontario Mining Association—President Hammond's Address.

At the annual meeting of the Provincial Mining Association of Ontario, at Sault Ste. Marie, on 4th October, Mr. J. R. Hammond, of Sudbury, President of the Association, said:—

"I wish upon the occasion of our annual meeting to recall for a moment the work we have done in the interests of mining and the formation and direction of mining policy in this province since we organized in this town on the 7th of October, 1891, and to touch briefly on the work we may in future aid in accomplishing, as well as the means at our disposal for bringing this work to a successful issue.

It was due largely to the suddenly expressed intention, and as sudden action of the Ontario Government regarding its mining policy, without previously sounding the opinion of our citizens at the polls or otherwise, except the few days allowed between the rapidly succeeding readings of Bill that thereupon became law, that our infant mining industry suddenly found itself more tightly than ever wrapped in the swaddling cloths of what we then believed, and still have reason to believe, is an extremely tight-fitting and restrictive mining policy; in spite of the fact that a Royal Commission, appointed by this same Government, had but lately finished a comparatively exhaustive examination, not only of our mineral resources, but of ways and means, and had ended by unanimously advising liberality and urging that room be made for expansion. Failure to take the advice thus asked for, at vast expense, and the fact that exactly the opposite was made law, at a time when the industry showed some signs of revival after a long period of depression and inaction, rapidly bred sharp criticism and the desire for the creation of a society whose chief object would be the safeguarding of interests, than which none are more important to individual and national prosperity. How far this was done and what has since been accomplished, is already become matter of history, but I might be permitted to note as some of the more important events with which we have been so closely identified, the pressing of our just claims upon the attention of the Government and the electorate at large, by means of petitions and addresses, and the enlistment of the sympathy and co-operation of the press, with the positive result of causing the legislature to pause and recede from an untenable position, and the awakening of the people to the vital importance of the issue before us. To be factors in endeavoring to achieve such important results we have conceived to be our privilege as British subjects and as Canadians, and our duty and our presence and influence here to-day, gathered, as we are, from far and near, is the best proof we could have that there is work still to be accomplished in this cause.

But it is not enough that our interests are now united throughout all this vast Province; difficulties have still to be faced in the development of our mineral resources, resources which, as year by year goes by, are proving themselves as rich and varied as those of any country in the world, and we are met to devise ways and means for bringing their legitimate claims still more prominently to the attention not only of our own citizens, but of the world at large. Our field is the world, and to the world we must appeal. We must continue to show it what we have got and cultivate its acquaintance and assistance, and unite our efforts with those of competent and willing outsiders in building up a mighty mining industry. This has been done by other countries, and it can, and will, be done by us. As a well organized association we can but aid in this great work, and with all the assistance we can obtain, bring it to pass.

As to ways and means, though it might yet be said that we are a feeble folk, yet let no one despise the day of small things—great oaks do out of acorns grow,—and when we shall have ceased to quarrel and fight for place and power in petty party politics and shall have really and truly begun to study the lasting interests of a young and

struggling country, we shall then truly recognize as individuals and as a country what we need to aid us in extracting a livelihood whence it is pre-eminently honorable to deprive it from mother earth. That the mining industry can lay claim to the best right to existence has never been or can be disputed, and I say it is a sorry spectacle to see unnecessary restrictions put upon manual labor and the willingness to labor on the part of either individual or government. Such restrictions we charge to-day upon a government which is responsible for the best utilization of not only our mineral, but I may also add incidentally our agricultural and other resources in a manner that leaves honest labor freedom to work out its salvation. Time and again, as also during the present year, have we appealed for aid, or mere recognition in our feeble endeavors, only to be turned away with promises unfulfilled and amounting to nothing, or told that it would not do. We care most for this country which we claim as our birthright, and upon which we are at liberty to expend our labor and reap the fruits thereof, and not for any political party chiefly eager to wield a power we should yield only on an honorable and definite understanding and agreement that ours will be fulfilled, and not upon an unseemly and hasty party struggle in outdoing their opponents for that power and its consequent emoluments at the expense of this country. But this not only desirable but necessary condition in all economic and honest government can only be fully obtained by thorough organization and persistence of endeavor on our part.

It is believed, and some would know, that we are on the eve of a provincial election, and that the usual squabble for votes will ensue. Gentlemen, vote for no man who is not in sympathy, heart and hand, with the temporal welfare of his country, and especially of his immediate neighborhood, or who will not, on the day of testing, in or out of legislature or parliament, stand out irrespective of mere party politics or personal interest for the crying needs of the daily toiler in our mines or elsewhere. Honor to our ex-president, James Connec, for the stand he took in the late sessions of our provincial legislature, and honor to faithful workers everywhere in the interests of the development of our young country. The day will come when the territory now embraced in this District of Algoma, will teem with millions of happy and prosperous people, nor is the time so distant as some would have us think. Germany is about twice as large as such a tract, and possesses no great natural resources, while supporting upwards of forty-five millions, besides having thousands of sons to spare each year.

Prominent in Algoma for all time to come, will be her stores of mineral, vast beyond conception. Her iron, her nickel, her copper, her gold and her silver will, under a liberal and enlightened mining policy yet to be found, not only supplying her own growing wants, but also those of every land, in return for the treasures of other climes. We stand to-day upon the silent hills, as prospectors, as pioneers, in a vast country, and can, it would seem, but little more than speak and think of a time when the chimney tops in the valleys and the hum of industry in our mines shall speak the more precise language of labor, of prosperity and peace. But as regards the duty lying next to hand, it is ours not to fail of its performance, and to strengthen the faith of our fellow-countrymen in themselves and in the land of their birth or adoption."

### The Ophir Gold Mine.\*

By W. R. WALLACE, BRUCE MINES, ONT.

The Ophir Mine has within the year just closing been prospected in the following manner:—One vertical shaft 95 feet deep to cut the incline or dip of the vein, which was reached at 90 feet when rich ore in vein of 12 feet in width was cut. One incline shaft to connect with this shaft was sunk 105 feet. Along the foot-wall of the vein which dips 45 degrees south, this entire incline was in rich ore and the values more as depth was reached; only one wall was exposed in the incline. The hanging wall was not reached. The cut is 7 by 8 feet all in good ore; above this and along the outcrop of the vein I have made four tunnels, the length of each as follows:—The first, or No. 1, is cut 50 feet; the second, which is 25 feet above this, is 80 feet in length with an uprise from the first for ore chuttes from dumps above; No. 3 is now 53 feet in length, and No. 4 85 feet, making 205 feet of upright cutting and 268 feet of drifting. In the drifts I have done no work, except on the pay streak, and this at the lower boils of the drift is 23 feet wide and narrows towards the surface to about 16 feet. The vein is thus exposed 578 feet in length and 230 in depth. I estimate 7,000 tons of ore on the dumps and 200,000 in sight on the pay streak alone, with twice that in ore that will mill \$10 and \$12 per ton. The mill runs on 5 tons of ore from the pay streak, which I made as fair an average as possible, returned \$46 per ton in free gold without the concentrates, which can be estimated to contain as much more value.

Our mill is now nearly completed, and by the first week in October we expect to commence milling in earnest, and hope to be able to run regardless of cost through the winter without interruption.

The mill has been carefully designed (with the latest patents for saving refractory ores), and I think it is one of the most complete plants in America, and as good as the best. I shall be pleased to report the results of its workings to your honourable body at any future meeting.

\*Paper read before recent meeting of the Ontario Mining Association at Sault Ste. Marie.